mined as 206.20, as compared with a control sample of ordinary lead which gave the value 207.18. Evidently, therefore, the lead in these minerals consisted chiefly of uranium lead; and the minerals must have been formed long after the original deposit of uraninite.

CAMBRIDGE 38, MASSACHUSETTS

NOTES

A New Light Filter.—As far back as 1904 I observed accidentally that a solution of ordinary chrome alum of a proper concentration and thickness of layer is admirably adapted for detecting the potassium flame when it is masked by the presence of an excess of sodium light. It was found later by Mr. William D. Pardoe, a graduate student working in my laboratory, that it was possible to prepare a light filter with a solution of chrome alum which absorbs *completely* not only sodium light but that of lithium, strontium, calcium and barium. Viewed through such a filter the potassium flame is seen to rise from the glowing platinum loop in the form of a long, crimson, very bright streamer when a relatively large amount of this element is present, and less so, but always perceptible, as the quantity diminishes. Under the circumstances the flames of rubidium and cesium are also visible, but since these elements occur only in a few localities and in the minutest amounts, they are not apt to mislead one.

The filter is as sensitive as it is reliable and *will keep indefinitely*. One which has been in use off and on for fifteen years is as efficient today as it was when first prepared. In some cases, it has proved even more reliable than a Browning direct vision spectroscope. Such a filter is very handy in testing for potassium in the residues obtained by the evaporation of mineral and other waters, and in examining mineral silicates and silicate rocks for this element. Insoluble siliceous materials should be finely powdered, mixed with (a) pure gypsum or (b) four parts of pure calcium carbonate and one part of resublimed ammonium chloride, and the mixture made into a thick paste with water. A bit of the paste is then collected in a loop on the end of a platinum wire, brought into the fusion zone of the Bunsen burner, and the flame viewed through the filter.

To prepare a number of these filters (they will be found very useful in the laboratory for qualitative analysis), dissolve 310 g. of crystallized chrome alum in a large flask in a liter of water by gentle heating, cool and filter the solution and fill with it glass bottles of square prismatic form. Those used by me are 10 cm. high from bottom to shoulder, and the lateral edge measures 4.7 cm. Ordinary wooden corks will serve as stoppers. The filter is best held upright, very close to the eye, and about 5 or 6 cm. from the flame of the burner.

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