ART. XXVII.—*Occurrence of Realgar and Orpiment in Utah Territory*; by WILLIAM P. BLAKE.

THE minerals realgar and orpiment occur together in a thin bed or layer in the horizontal sedimentary formations underlying the lava of Coyote Mining District, Iron County, Utah. The formation, with its lava cap, forms the divide between the head-waters of the Sevier river and the Colorado drainage, and is known as the "Rim of the Basin." The horizontal beds of stibnite, recently described by Professor J. S. Newberry, occur in the same formation, but chiefly in a sandstone of a different horizon.

The arsenical sulphides are found in a compact, sandy clay, in a horizontal seam or layer about two inches thick, not distinctly separated from the clay, but lying in its midst, in lenticular and nodular masses. The bulk of the layer consists of realgar in divergent, bladed crystals, closely and confusedly aggregated, sometimes forming groups of brilliant crystalline facets in small cavities towards the center of the mass.

The orpiment, which is closely associated with the realgar, is in small and delicately fibrous crystalline rosettes, and small spherical aggregations, made up of fine radial crystals, and also, in bright yellow amorphous crusts in and around the mass of the realgar.

Above and below the layer, and in close contiguity, there are thin parallel seams of fibrous gypsum. The strata above, for thirty feet or more, are arenaceous clays charged with soluble salts which exude and effloresce upon the surface of the bank and form hard crusts. The whole appearance and the association of the arsenical sulphides indicate that these sulphides have been formed by aqueous infiltration since the deposition of the beds. This, I have no doubt, is the fact; and, also, that the antimony sulphide had a similar origin.

MILL ROCK, New Haven, Jan. 15, 1881.

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