

marked manner from the other veins in this location, inasmuch as it is greatly decomposed, and is also mixed somewhat largely with cubical pyrites, earthy magnetic iron ore (the "eisenmulm" of German miners), a scaly red iron ore, the latter, when pure, presenting a dark steel-grey or iron-black color with red streak. This condition of the vein will cease, however, I am convinced at a comparatively moderate depth, and the ore will assume its usual character. Its dark color, and the peculiar softness of the eisenmulm when damp, have led to the supposition that it contains both silver-glance and red silver ore, but my trials have failed altogether to corroborate this. Two fire-assays and several liquid testings shewed the presence of a small amount of silver, it is true; but although the latter metal (probably from the presence of more cubical pyrites) is in rather larger proportion than in the other veins, it is entirely subordinate to the gold. Black silver ore or silver-glance contains, it must be remembered, considerably more than three-fourths of its weight of silver (strictly 87 per cent.); and red silver ore, whether the dark or light species, holds more than half its weight of that metal (60-65 per cent). If the black and red metal of the vein consisted therefore, or consisted even in part, of these minerals, it would shew an enormously preponderating amount of silver: whereas the assay button presents a light but distinct yellow color, and the silver in it is too small in quantity to admit of separation by nitric acid. A shaft is now being sunk on this vein, and at the time of my visit it had reached a depth of about 25 feet. At that depth the width was rather more than five feet. Particles of free gold appeared to be very abundant in the ore.

(4) *Results of Assays.*—The following results were obtained from samples collected very carefully, with a view to obtain the average amount of precious metal held by the undressed ore. They are thus, it must be pointed out, much