ances, and dip in different directions within short distances. At the workings farthest up the Pool Burn they dip west—that is, towards the schists—at an angle of 45°. At this place the auriferous wash was worked along the outcrop as deep, open-trench workings to a depth of 15ft. to 20ft.; and, when this system could no longer be pursued with safety, shafts were sunk on the wash, which was raised in buckets. The shafts were of various depths, according to the dip of the wash and the appliances available for sinking. The greatest depth reached was 200ft., but most of the shafts were much shallower than this.

"At the point where the road to the German Hills diggings leaves the slopes of Raggedy there is an isolated patch of the schists, on the gorge side of which the strata dip to the east—that is, towards the Pool-Burn Stream. As a result of this direction of dip the auriferous wash rises into shallow ground, lying on stiff white clays close to the underlying felsitic schists, which are here as much decomposed as at Green's Reef. The same system of open-trench working has been adopted here as at the diggings higher up the flat, but very little attempt appears to have been made to follow the wash to the dip, probably on account of the inflow from the Pool Burn.

"With respect to the future prospects of the deep workings in the Ida Valley, it is obvious that three main conditions are necessary to insure success—viz., an auriferous wash yielding payable results; an extended area of payable ground; and last, but not least important, skilful mining. With regard to the first condition, the payable character of the wash is admitted by all those who have worked on the field, and their evidence is confirmed by the nature of the old workings, which would not have been undertaken unless the results were worth the risks incurred. Next, with respect to the extent of the auriferous wash, it is probable that most of the shallow ground has already been worked, so that future workings would be confined to the deep ground. The lacustrine strata extend along the flanks of Raggedy Ridge from the head of the Pool Burn to the gorge, and there can be little doubt that the auriferous wash which is always at the base of this series is also present; but there is less certainty as to its payable character along the whole length of this extended lake-margin. The presence of the wash, if not its auriferous nature, could easily be ascertained by boring at well-selected points. The black carbonaceous quartz sand, which is the equivalent of the lignite found at other places in this area, overlies the wash, and, being a characteristic and well-marked horizon, always present in the Ida Valley, affords an effective check and guide as to the progress of the boring. The wash is a rough, subangular gravel, composed of quartz sand, pebbles, and fragments of mica-schist. It varies in thickness from 5ft. to 30ft., and is said to carry gold wherever it is touched.

"The principal and, in fact, the only reason given for discontinuing the digging at this place is the depth of the ground and the danger attending the mining operations. The wash is inclined at high angles, and is enclosed in loose, porous strata, in which it is difficult to sink by the ordinary means adopted in mining. The loose quartz sand, known to the diggers as drift, when wet is little better than a quicksand, and precautions would have to be taken to keep it out of the workings."*

German Hill.—Mr. Park also reported on the workings at this place. He says,—

"The German Hills are situated on the east side of the Pool-Burn Valley, under the slopes of Rough Ridge. As at the other diggings on the margin of the old lake-basin, there are but three formations represented here—namely, the foliated mica-schists, the lacustrine series, and recent alluvium. The latter occurs under such peculiar and exceptional circumstances that it cannot with propriety be termed a true alluvial deposit, although at the same time the gold it contains is a rewash from the lake-deposits. In order to convey a clear idea of its character and occurrence it will be necessary to first describe the sequence of the lacustrine series, of which but two members now remain. The upper is a hard quartz sand and gravel rock, and the lower a yellow quartz wash, often interbedded with bands of clay. The latter rests directly on the schists, and varies in thickness from 10ft. to 20ft. The upper consists of fine quartz sand false-bedded with quartz gravel or wash that has been cemented by the infiltration of siliceous waters into an intensely hard, compact rock, varying in texture from fine-grained to coarse according to the nature of the material forming the original deposit. At Sebastopol (the name by which the higher rocky ground is known to the diggers) this stratum of cemented rock is about 8ft. thick, and in some places it is even more than this. By the gradual denudation of the softer clays and loose lake-wash upon which it rests it has become broken and shattered into innumerable detached tabular-shaped blocks of great size, which completely cover the ground, and render it impossible, by manual labour alone, to reach the auriferous wash underlying them, and the yellow lake-wash on which this in turn rests.

"The recent auriferous dirt is a rewash of all the lake-deposits that formerly overlay the rocky stratum, the broken and fissured surface of which was admirably adapted to catch the gold. The dirt is said to be very rich, and in past years many attempts were made to work it—in some instances by tunnelling below the blocks of rock, in others by sluicing at points where the blocks were smaller. By the former method the risks incurred were very great, from the danger of the detached rocks breaking into the workings; while in sluicing there was the additional danger caused by rocks falling into the paddocks as the dirt was being removed. The old lake-wash contains payable gold, and has been extensively worked along the flanks of the range.

"The amount of auriferous ground at Sebastopol is about 150 acres, of which 75 or 80 acres on the west and north-west slopes of the hill, where the rocky stratum is thinnest, are available for working. The difficulties that have prevented the successful development of this field in the past have been—first, the scarcity of water, and, second, the heavy character of the rocks covering the auriferous dirt. With regard to the first, I think it is probable, judging from the synclinal arrangement of the lacustrine strata in the Pool Burn Valley, that a supply of artesian water could be obtained by boring on the flats a short distance from Sebastopol. Next, with regard to the nature of the work, it is quite evident that, in order to successfully work the ground, the

* Park: Geological Reports, 1888-89, pp. 21, 22.