eastern end of the Mount Ida Range by the high saddle on the summit and northern fall of which Clark's Diggings are situated. The southern slopes of the Mount Ida Range are very abrupt. On the northern side the slope is gradual, and, but for the presence of a number of narrow and deeply-excavated valleys, this presents all the characters of an elevated table-land sloping gently to the north. Along the eastern edge of this sloping table-land the Kurow Mountains rise abruptly, south of which the higher part of the table-land is insensibly lost in the western part of the cluster of peaks surrounding Mount Domett. The Little Kyeburn drains the southern slopes of the saddle, and the diggings are reached by a track cut round a shoulder of Mount Buster, west of the saddle.

"The quartz drifts and other Tertiary strata filling the north-east corner of the Maniototo basin scarcely reach to a height of 2,500ft. on the line of track, and are here at a higher elevation than elsewhere east of Mount Ida or within the Maniototo basin. Above this point the rocks seen are blue slates, sandstones, and coarse breccia conglomerates that are probably of Upper Devonian age. The fall to the north being reached on the eastern slope of Mount Buster, the quartz drifts, commencing at the lowest part of the saddle a little to the eastward of the road, stretch as a line of rounded hills northward a distance of four miles in the direction of the southern end of the Kurow Mountains. East and west this belt of quartz hills is irregular in width, and often formed of isolated knolls and ridges, in the gullies between which the old Palæozoic rocks show at the surface. Everywhere they are formed exclusively of quartzose materials, with the exception of a few feet at the base of the deposit, which is sometimes made up of local rocks occurring as highly-decomposed breccia conglomerate, occasional boulders of which are sometimes met with in the quartz sands, and called 'dough-boys' by the miners. Being necessarily much denuded, the thickness of the quartz drift is variable, but in most of the hills it is yet from 40ft. to 100ft. thick. The upper part is usually fine sands; the middle beds are slightly coarser in grain, and often false-bedded; while the last 6ft. or 8ft. may be either fine sands, or a wash carrying quartz boulders of all sizes up to a diameter of 10in. It is in this coarser wash that the richest deposits of gold are found. If, however, this coarser wash be absent, the finer sands resting on the main bottom frequently carry good gold. Distinct lines of stratification are difficult to make out, but it is abundantly manifest that the beds yet lie in a horizontal position. The coarser wash at the bottom, and patches of silt in the upper beds, show this to be the case. Gold is known to occur in what are considered paying quantities at many points along the belt of made hills to its northern extremity, but work is at present being done only near its southern end. The difficulties in the way of developing the field are the lack of a sufficient and continuous supply of water, coupled with the fact that at an elevation of 4,000ft. work can only be carried on during the summer months. Three companies were at work when I visited the place. These are in possession of all the available water which can, without great cost, be brought on to the field, and practically have a monopoly of whatever their water can command. The method employed is hydraulicking, which is conducted on as large a scale as possible while the abundant supply of water which is to be had during the spring and early summer months is available. After the new year there is generally a scarcity of water, and after the end of April all work is suspended on account of the severe conditions which prevail at that season of the year, work not being resumed, as a rule, till the following October. . . . At Clark's there are no agglomerated masses of quartz cement; the gravels of the lower part of the deposits are completely rounded, and mostly flat, pitcher-shaped pieces, indicating wave-action. There are no lignite-seams nor shales carrying fossil leaves."*

On this field Mr. Gordon remarks, "Gold was first discovered here in 1863 in a small creek-bed known as Clark's Creek, which runs into Deep Creek, forming a tributary of the Waitaki River. The ground was very shallow and easily worked, and in some parts of this creek-bed the auriferous-wash drift was found to be very rich. As soon as the shallow ground got exhausted attention was directed to the higher ground on the east side of the creek, where a deep run of fine quartz-drift gravel was found, similar to that at St. Bathan's basin, having a little gold through it in layers of concentrated material, showing that at one time this drift had been brought down by the action of a large river or stream, and that the work of concentration had been carried on from time to time, leaving the material of greater density in thin layers or bands before another deposit was brought down to undergo a similar process—namely, by washing away the lighter sands and material, while particles of greater density remained behind."†

Kye-Burn Diggings.—Near the upper township mining has mostly been carried on in the recent alluvial deposits of the river-bed and its banks, and more recently in the heavy gravels of the "Maori bottom," forming a range of hills between the Little Kye Burn and the main stream. The quartz drifts are developed to a considerable extent along the western base of the Kakanui Mountains, and the section across the river near the coal-mine seems to expose a double series of quartz drifts with fossiliferous greensands associated with the upper drifts. The range of hills between the Little Kye Burn and the foot of the mountains to the eastward is somewhat remarkable on account of the vast number of blocks of white quartz cement that lie scattered over its surface. These lead to the supposition that there is in this range a great development of the quartz drifts; but, so far as could be determined, the cement blocks are resting either on "Maori bottom" or on a slaty breccia deposit not unlike the finer parts of the lower deposit at the Blue Spur, Gabriel's Gully. From the Upper Kye Burn along the foot of Mount Pisgah to the Swin Burn the quartz drifts are not well exposed, being overlain and obscured by fan deposits brought down from the higher part of the range, and deposited by the creeks along the margin of the plain. A small area of quartz drift was described to me as occurring in the valley of the Kye Burn, two or three miles above the Upper Kyeburn Township, thus indicating the possible connection of the drifts of the Maniototo area with those of the Maraewhenua and the Waitaki Valley.

Swin Burn and Hound Burn.—Sands and shales are developed in the Swin-Burn Valley, and

* Geological Reports, 1883-84, p. 91. † Goldfields Report, 1893, p. 116.