

which runs along the right bank of the Karakash river, are situated the old jade mines, or rather quarries formerly worked by the Chinese. They are about seven miles distant from the Kirghíz encampment, Belakchí, which itself is about twelve miles south-east of Shahidula. I had the pleasure of visiting the mines in company with Dr. Bellew and Captain Biddulph, with a Yarkandee official as our guide.

We found the principal jade locality to be about one and a half miles distant from the river, and at a height of about five hundred feet above the level of the same. Just in this portion of the range a few short spurs abut from the higher hills, all of which are, however, as usually, thickly covered with débris and sand, the result of disintegration of the original rock. The whole has the appearance as if an extensive slip of the mountain-side had occurred. Viewing the mines from a little distance the place seemed to resemble a number of pigeon-holes worked in the side of the mountain, except that they were rather irregularly distributed. On closer inspection we saw a number of pits and holes dug out in the slopes, extending over a height of nearly a couple of 100 feet, and over a length of about a quarter of a mile. Each of these excavations has a heap of fragments of jade and rock at its entrance. Most of them are only from ten to twenty feet high and broad, and their depth rarely exceeds twenty or thirty feet; only a few show some approach to low galleries of moderate length, and one or two are said to have a length of eighty or a hundred feet. Looking on this mining operation as a whole, it is no doubt a very inferior piece of the miner's skill; nor could the workmen have been provided with any superior instruments. I estimated the number of holes at about hundred and twenty; but several had been opened only experimentally, an operation which had often to be resorted to on account of the superficial sand concealing the underlying rock. Several pits also which were probably exhausted at a moderate depth were again filled in; their great number, however, clearly indicates that the people had been working singly or in small parties.

The rock of which the low spurs at the base of the range are composed, is partly a thin bedded, rather sandy, syenitic gneiss, partly mica and hornblendic schist. The felspar gradually disappears entirely in the schistose beds, which on weathered planes often have the appearance of a laminated sandstone. They include the principal jade-yielding rocks, being traversed by veins of a pure white, apparently zeolitic mineral, varying in thickness from a few to about forty feet, and perhaps even more. The strike of the veins is from north-by-west to south-by-east, or sometimes almost due east-and-west; and their dip is either very high towards north, or they run vertically. I have at present no sufficient means to ascertain the true nature of this vein-rock, as it may rather be called, being an aggregate of single crystals. The mineral has the appearance of albite, but the lustre is more silky, or perhaps rather glassy, and it is not in any way altered before the blowpipe, either by itself, or with borax or soda. The texture is somewhat coarsely crystalline, rhombohedral faces being on a fresh fracture clearly traceable. It sometimes contains iron pyrites in very small particles, and a few flakes of biotite are also occasionally observed. This zeolitic rock is again traversed by veins of nephrite, commonly called jade; which, however, also occurs in nests. There appear to be two varieties of it, if the one, of which I shall presently speak, really deserves the name of jade. It is a white tough mineral, having an indistinct cleavage in two different directions, while in the other directions the fracture is finely granular or splintery, as in true nephrite. Portions of this mineral, which is apparently the same as usually called white jade, have sometimes a fibrous structure. This white jade rarely occupies the whole thickness of a vein; it usually only occurs along the sides in immediate contact with the zeolitic vein-rock, with which it sometimes appears to be very closely connected. The middle part of some of the veins and most of the others entirely consists of the common green jade, which is characterized by a thorough absence of cleavage, great toughness, and rather dull vitreous lustre. The hardness is always below 7, generally only equal to that of common felspar, or very little higher, though the polished surface of the stone appears to attain a greater hardness after long exposure to the air. The colour is very variable, from pale to somewhat darker green, approaching that of pure serpentine. The pale green variety is by far the most common, and is in general use for cups, mouth-pieces for pipes, rings and other articles used as charms and ornaments. I saw veins of the pale green jade fully amounting in thickness to ten feet; but it is by no means easy to obtain large pieces of it, the mineral being generally fractured in all directions.