

of a very coarse conglomerate, the largest of the included masses being granitic. Several of the smaller pebbles are crusted with a thin coating of chalcedony resembling dried gum. The same kind of incrustation is seen on the pebbles in the gravels of the lower Columbia Valley at Fort Vancouver.

The conglomerate last mentioned rests upon the western edge of the Ashtnoulou granite, a mass which is exposed along the boundary-line for a breadth of fourteen miles and forms in this latitude the whole of the mountains called in a preceding paragraph the Ashtnoulou or Okanagan chain. In a northerly direction it is seen in undiminished magnitude in the main Similkameen Valley; and to the south it is exposed almost continuously on the western side of the Okanagan Valley, down to the junction of that river with the Columbia, a distance of about sixty miles. Unlike the syenite of Chilukweyuk Lake, the Ashtnoulou granite is of an exceedingly variable composition. Near the mouth of the Ashtnoulou it contains red and white felspar, quartz, black mica and hornblende. The micaceous portions are the softest and offer least resistance to the action of the atmosphere. In the valley leading up to the latitude-station, many masses of mica-slate and other metamorphic rocks are seen. The largest one is of a dark green hornblende-slate with nearly vertical laminations, into which the granite sends off many small veins. In some of the veins the hornblende present appears to be derived from the altered rock, as the crystals of that mineral are developed in dense masses near the wall of the vein, which is filled with a granular mixture of red felspar and hyaline quartz. In the mountains immediately above the Ashtnoulou latitude-station, which rise to a height of about 7,500 feet above the sea level, the granite changes into a mixture of quartz and felspar. The quartz occurs principally in large black or white crystals, some of them measuring three inches across the basal plane. The felspar is usually found in dull cleavable masses of a dirty pink colour, and more rarely in small, well-developed red crystals. A compact variety of the same quartzo-felspathic substance is found filling small veins in the rotten reddish-grey syenite which surrounds the coarsely crystalline mass noticed above. From the top of the Ashtnoulou Mountains the granite is seen to the eastward forming low and occasionally flat-topped hills, which terminate in a tremendous cliff-face between 4,000 and 5,000 feet in vertical height on the western side of the Similkameen Valley, opposite to Hayne's House.\* The flat-topped form of the intermediate hills is produced by a set of nearly horizontal divisional planes, which render the granite liable to scale off in flaggy masses when

Ashtnoulou  
granite mass.

\* Now abandoned, the custom house being situated further west at Osoyoos Lake.