exposing red layers of laminated sandy clay, and doubtless range across the direction of prevalent wind, as there is a constancy of leeward overhanging sides. Everywhere they are associated with heaps of sand derived from the silt, of which all finer material has been drifted away, doubtless to settle as loess in grassy mountain valleys. Anyhow, wherever the finer material is now, it has been totally removed by the wind that excavated the trenches and left their sand constituent behind. Another interesting feature is the frequency of large masses of sand piled on top of these ridges, to occupy spaces of calm in the eddies of windwork.

Proceeding still mountainwards, we soon find these trenches of deflation floored by hard gravel-beds, and in the course of a few miles the silt deposit thins out and dwindles into spits and isolated areas on the gravel-plain, giving it a mottled aspect as seen from a distance—mottled only in shade and texture, as both are red. This is the transition from silt to gravel, for in a short distance it is all one vast expanse of gravel or cobbles varying up to 4 or 5 inches in size.

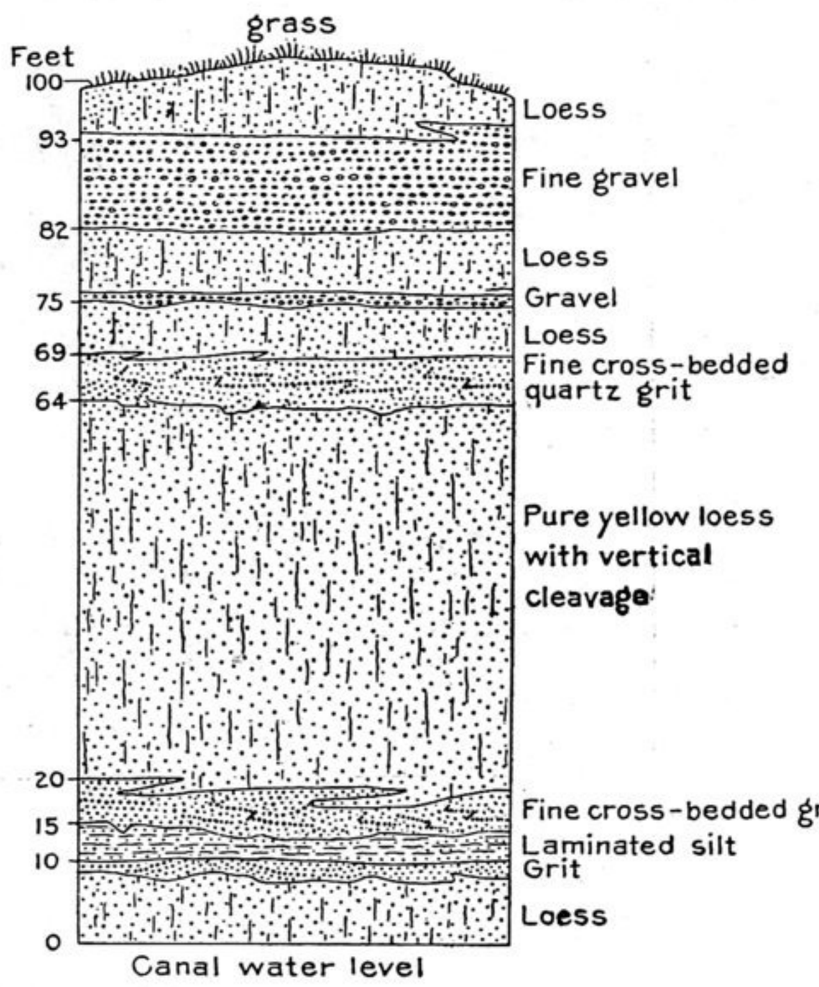

Fig. 462.—Vertical Section of Interlapping Loess and Alluvium in 100-foot Cliff of Obu-siob Canal at Crossing of Road from Samarkand to Kudu Sufi.

Here, therefore, is record of two significant changes of conditions succeeding each other—first, a mountainward recession of alluviation bringing its zone of fine deposits over its more ancient zone of coarse deposits; second, a dissection of both preceding zones by the channels now occupied, moving alluviation again to a zone farther out than before the first change. It may be that the first resulted from a decrease of precipitation corresponding to that extreme reaction which followed the glacial period, as evidenced by moraine underlying the glaciers of Pamir. That the second resulted from an increase of grade caused by an uptilting of the margins of Tarim will be shown as we proceed.

Now we are perhaps 25 miles from the great sand, and our abandoned piedmont develops into a bad-land topography, an inclined table-land dissected into a desert of red mountains rising ever higher above us as we ride slowly up the bottom of a canyon. At first the canyon walls are built entirely of piedmont conglomerates with here and there a layer 1 to 3 feet thick of silt, and all in slope conforming to that of the plain above. Then towards the bottom of the wall appears a surface beveling the tilted strata of a still more ancient piedmont series,