200 families, though rather difficult to control at the time of the summer floods. But whether that estimate was even approximately correct, and what proportion the maximum area of land now irrigable would bear to the extent of the ancient cultivation, as marked by the ruined site westwards, are questions which only prolonged observation by an irrigation expert would permit to be definitely answered.

## SECTION IV .- THE OASIS OF CHARKHLIK AND ITS OLD REMAINS.

Charkhlik as base for Lop-nor explorations. On December 2 I reached Charkhlik after two marches aggregating about fifty-one miles from Vāsh-shahri. They led mainly along a desolate glacis of gravel, which stretches of sandy steppe with scanty tamarisk growth and thorny scrub fringed on the north (see Maps Nos. 53, 57). The oasis of Charkhlik was to serve as my base both for long-planned explorations around Lop-nōr and for the difficult journey which subsequently was to take my caravan right across the great desert north-eastward to Sha-chou or Tun-huang by the ancient route followed by Marco Polo and by Hsüantsang before him. I was well aware of the serious physical difficulties to be faced in exploring those ruined sites north of Lop-nōr which Dr. Hedin, on his memorable journey of 1900, had first discovered, situated as they were more than a hundred miles from the nearest supply of drinkable water. The ancient desert route to Tun-huang, after having been abandoned and almost forgotten for centuries, had indeed come into use again with traders some seven or eight years previously. But the information I had so far succeeded in gathering about it was extremely scanty. Everything pointed to the need of careful arrangements about transport and supplies, if serious risks and losses were to be avoided.

Importance of transport arrange-ments.

What I had to prepare for at Charkhlik was not a single crossing of the desert alone, but a rapid series of expeditions partly over ground quite unknown and—most serious feature of all—implying prolonged stays at desert sites with a considerable number of labourers. The greater the uncertainty about the extent of the operations before me, the more important it was to husband my time as carefully as possible. For work in waterless desert, I knew I could use only the few months of winter, when the cold would allow me to assure transport of an adequate supply of water in the form of ice. After March the crossing of the desert to Tun-huang would for similar reasons become risky, if not practically impossible. In order to obviate delays which in a region so devoid of resources would be bound to hamper me doubly, it was of the utmost importance to assure adequate transport and supplies from the start and to keep them ready beforehand for all likely contingencies.

Exacting tasks at Charkhlik.

Thus I had exacting tasks to cope with during my short stay at Charkhlik. Within three days I had to raise in the small oasis a contingent of fifty labourers for proposed excavations; to procure food supplies to last them for five weeks, and my own men for at least a month longer; and to collect as many camels as I could for the transport, seeing that we should have to carry water, or rather ice, sufficient to provide for us all on a seven days' march across waterless desert north of the Lop-nor marshes, and then during prolonged excavations at the ruins, as well as on the return journey. When I found that by exhausting all local resources I could only raise the number of camels to twenty-one, including my own and six animals hired at Charchan, the problem looked formidable enough. It would have been still more complicated had I not been able to reckon upon the small fishermen's hamlet at Abdal, near the point where the Tārīm empties itself into the Lop marshes, as a convenient dépôt. Though that last inhabited place on the desert route eastwards could furnish no supplies, I could safely leave behind there all baggage and stores not immediately needed, ready for the move on to Tun-huang when the time came.