Sphene is persistent and sometimes common. The grains are irregular, colourless, and subangular, and give the characteristic positive interference figure with strong dispersion of the optic axes.

Spinel is present in two samples in angular, green, isotropic grains.

Tourmaline is persistent but never common in pleochroic prismatic grains which generally have rounded ends and are rarely terminated by faces at one end. The colour is light brown, and small, irregular, black inclusions are sometimes present.

Zircon is present in small amount only in most samples. Clear, colourless crystals terminated by the simple pyramid {111} are the general type, but a few crystals are terminated by the steep pyramid {311} or by a combination of {311} and {111}. Rounded and subangular grains also occur. Many crystals contain small rounded crystal inclusions, and a few have long 'tubular' cavities. An occasional crystal shows well-marked zoning and exhibits lower double refraction than usual.

DESCRIPTION OF THE SAMPLES EXAMINED

The references to locality given in brackets refer to the *Maps of Chinese Turkestan and Kansu made during the explorations of Sir Aurel Stein, K.C.I.E., 1900–1, 1906–8, 1913–15*; thus (7. B 4) indicates that the locality is on Sheet 7, square B 4.

The samples are numbered consecutively from 101 onwards.

101. Soil under surface gravel of Sai edge, Lāl-tāgh (7. B 4).

A light brown sand containing mica and some irregular aggregates from 2 mm. to 3 mm. in size.

	<·2 mm.	·2–·4 mm.	·4–·7 mm.	>·7 mm.
Mechanical analysis:	92 %	3 %	3 %	2 %

Of the heavy minerals, muscovite and biotite are abundant and green amphibole is common.

Dolomite in rounded yellow cleavage grains is abundant; this is the only occurrence of this mineral.

The larger grains consist mainly of well-rounded quartz and grey, brown, and black grains of a very fine-grained indeterminate rock. A few grains consist of plagioclase, green amphibole, fine colourless needles, and black opaque specks.

The aggregates consist of grains of the loose sand lightly cemented together by salt.

102. Yārkand river-bed near Marāl-bāshi (8. A 1).

A light grey sand with a few large flakes of mica reaching 1·5 mm. in diameter.

	<·2 mm.	·2–·4 mm.	·4–·7 mm.
Mechanical analysis:	64 %	30 %	6 %

Of the heavy minerals, magnetite, biotite, muscovite, and green amphibole are abundant, garnet is very common, and colourless sphene common.

Fine-grained composite grains are abundant.

103. Sand and detritus from dune, north end of Kum-tāgh. South of Camp XXIV (8. B 1).

Grey sand with many coloured grains and much mica.

	<·2 mm.	·2–·4 mm.	·4–·7 mm.	>·7 mm.
Mechanical analysis:	40 %	44 %	15 %	1 %

Of the heavy minerals, biotite, muscovite, and green amphibole are abundant, and garnet and magnetite are common.

104. Fine dust, five miles SE. of Camp XXV (8. B 2).

Fine yellowish-brown sand with mica and some irregular aggregates up to 20 mm. long which appear to have been formed round reeds, &c.

	<·2 mm.	·2–·4 mm.	·4–·7 mm.
Mechanical analysis:	93 %	6 %	1 %

The quartz grains are all rather angular. Biotite (many flakes with parallel needle inclusions) and green amphibole are abundant, and magnetite is common in the heavy minerals.

The aggregates consist of grains ranging from ·6 mm. down to the very finest material, but there is a larger proportion of large grains (·4 mm. to ·6 mm.) than in the loose sand. The cementing material is calcium carbonate. Cyanite in angular cleavage flakes is the only mineral found exclusively in the aggregates.

105. Sand from dune, two miles NW. of Camp XXVI (8. B 2).

Fine light brown sand with many coloured grains and a few flakes of mica.

	<·2 mm.	·2–·4 mm.	·4–·7 mm.
Mechanical analysis:	43 %	36 %	21 %

The bulk of the heavy crop consists of composite grains. Of the simple, heavy mineral grains, muscovite, biotite, and green amphibole are abundant, and garnet, magnetite, and epidote are common.

106. Red (coarse) sand from slope of 'Dawān' (dune ridge), two miles NW. of Camp XXVII (8. C 2).

Light brown sand with many coloured grains and some mica.

	<·2 mm.	·2–·4 mm.	·4–·7 mm.	>·7 mm.
Mechanical analysis:	89 %	5 %	5 %	1 %

There are many composite grains, among which grains of a fine-grained rock with opaque black inclusions are abundant. In the heavy crop green amphibole is abundant, and biotite, muscovite, magnetite, and garnet are common.

107. Eroded stone fragments from surface of