NOTES

A NEW KIMBERLITE PIPE IN ANANTAPUR DISTRICT, ANDHRA PRADESH

A new kimberlite pipe rock has been located about 1.5 km east of Chigicherla (14° 31′ 30″ and 77° 42′), Anantapur District. So far 9 pipes are known from Vajrakarur area. The new pipe (No. 10) was discovered while carrying out hydro-geological reconnaissance for locating an exploratory well site. The pipe rock approximately 400 m long and about 100 m wide in the centre occurs as an oval shaped body within granite gneisses. The major axis of the body is in a NW-SE direction, which is the direction of many of the major lineaments in the area and also the main schist belt seen in the area. Two lineaments occurring to north and south of the pipe rock also trend in a NW-SE direction which suggests that it may be an offshoot of the main occurrence at Vajrakarur. Figure 1 gives the location of the new kimberlite pipe rock along with the other known nine pipe rocks. This pipe is the only known occurrence of kimberlite so far down south and far away from the known occurrences around Vajrakarur. Even though, occurrences and stray 'pick up' of diamonds have been reported from Vajrakarur area and up to Kalyandurg, Perur and Penukonda, there is no known occurrence of any kimberlite pipe rock so far reported away from the Vajrakarur area. The discovery of this pipe near Chigicherla points to the possibility of locating few more between Vajrakarur and Chigicherla.

In hand specimen the pipe rock is pale greenish to grey in colour, porphyritic with rounded olivine crystals and occasional garnet (pyrope). The olivine phenocrysts are dark brown and transluscent, The groundmass is very fine-grained with smaller olivine crystals floating in serpentine, carbonate and opaque dust. Some of the olivine phenocrysts are serpentinised. Xenoliths of granitic composition which are angular to subangular, commonly 5–6 cm in size are present and show reaction rims. The rounded olivine phenocrysts and also the granitic xenoblasts embedded in a fine-grained matrix gives the appearance of a pseudo conglomerate. The rock displays porphyritic and inequigranular texture, with numerous anhedral olivine crystals set in a fine-grained matrix. A conspicuous feature is the presence of two generations of olivine crystals. The bigger anhedral olivine crystals are relatively fresh and at places wholly or partly altered to serpentine. The smaller euhedral crystals less than 1 mm in size are by and large wholly altered to pale green serpentine or completely replaced by carbonates. The olivines have been identified as Mg-rich variety, forsterite. The groundmass olivines are altered to carbonates, presumed to be monticellite. Olivine crystals account for an estimated 35 per cent of the rock volume. Small rounded crystals of Ilmenite and chromite are also present. All these confirm that the rock is olivine-rich kimberlite.

If there is any genetic relationship, which cannot be confirmed at this stage because of the different nature and origin of the two rock types (one being of metamorphic origin with low temperature minerals and the other of volcanic origin suggesting high temperatures required for the formation of diamond) it may still give a clue or hint as to where to look for future pipe rocks and decide about the targetted

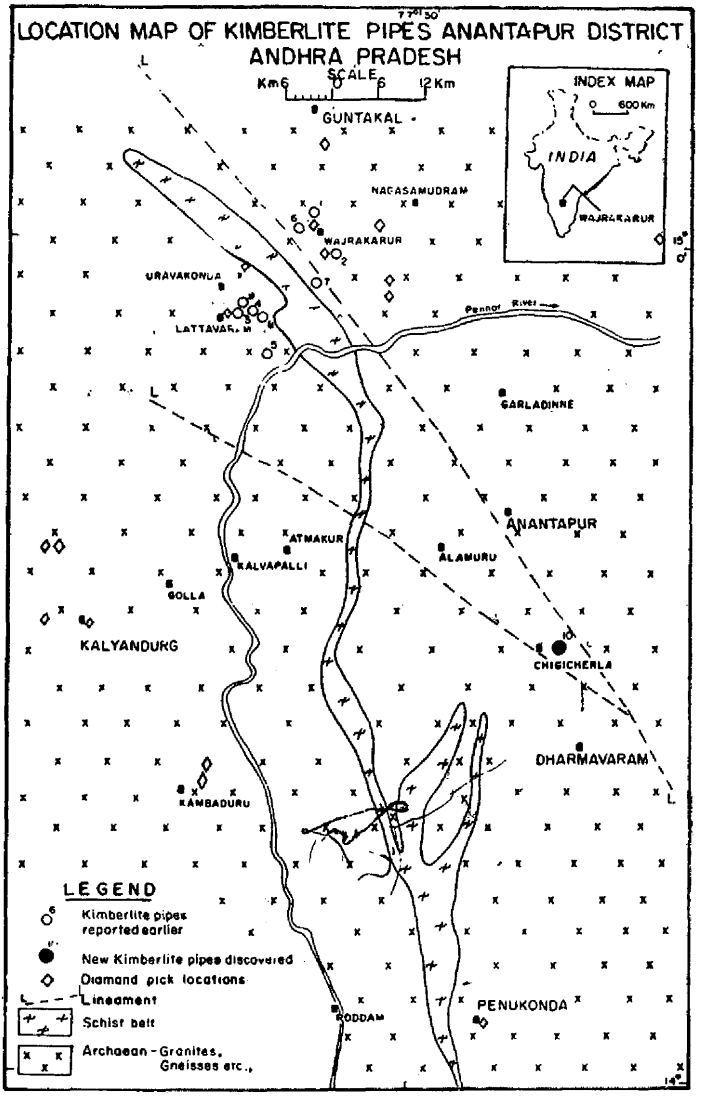

Figure 1.

areas for ground checks. This may invariably bring few more pipe rocks to light especially to the south of the Vajrakarur area along the schist belt up to Penukonda.

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