

Fig. 2-1-12 (2) Geochemical Anomaly Map in the Chusmisa Area (Ag)

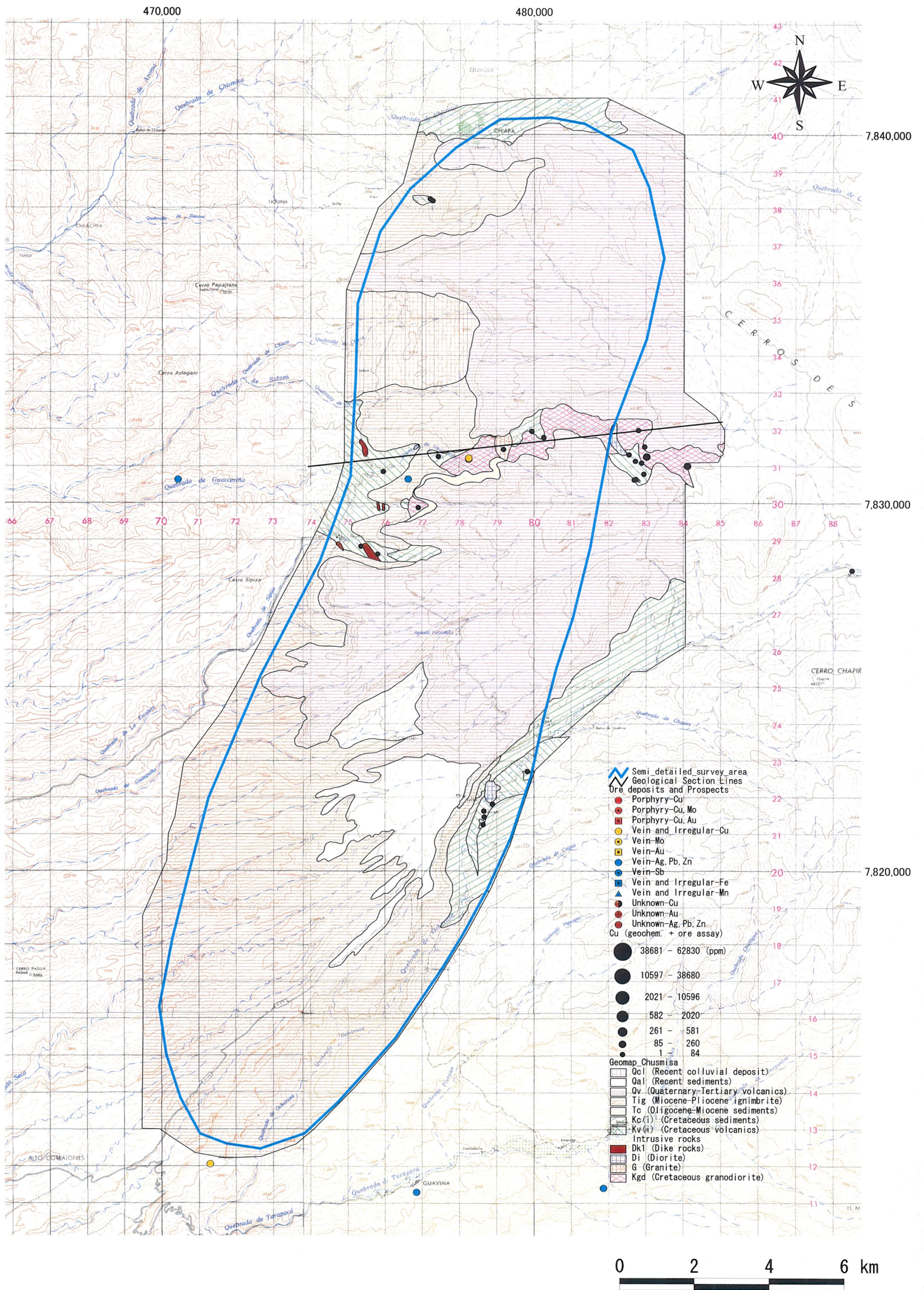


Fig. 2-1-12 (3) Geochemical Anomaly Map in the Chusmisa Area (Cu)

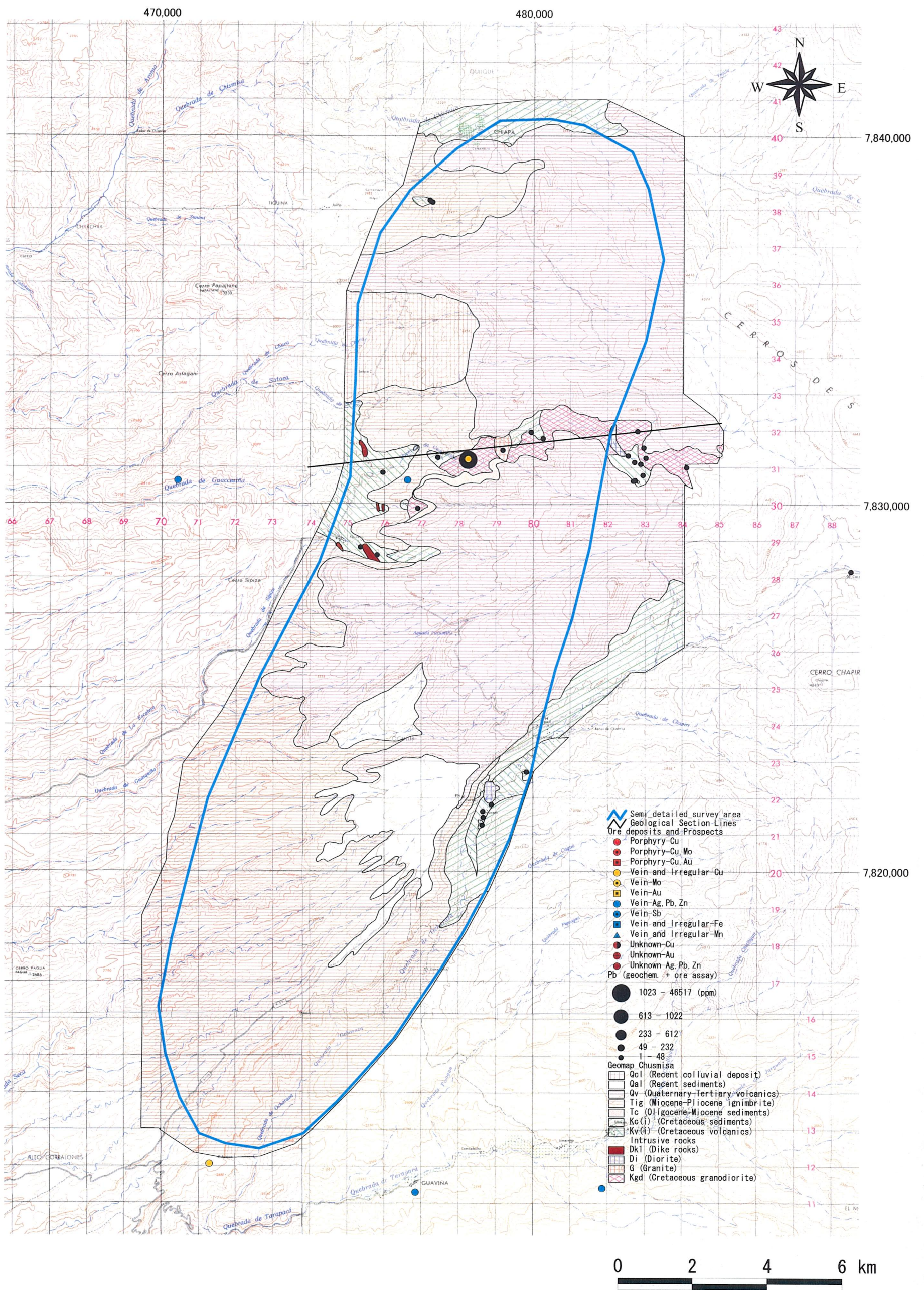


Fig. 2-1-12 (4) Geochemical Anomaly Map in the Chusmisa Area (Pb)

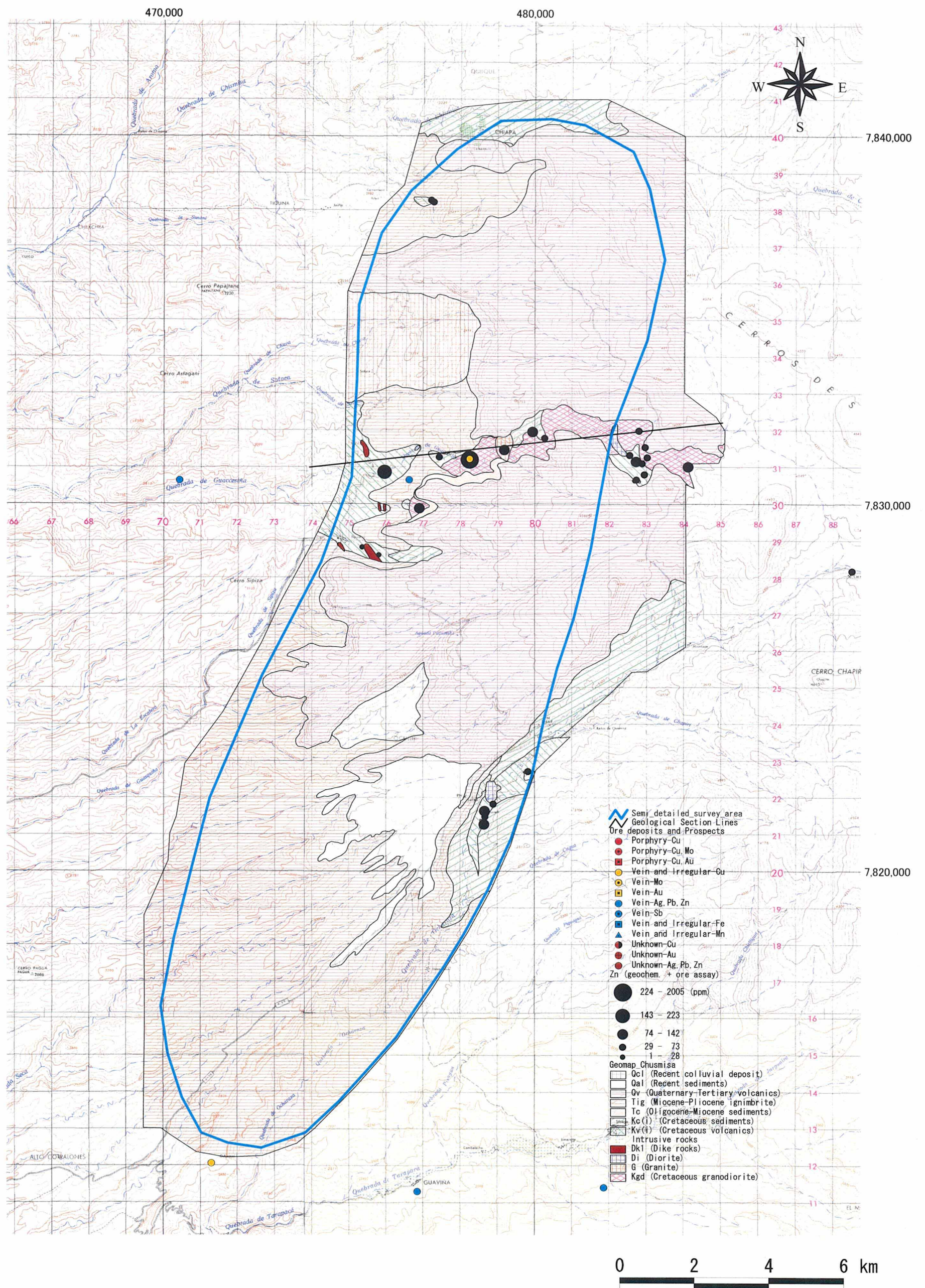


Fig. 2-1-12 (5) Geochemical Anomaly Map in the Chusmisa Area (Zn)

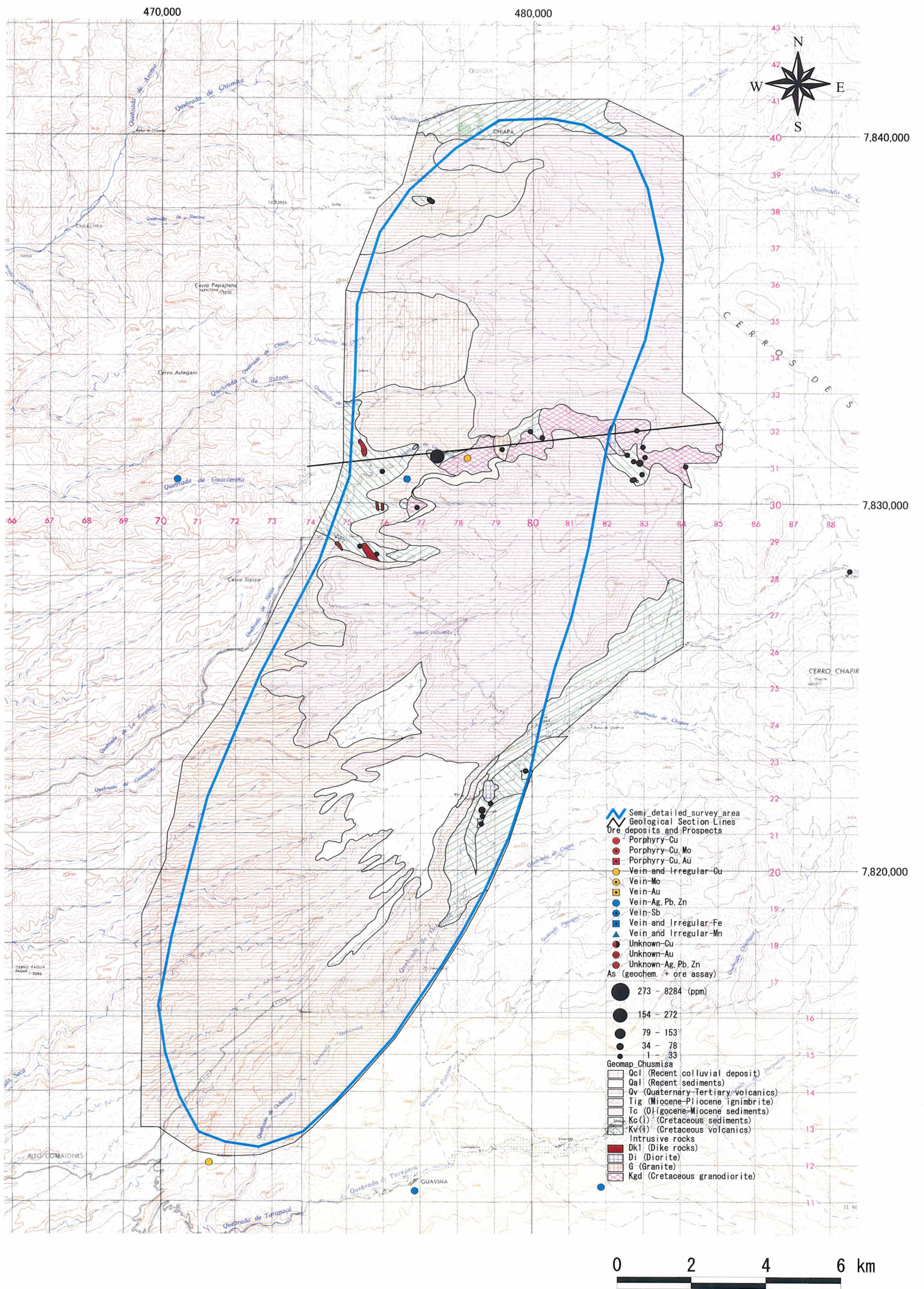


Fig. 2-1-12 (6) Geochemical Anomaly Map in the Chusmisa Area (As)

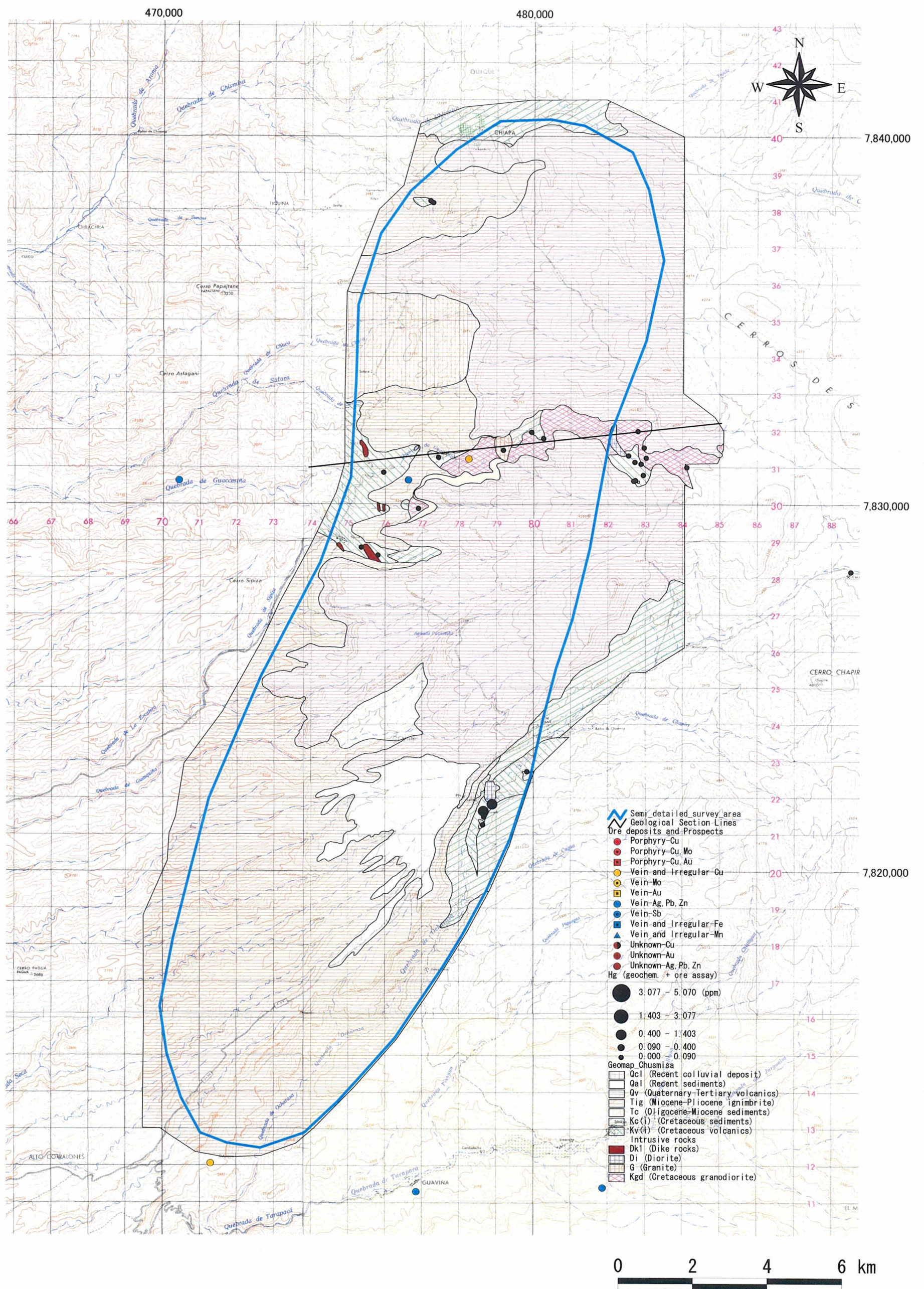


Fig. 2-1-12 (7) Geochemical Anomaly Map in the Chusmisa Area (Hg)

tuffaceous sandstone · tuffaceous conglomerate and basaltic~dacitic lava~pyroclastic rocks, and they are intruded by intrusive rocks. These intrusive rocks are; granodiorite, diorite, granite and dacite, and the granodiorite is inferred to be intruded by diorite and granite. K-Ar age of  $48 \pm 1.4$ Ma was obtained from primary biotite measurements. The Lower Cretaceous System and the above intrusive bodies are overlain unconformably by Middle~Upper Tertiary System.

The Middle~Upper Tertiary System consists of Neogene Miocene~Pliocene ignimbrite (rhyolitic welded tuff · pumiceous tuff).

The Upper Tertiary~Quaternary System is composed of basaltic lava.

The Quaternary System consists of alluvium and talus deposits.

There are alteration zones in two localities in the central and southern parts of this area. Both of these occur in the granitic bodies intruded in the Cretaceous System and the vicinity.

The central alteration zone is composed of sericitization · tourmalinization developed in granitic rocks, and silicified zone developed in Cretaceous pyroclastic rocks · sedimentary rocks surrounding the above sericitized zone. Contact metamorphic facies containing biotite is found in the silicified zone. Quartz veinlets containing pyrite are observed in the diorite in the eastern part, and pyrite veinlets and pyrite dissemination occur in the silicified zone in the granodiorite and Cretaceous System. Quartz~tourmaline veins containing copper oxide minerals occur in granodiorite of the western part of the area, and they have been mined for about 10m in both horizontally and vertically. Silicification, similar to that in the eastern part, is developed in the Cretaceous sedimentary rocks and pyroclastic rocks to the west of this vein.

The southern alteration zones are developed in diorite, granite porphyry, and their vicinity. Sericitic~tourmalinized zone occur in granite porphyry and its vicinity, and propylitized zone occurs surrounding the sericite~tourmaline zone. Ore minerals are not observed.

Regarding rock geochemical anomalies, (Au)~Ag~Pb~Zn~As anomalies were detected in the central alteration zone and Hg anomalies in the southern alteration zone.

The central alteration zone which is developed mainly in granitic rocks, is located in the

airborne intermediate magnetic intensity zone and its vicinity. The eastern side of this alteration zone overlaps the periphery of short wavelength low airborne magnetic anomaly and also the western side overlaps the periphery of the medium wavelength high airborne magnetic anomaly zone. Also the southern alteration zone developed in the vicinity of granitic rocks is located in the overlapping part of the periphery of short wavelength high magnetic anomaly zone, adjacent to the medium wavelength low anomaly zone, and intermediate magnetic intensity zone.

### 1-2-3 Area to the northeast of Chusmisa

The sampling sites of this area are shown in Figure 2-1-13, geological map in Figure 2-1-14, schematic geologic columns in Figure 2-1-15, mineral showings in Figure 2-1-16, distribution of altered minerals in Figure 2-1-17, and rock geochemical anomaly distribution in Figure 2-1-18.

The geology of this area consists of Middle~Upper Tertiary System and Upper Tertiary-Quaternary System.

The Middle~Upper Tertiary System consists of Neogene Miocene~Pliocene ignimbrite (rhyolitic welded tuff · pumiceous tuff), and is unconformably overlain by Upper Tertiary-Quaternary System.

The Upper Tertiary-Quaternary System is composed of ignimbrite (rhyolitic welded tuff · pumiceous tuff) and unconformably overlying andesitic~basaltic lava. Andesite or rhyolitic~dacitic plug intrudes the ignimbrite and dacite plug intrudes the lava.

White alteration zones are distributed widely in the southern and northeastern parts of this area. These are mainly silicified and kaolinized zones and they are accompanied by limonite or native sulfur dissemination in the south, and by pyrite dissemination in silica sinter in the northeast.

Notable rock geochemical anomalies in this area are high As-Hg anomalies.

The above alteration zones occur in the intermediate airborne magnetic intensity zone. The northeastern alteration zone occurs at the periphery of medium wavelength high magnetic anomaly zone, and the southern alteration at the periphery of short wavelength low magnetic anomaly.



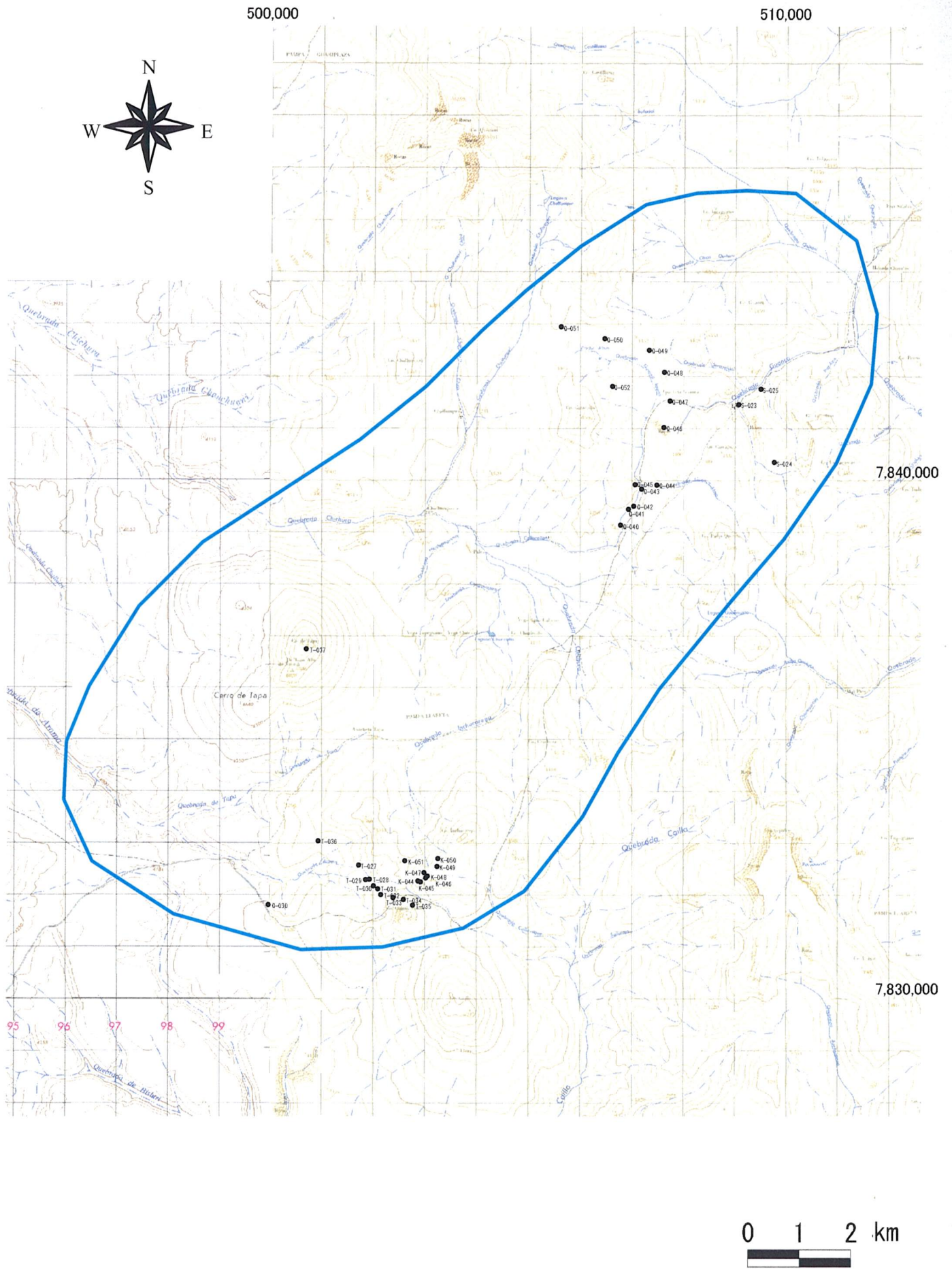


Fig. 2-1-13 Sample Location Map of the Area to the Northeast of Chusmisa

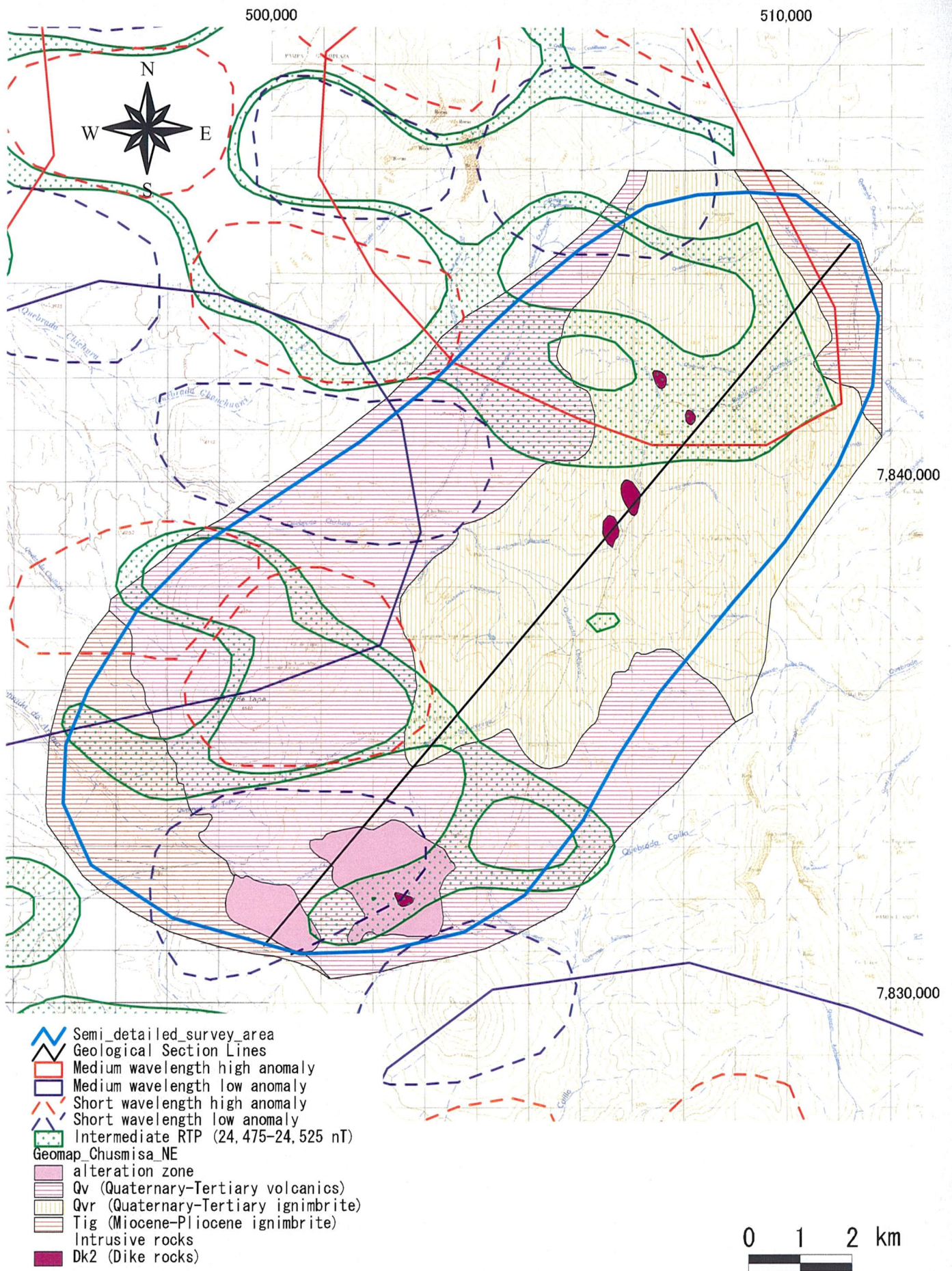


Fig. 2-1-14 Geological Map of the Area to the Northeast of Chusmisa