69° 45′ 69° 40′ 69° 35′ 69° 30′

18° 50′

18° 55′

19° 00′

N

W E

S

Hg (geochem. + ore_assay) Camarones

0.14 - 1.344 (ppm)

0.067 - 0.14

0.026 - 0.067

0.011 - 0.026

0.005 - 0.011

Geological Units (Camarones)

Semi-detailed Survey Area (Camarones)

1:100,000

0 2 4 km

Fig. 2-2-43 (8) Geochemical Anomaly Map in the Camarones Area (Hg)

which is believed to have brought about the porphyry copper mineralization, the high average Cu content and the low Pb/Cu ratio of the diorite porphyry are noted. The diorite porphyry of the southernmost mineralized zone is the host rock of the Cu anomaly and it possibly could be related to porphyry copper mineralization.

Correlation coefficient between the elements is shown in Table 2-2-3. Of the elements showing positive correlation, Mo-As and Au-Ag are believed to be related to porphyry copper mineralization and Cu-Zn, Pb-As, As-Sb, Sb-Hg, and Au-Ag to epithermal mineralization.

Principal component analysis results are shown in Table 2-2-4. Principal component analysis scores are laid out in Figure 2-2-44. Correlation matrix obtained from the logarithmic values of the geochemical analytical results was used for the calculation of the principal component calculation.

Regarding the first principal component, eigenvectors of Au, Ag, Pb are high, and high principal component score areas agree with nearly all mineral showing zones with the exception of those in Miocene Series. Therefore this component is considered to represent the porphyry copper mineralization and the following epithermal activity.

Regarding the second principal component, eigenvector of As is high, and the high principal component score area nearly agree with all mineral showing zones including those in Miocene Series. Therefore this component is considered to represent the porphyry copper mineralization and the following epithermal activity, and the epithermal mineralization during Miocene and later.

Regarding the third principal component, eigenvectors of Hg and Sb are high, and high principal component score areas occurs widely in the periphery to the vicinity of mineralized zones of Camarones and also agree with the mineral showings in the post-Miocene formations. Therefore the relation of this component to porphyry copper mineralization is considered to be low and to represent the epithermal type mineralization after porphyry copper activity.

Regarding the fourth principal component, eigenvectors of Ag and Mo are high, and many high principal component score areas agree with the distribution of quartz porphyry, quartz diorite and diorite porphyry bodies. Therefore this component is considered to represent the porphyry copper mineralization.

69° 45′ 69° 40′ 69° 35′ 69° 30′

18° 50′

18° 55′

19° 00′

N

W E

S

Principal Component 1 (log Data)

3.523 - 8.436

1.124 - 3.523

-0.14 - 1.124

-1.204 - -0.14

-2.864 - -1.204

Geological Units (Camarones)

Semi-detailed Survey Area (Camarones)

1:100,000

0 2 4 km

Fig. 2-2-44 (1) Scores of Principal Component Analysis in the Camarones Area (1st Comp.)

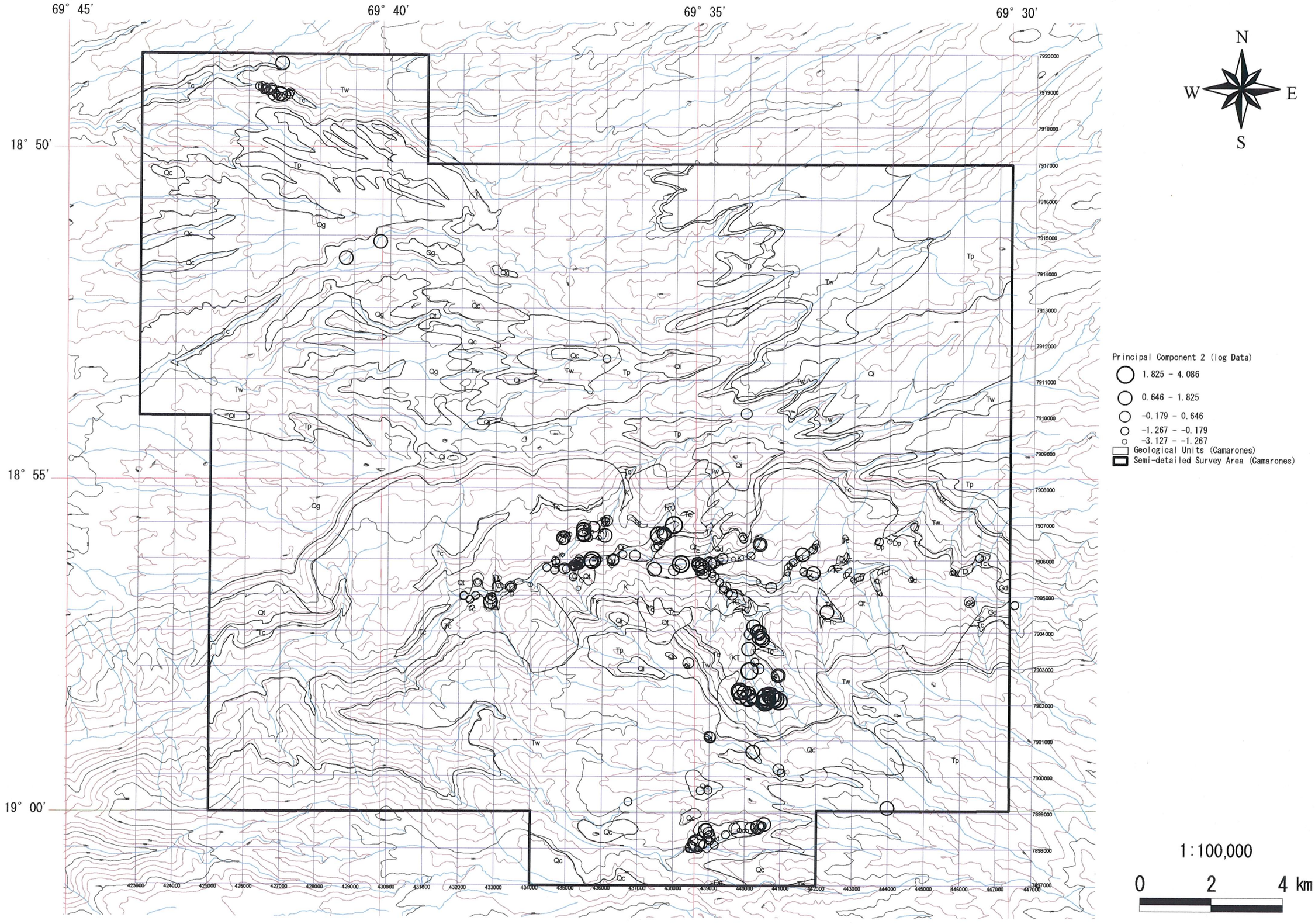

Fig. 2-2-44 (2) Scores of Principal Component Analysis in the Camarones Area (2nd Comp.)

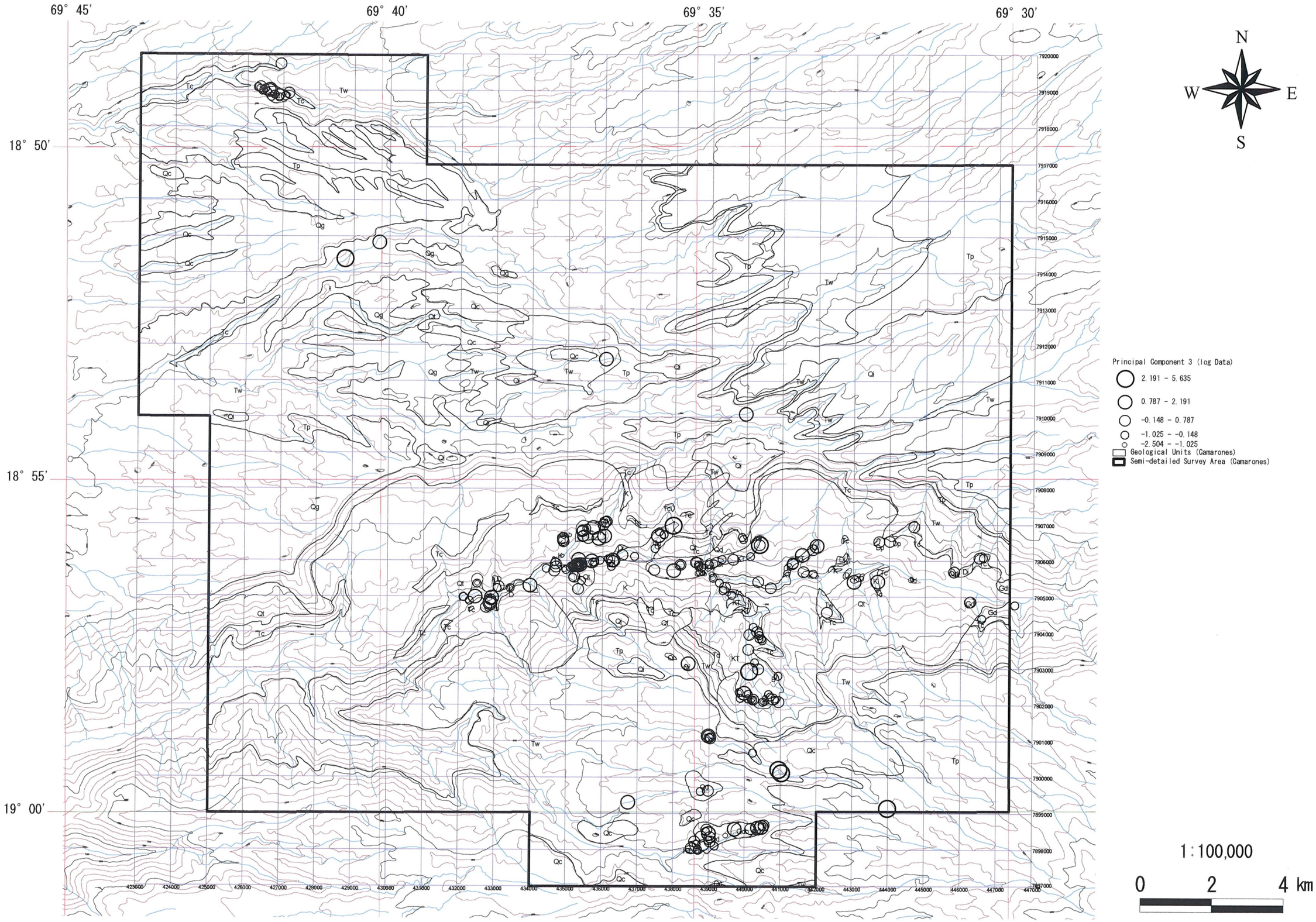

Fig. 2-2-44 (3) Scores of Principal Component Analysis in the Camarones Area (3rd Comp.)

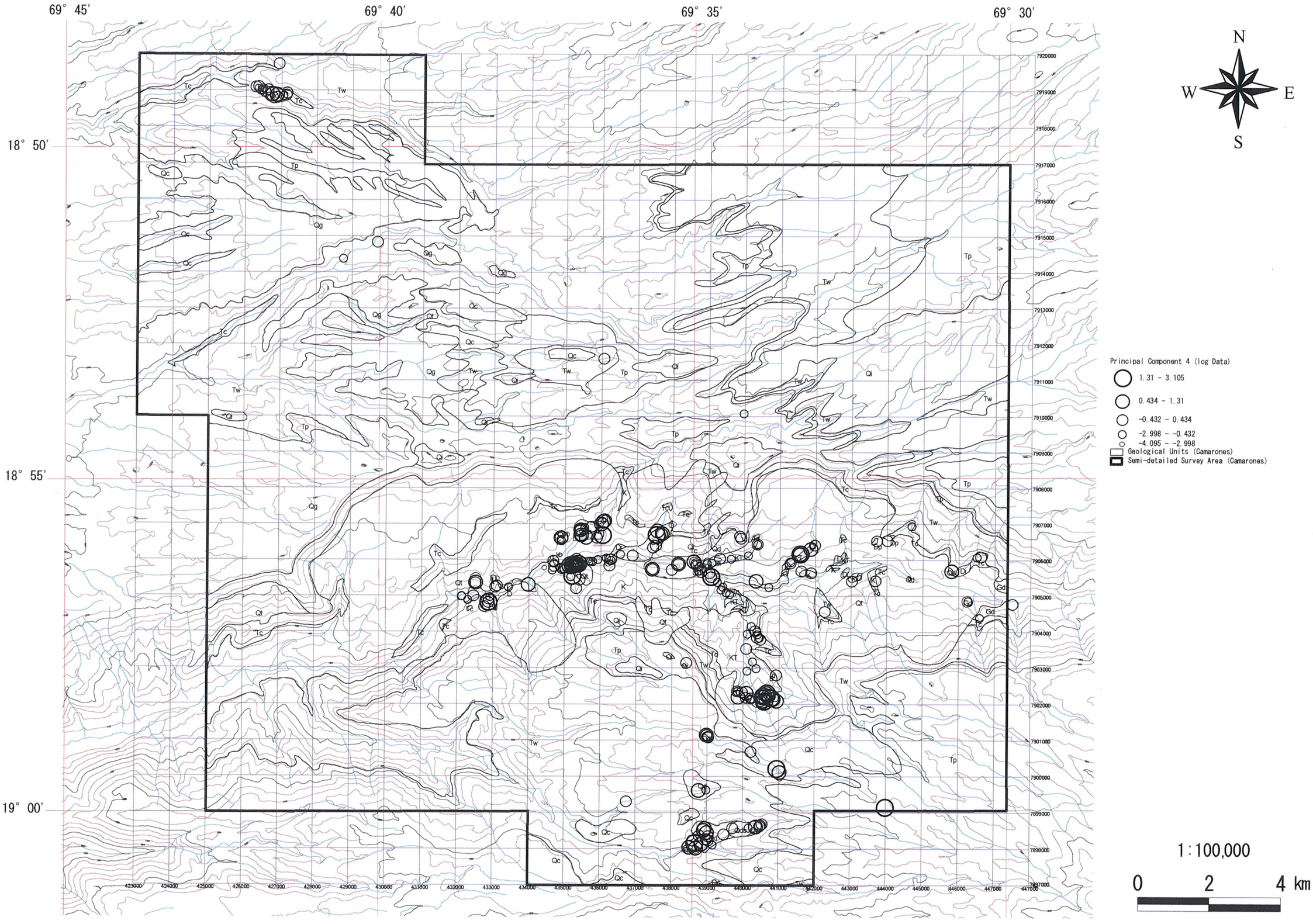

Fig. 2-2-44 (4) Scores of Principal Component Analysis in the Camarones Area (4th Comp.)

69° 45′ 69° 40′ 69° 35′ 69° 30′

18° 50′

18° 55′

19° 00′

N

W E

S

Principal Component 5 (log Data)

1.032 - 2.792

0.27 - 1.032

-0.45 - 0.27

-1.539 - -0.45

-3.031 - -1.539

Geological Units (Camarones)

Semi-detailed Survey Area (Camarones)

1:100,000

0 2 4 km

Fig. 2-2-44 (5) Scores of Principal Component Analysis in the Camarones Area (5th Comp.)