

Fig. 2-2-70 (2) Geochemical Anomaly Map in the Area to the Northeast of Camina (Hg)

tuffaceous sandstone.

The Upper Neogene-Quaternary System consists of basaltic~andesitic lava. The whole rock K-Ar age of the plug-dome andesite was  $10.4 \pm 0.4$  Ma.

Quaternary unit is alluvium.

In this area, white-colored alteration is widely developed and the alteration zones occur parallel in the NW-SE direction. These alteration zones consist of sericite, kaolin, and silicification, sometimes associated with native sulfur.

Notable rock geochemical anomalies are high As-Hg anomalies.

The above alteration zones are located within the intermediate airborne magnetic intensity zone and in the periphery of medium wavelength high magnetic anomaly and in the vicinity of short wavelength high airborne magnetic anomaly.

## 2 - 15 Minimiñe district

A geological map of this area is shown in Figure 2-2-71, and schematic geologic columns in Figure 2-2-72.

The geology of this area consists of Upper Neogene-Quaternary System and Quaternary System.

The Upper Neogene-Quaternary System is composed of, in ascending order, conglomerate, ignimbrite (pumiceous tuff • welded tuff with sandstone-conglomerate intercalation), and basalt~andesite lava. These units have unconformable relation with each other.

The Quaternary System consists of gravel and sand.

Alteration and mineralized zones do not occur in this area.

In the vicinity of the overlapping zone of intermediate magnetic intensity zone and the periphery of medium wavelength low anomaly zone extracted by airborne magnetic survey, relatively lower units of the area (Upper Neogene-Quaternary System) occur, but clear



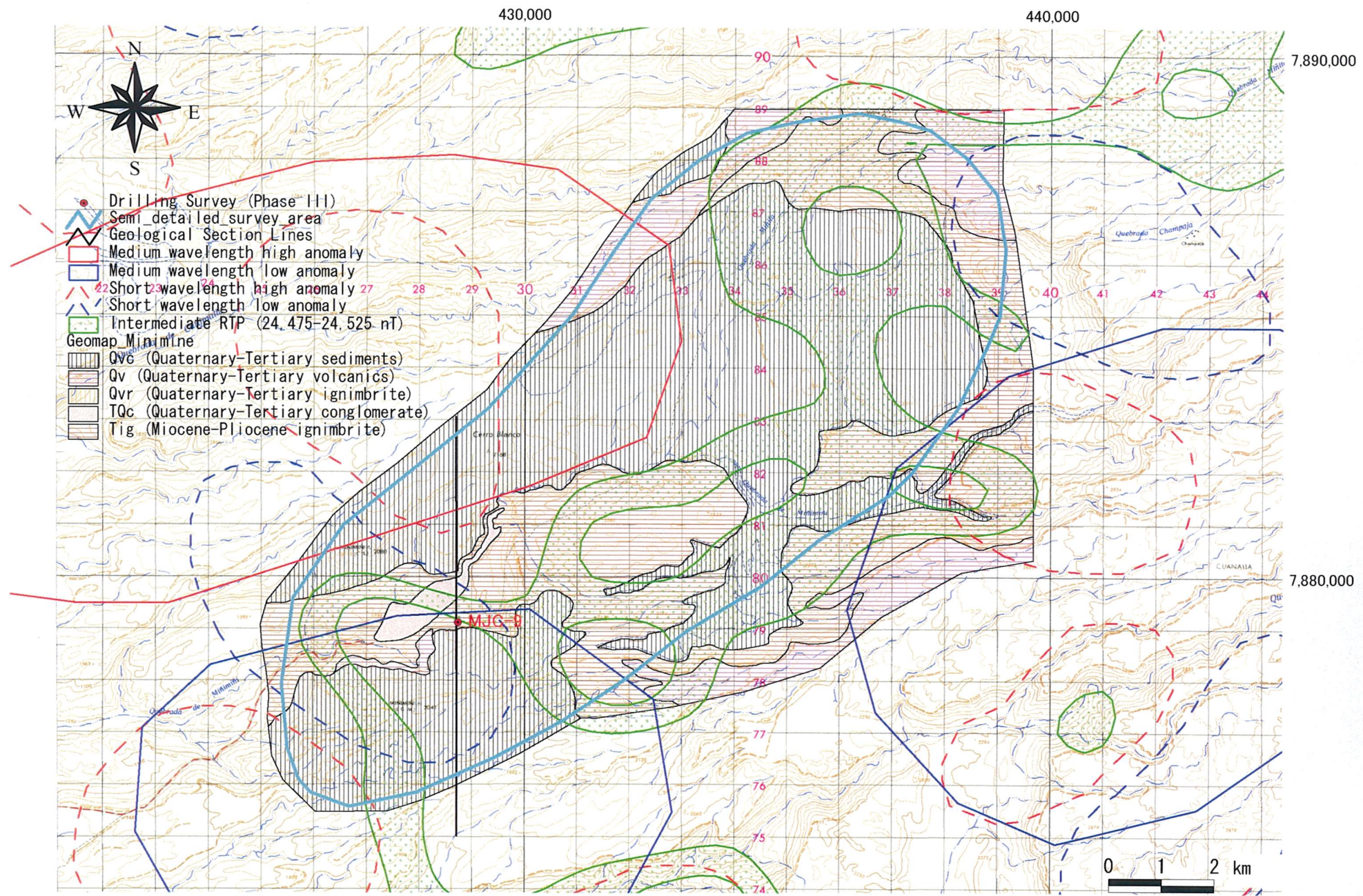
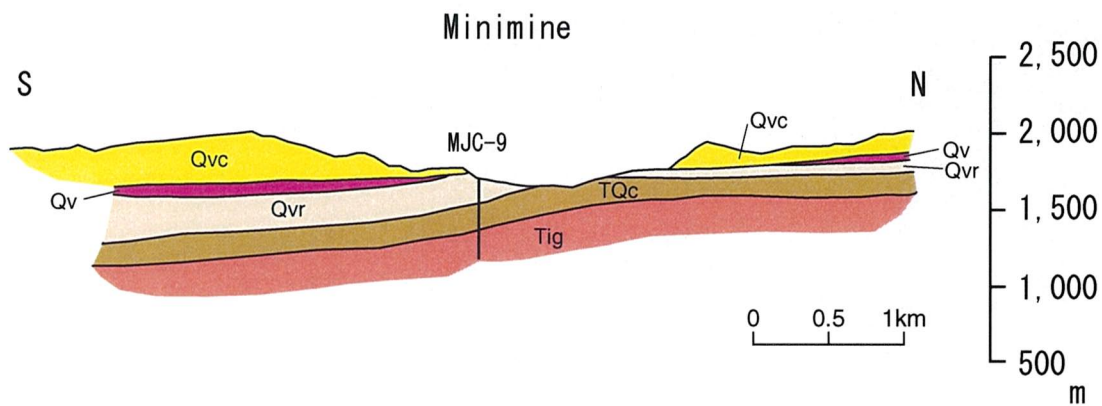


Fig. 2-2-71 Geological Map of the Minimine Area





Geologic Time		Columnar Section	Lithology	Intrusives	Mineralization
CENOZOIC	QUATERNARY		Sand, gravel		
	QUATERNARY ~ TERTIARY		Basalt ~ andesite lava		
			Welded tuff		
			Pumice tuff		
			Conglomerate		
TERTIARY	PLIOCENE ~ MIOCENE		Welded tuff		

Fig.2-2-72 Schematic Stratigraphic Columns and Profiles of the Minimine Area

correlation of the airborne magnetic anomalies and geologic structure was not observed.

#### **2 - 16 District to the north of Codpa**

A geological map of the area is shown in Figure 2-2-73 and schematic geologic columns in Figure 2-2-74.

The geology of this area consists of Miocene-Pliocene Series, Pleistocene-Holocene Series and intrusive bodies.

The Miocene-Pliocene Series is composed of ignimbrite consisting of, from bottom upward, pebbly tuff, fine-grained tuff • volcanic ash, welded tuff • pumiceous tuff.

Pleistocene-Holocene Series comprises gravel and sand.

The surface of this area is mostly covered by horizontal thick Miocene ignimbrite. The basement of this area is Upper Cretaceous andesitic lava • pyroclastic rocks, and occurs in small scale along the deeply dissected Quebrada Vitor to the south of this area. Quartz diorite stocks intruding into the Upper Cretaceous System are observed in this zone. These Upper Cretaceous System and quartz diorite are unconformably overlain by Lower Miocene polymictic conglomerate, which in turn is overlain unconformably by Miocene-Pliocene ignimbrite.

Alteration and mineralized zones do not occur in this survey area. But quartz veinlet groups accompanied by potassium alteration and sericitization are developed in the quartz diorite in the area to the south of this area.

Geologic structure characteristic to the areas of overlap of intermediate airborne magnetic intensity and the periphery of medium wavelength low magnetic anomaly zone is not observed in this area.

#### **2 - 17 District to the northwest of Tignamar**

A geological map of this area is shown in Figure 2-2-75, schematic geologic columns in Figure 2-2-76, distribution of altered minerals in Figure 2-2-77, and rock geochemical anomaly distribution in Figure 2-2-78.



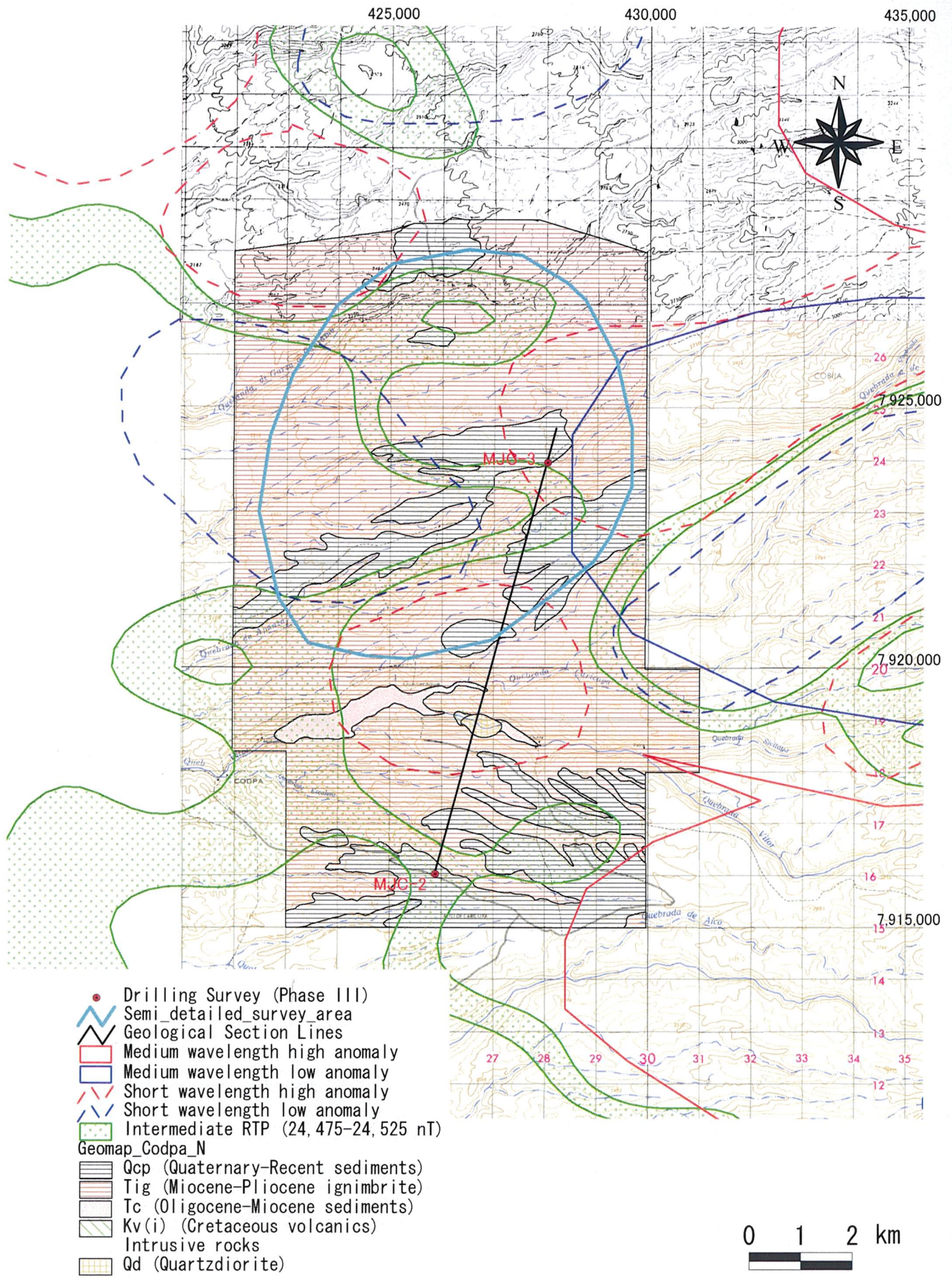
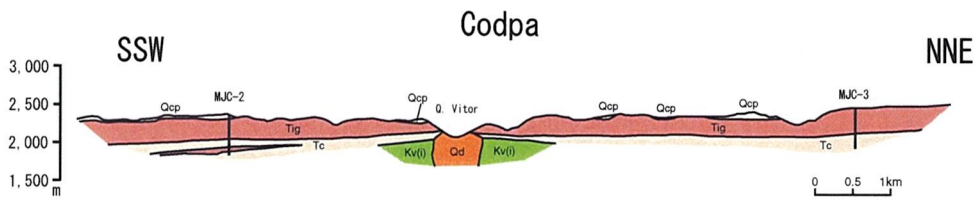


Fig. 2-2-73 Geological Map of the Area to the North of Codpa





Geologic Time		Columnar Section	Lithology	Intrusives	Mineralization
CENOZOIC	QUATERNARY	HOLOCENE ~ PLEISTOCENE	Qcp Gravel, sand		
	TERTIARY	PLIOCENE ~ MIOCENE	Tig Welded tuff Pumice tuff Fine tuff Pebbly tuff		
		MIOCENE	Tc Conglomerate		
		PALEOGENE			
MESOZOIC	CRETACEOUS	LATE	Kv(i) Qd Kv(i) Andesitic lava/ volcaniclastics	Quartz diorite (Qd) ↑	

Fig.2-2-74 Schematic Stratigraphic Columns and Profiles of the Area to the North of Codpa



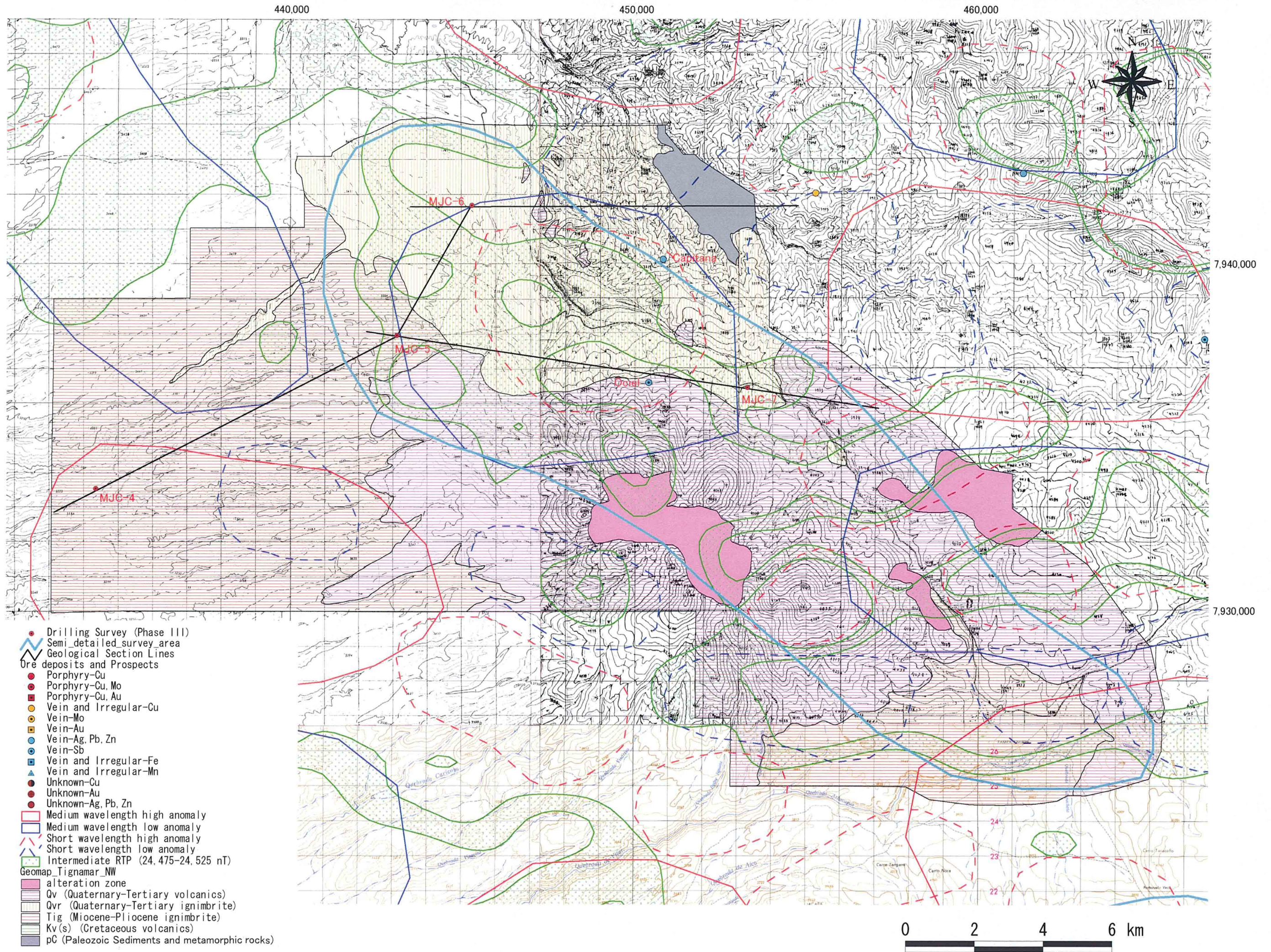
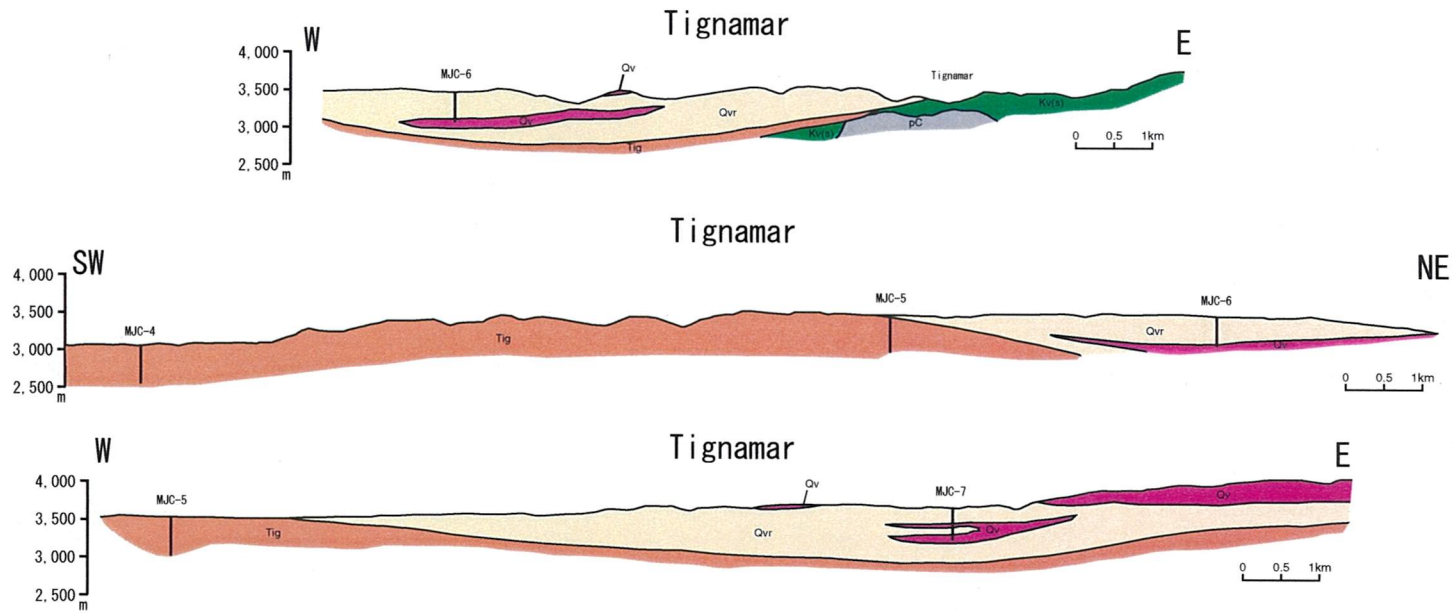


Fig. 2-2-75 Geological Map of the Area to the Northwest of Tignamar

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Geologic Time		Columnar Section	Lithology	Intrusives	Mineralization	
CENOZOIC	QUATERNARY ~ TERTIARY	Qv	Basaltic ~ andesitic lava		Epithermal type (kaolin, silica)	
		Qvr	Pumice tuff Rhyolite Conglomerate Basaltic ~ andesitic lava			
	TERTIARY	PLIOCENE ~ MIOCENE	Tig			Welded tuff Pumice tuff
PALEOGENE						
MESOZOIC	CRETACEOUS	LATE	Kv(sy)			Andesite intercalation of continental sediments
PALEOZOIC		pC	Gneiss Metamorphosed sedimentary and volcanic rocks			

Fig.2-2-76 Schematic Stratigraphic Columns and Profiles of the Area to the Northwest of Tignamar



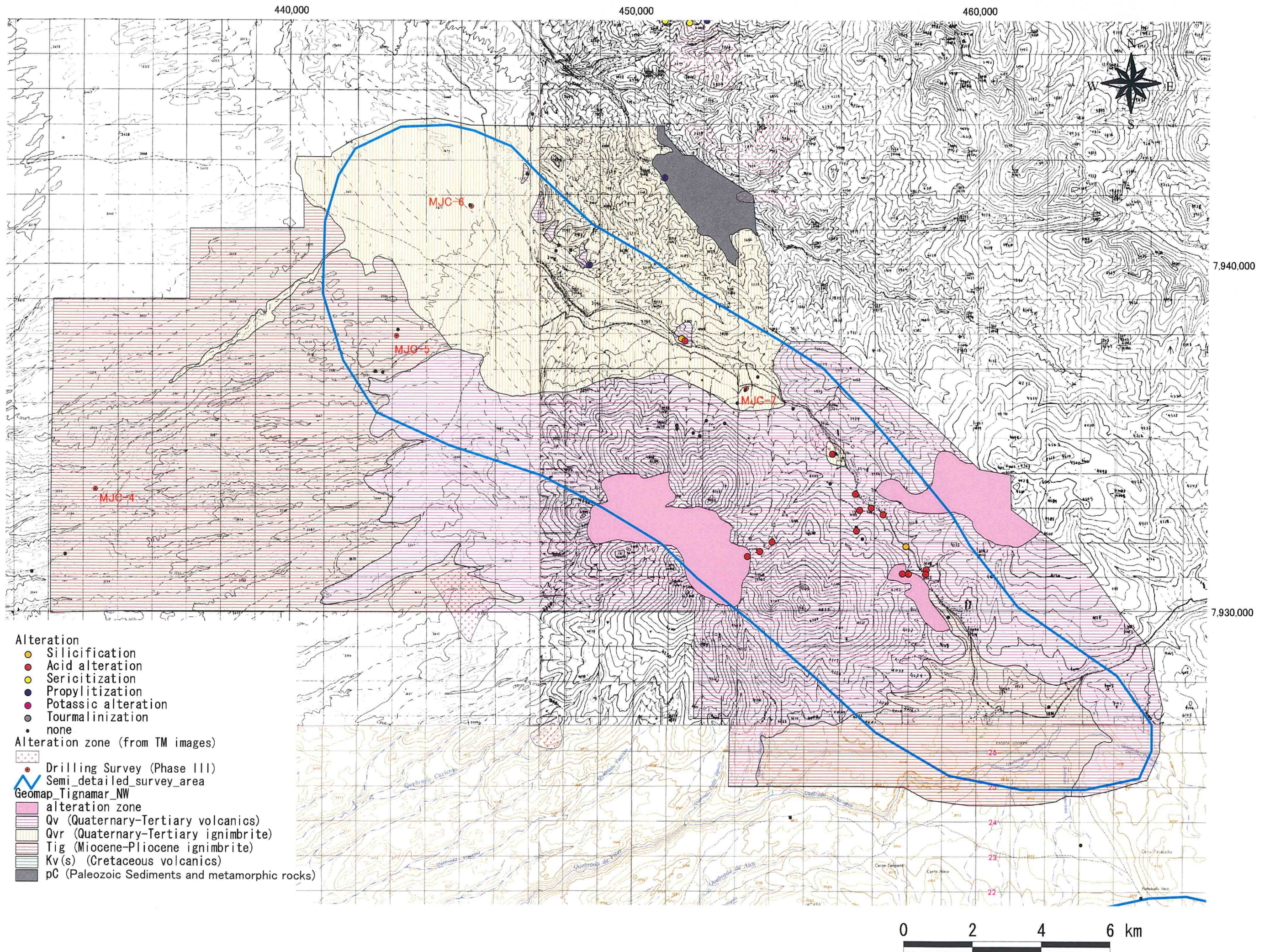
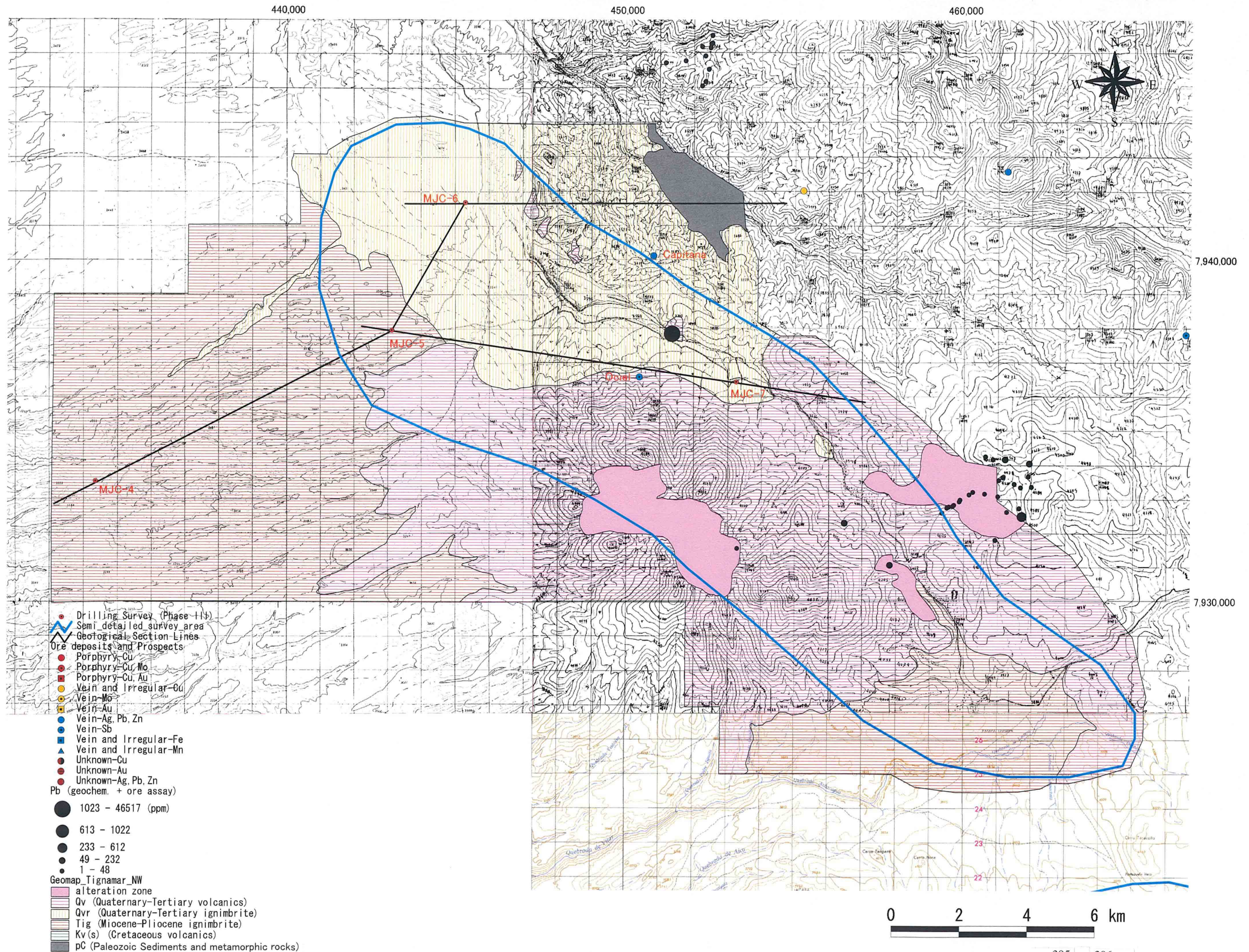


Fig. 2-2-77 Distribution Map of Alteration Minerals at the Area to the Northwest of Tignamar





- Drilling Survey (Phase II)
- Semi detailed survey area
- Geological Section Lines
- Ore deposits and Prospects**
- Porphyry-Cu
- Porphyry-Cu, Mo
- Porphyry-Cu, Au
- Vein and Irregular-Cu
- Vein-Mo
- Vein-Au
- Vein-Ag, Pb, Zn
- Vein-Sb
- Vein and Irregular-Fe
- Vein and Irregular-Mn
- Unknown-Cu
- Unknown-Au
- Unknown-Ag, Pb, Zn

- Pb (geochem. + ore assay)
- 1023 - 46517 (ppm)
- 613 - 1022
- 233 - 612
- 49 - 232
- 1 - 48

- Geomap\_Tignamar\_NW**
- alteration zone
- Qv (Quaternary-Tertiary volcanics)
- Qvr (Quaternary-Tertiary ignimbrite)
- Tig (Miocene-Pliocene ignimbrite)
- Kv(s) (Cretaceous volcanics)
- pC (Paleozoic Sediments and metamorphic rocks)

Fig. 2-2-78 (1) Geochemical Anomaly Map in the Area to the Northwest of Tignamar (Pb)