

LEGEND

Type	hot water (geochemical/geothermo-temperature)
I vapor-dominated type sulfate spring	■ (unknown)
II water-vapor-mixed type common salt spring (a)	● (> 200°C)
III water-dominated type common salt spring (b)	⊙ (< 200°C)
simple spring	○ (< 200°C)
IV water-dominated type Ca-Mg bicarbonate spring	● (< 200°C)

— — — — —	boundary of classification by chemical composition
▬▬▬▬▬▬▬	boundary of existence

Fig.3-5-2 Composite map of zoning of hot spring - fumarole and geochemical geothermo-temperature

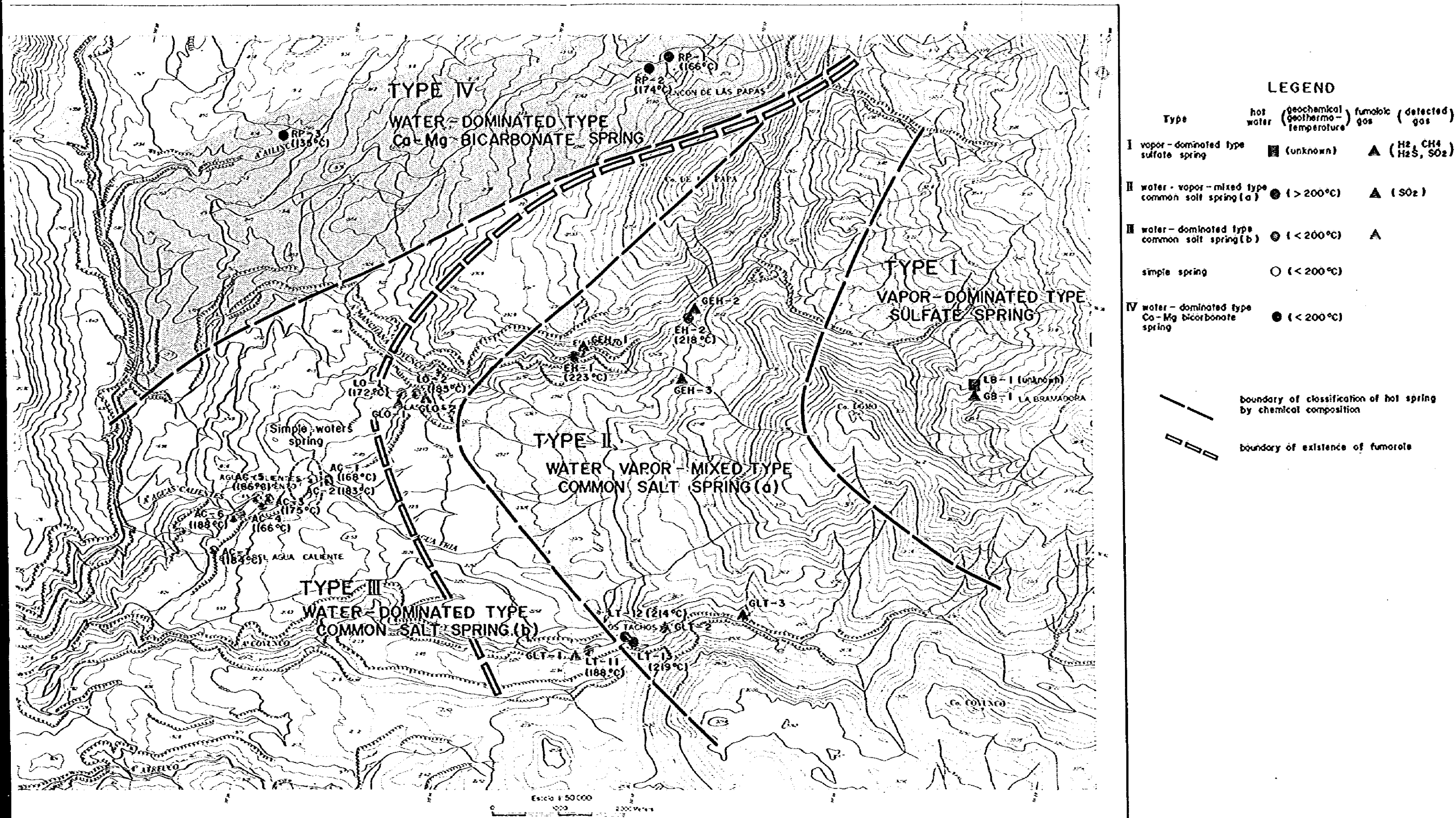


Fig.3-5-2 Composite map of zoning of hot spring - fumarole and geochemical geothermo-temperature

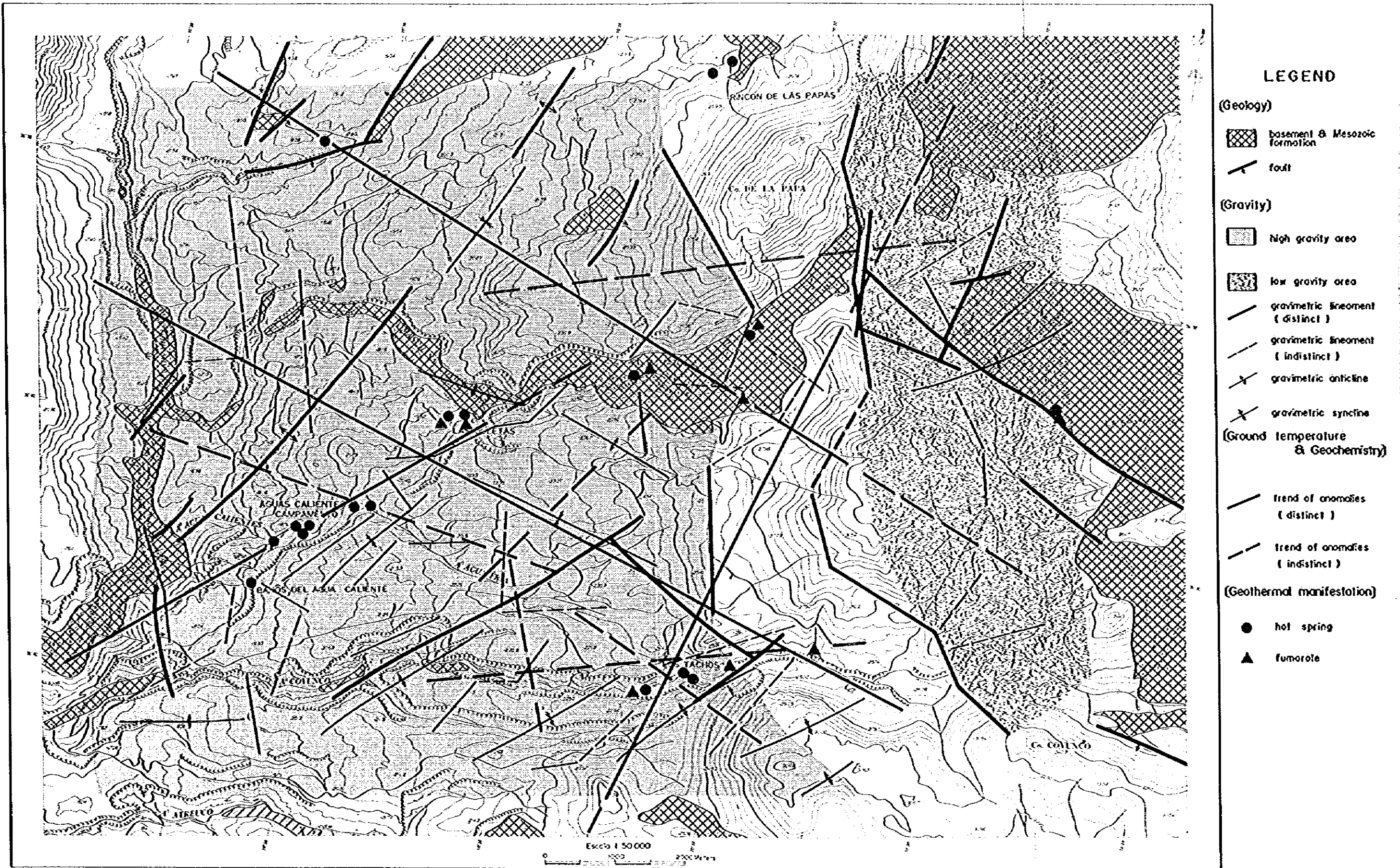
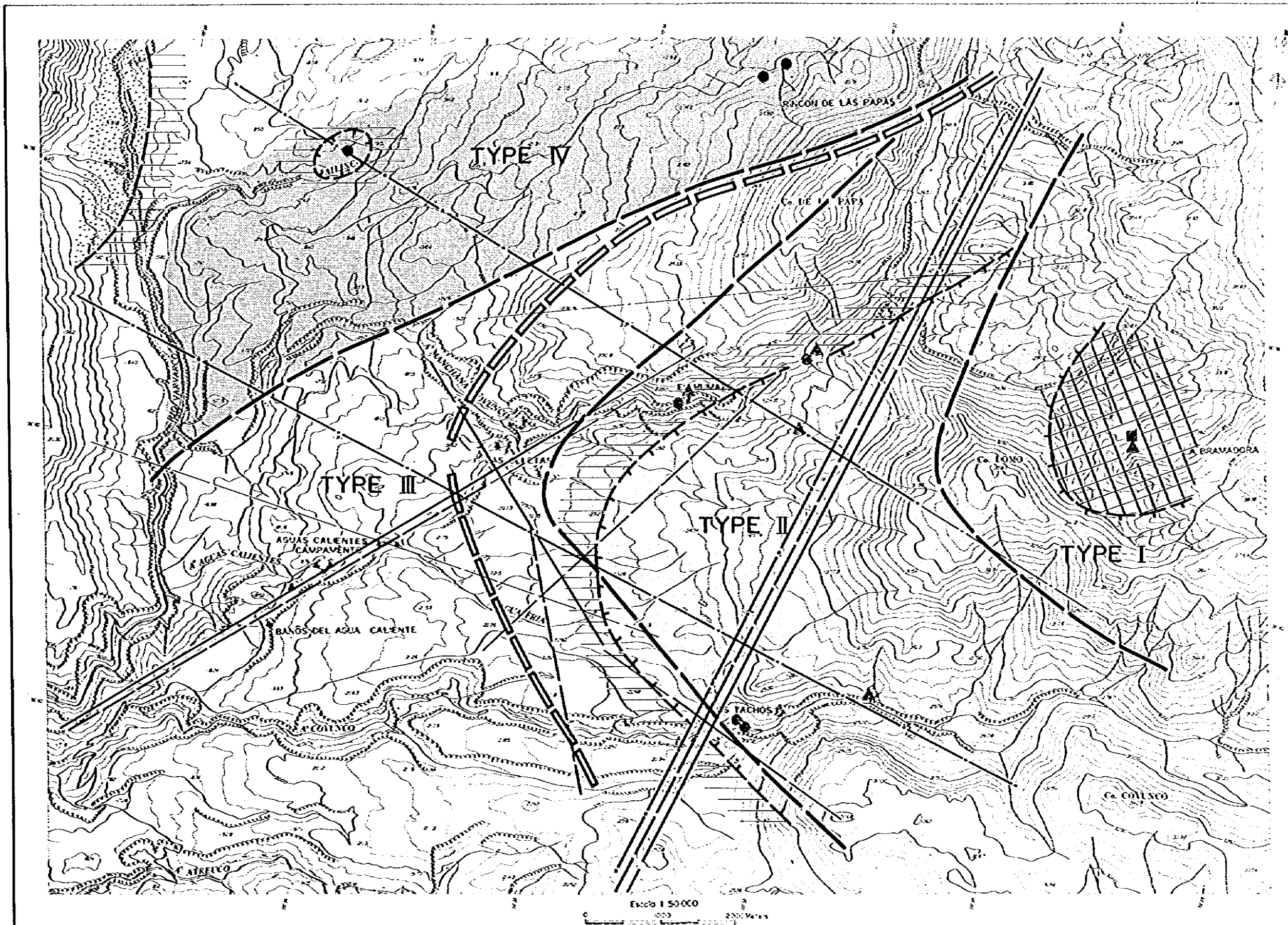


Fig.3-6-1 Synthetic interpretation map of geologic structure



LEGEND

(Geothermal manifestation)

- boundary of classification by chemical composition
- ▭ boundary of existence of

(hot water) (fumarolic gas)

- ▲ I vapor-dominated type sulfate spring (unit)
- ▲ II water-vapor-mixed common soil spring
- ▲ III water-dominated common soil spring
- IV water-dominated by Ca-Mg bicarbonate

(Ground temperature & Geochemistry)

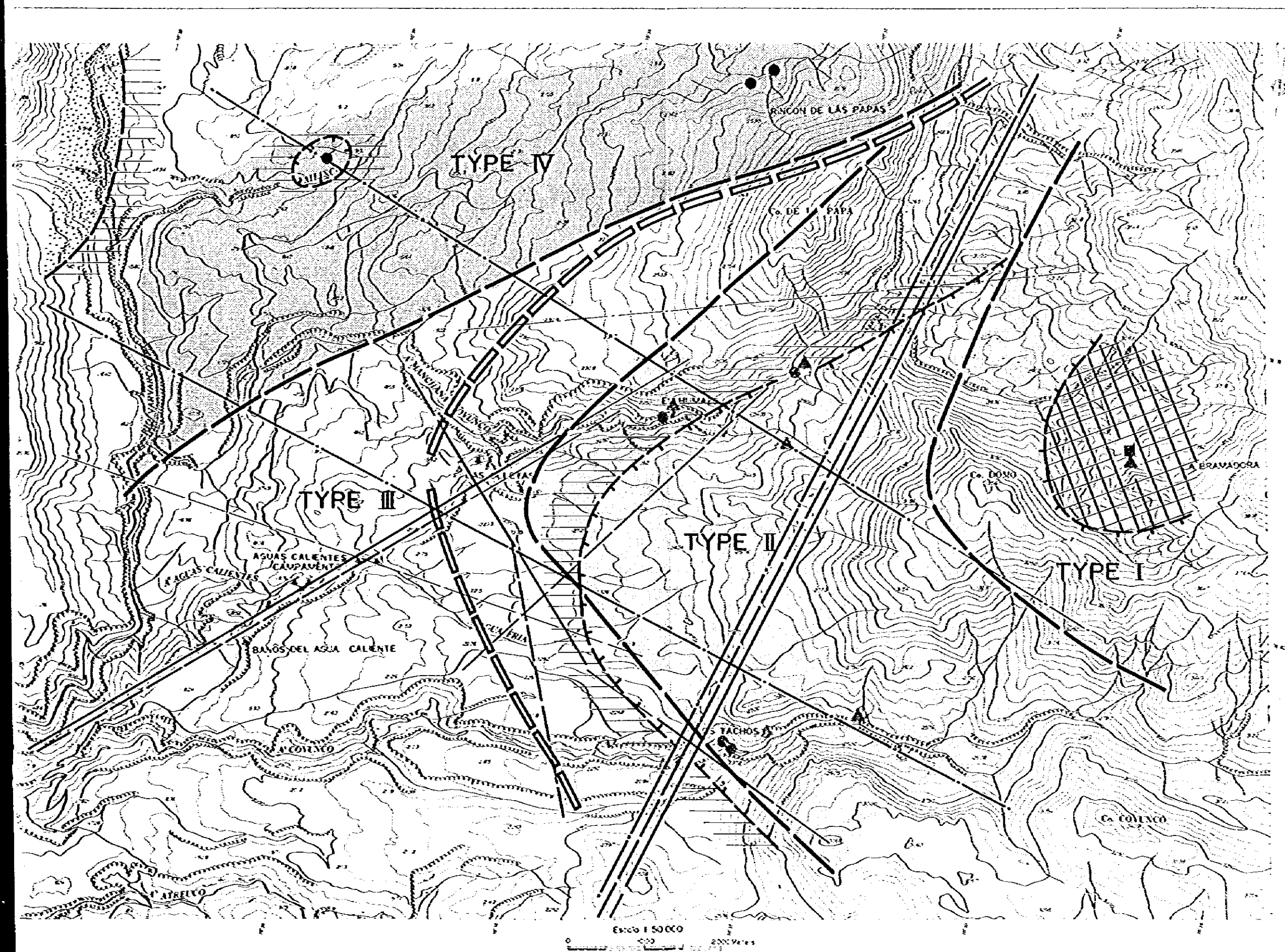
trend of anomalous area

- /// residual ground temperature
- /// Hg-concentration
- /// CO₂-concentration
- (thick ---) distinct
- (thin ---) indistinct

(Alteration)

- ▧ kaolinite-alunite zone
- ▨ kaolinite zone
- ▩ montmorillonite-crystallite zone
- opal zone

Fig.3-6-2 Composite map of zoning of hot spring-fumarole and geochemical geothermo-temperature



LEGEND

(Geothermal manifestation)

- boundary of classification of hot spring by chemical composition
- boundary of existence of fumarole

<p>(hot water)</p> <p>(fumarolic gas)</p> <p></p> <p></p> <p></p>	<p>I vapor-dominated type sulfate spring (unknown)</p> <p>II water-vapor-mixed type common salt spring (a) (> 200°C)</p> <p>III water-dominated common salt spring (b) (< 200°C)</p> <p>IV water-dominated type Ca-Mg bicarbonate spring (< 200°C)</p>	<p>(geochemical geothermo-temperature)</p>
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(Ground temperature & Geochemistry)

trend of anomalous area

- residual ground temperature
- Hg-concentration
- CO₂-concentration

(distinct
 indistinct)

(Alteration)

- kaolinite - alunite zone
- kaolinite zone
- montmorillonite - cristobalite zone
- opal zone

(temperature)
High
↓
Low

Fig.3-6-2 Composite map of zoning of hot spring-fumarole and geochemical geothermo-temperature

W ←

→ E

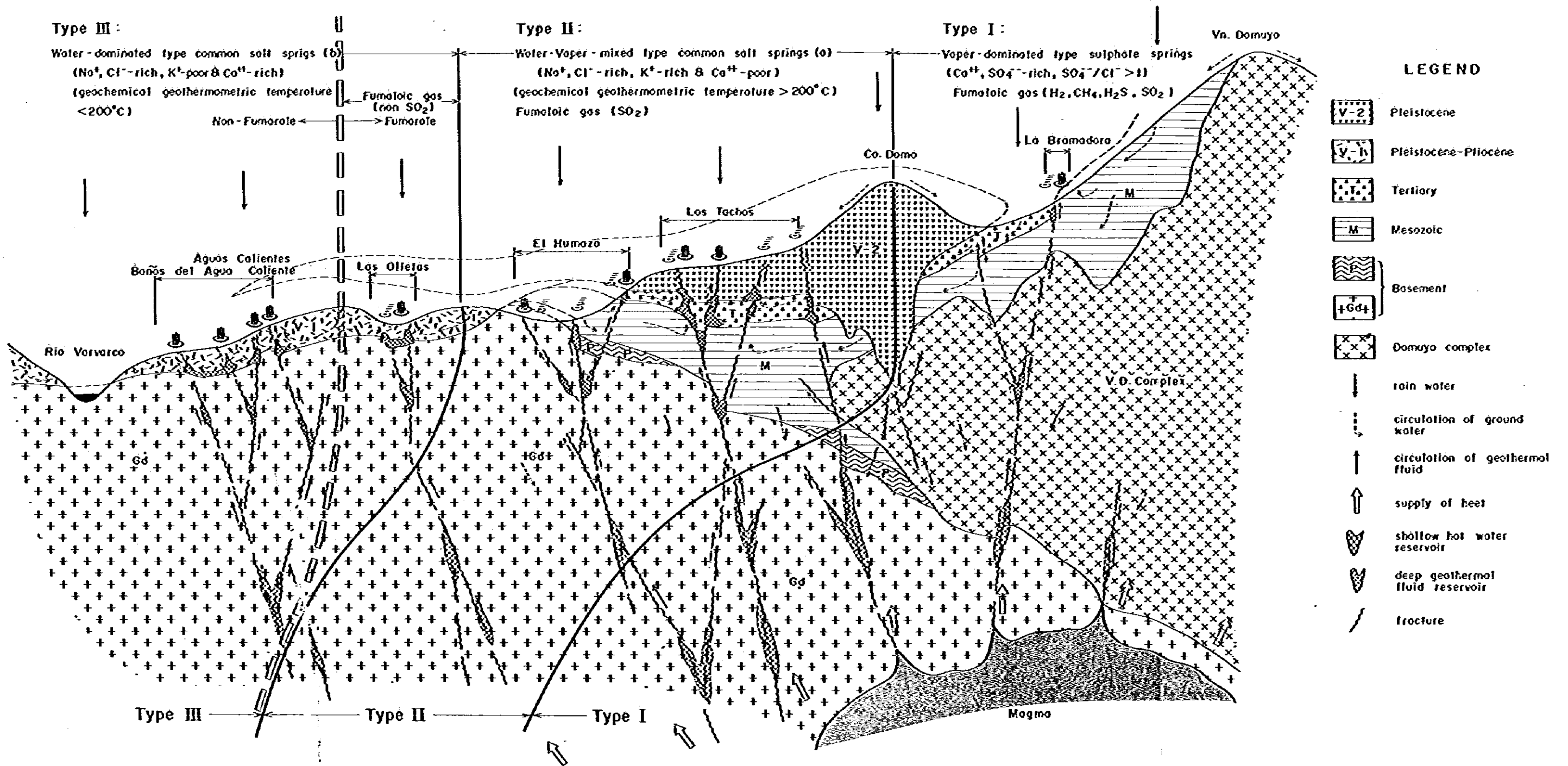


Fig.3-6-3 Model of circulation mechanism of geothermal fluid and geothermal reservoir structure (I)

NW ←

→ SE

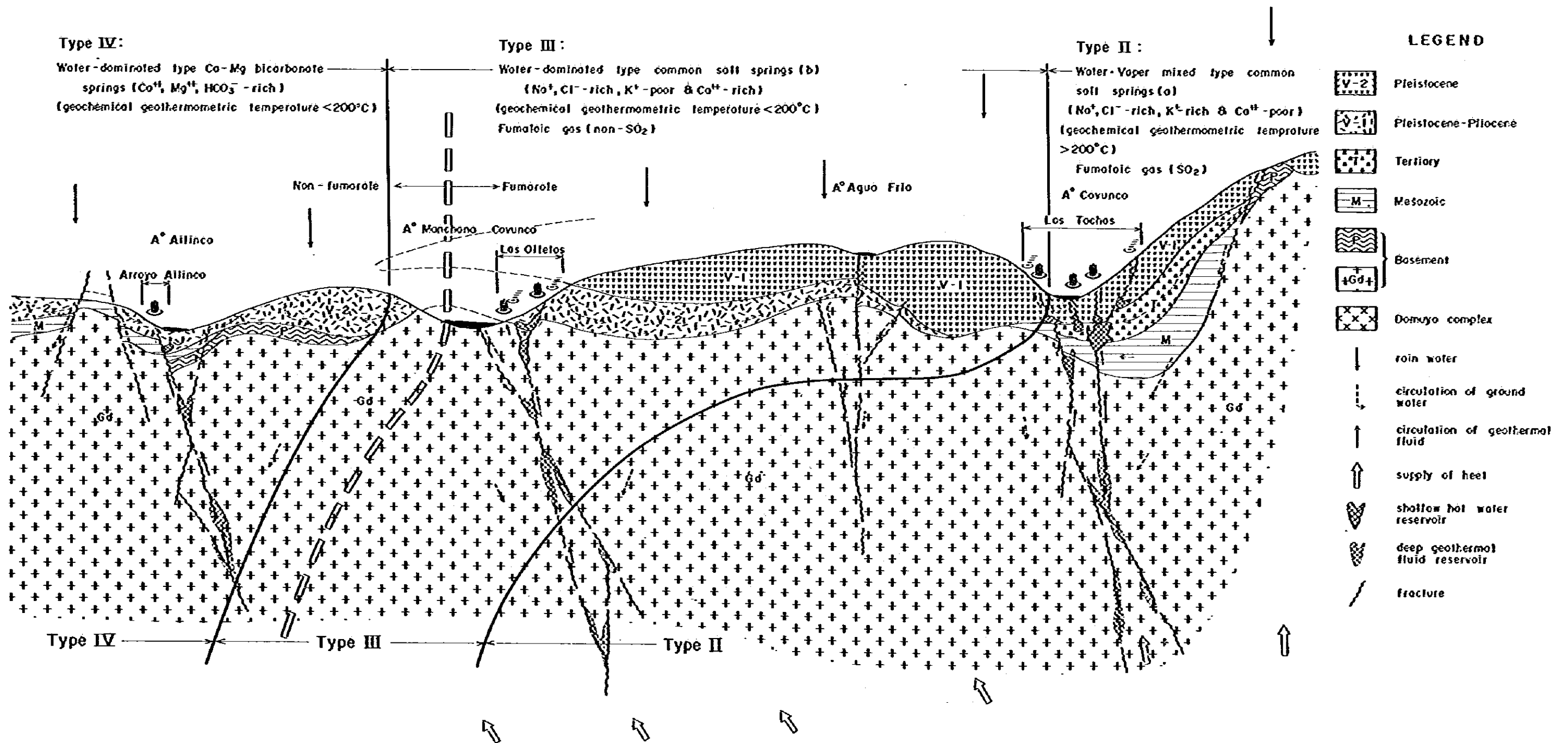
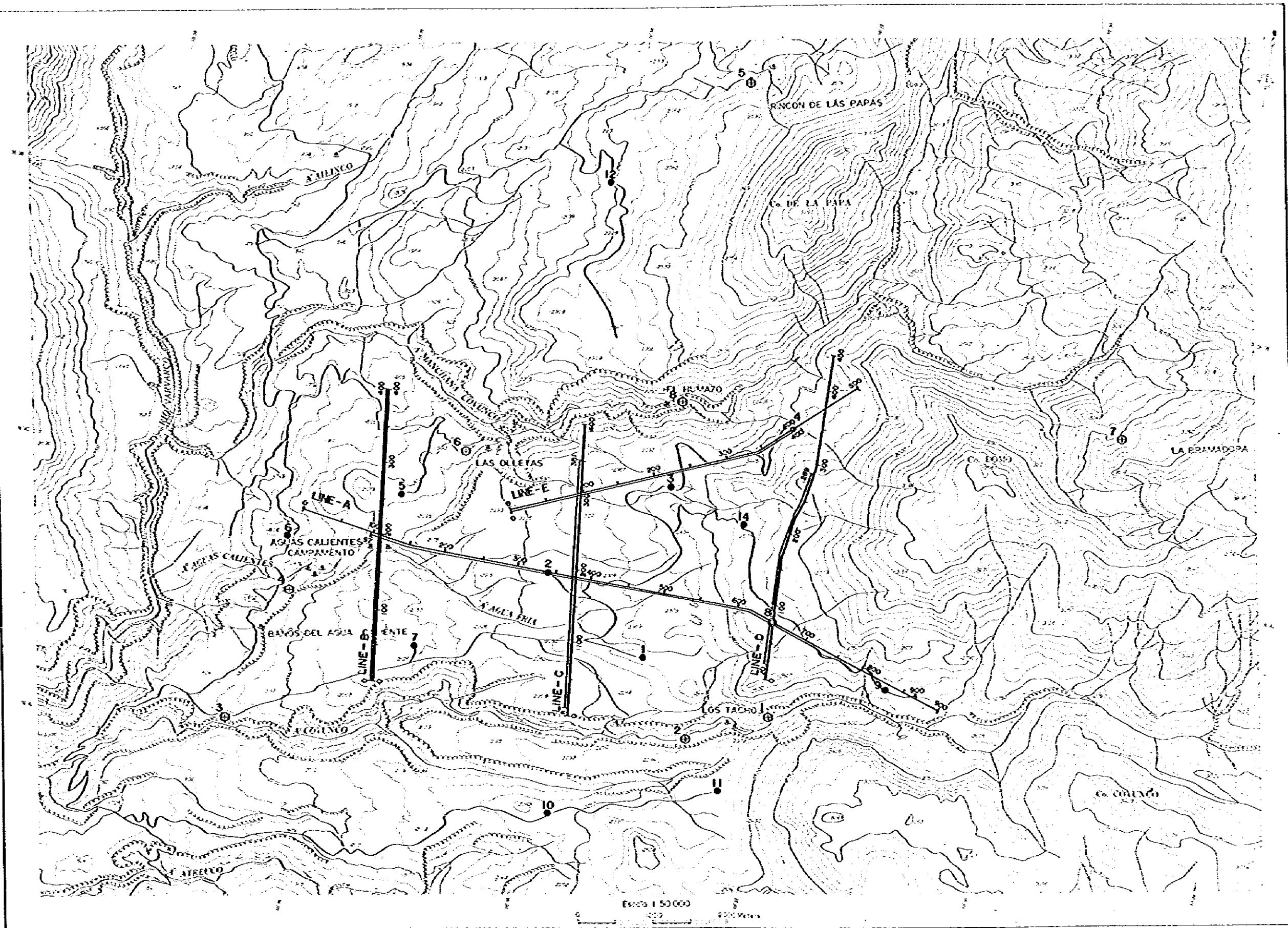


Fig.3-6-4 Model of circulation mechanism of geothermal fluid and geothermal reservoir structure (2)

4. The Third Phase Survey



LEGEND

- Resistivity line
- Seismic line
- 300 meter depth hole
- 400 meter depth hole
- ⊕ Water sampling for isotopic analysis

Sample No.	Location
1	Los Tachos Grandes
2	Los Tachos Chicos
3	Los Tachos Vertiente de Agua Fría
4	Aguas Calientes
5	Rincón de Los Popos Sur
6	Las Olletas
7	La Bramadora
8	El Humozo

Fig.4-1 Location map of the third phase survey

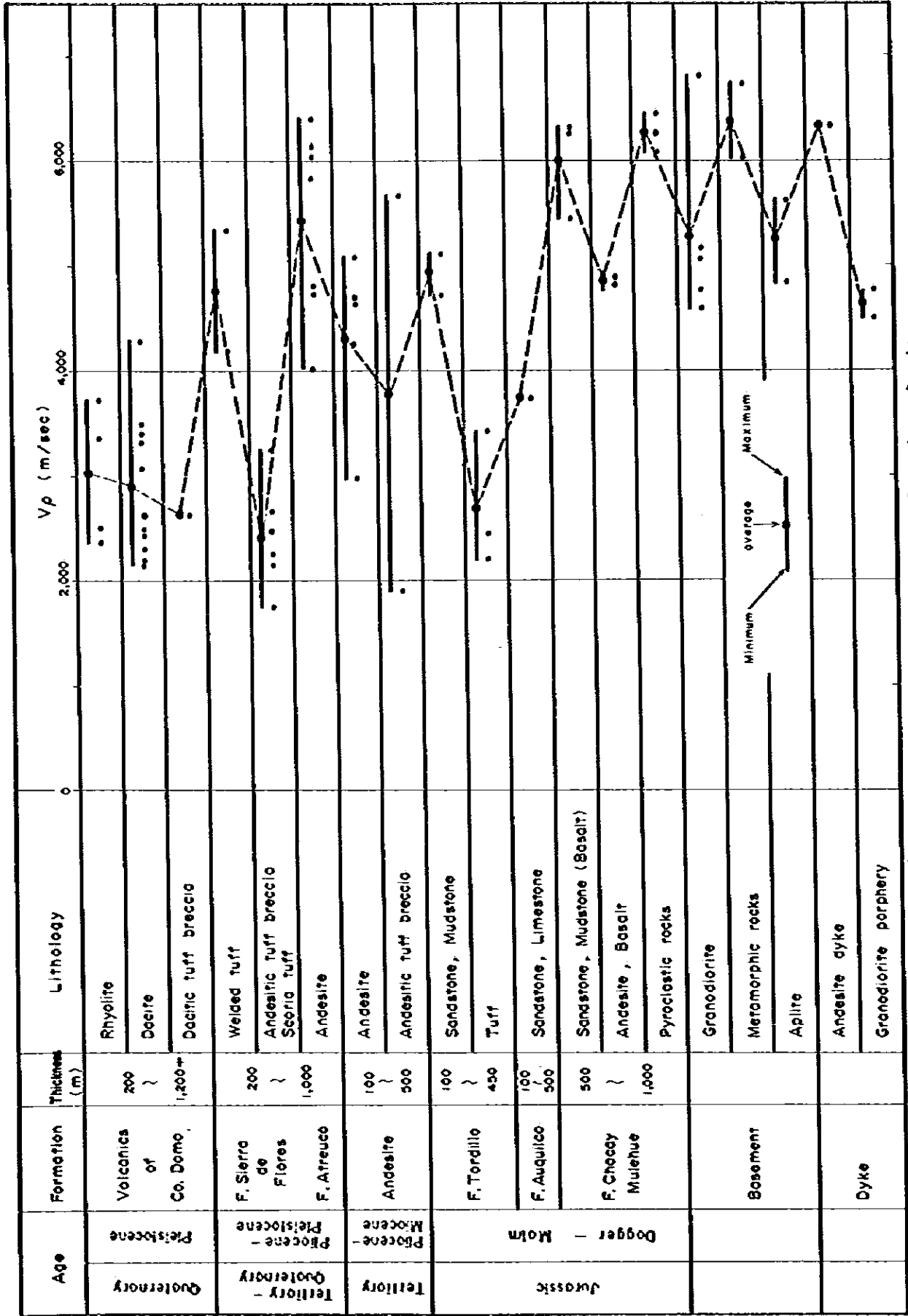


Fig. 4-1-1 Schematic columnar section of sonic velocity

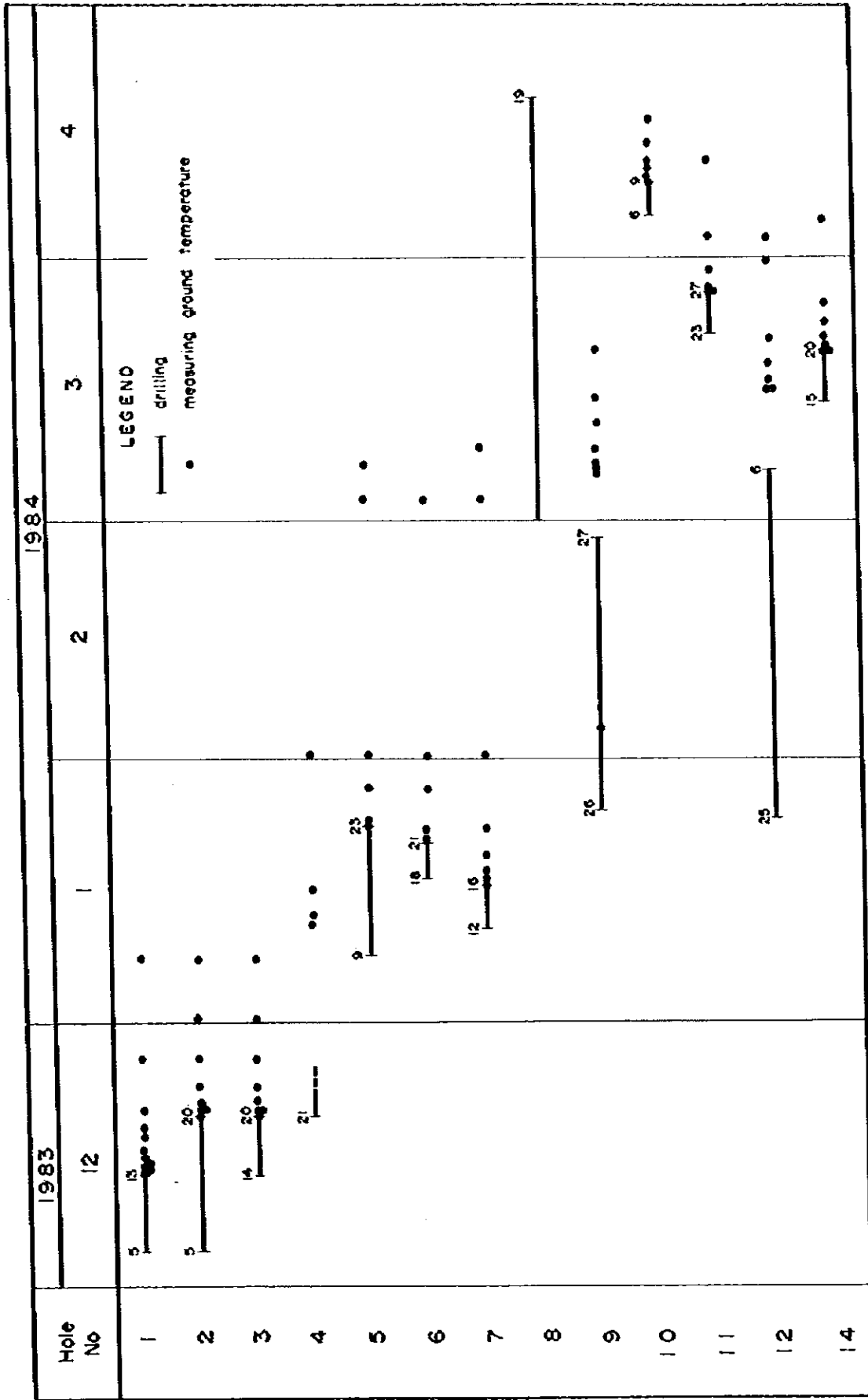


Fig. 4-2-1 Period of drilling and measuring ground temperature

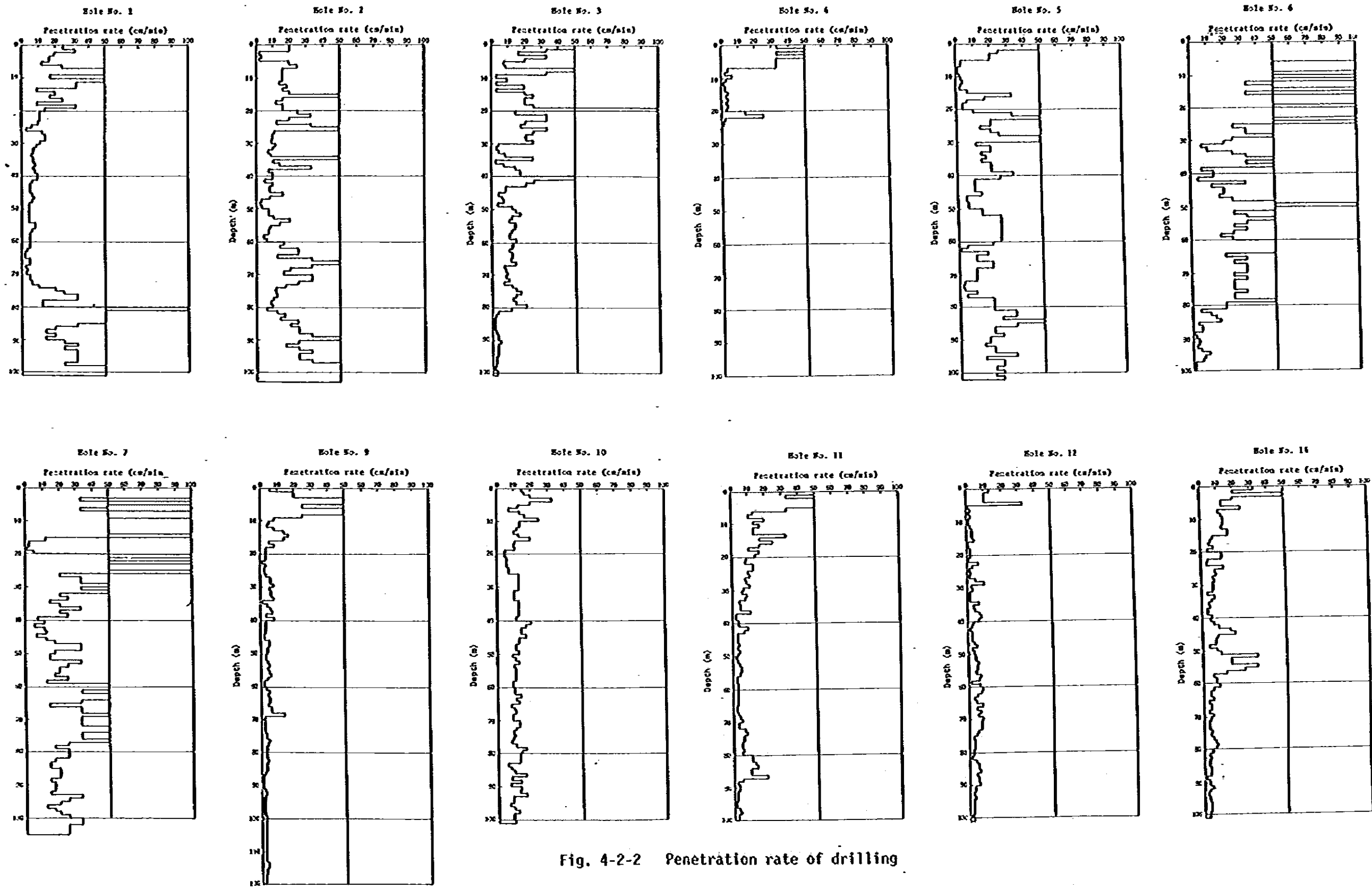
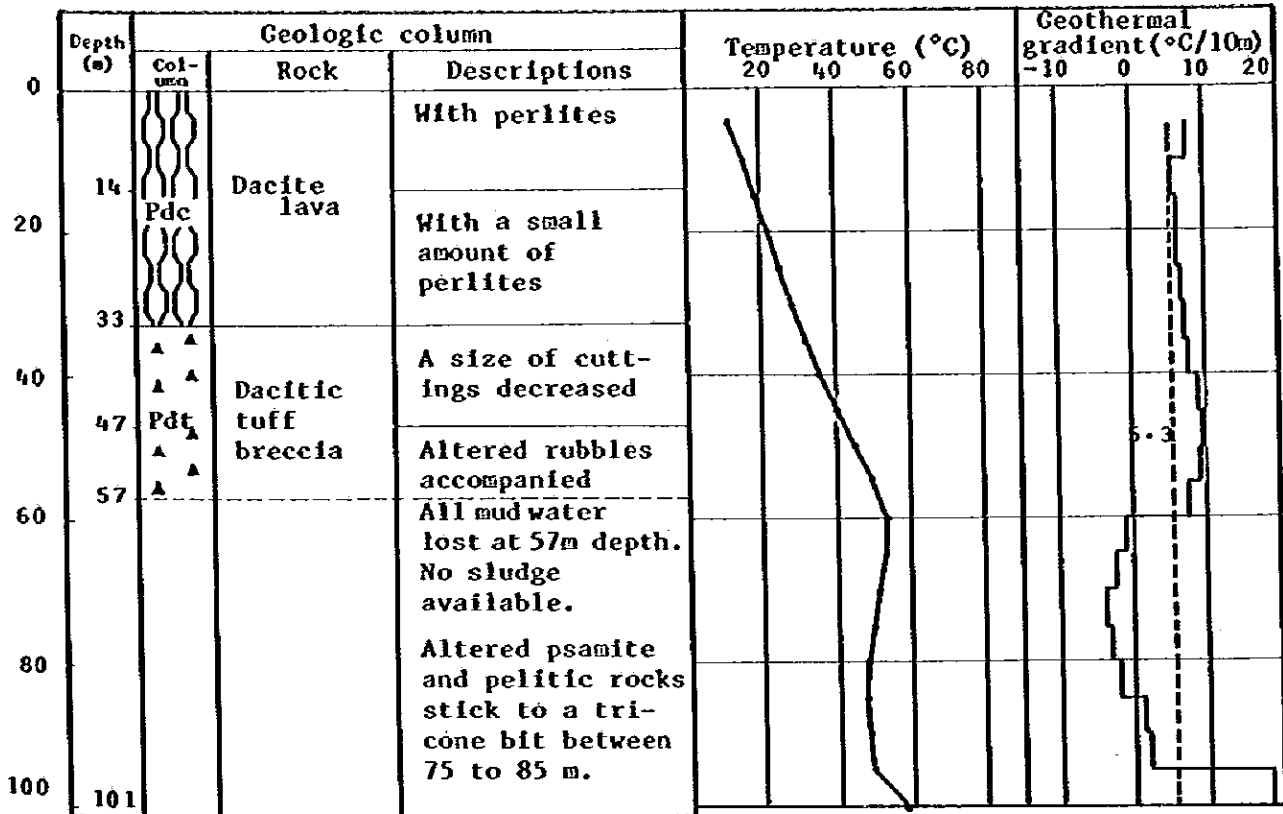


Fig. 4-2-2 Penetration rate of drilling

Hole No.1



Hole No.2

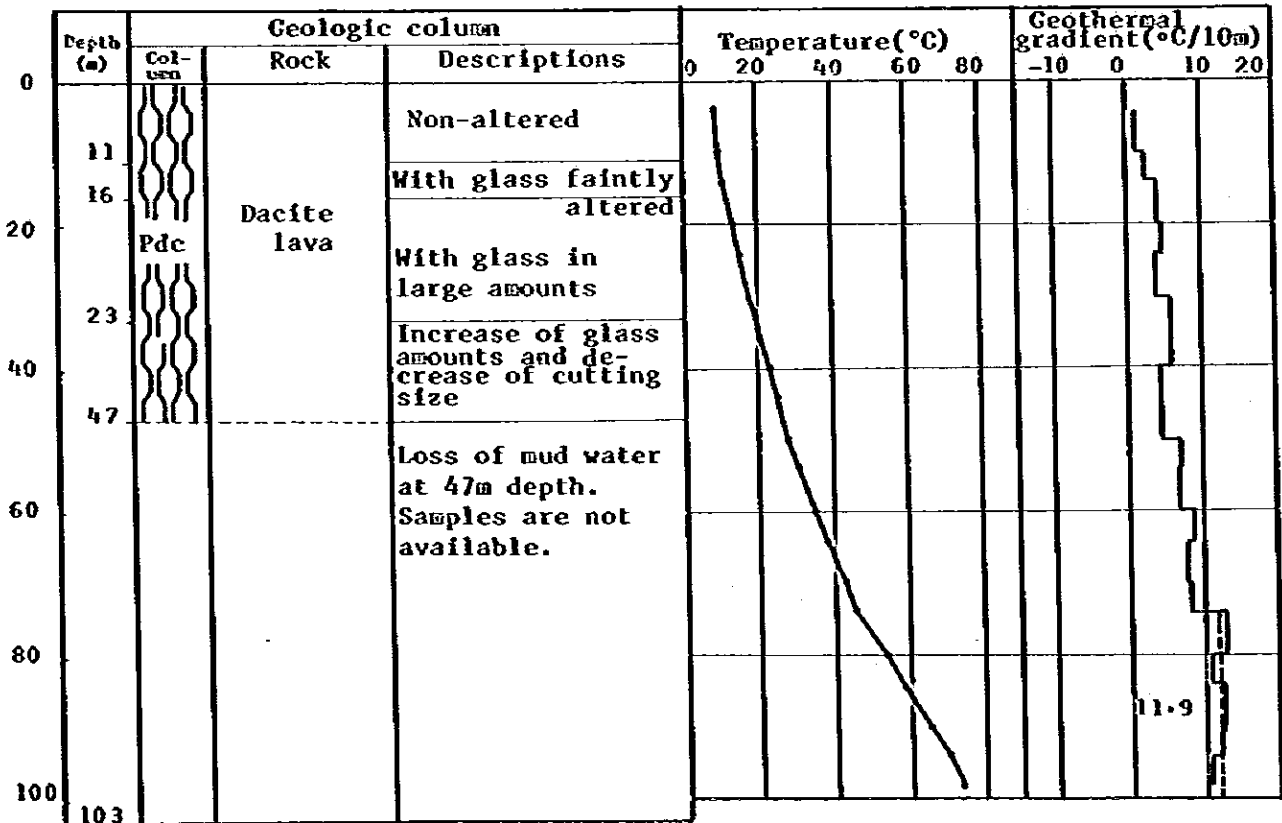
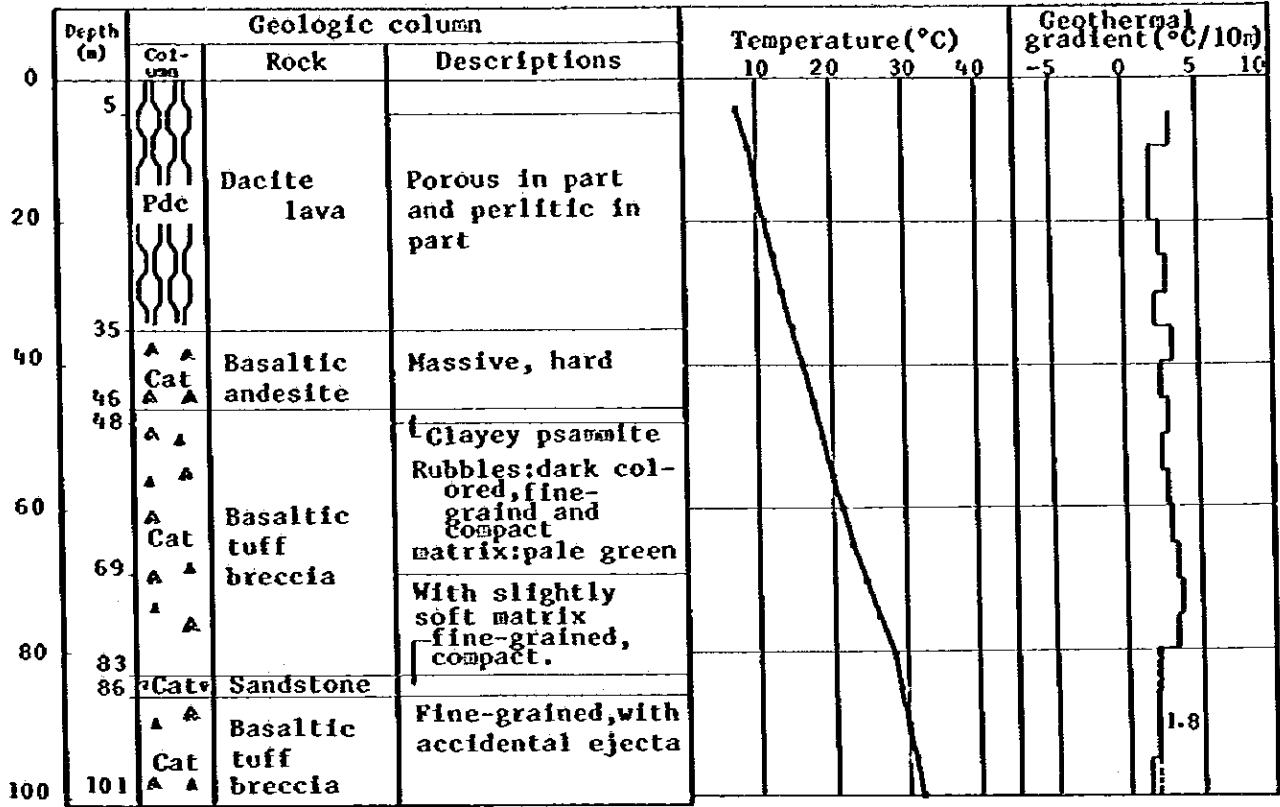


Fig. 4-2-3 (1) Geological logs (No.1 & No.2)

Hole No.3



Hole No.4

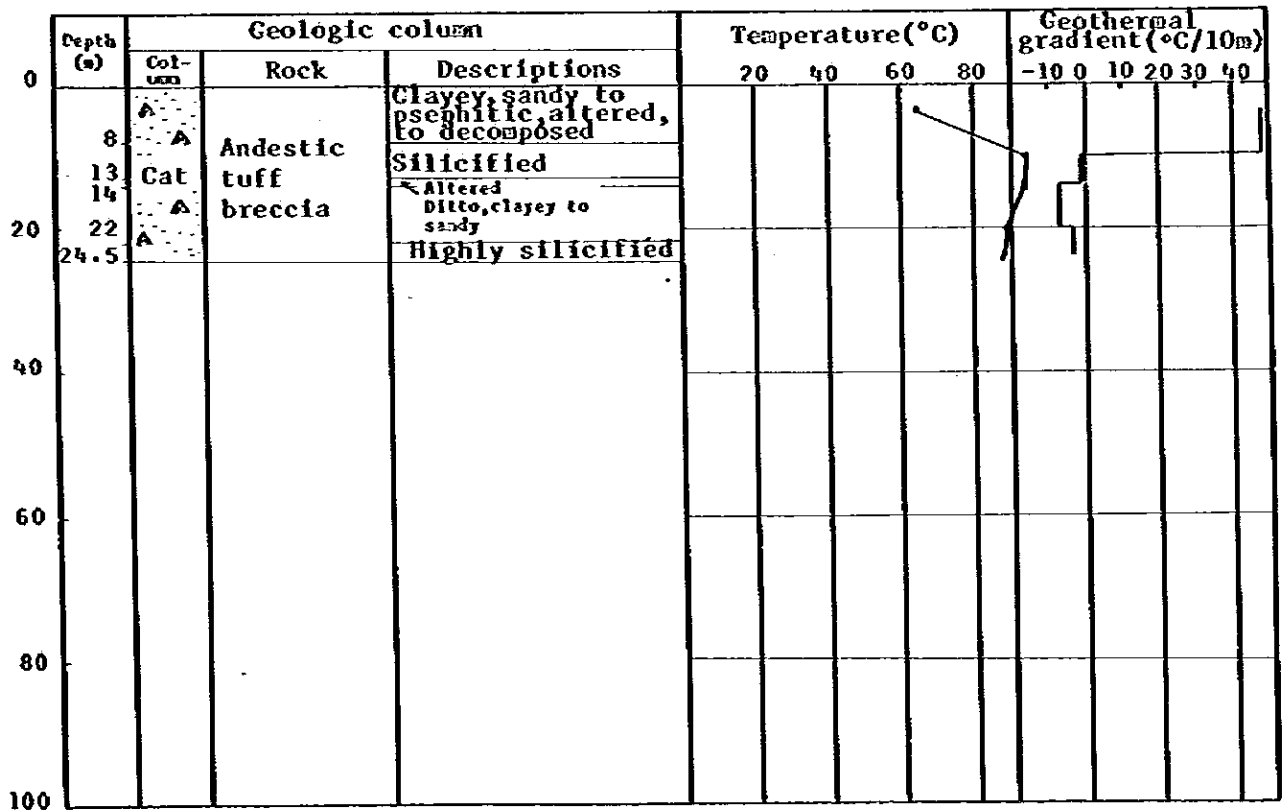
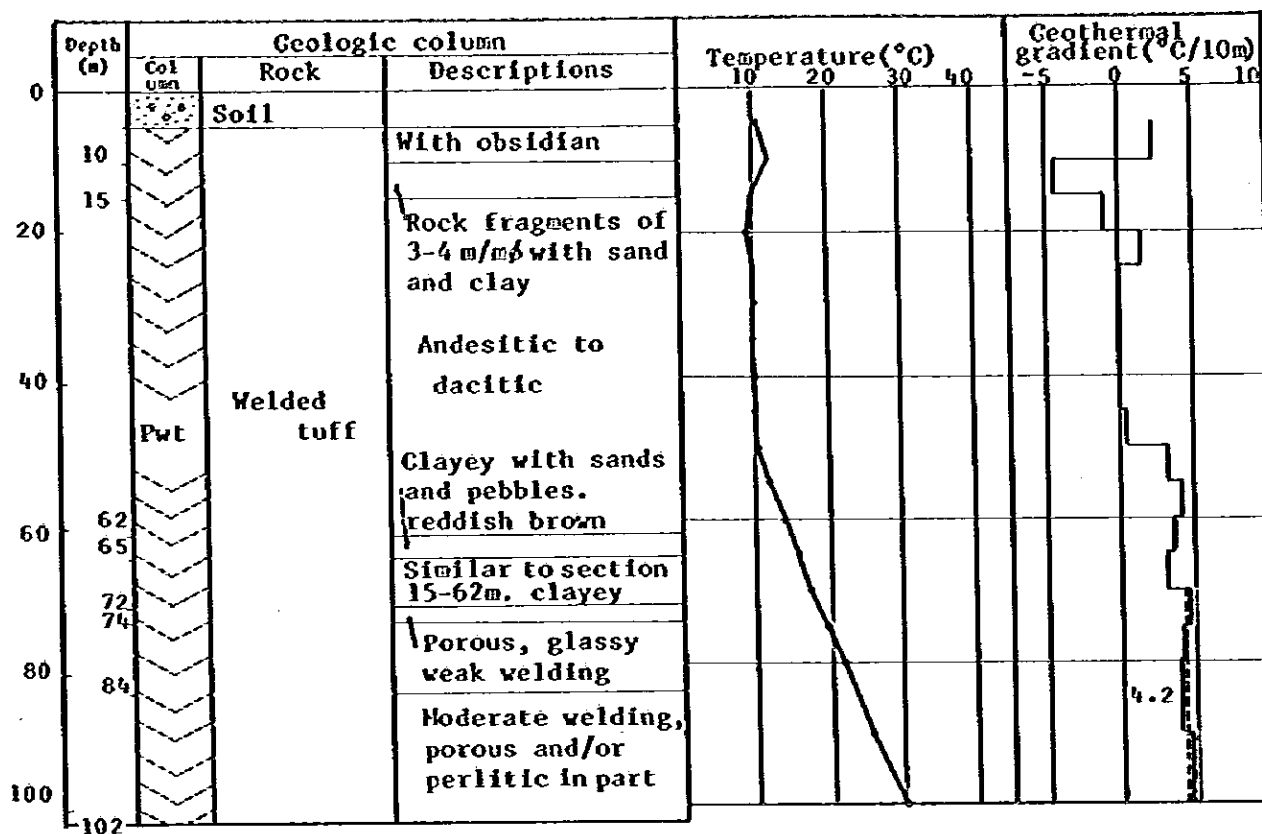


Fig. 4-2-3 (B) Geological logs (No.3 & No.4)

Hole No.5



Hole No.6

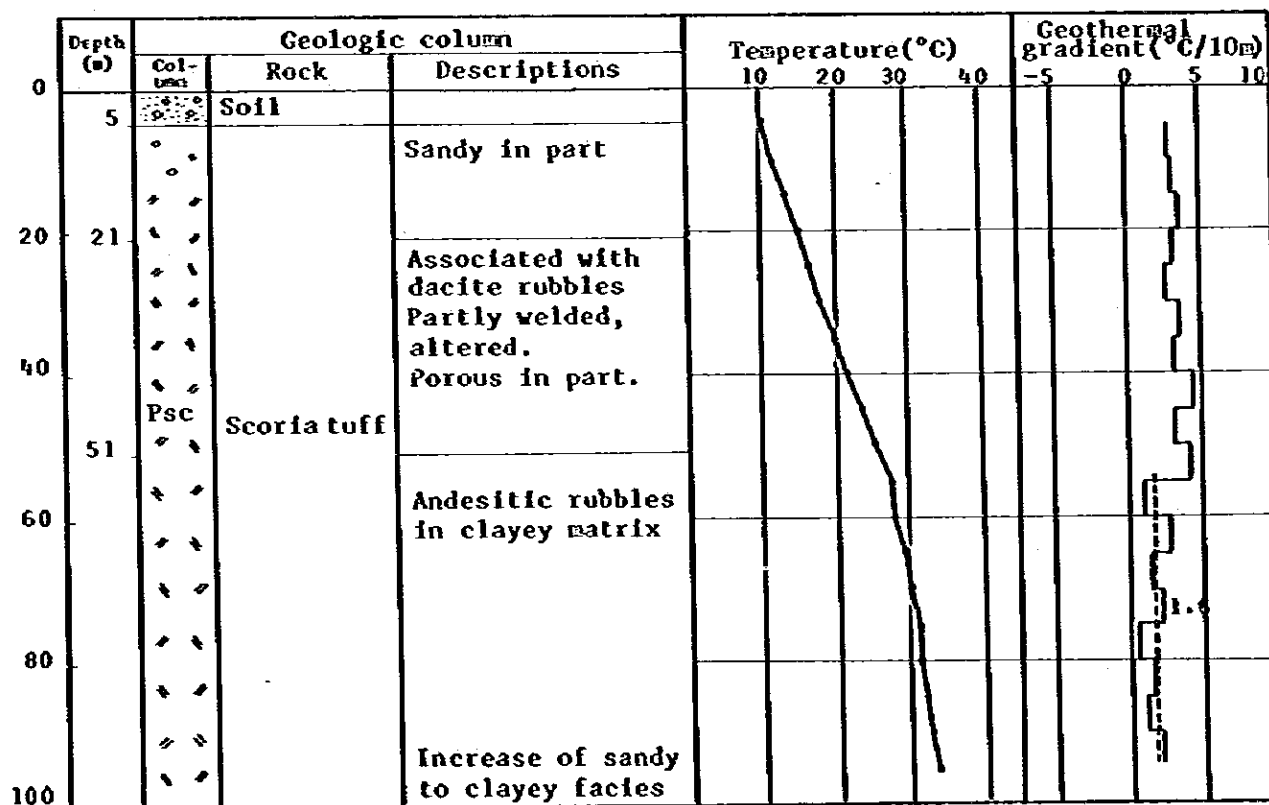
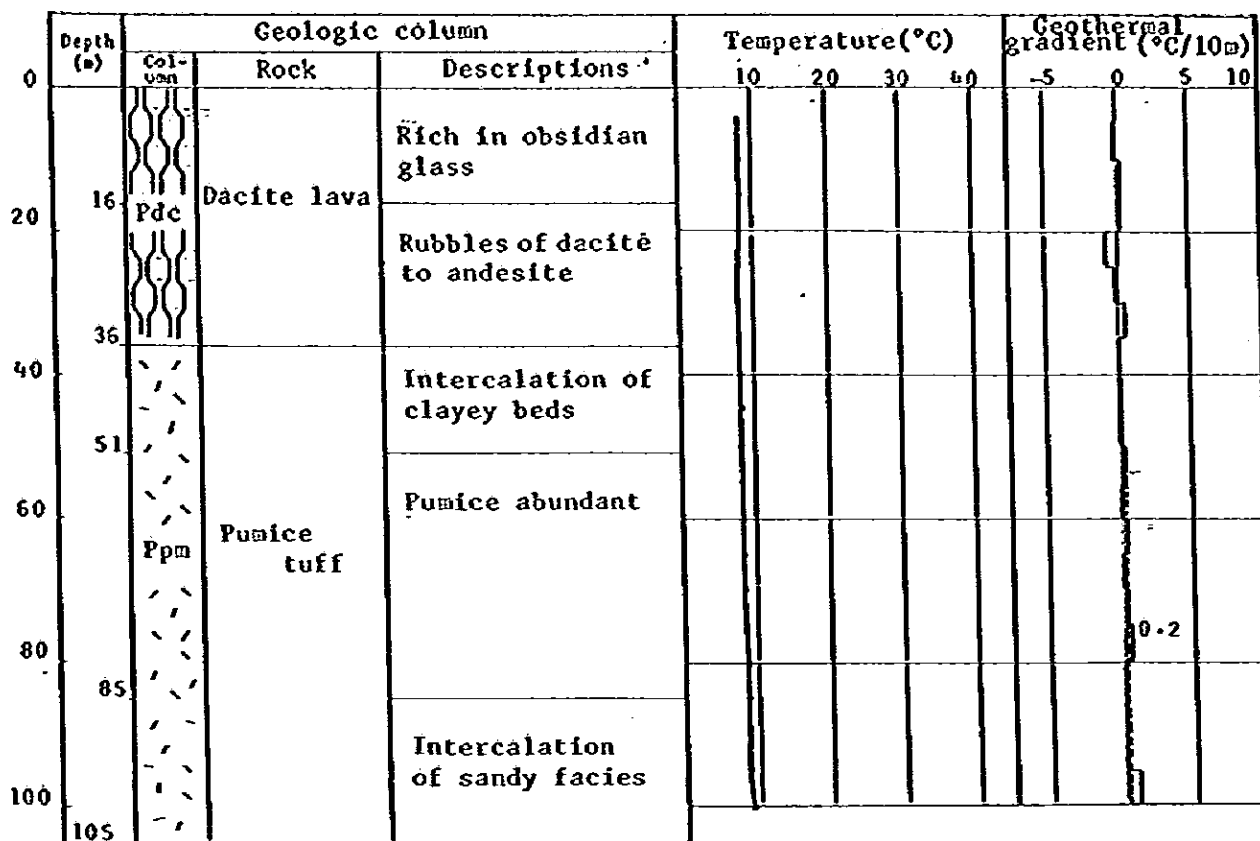


Fig. 4-2-3 (■) Geological logs (No.5 & No.6)

Hole No. 7



Hole No. 9

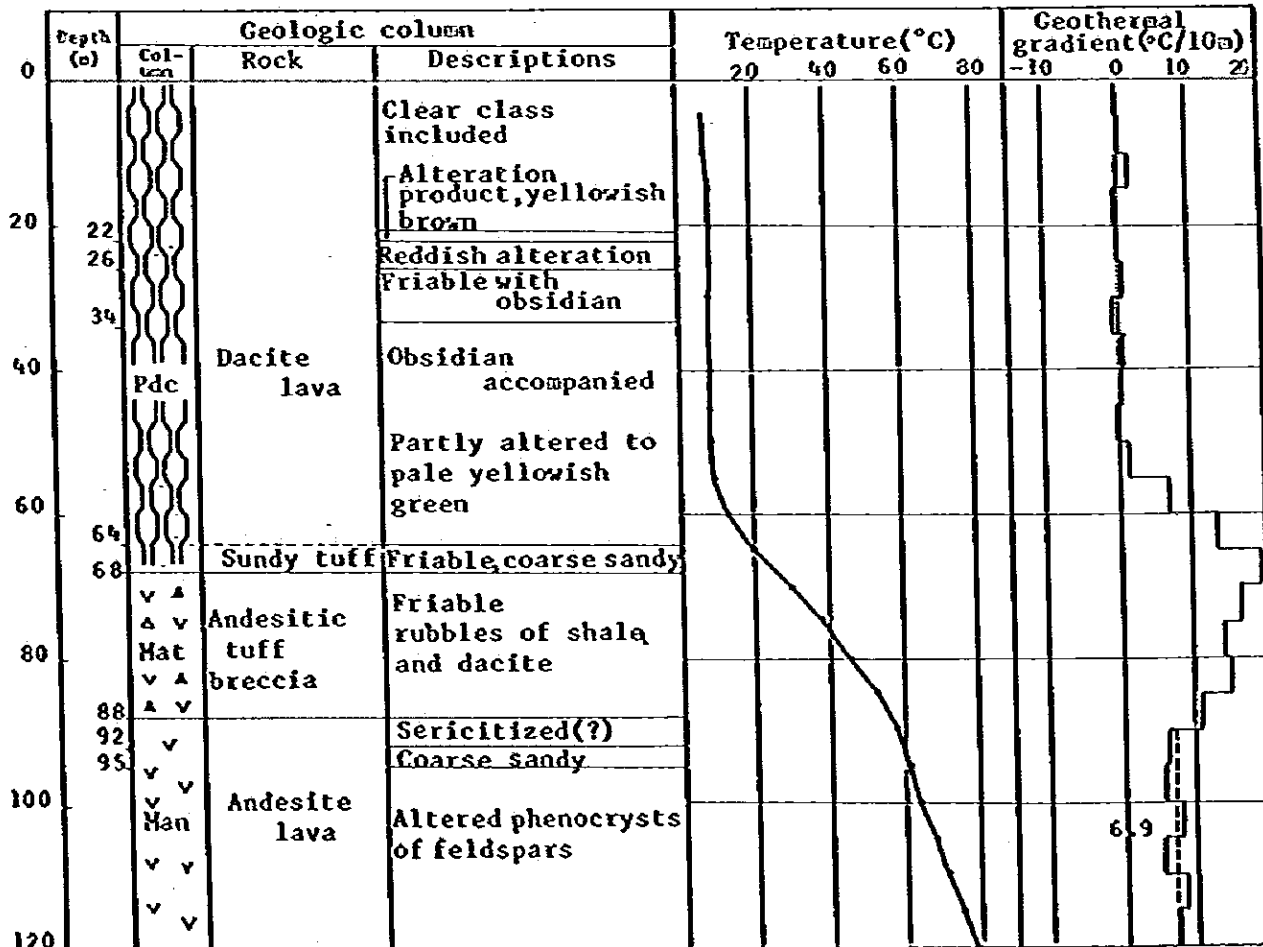
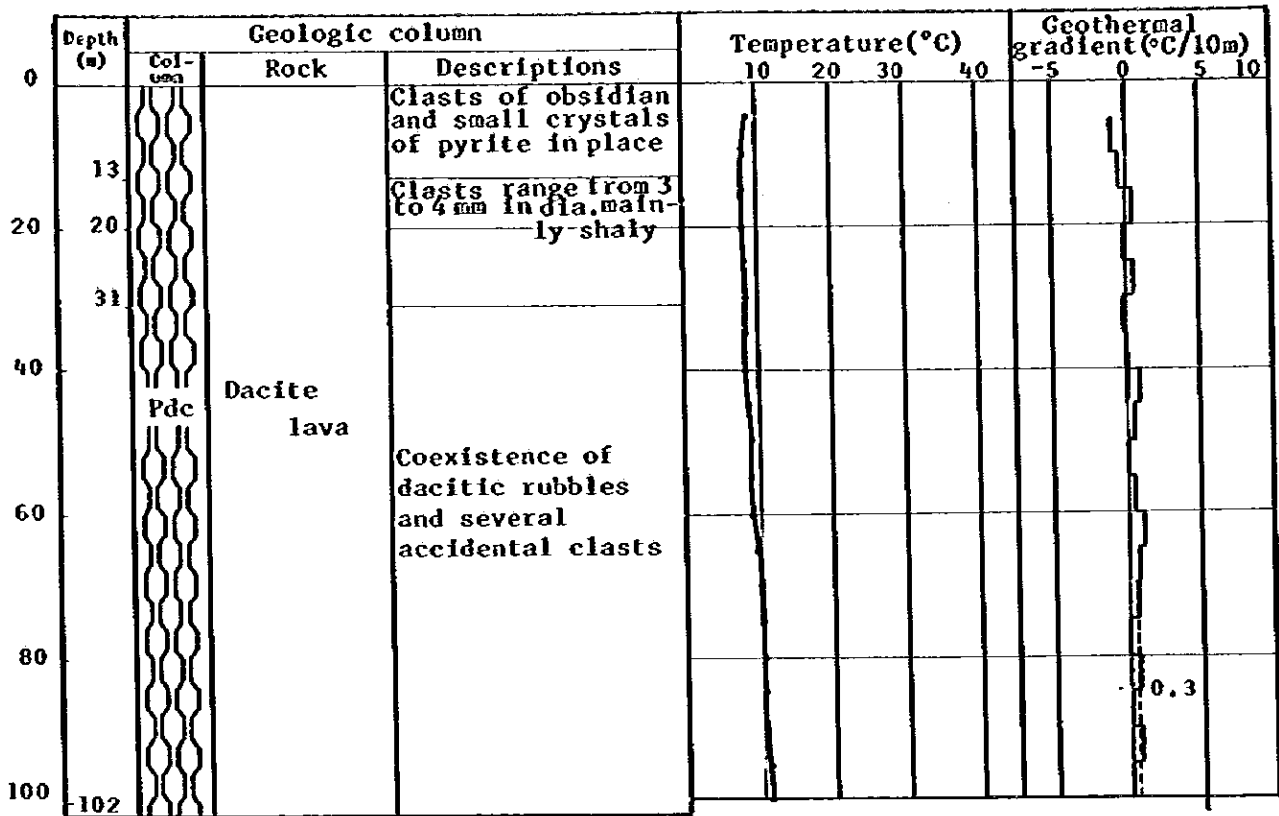


Fig. 4-2-3(N) Geological logs (No.7 & No.9)

Hole No.10



Hole No.11

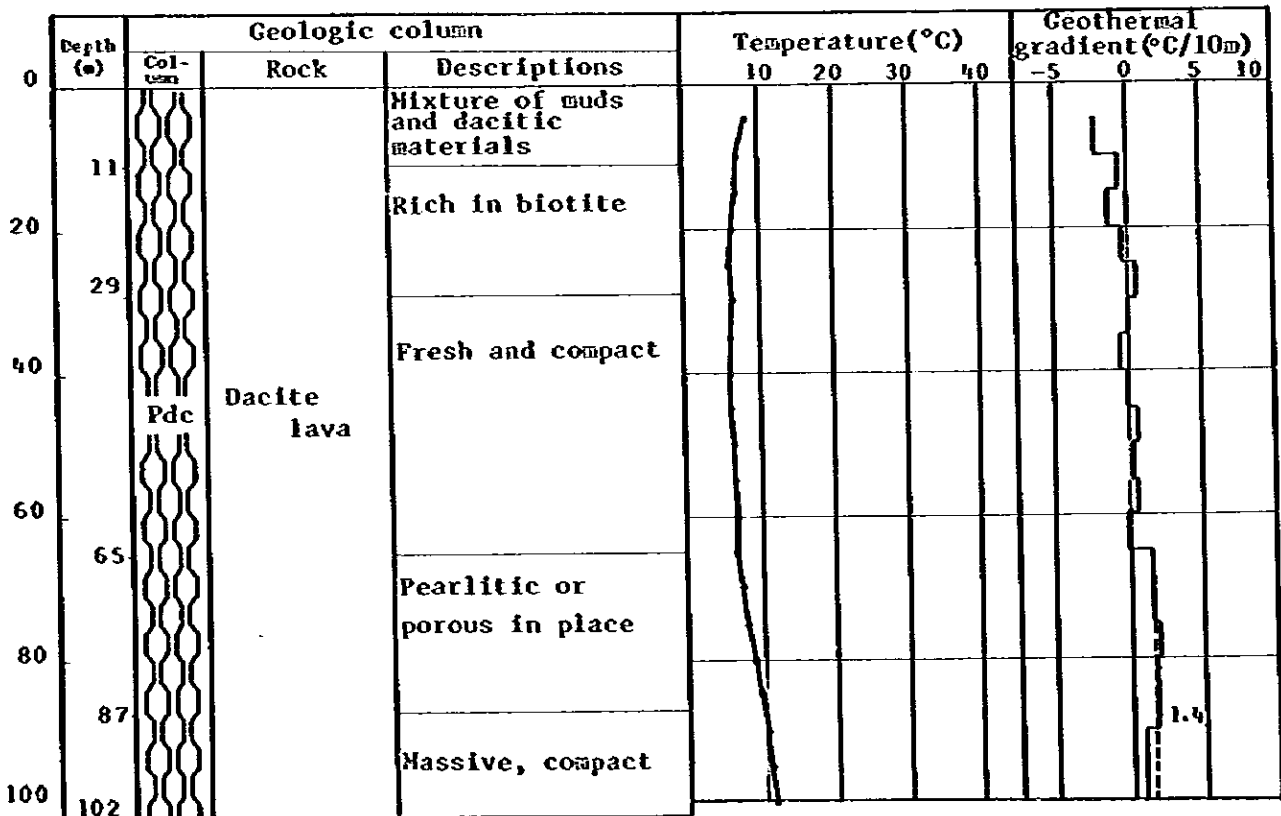
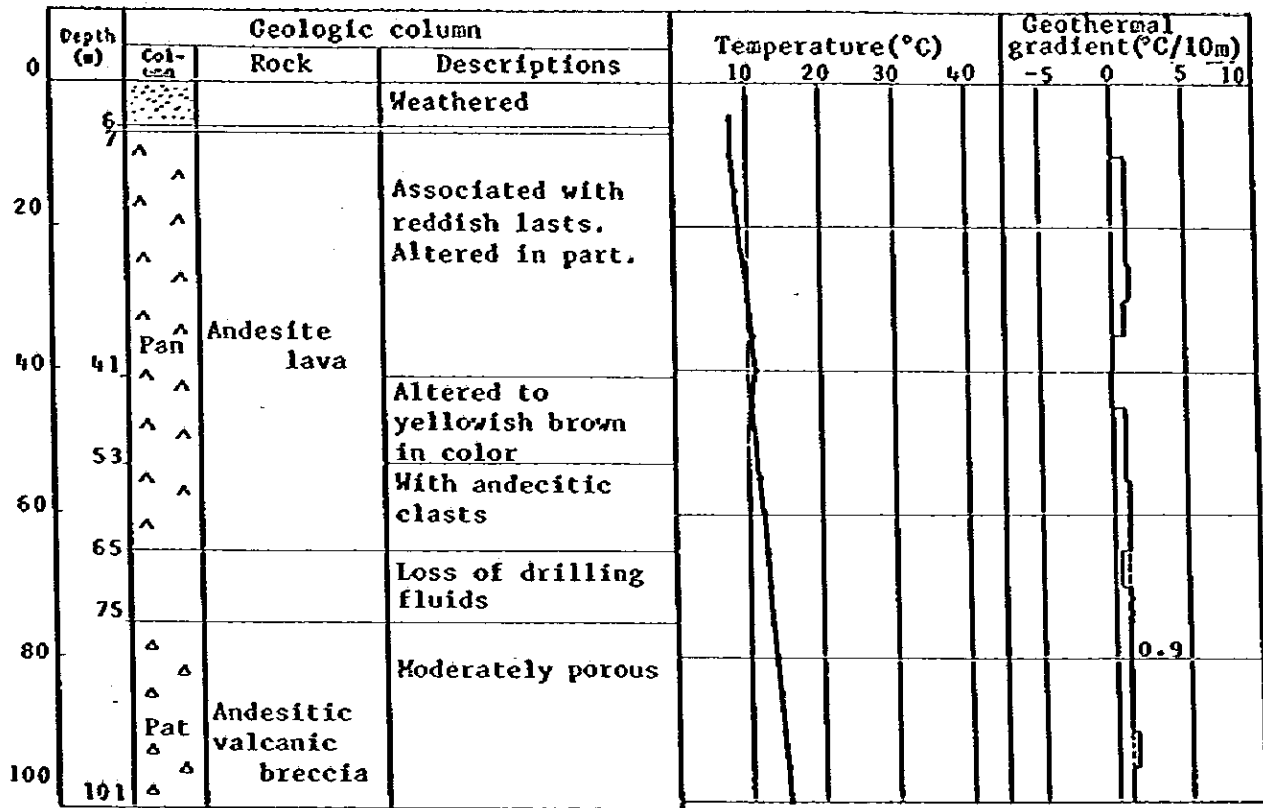


Fig. 4-2-3 (V) Geological logs (No.10 & No.11)

Hole No.12



Hole No.14

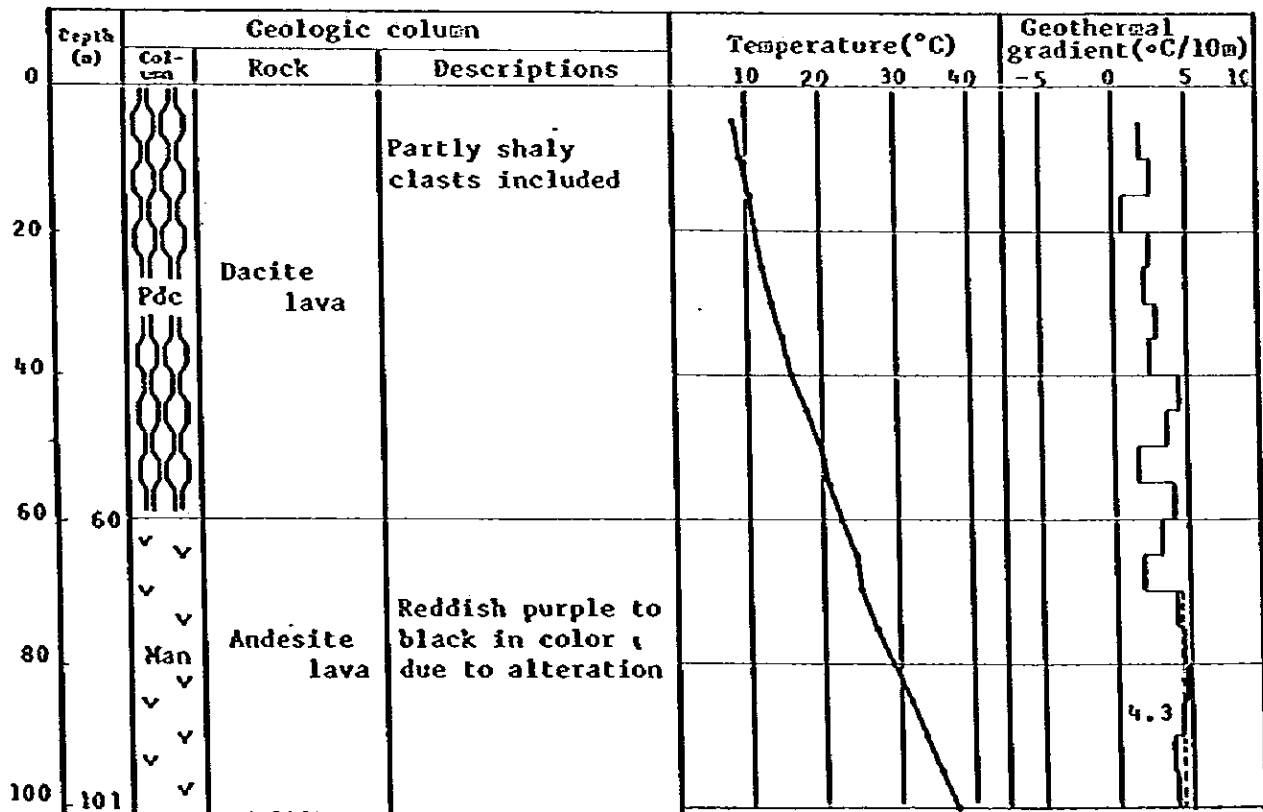


Fig. 4-2-3 (M) Geological logs (No.12 & No.14)

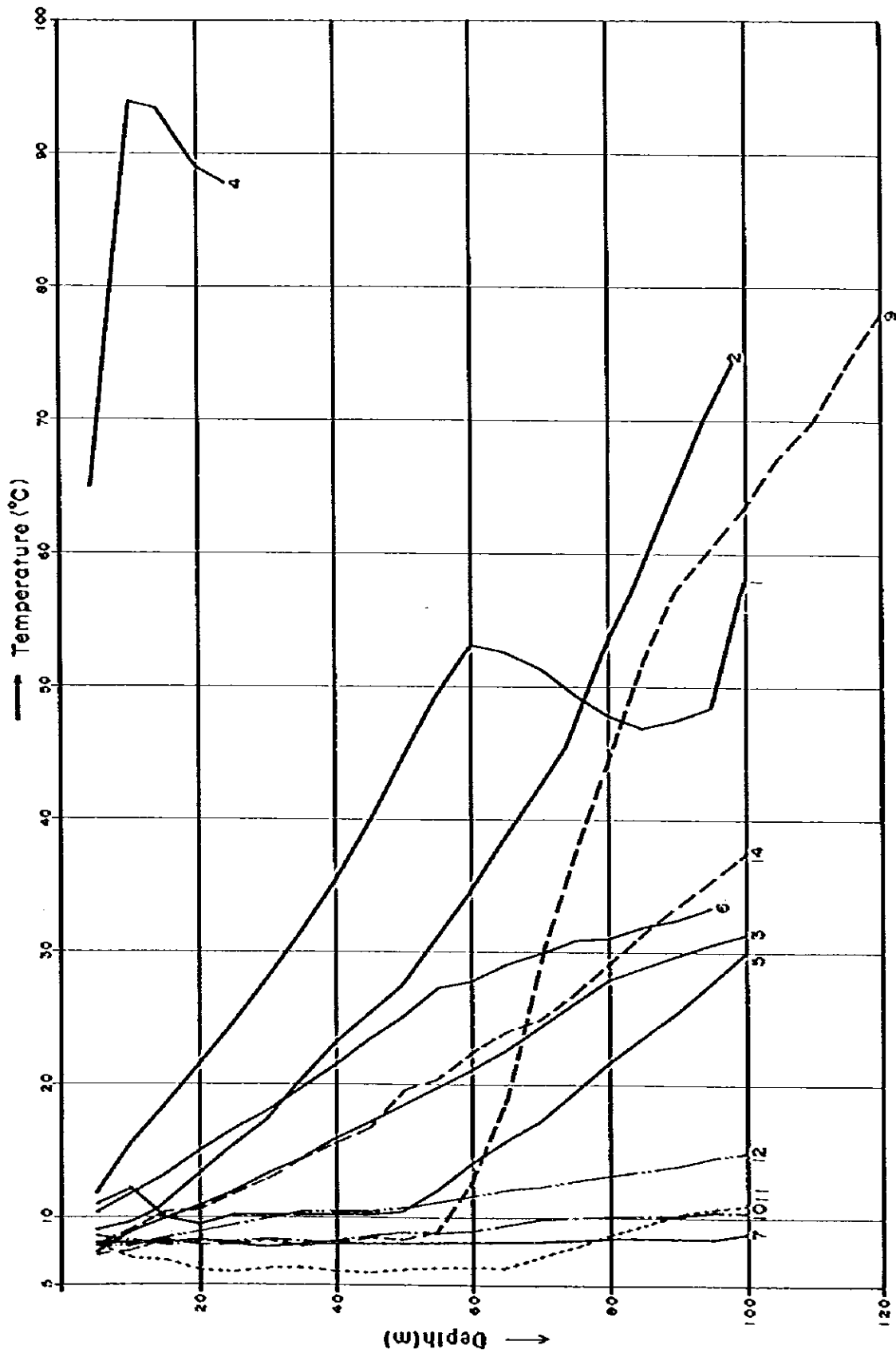
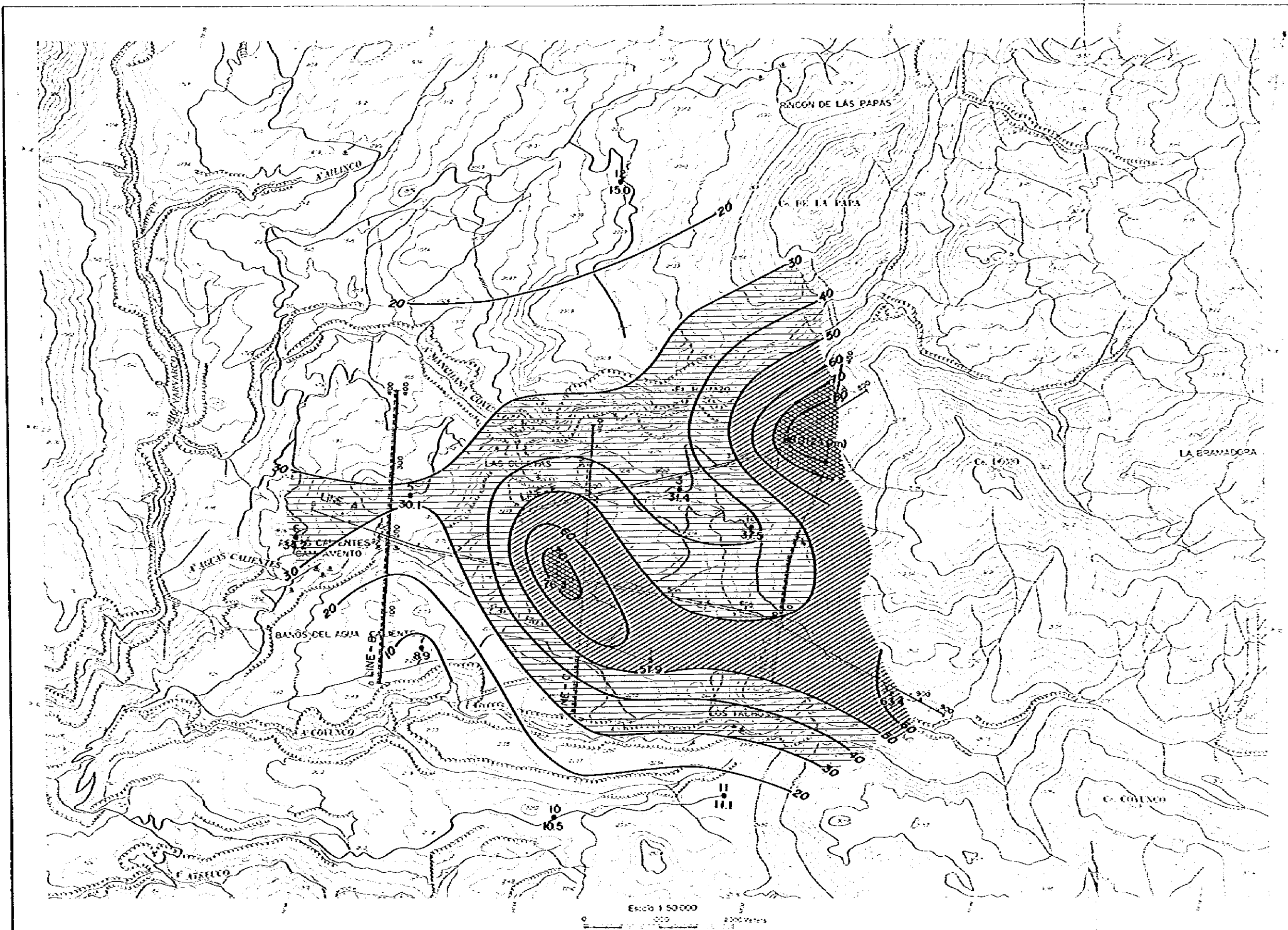


Fig. 4-2-4 Profile of an equilibrium temperature



LEGEND
Temperature (°C)

[White box]	<10
[Horizontal lines]	10 ~ 30
[Vertical lines]	30 ~ 50
[Diagonal lines (top-left to bottom-right)]	50 ~ 70
[Cross-hatch]	>70

Fig.4-2-5 Distribution map of ground temperature at the 100m depth

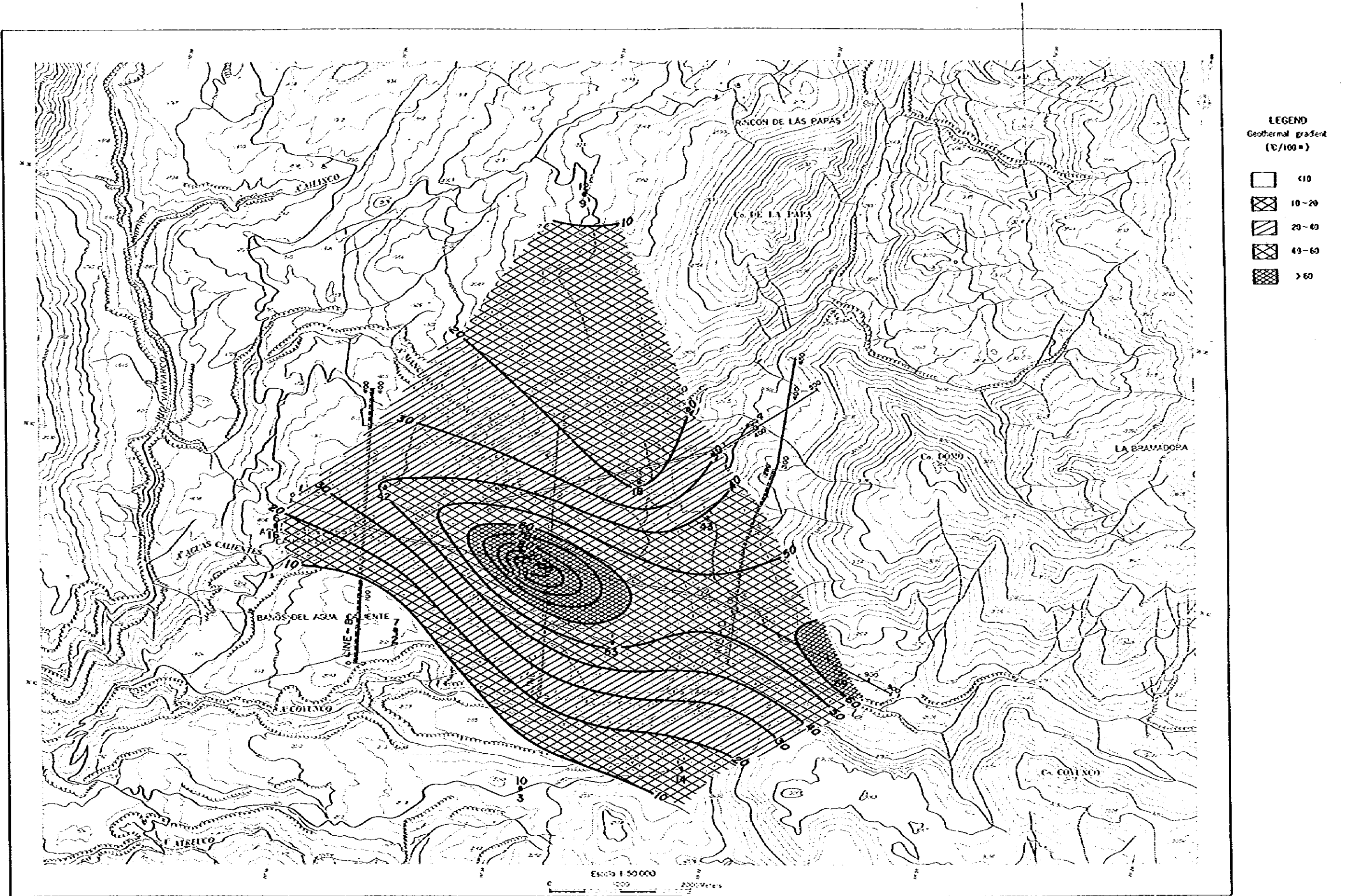


Fig. 4-2-6 Distribution map of the geothermal gradients

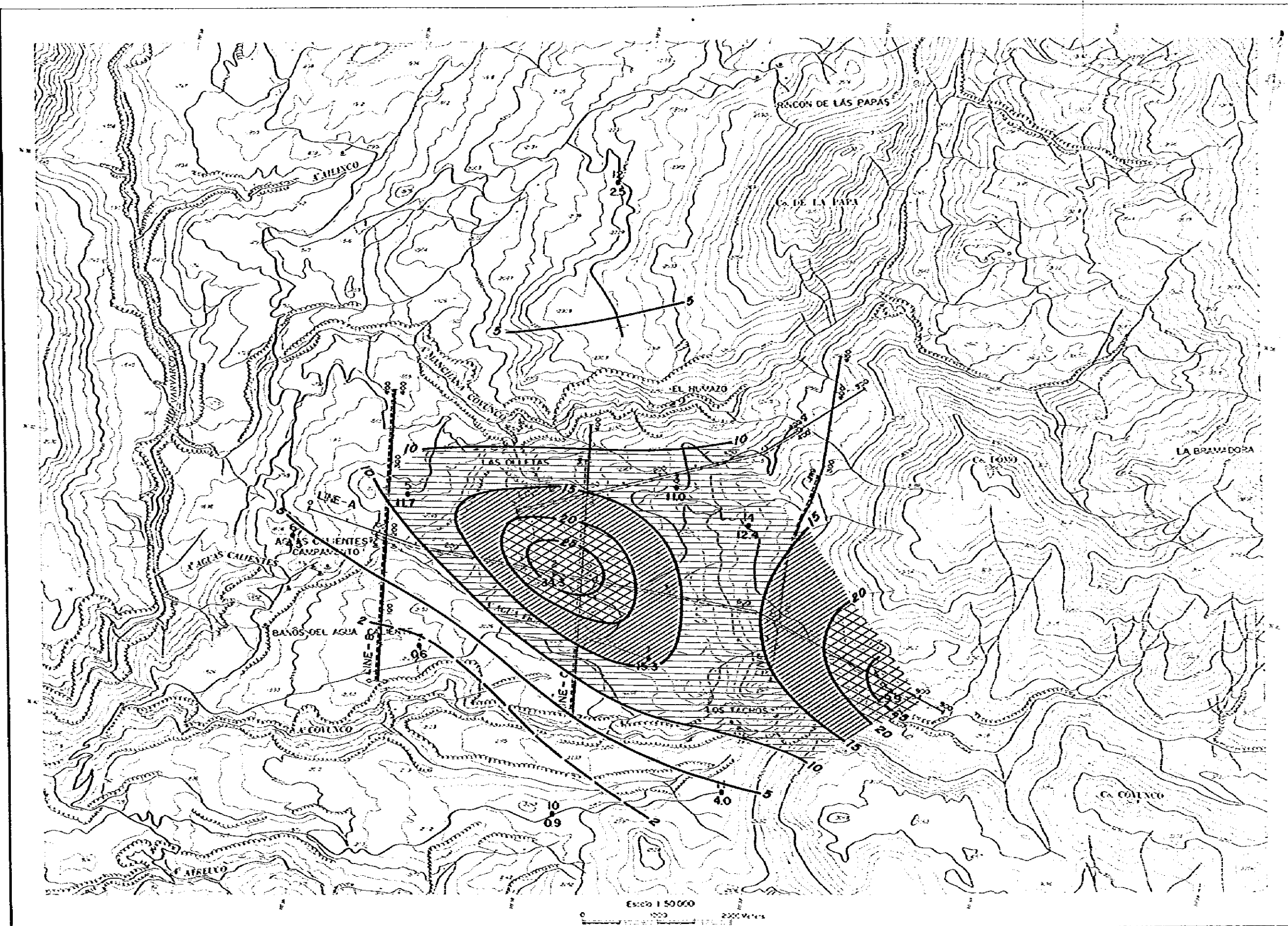


Fig.4-2-7 Distribution map of heat flow

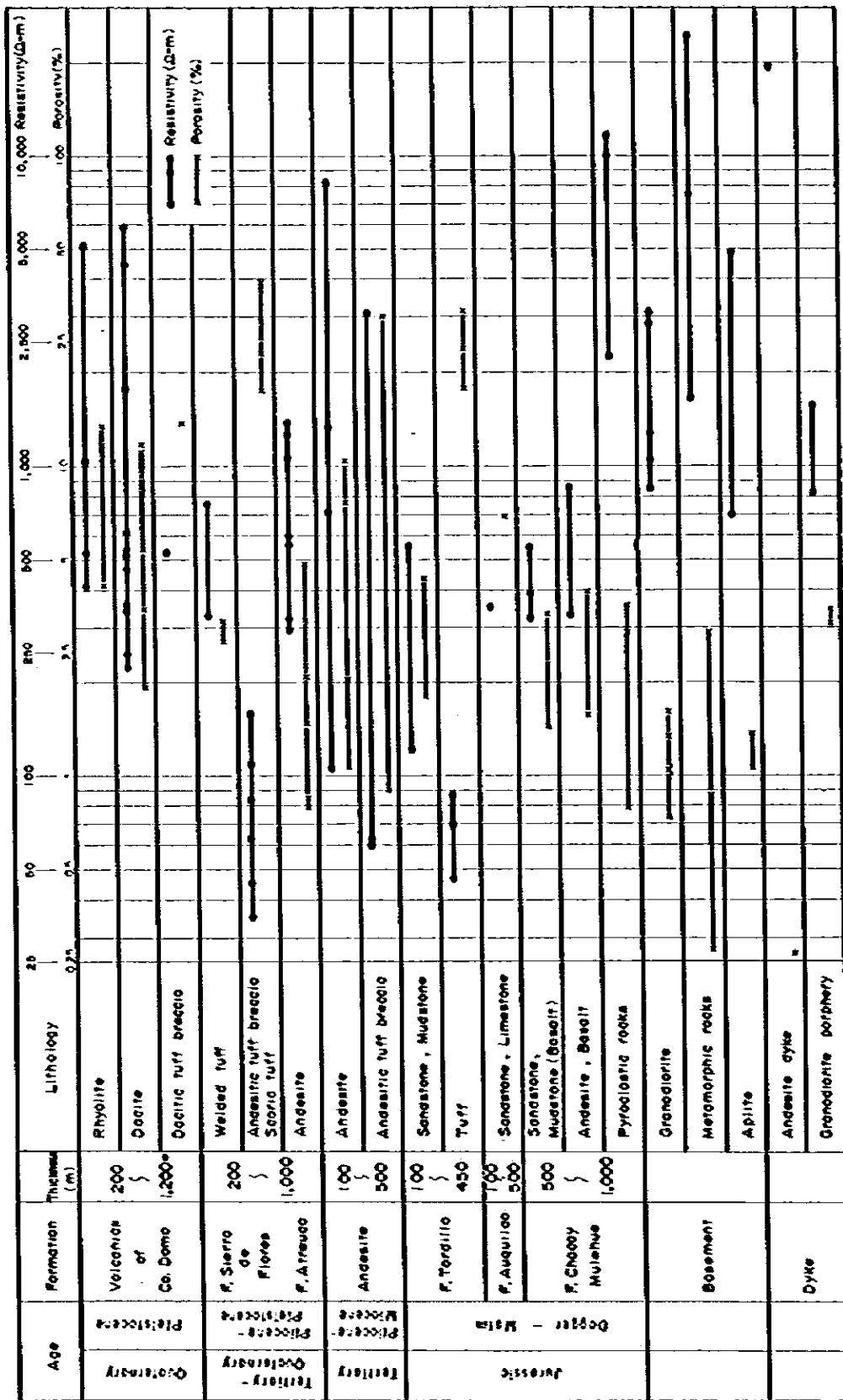


Fig. 4-3-1 Schematic columnar section of resistivity and effective porosity

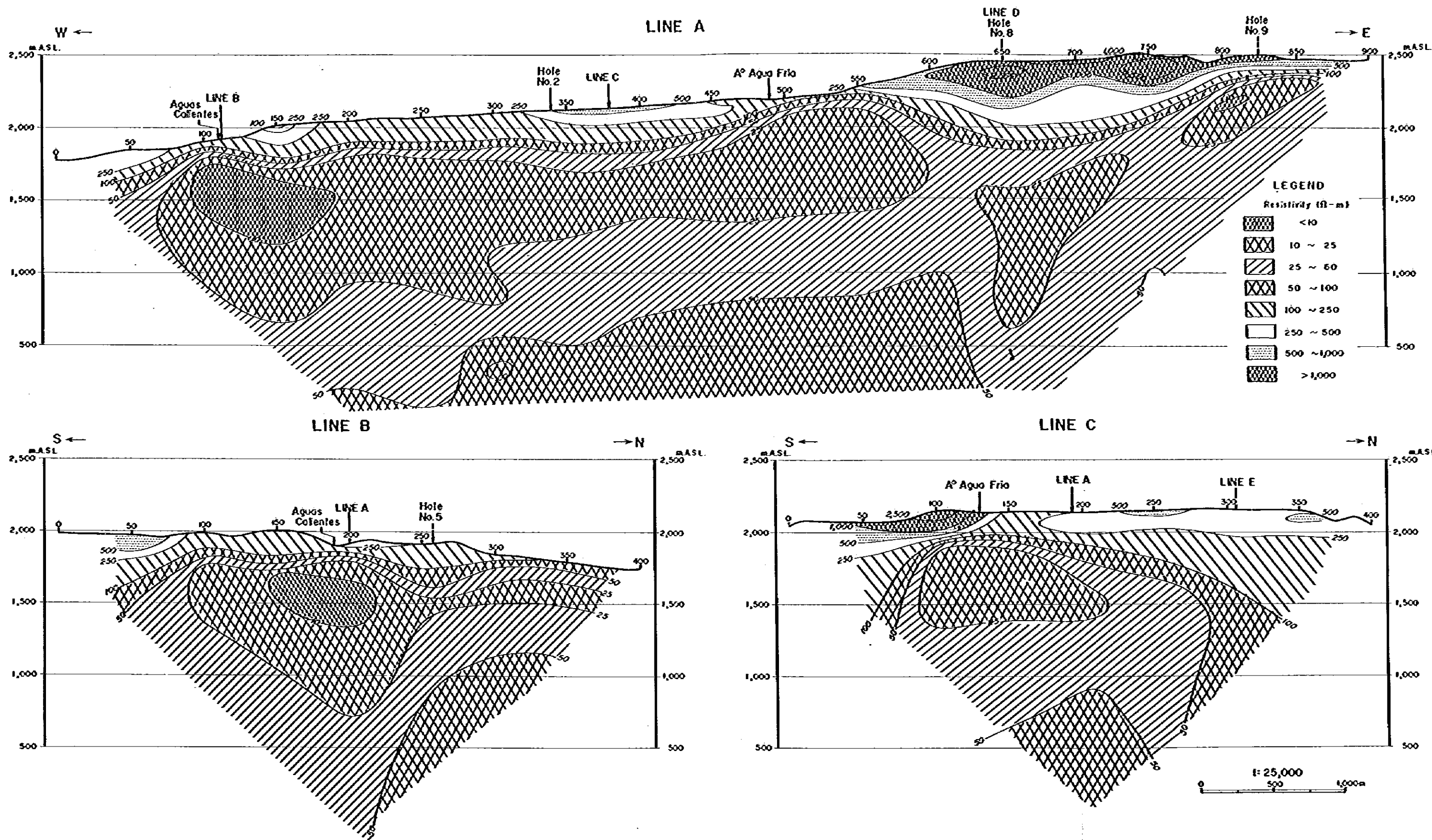


Fig.4-3-2 (i) Apparent resistivity sections, (Line A, B & C)

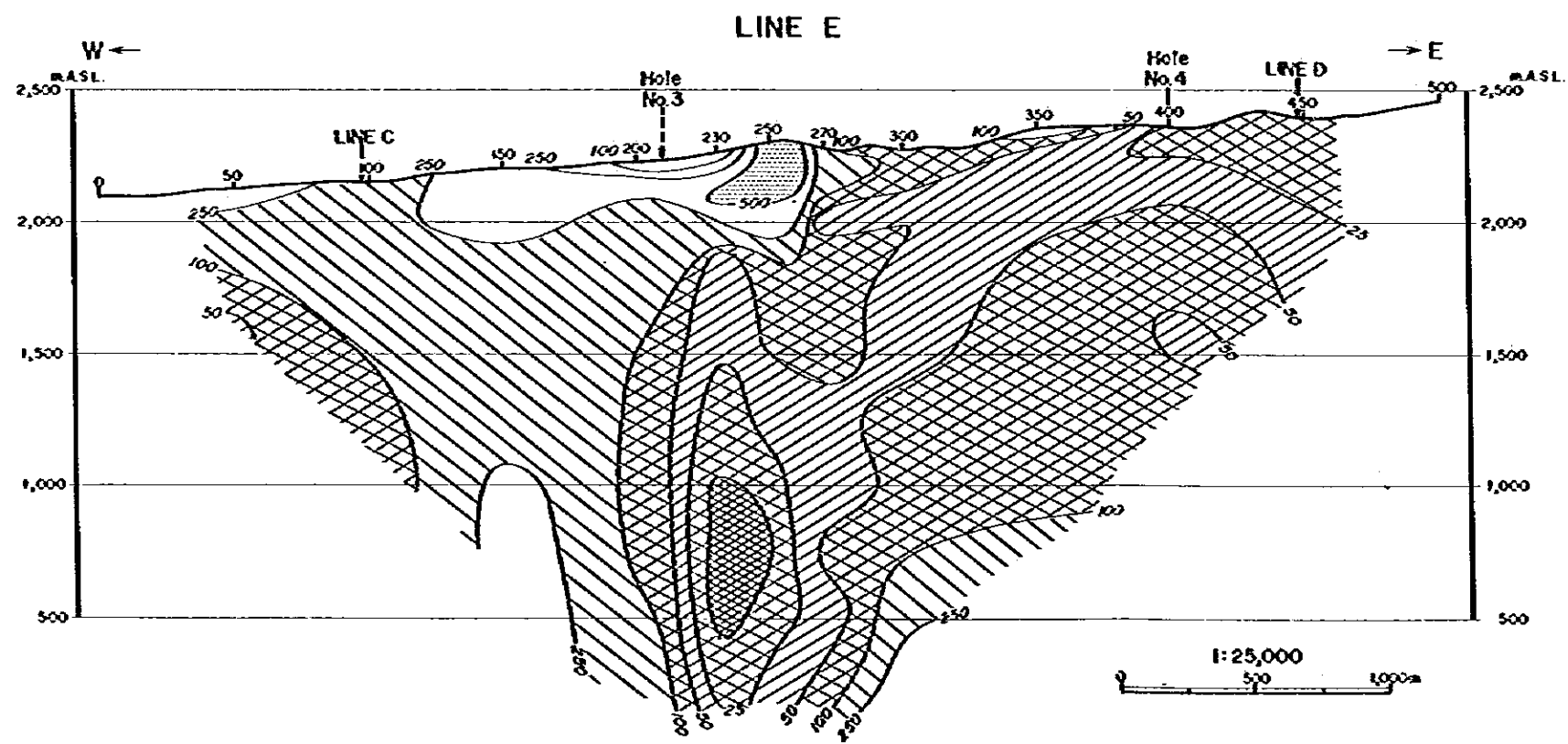
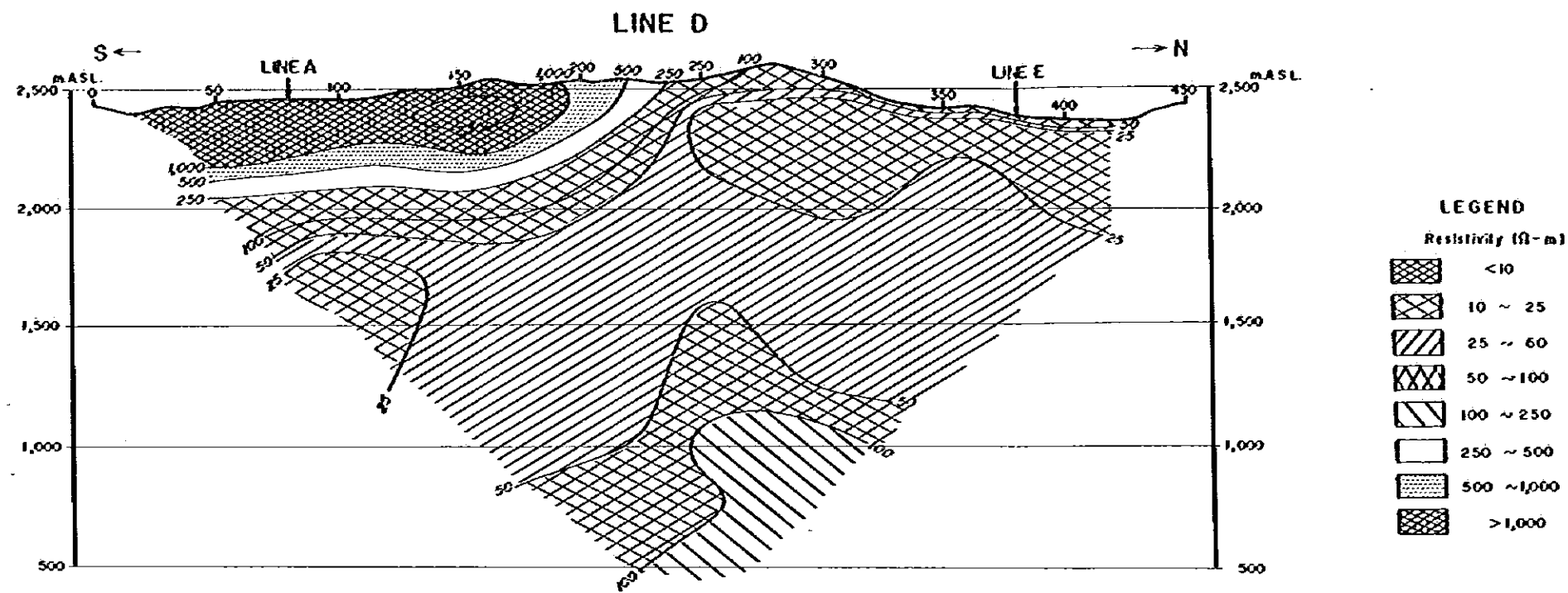


Fig.4-3-2 (ii) Apparent resistivity sections, (Line D & E)

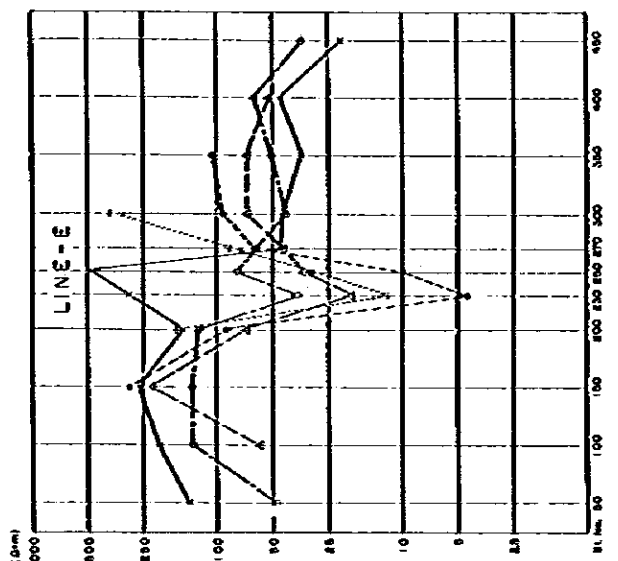
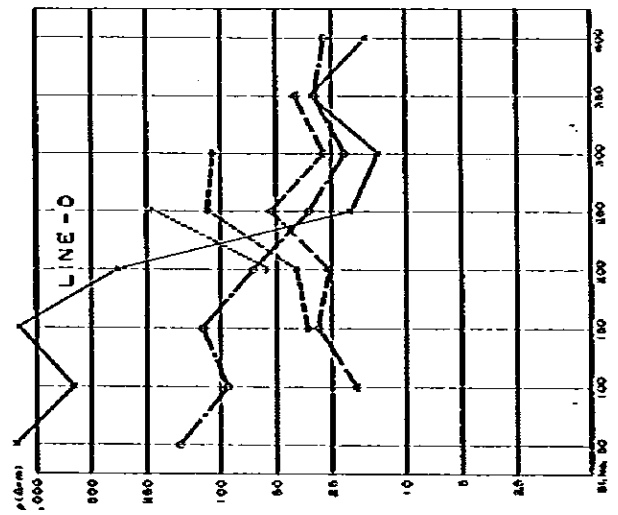
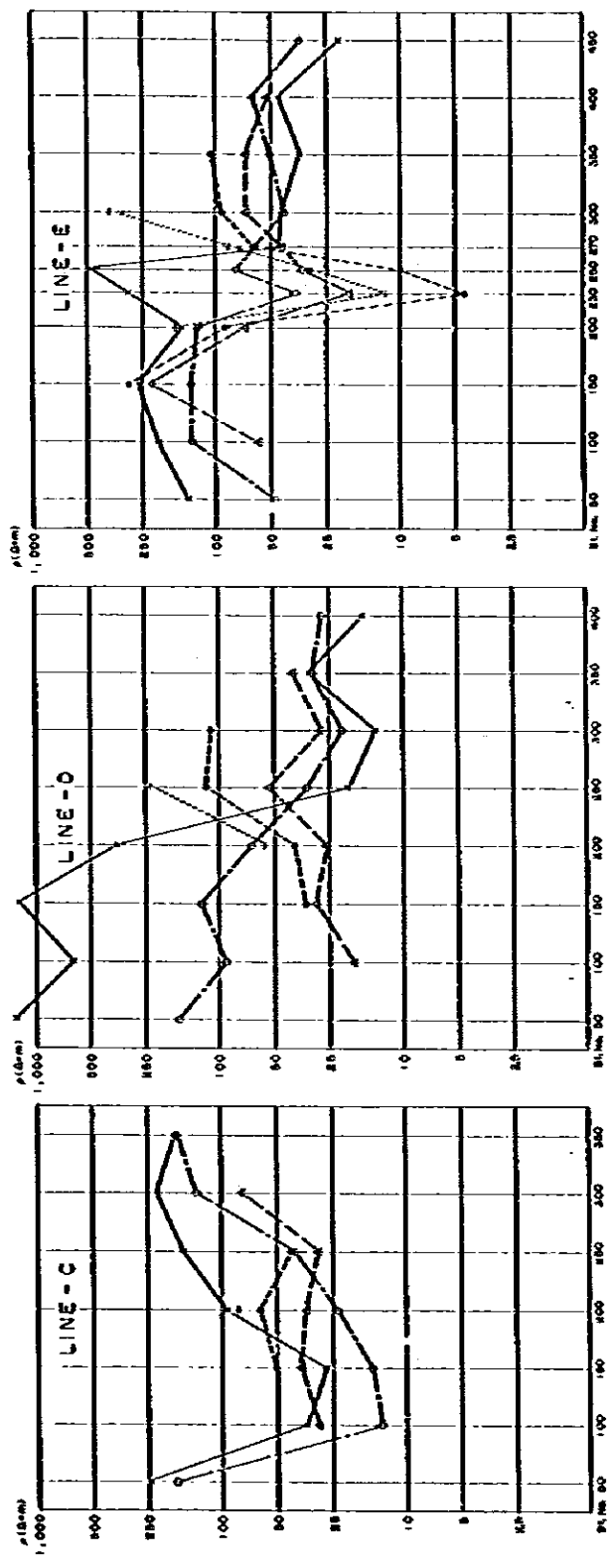
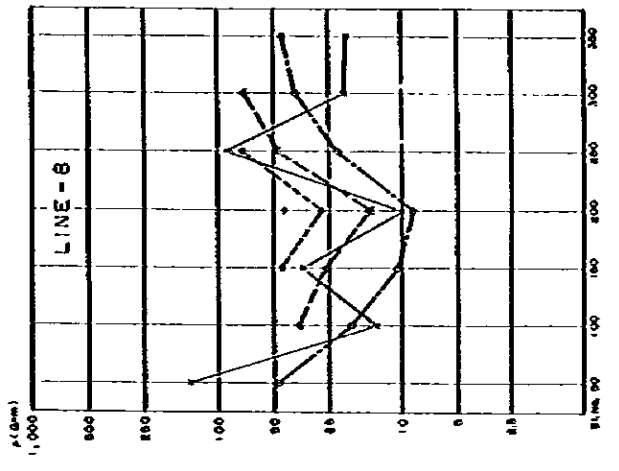
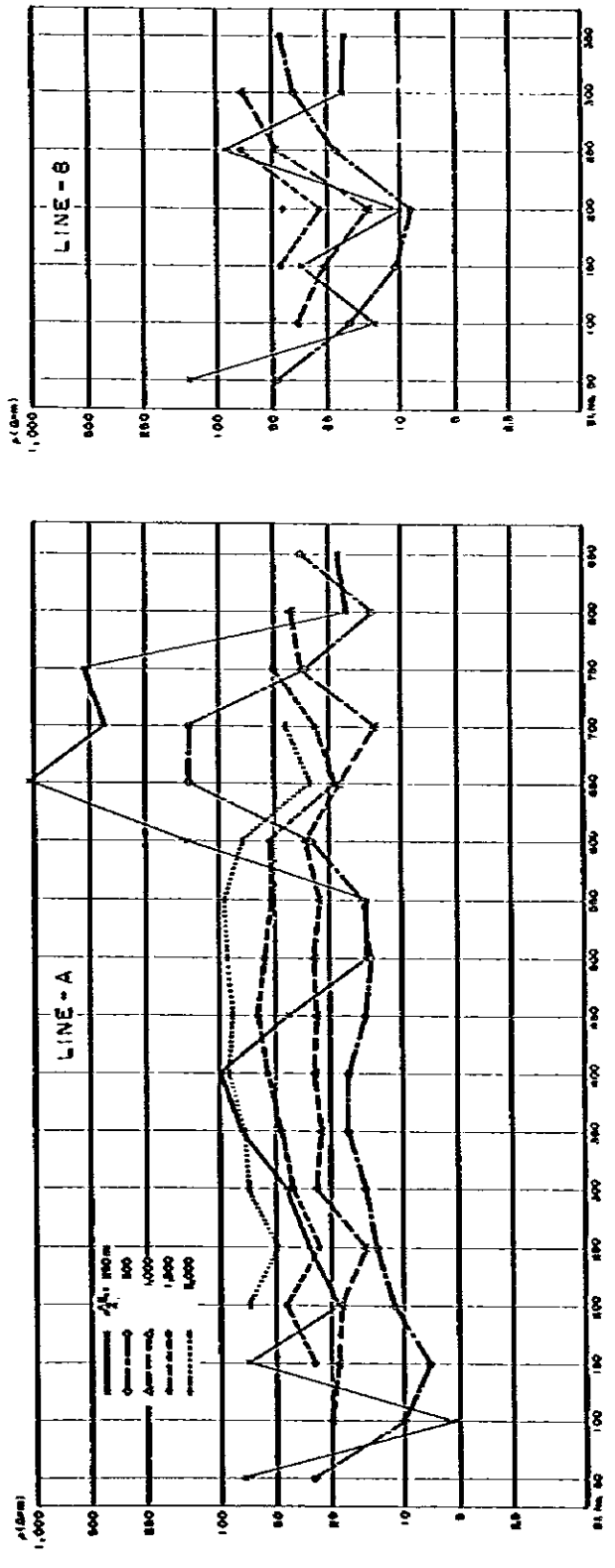


Fig. 4-3-3 Lateral change of apparent resistivity

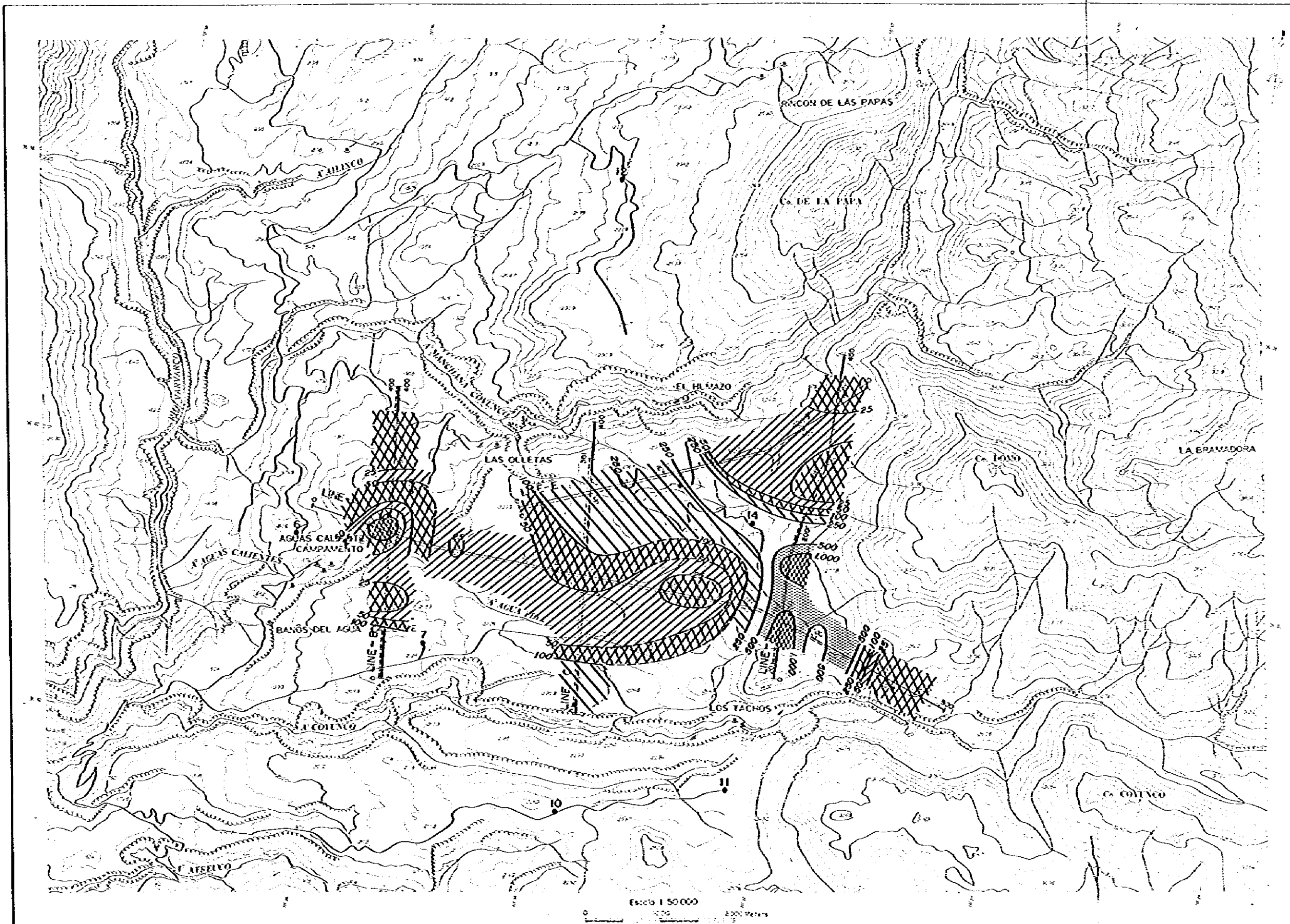


Fig.4-3-4 (i) Plan map of apparent resistivity, AB/2 = 250m

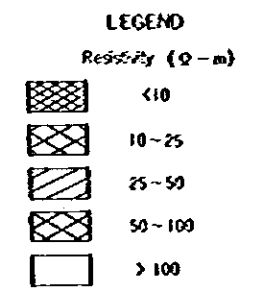
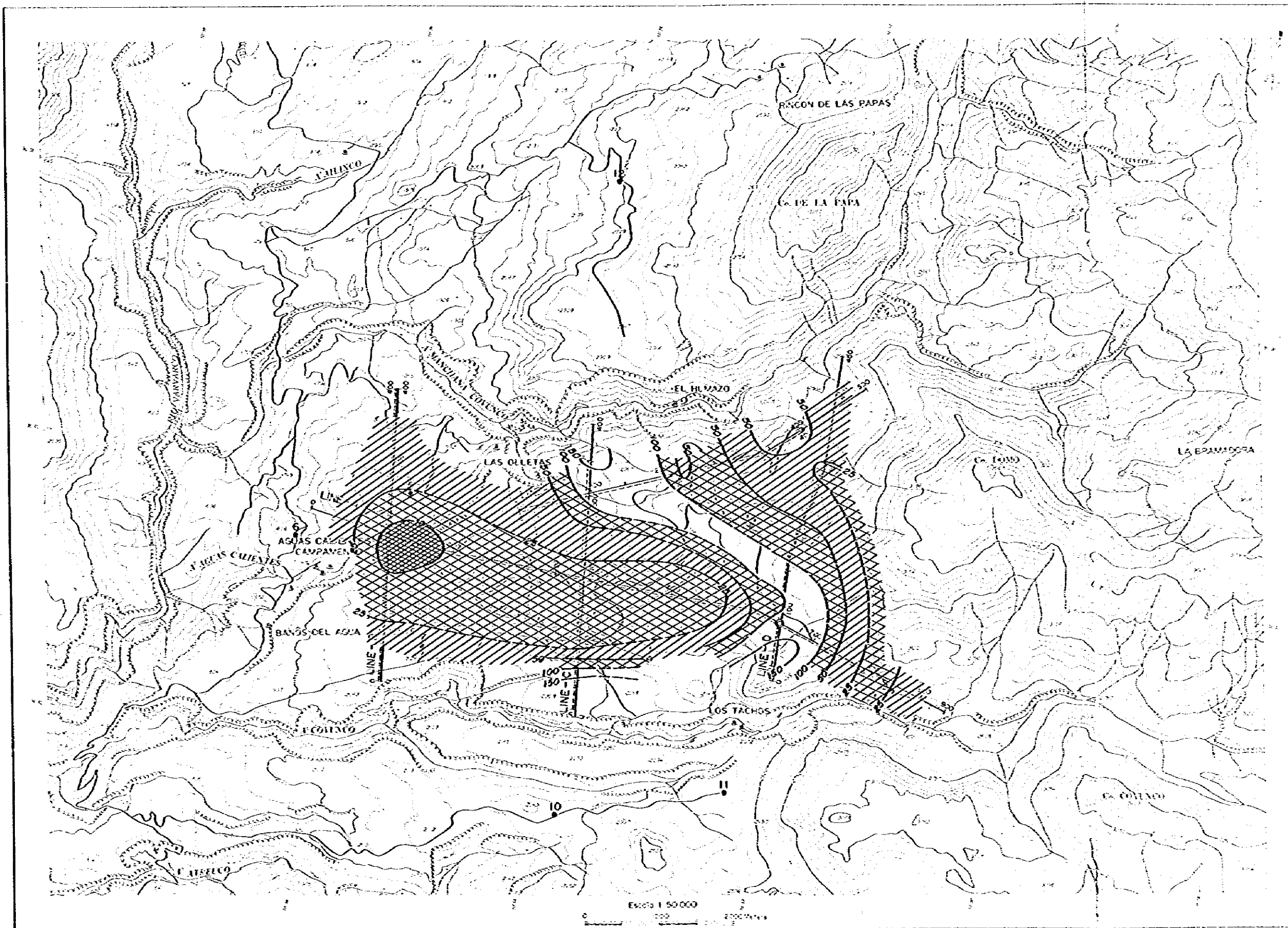


Fig. 4-3-4 (H) Plan map of apparent resistivity (AB/2=500m)

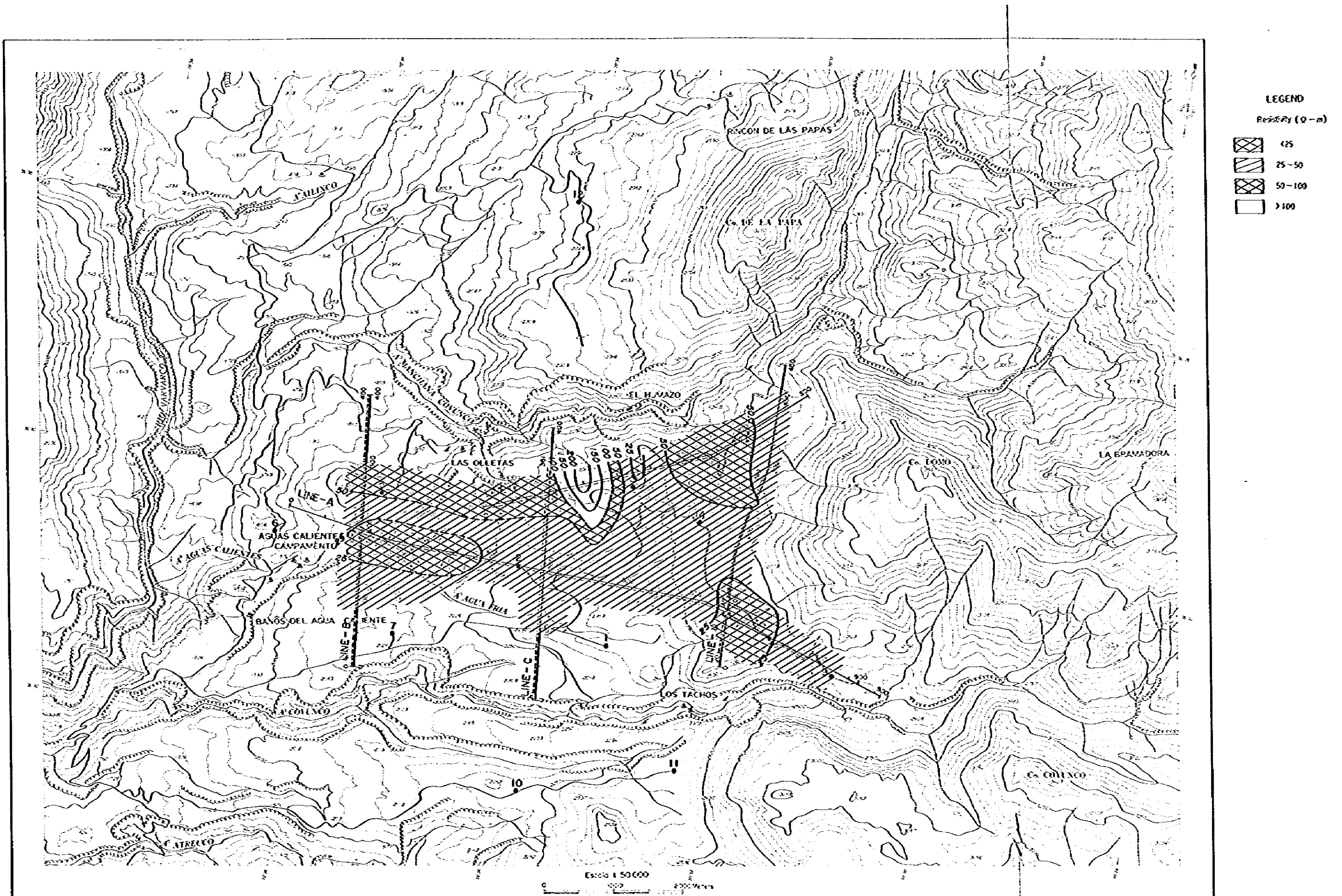


Fig. 4-3-4 (iii) Plan map of apparent resistivity ($AB/2=1000m$)

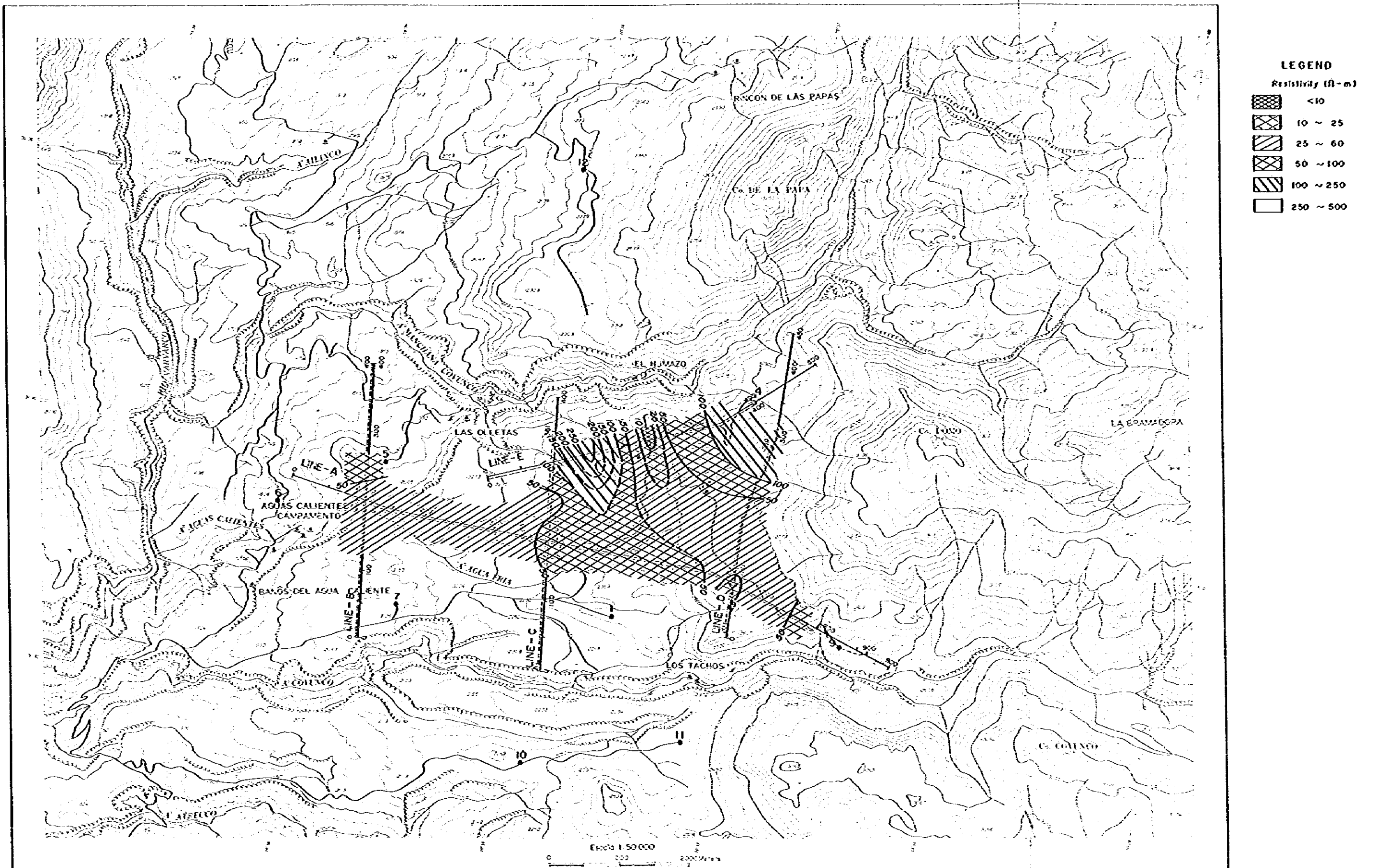


Fig.4-3-4 (IV) Plan map of apparent resistivity, $AB/2 = 1,500\text{m}$

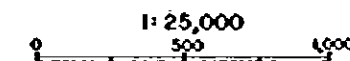
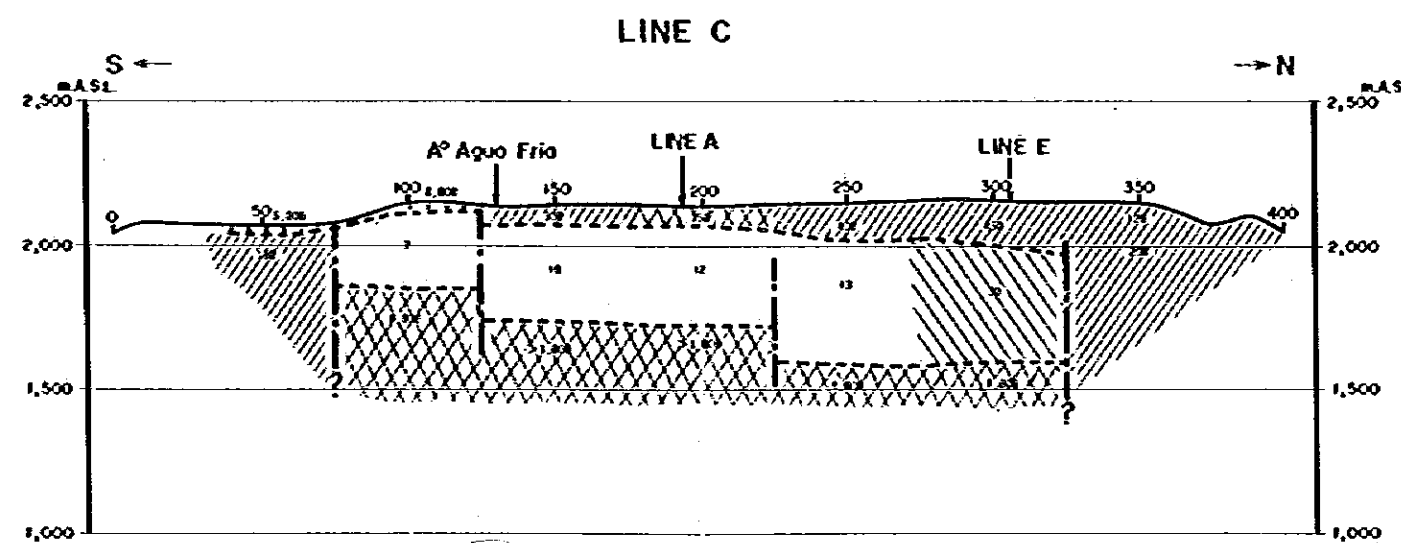
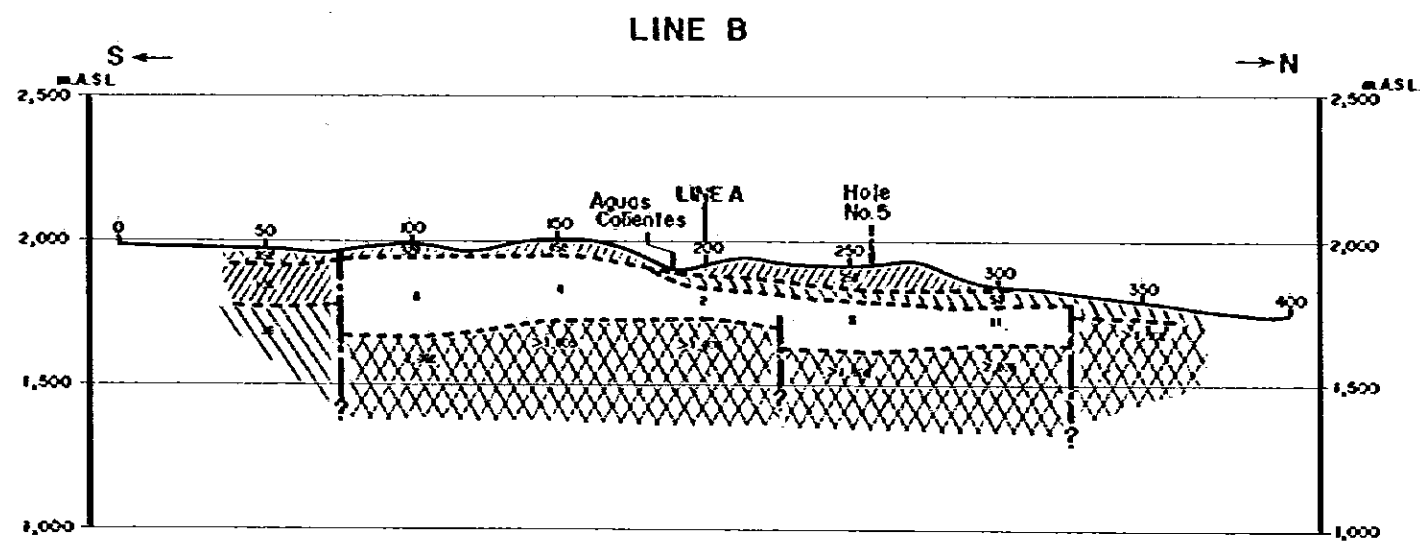
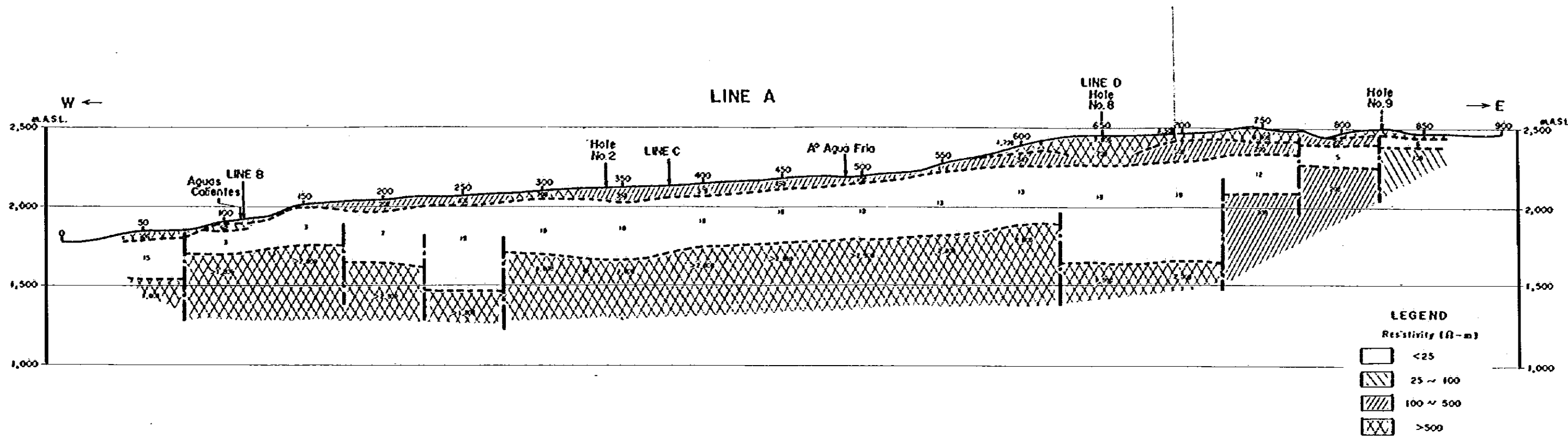


Fig.4-3-5 (i) Resistivity sections, (Line A, B & C)

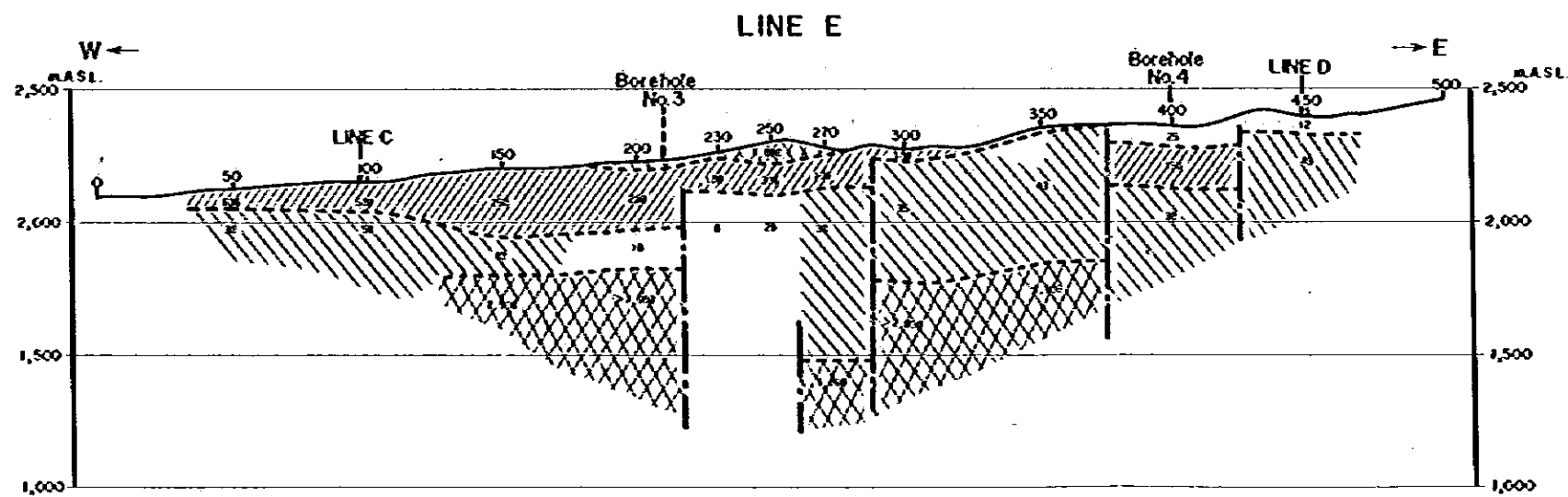
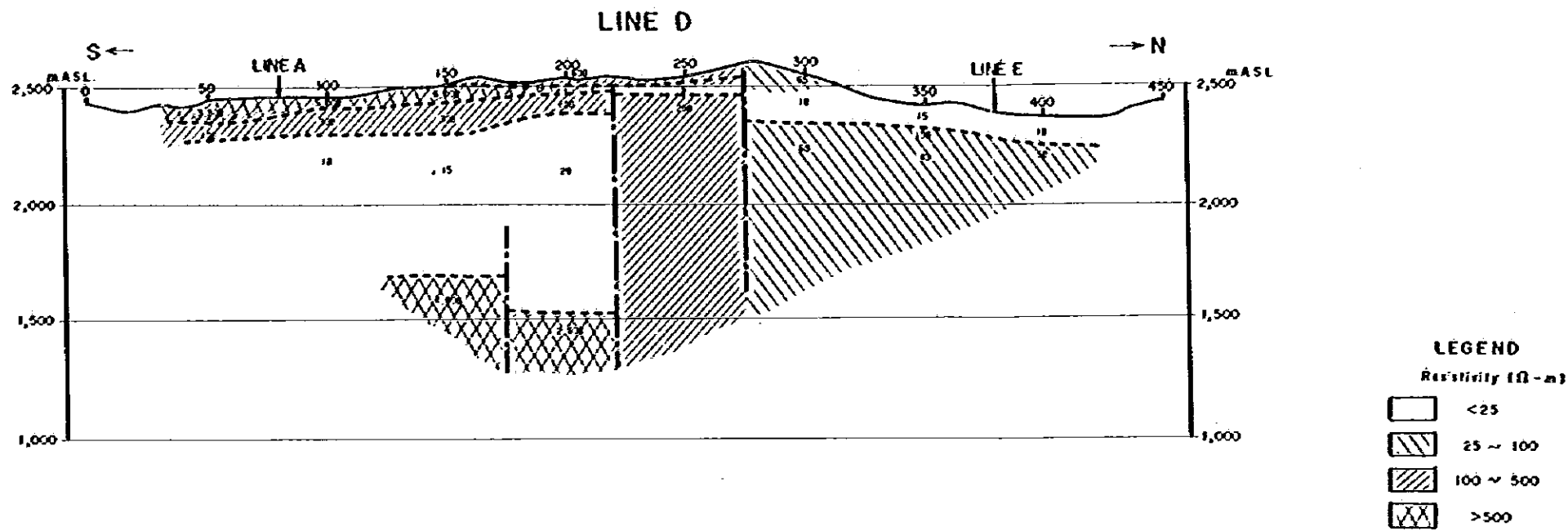


Fig.4-3-5 (ii) Resistivity sections, (Line D & E)

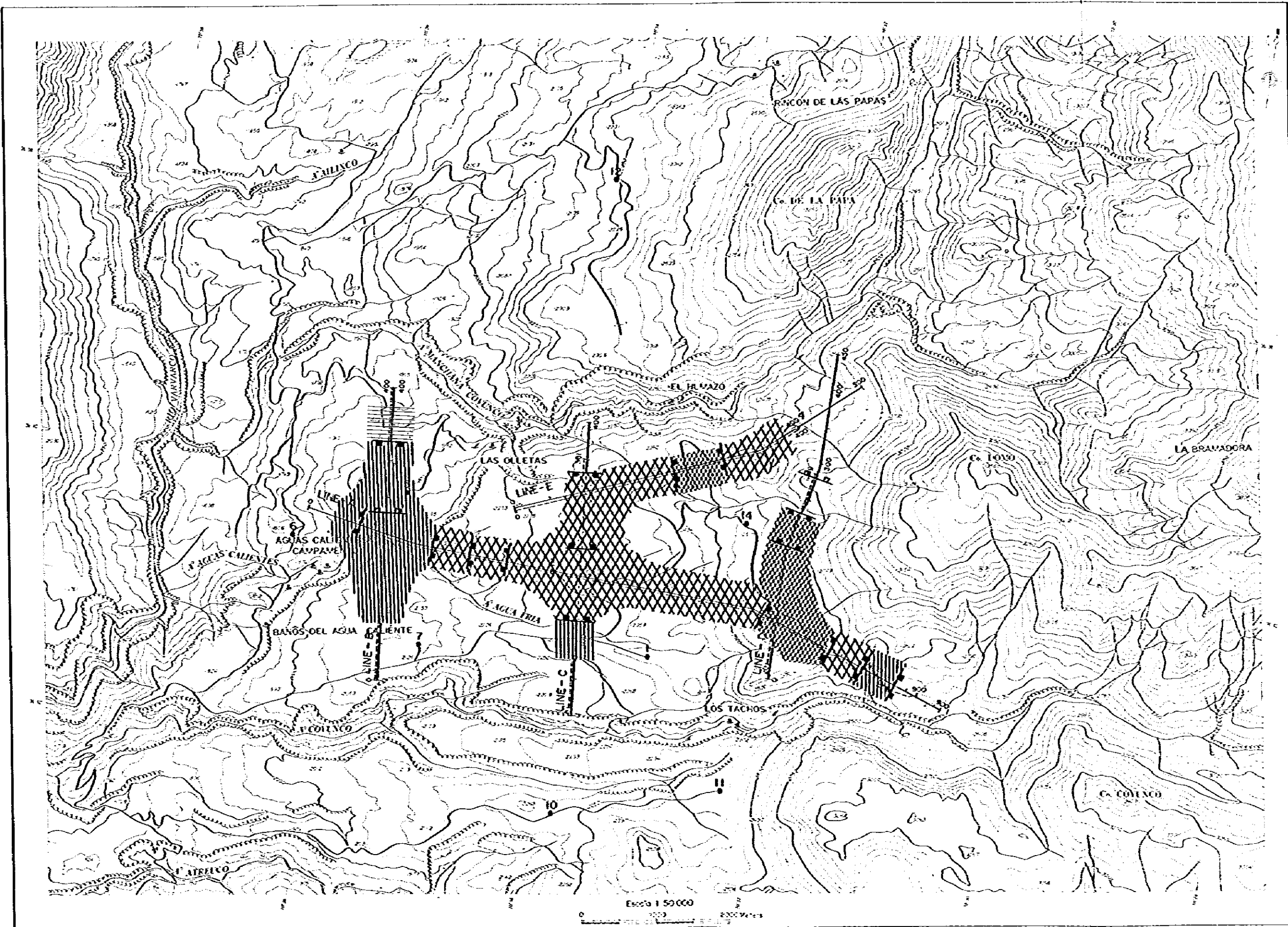


Fig.4-3-6 Structural map of the resistivity basements

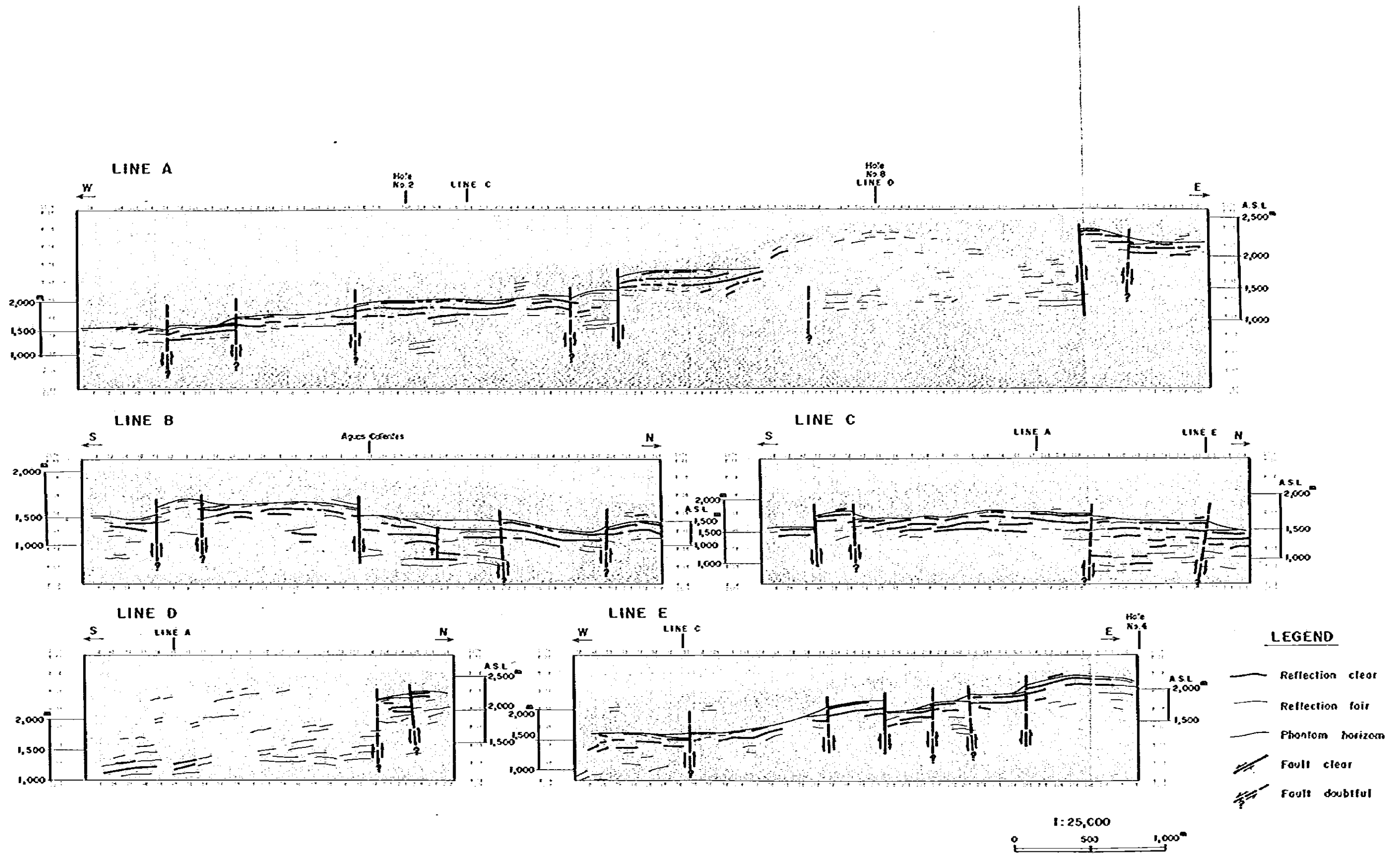


Fig. 4-4-1 Seismic interpretation time sections (Line A ~ E)

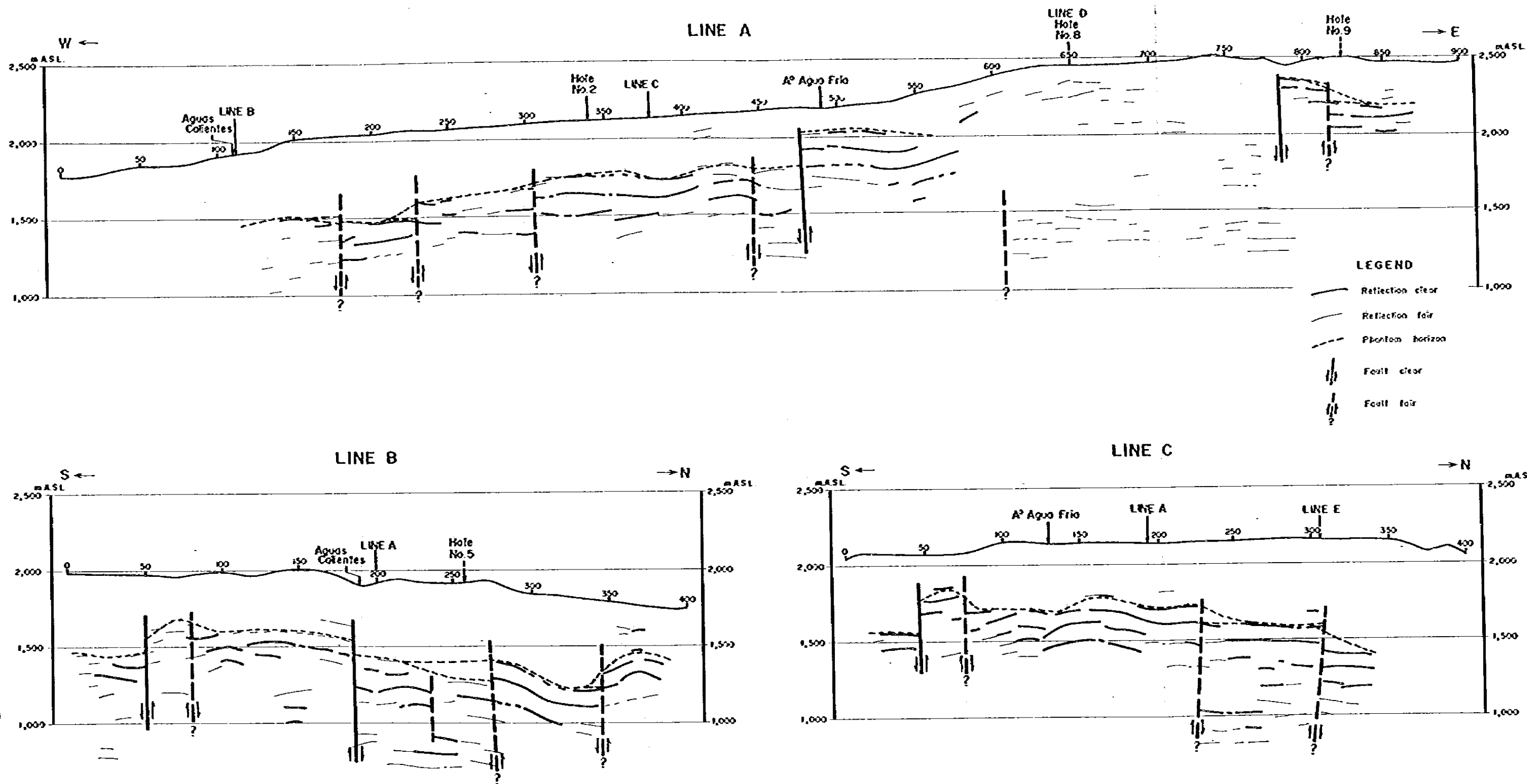


Fig. 4-4-2(1) Seismic interpretation depth sections (Line A, B & C)