

### 3-3 Others

As for the livestock farming, there is a slaughter house in Yauri, but since the cattle of this area is too thin because they are bred with the natural pasture, they are sent alive to Arequipa and then slaughtered there after a fattening period.

As for the skin of cattle and alpacas, and the wool of alpacas, and llamas, since there are no factories for their processing in the Province of Espinar, they are shipped and processed in other Department. This is due to the small number of domestic animals bred in the area, making therefore unnecessary a factory for the processing of the products of this area. Another problem is the inexistence of electric power required for operation of a factory in the area.

The increase of the number of heads by means of the improvement of the livestock raising, the increase of the quantities of wool, and skin by means of the introduction of improved breeds of better yield, the introduction of electric power as a result of the development of the mines, and other favorable conditions will contribute to make possible the installation of a factory for processing of the livestock industry products.

The industrialization and the commercialization of the livestock farming products will create new employment opportunities, contributing therefore to improve considerably the living condition of the rural population of the Province of Espinar.

#### 4. Recommendations for Further Detailed Studies

##### (1) Selection of the area to be developed

In view of the high altitude, low temperature and dry climate of the area of Espinar, the cultivation of crops suffers severe restrictions. In case of planning the supply of vegetables as a consequence of the start of operation of the mines, a comprehensive study covering other Provinces, like Canchis, the most important center of agricultural production of the Department of Cuzco, should be carried out.

The study should also take into consideration the Majes Project, which is agricultural development based upon the multi-purpose dam to be constructed in Arequipa.

##### (2) Selection of the area for development of livestock farming

The pasture lands of the Province of Espinar are presently occupied exclusively by natural pasture. It is necessary to survey the soil of the whole area to ascertain the possibility of introduction of improved pastures, in order to select the areas where the improvement of the productivity of the livestock industry can be promoted.

##### (3) Selection of the improved pasture

In the Province of Espinar, where the most important economical activity is the livestock farming, the presently existing natural pasture should be improved, in order to increase the number of heads of domestic animals. Thus, the selection of the type of pasture suited to the conditions of the area is required.

##### (4) Study of the irrigation method

The improvement of the productivity in the area of Espinar will be made possible by introducing irrigation facilities, to be utilized for both agricultural and livestock farming purposes.

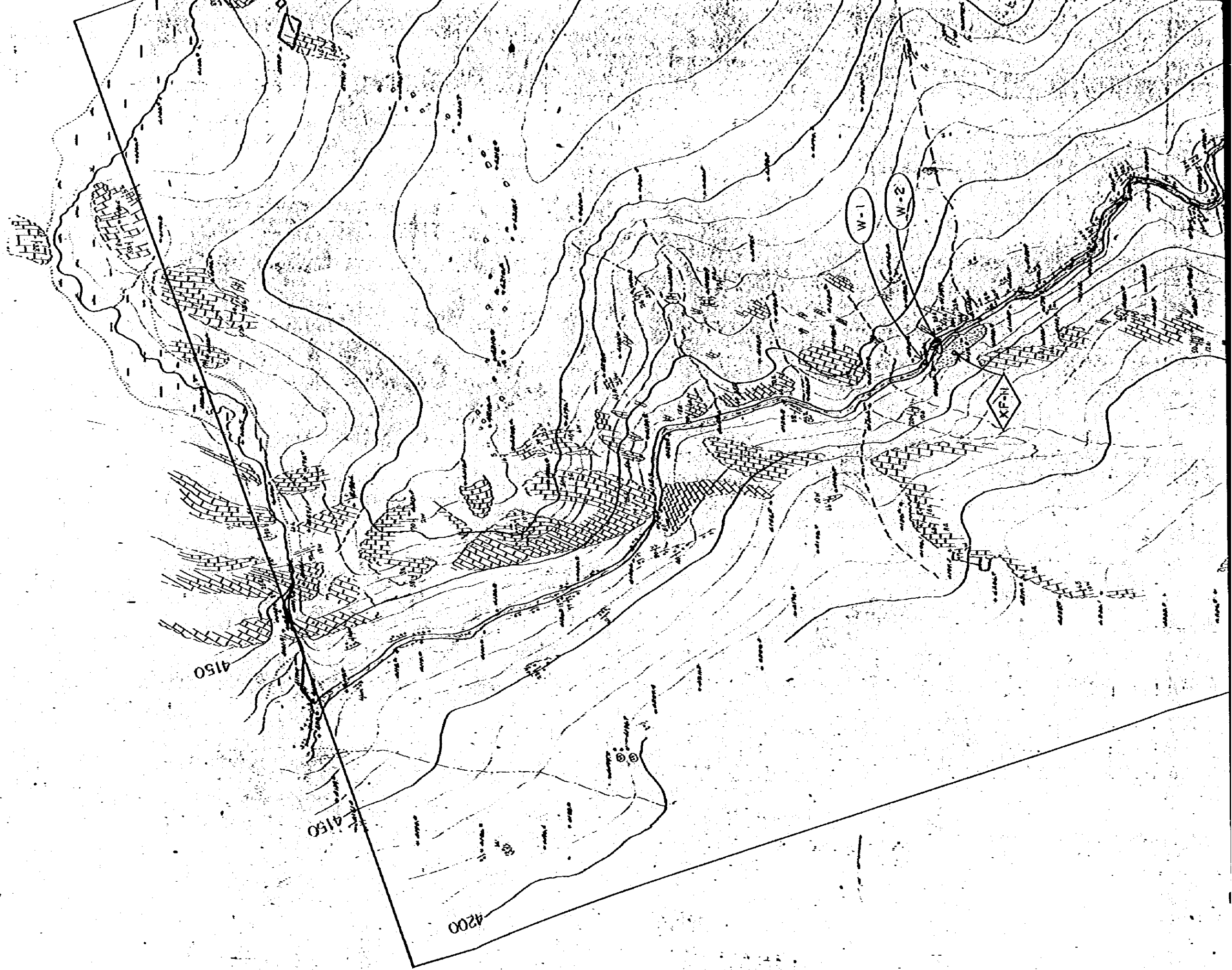
Specialists should be sent to the Project Area, to determine the areas to be irrigated and the irrigation method to be adopted.

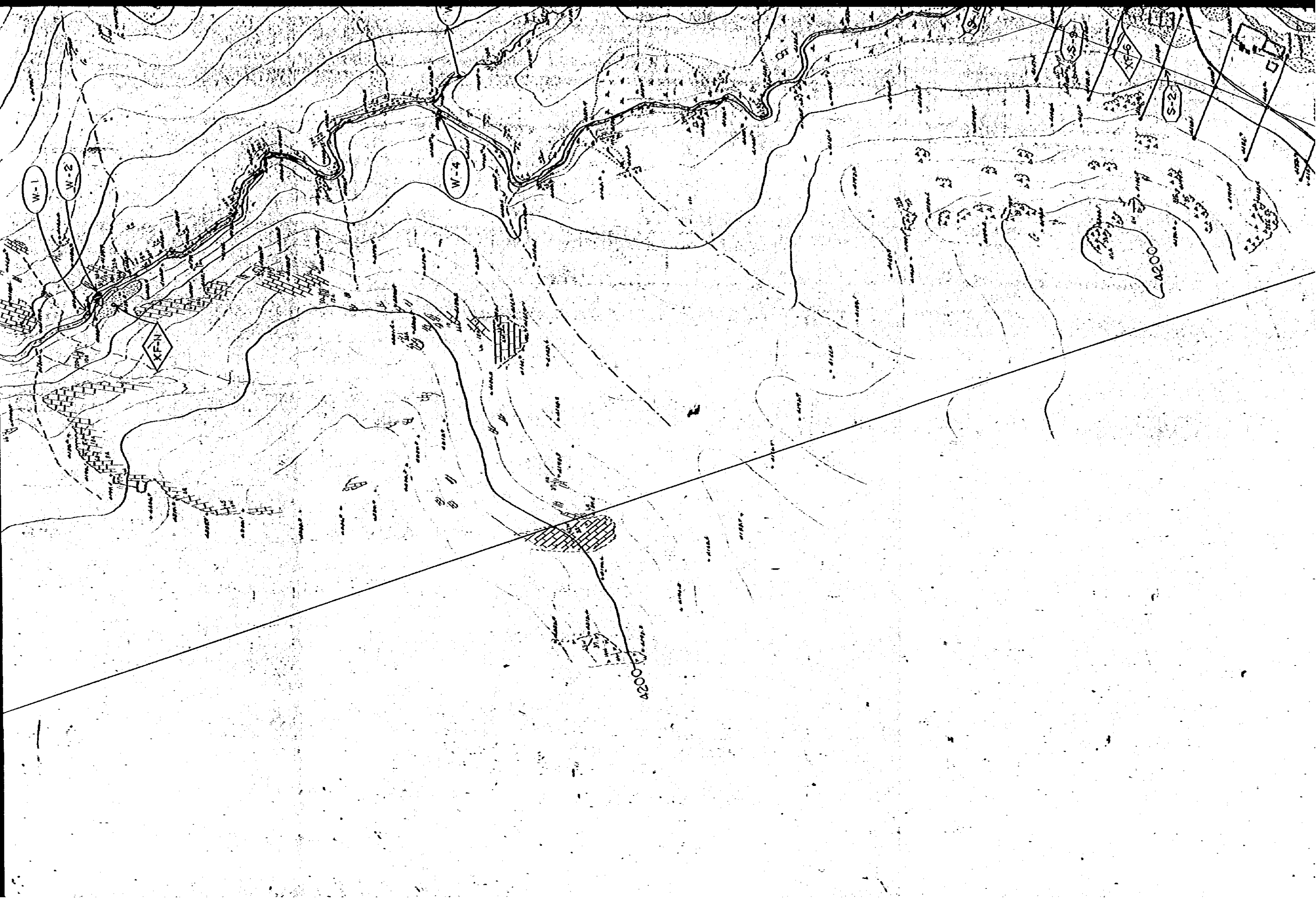
##### (5) Studies for promulgation of improved agricultural techniques

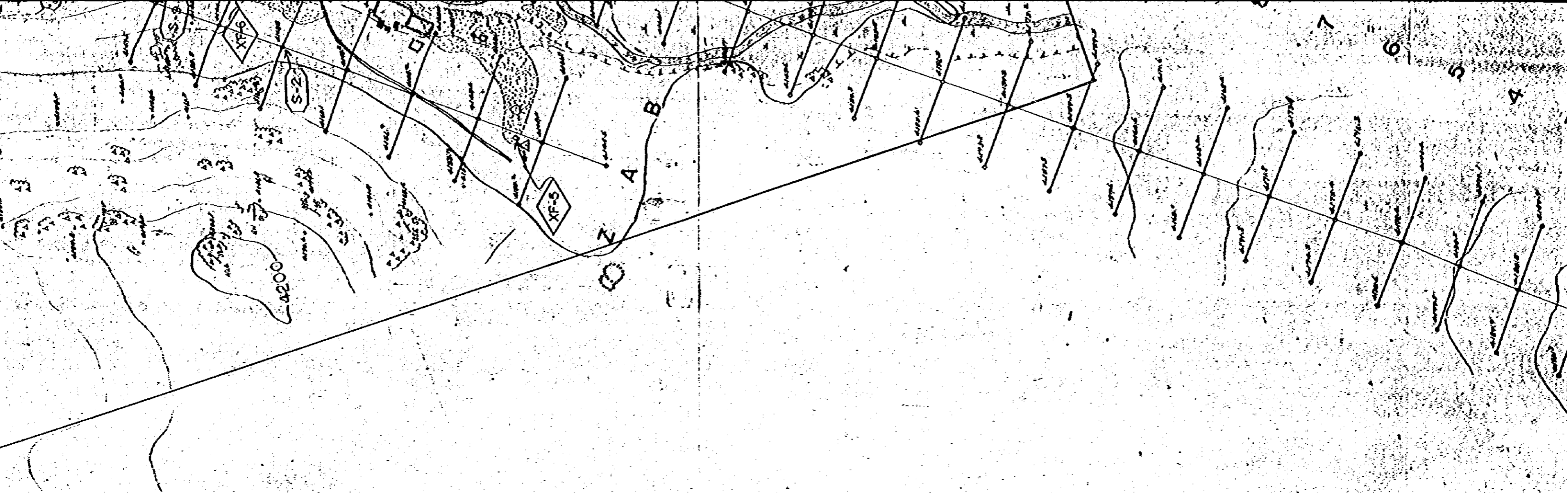
In the Province of Espinar the agriculture and the livestock farming are based upon the traditional extensive methods. To the traditional rural population, the learning of the modern farm management and improvement techniques within a short term will be very difficult.

**It is advisable to establish an agricultural experiment station, so that new cultivation and livestock techniques may be learnt and put into continuous use by farmers in the Province of Espinar.**









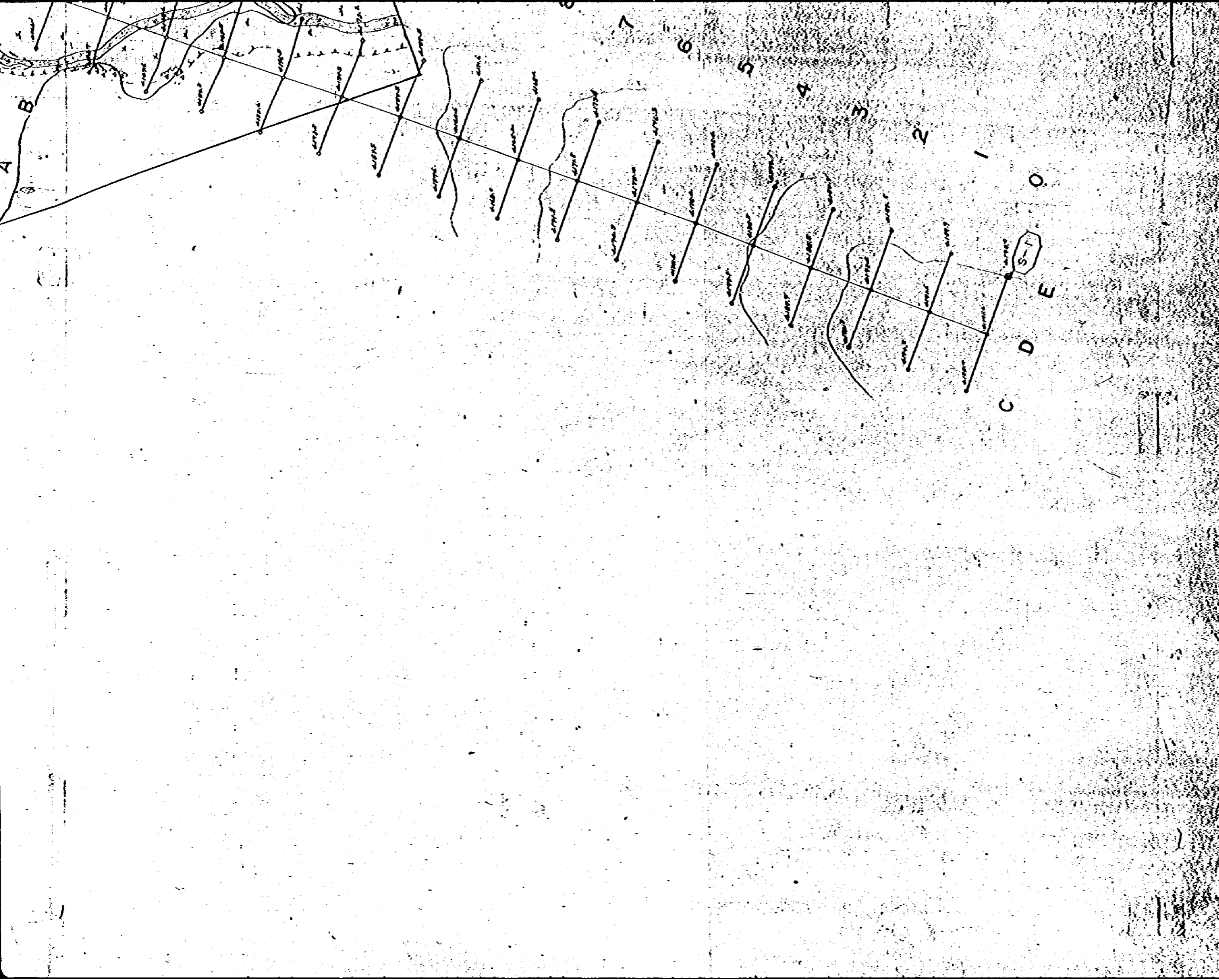
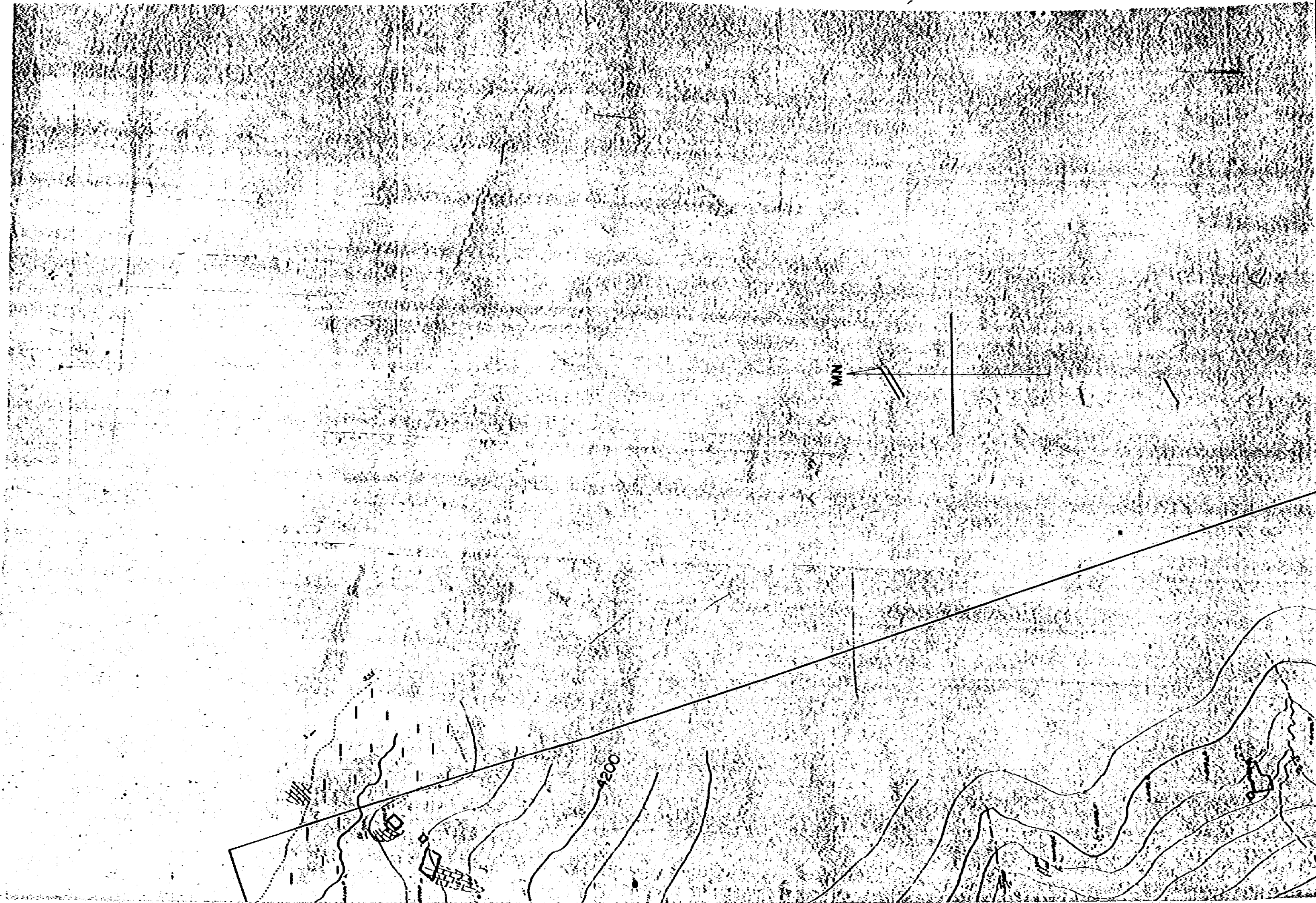
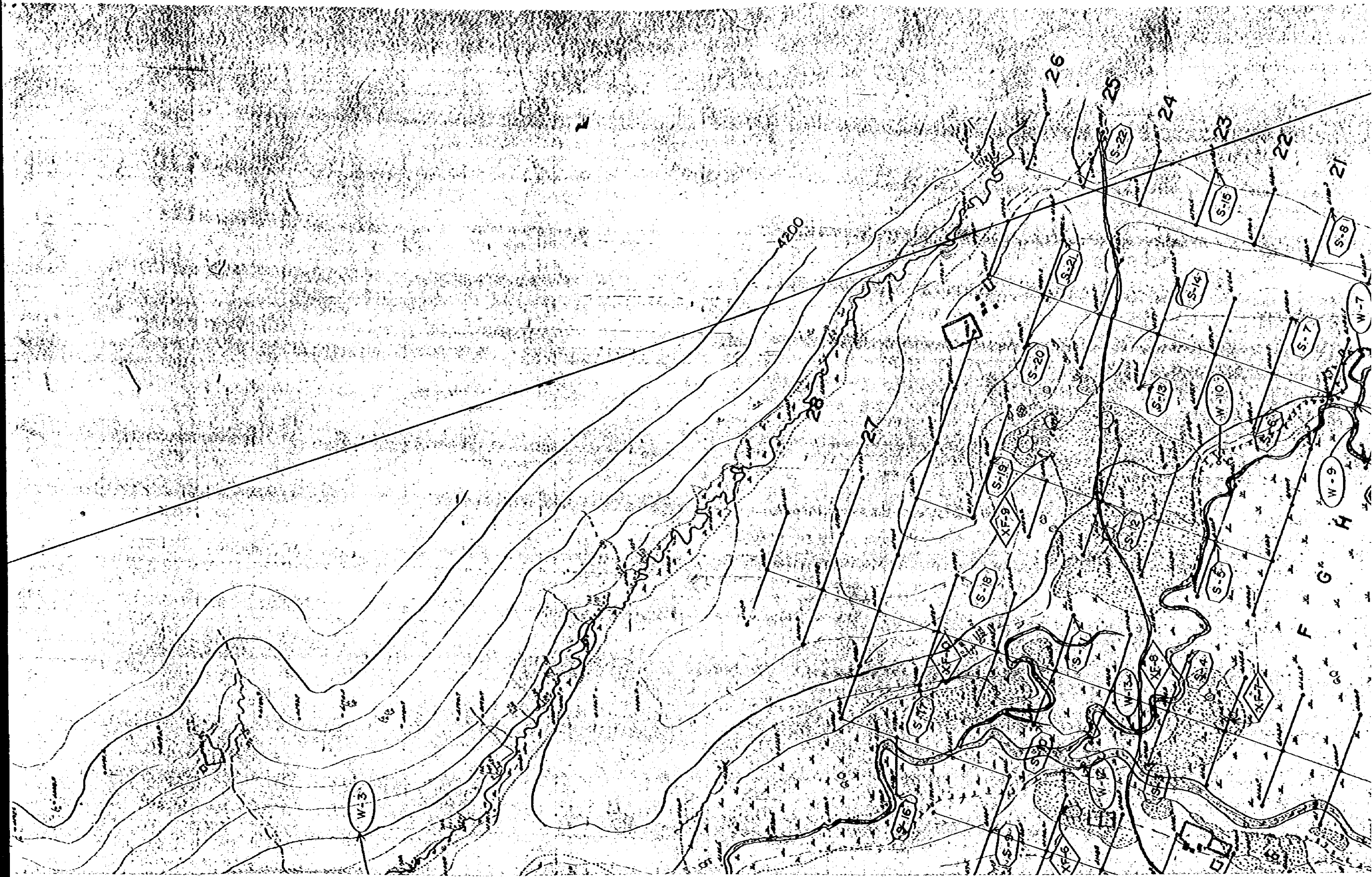
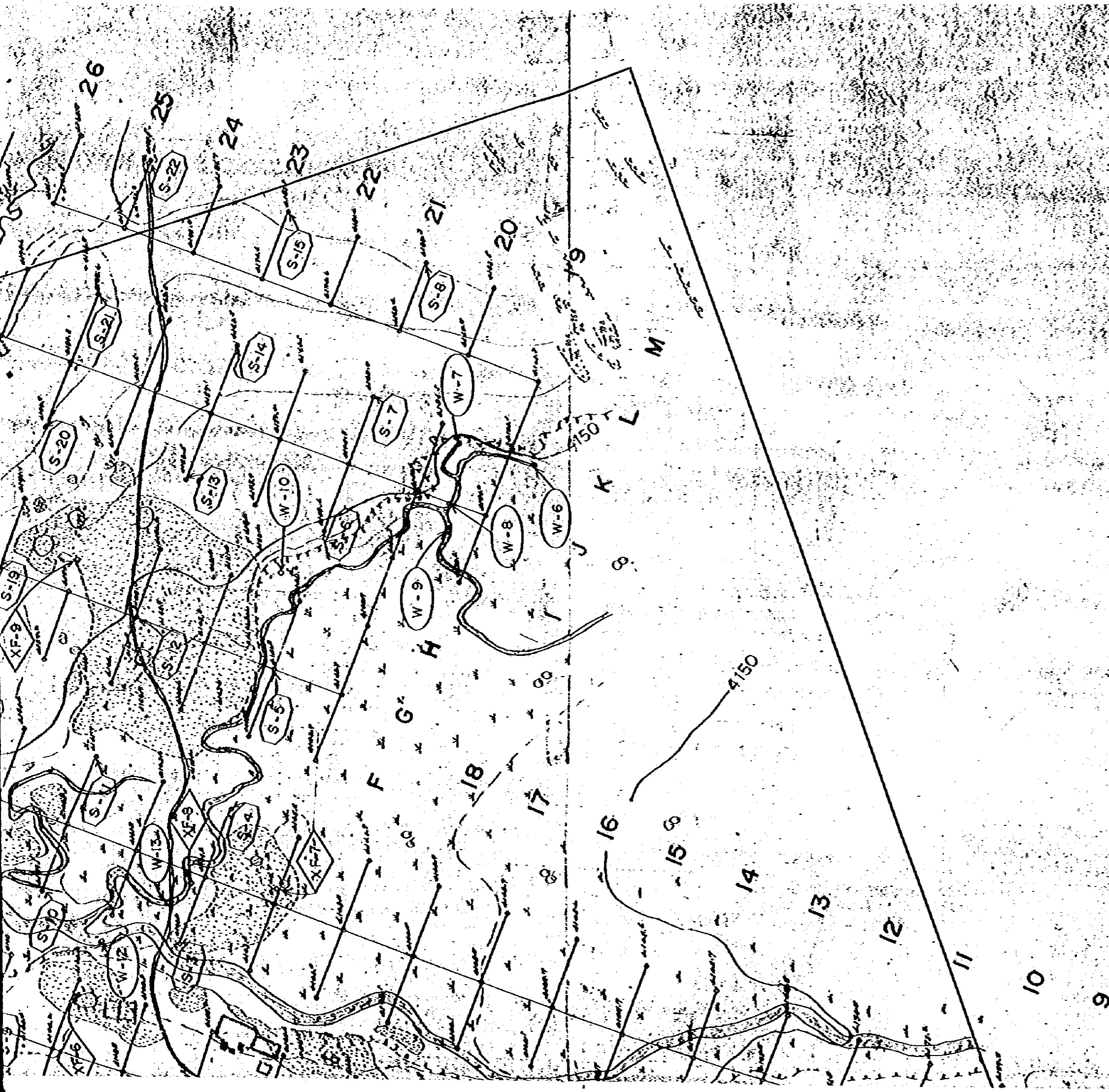


Fig. 7-10 Sampling Local









**QUISICOLLO GEOTHERMAL AREA**  
**SOUTHEASTERN CUZCO-PERU**  
**GEOLOGICAL ROUTE MAP**

SCALE 1:5,000

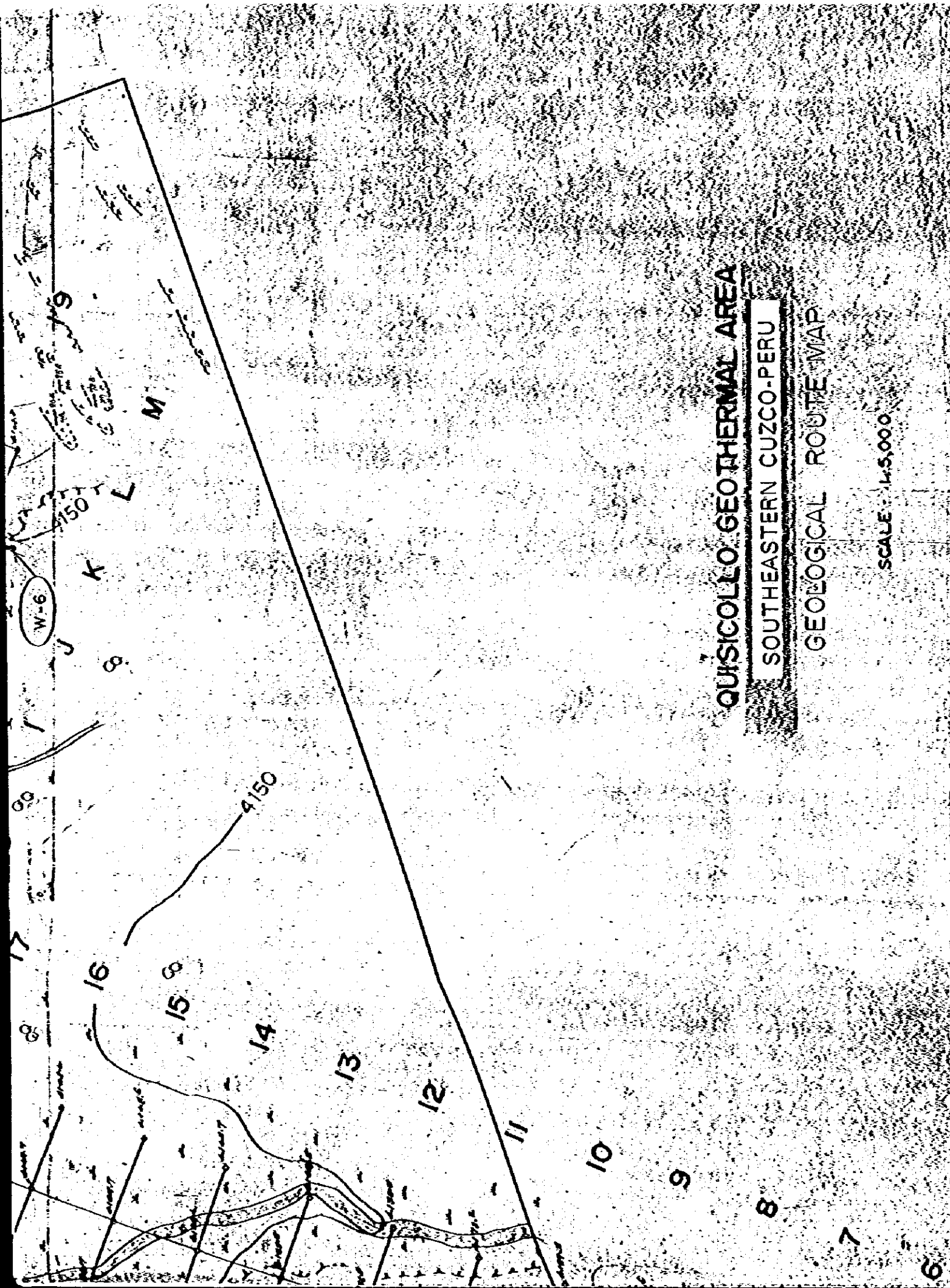
**LEGEND**

- Moraine/Quaternary
- Fault zone with agglomerate or Limestone breccia
- Volcanic Breccia / Andesite / Agglomerate
- Limestone
- Calcareous Sinter
- Thermal Spring
- Surface Water
- Fault
- River
- Spring
- Road

SAMPLES LOCATION

Rock





**QUISICOLLO GEOTHERMAL AREA**  
**SOUTHEASTERN CUZCO-PERU**  
**GEOLOGICAL ROUTE MAP**

SCALE: 1:5,000

**LEGEND**

- Molaine/Ovalternary
- Fault zone with agglomerate & Limestone Breccia
- Volcanic Breccia / Andesite Agglomerate
- Limestone
- Calcareous Siltstone
- Thermal Spring
- Surface Water
- Fault
- River
- Stream
- Road

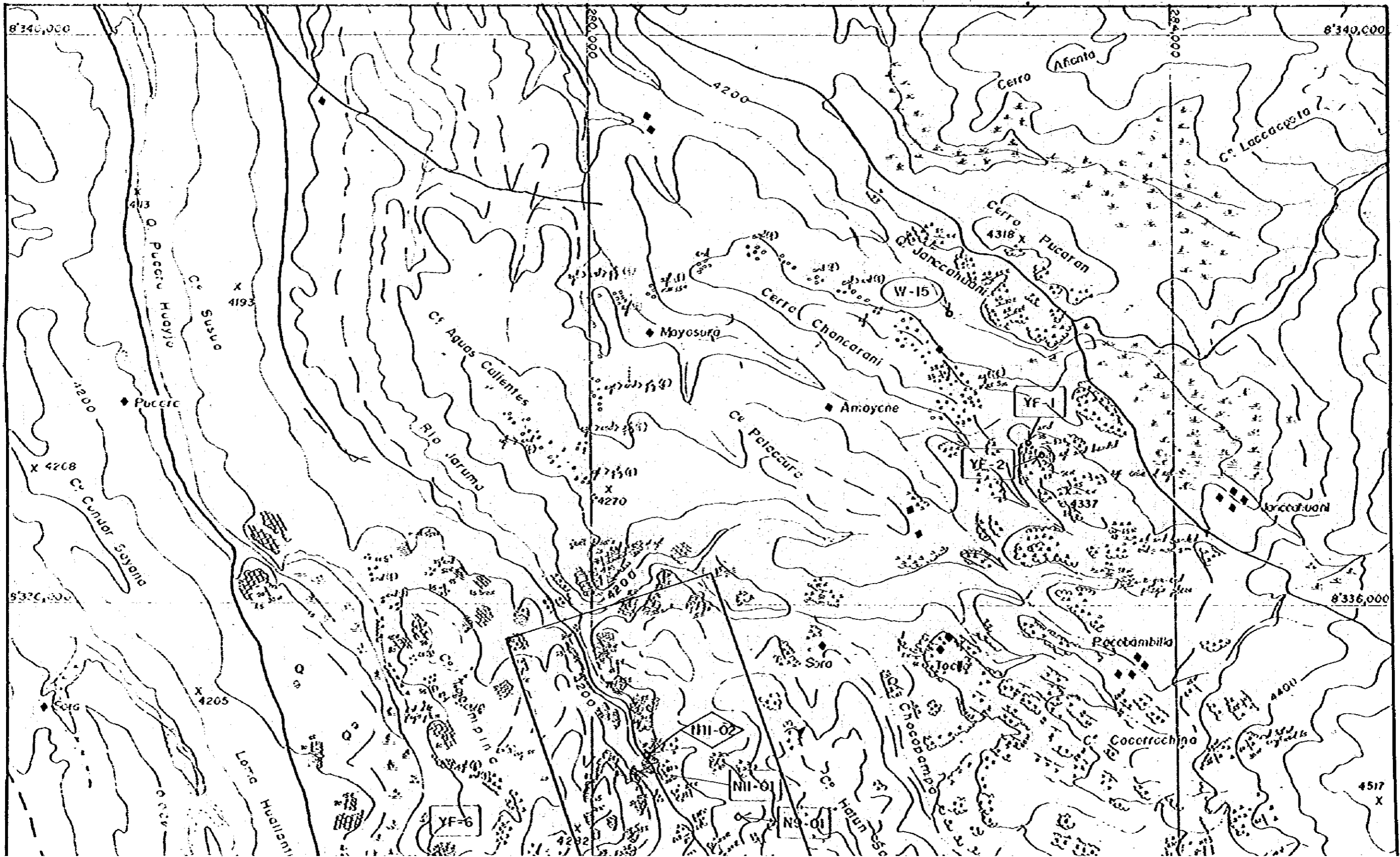
**SAMPLES LOCATION**

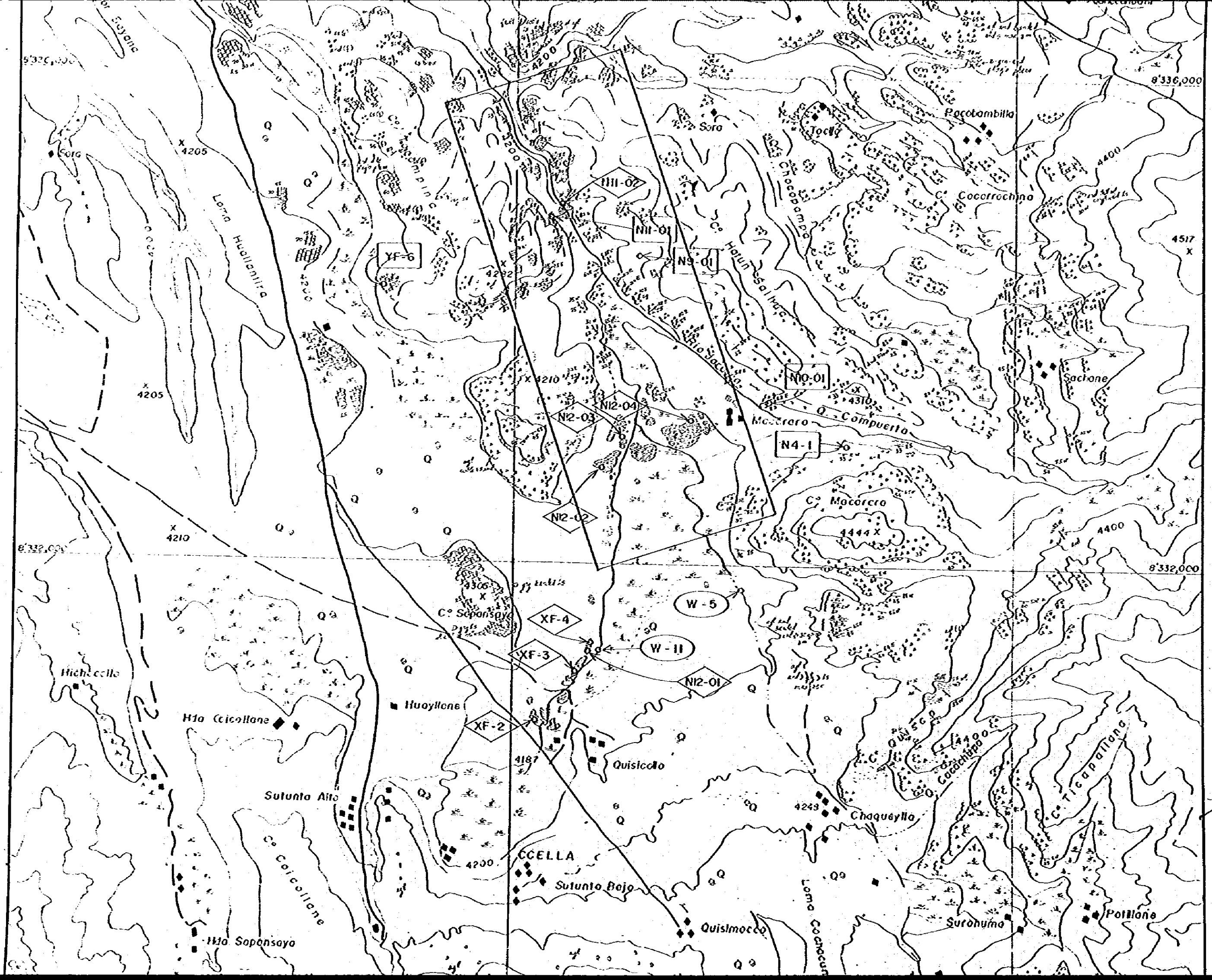
- Rock
- Altered Mineral
- Soil
- Mother Lode

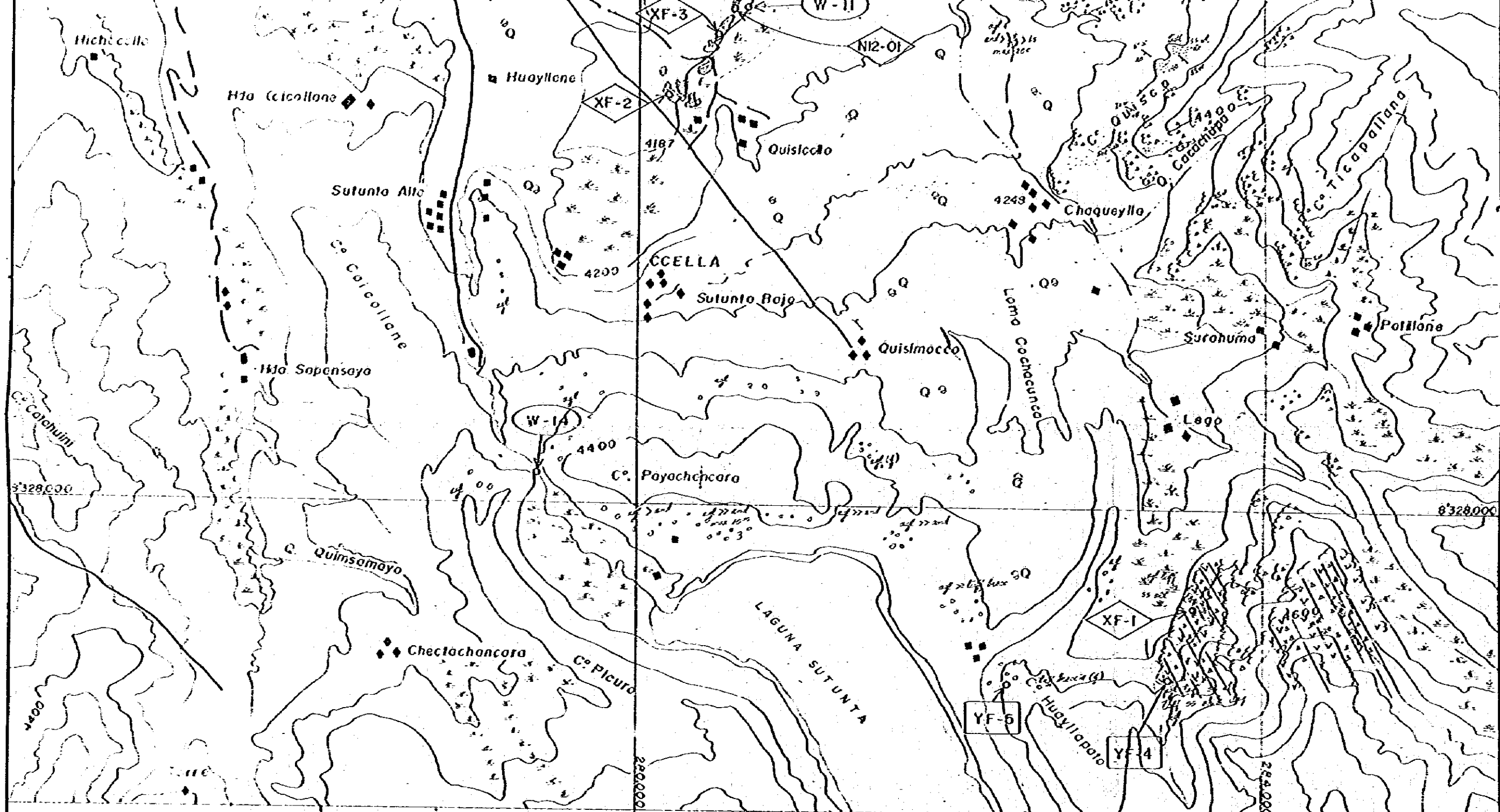
Dated October, 1978

**Location (2)**

16







**LEGEND**

- Moraine / Oustermary
- Volcanic breccia / Andesite / Agglomerate
- Fault with agglomerate and Limestone breccia
- Limestone
- Calcareous sinter
- Thermal spring
- Fault

**SAMPLES LOCATION**

- Rock
- Altered Mineral
- Soil
- Water

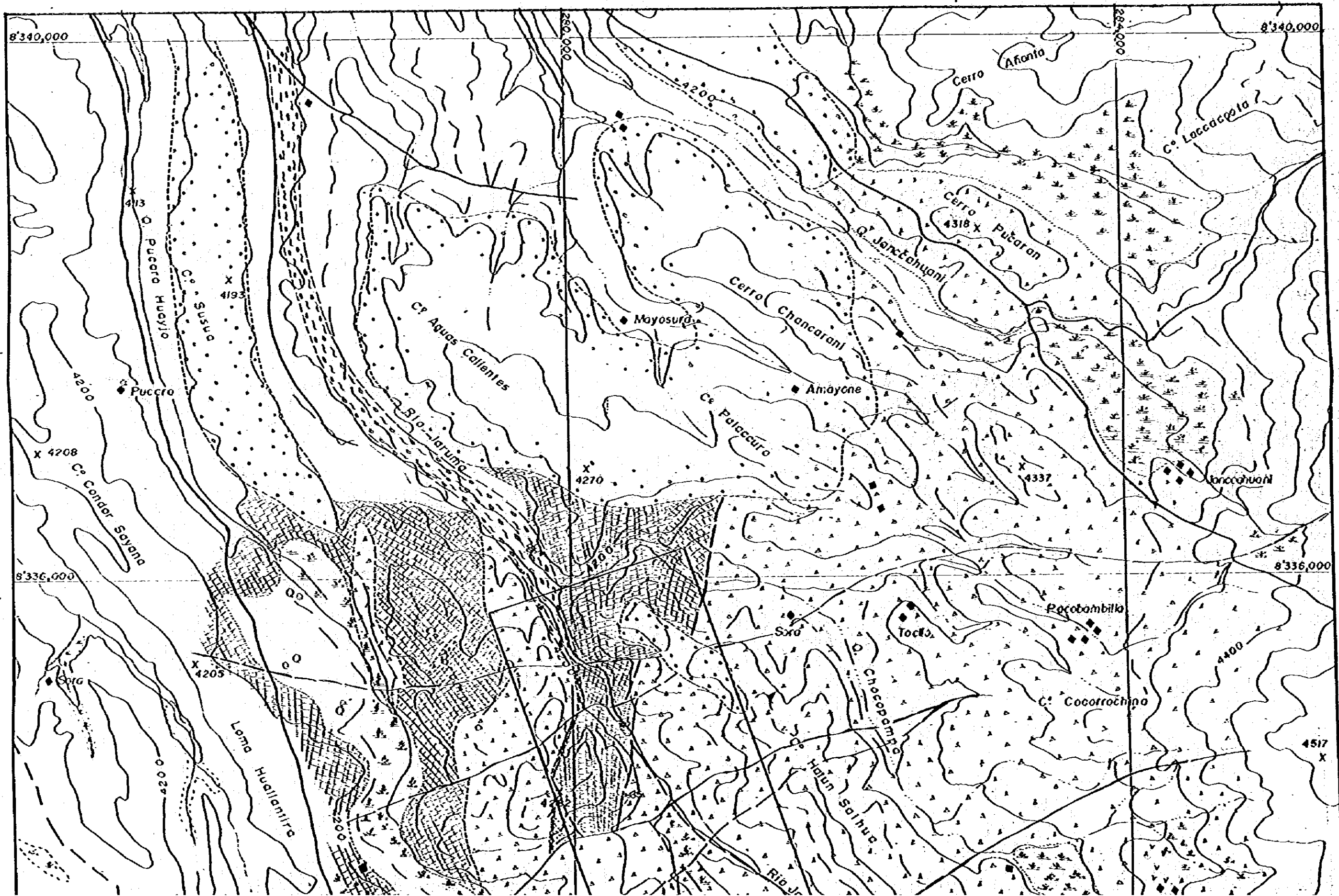
**ROUT MAP of QUISICOLLO AREA  
SOUTHEASTERN CUZCO-PERU**

Scale: 1:25,000



Date: October 1978

**Fig. 7-9 Sampling Location (1)**



8'340,000

8'340,000

284,000

280,000

8'336,000

8'336,000

4113

X 4193

4200

X 4208

X 4210

X 4205

4200

4318 X

X 4337

4400

4517 X

Rio Pucero Hueso

Ce. Susua

Ce. Aguas Calientes

Rio Sja-Jaruna

Cerro Chancaran

Ce. Palacuro

Cerro Añanta

Cerro Pucaran

Ce. Laccocolla

Laccocolla

Pocobambila

Ce. Cocorrochipo

Loma Huallanca

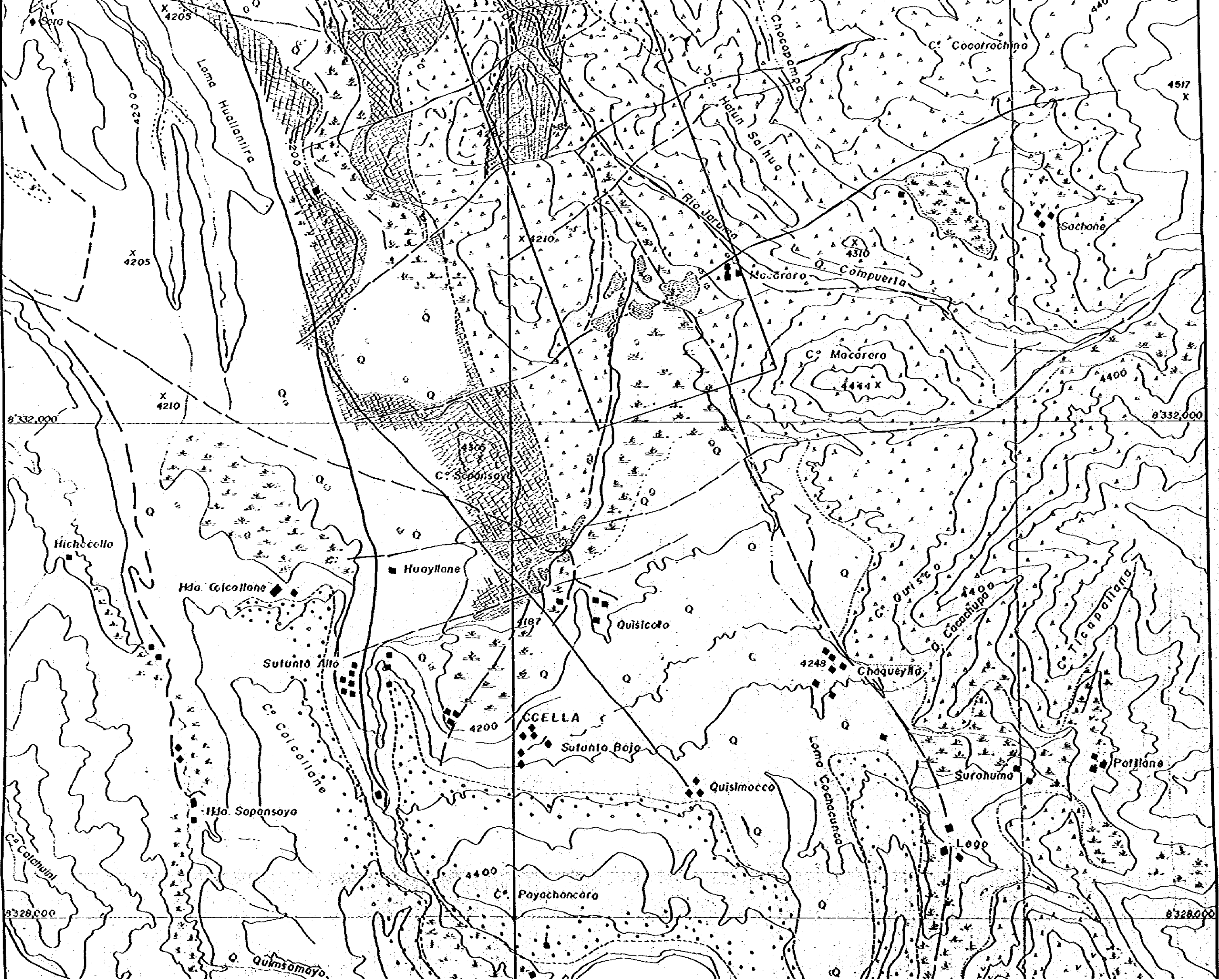
Rio Salhua

Rio Chocobambila

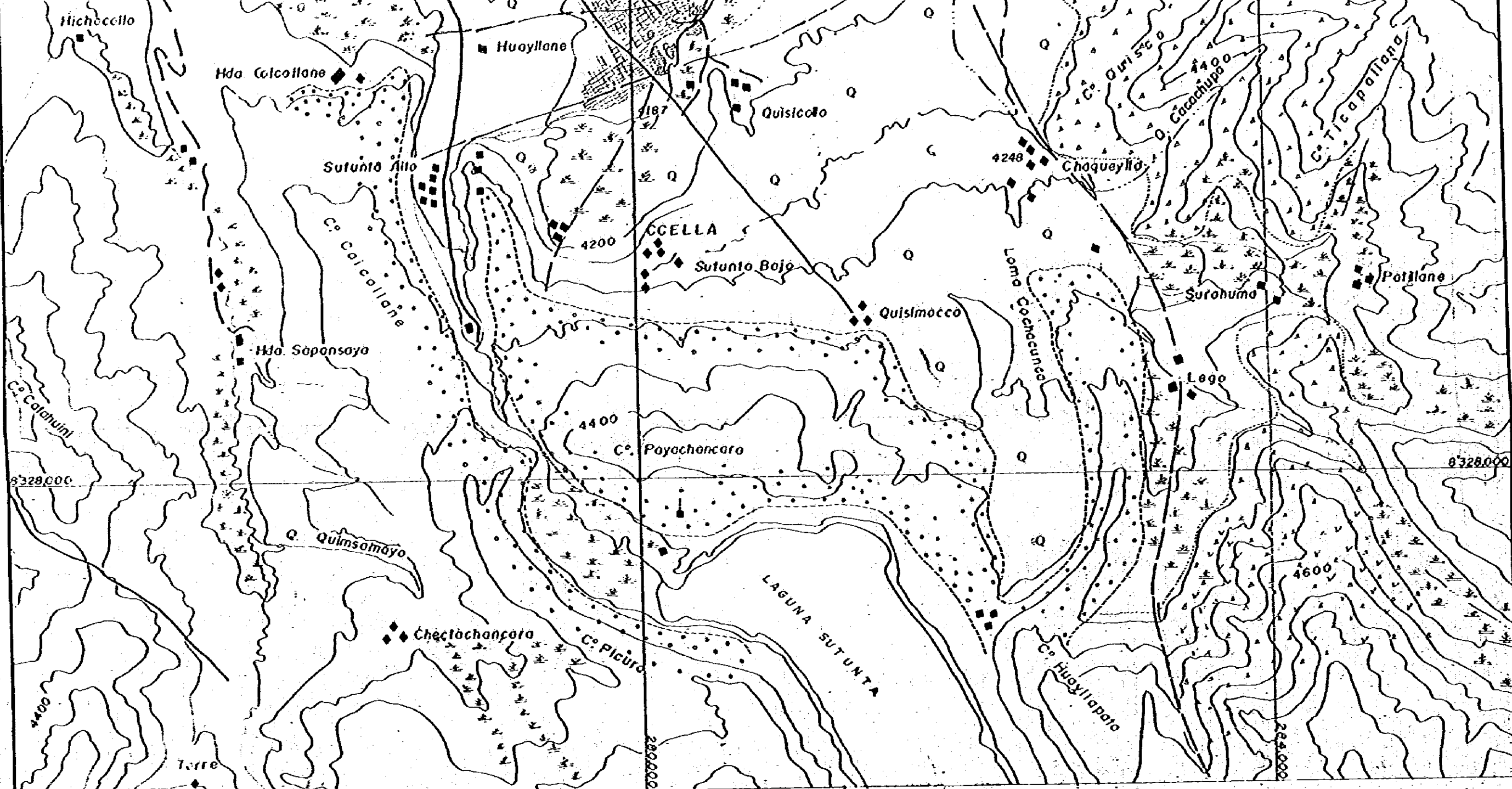
Soro

Tocco

Rio J.







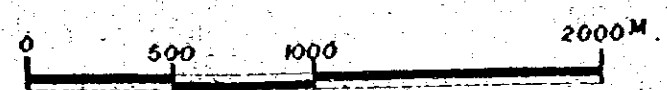
**LEGEND**

- Moraine / Quaternary
- Volcanic breccia / Andesite / Agglomerate
- Fault with agglomerate and limestone breccia
- Limestone
- Calcareous sinter
- Thermal spring
- Fault

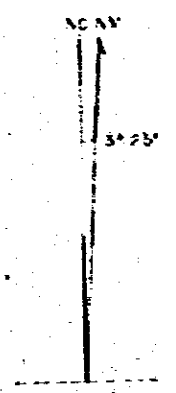
**GEOLOGICAL MAP of QUISICOLLO AREA**

**SOUTHEASTERN CUZCO-PERU**

Scale: 1:25,000



Date: October 1978



**Fig. 7-11 Geological Map of Quisicollo Area**

ADIL