



# **URANIUM EXPLORATION IN PAIPA AND IZA AREA (COLOMBIA), NEW CONTRIBUTIONS (PRELIMINARY REPORT)**

**VIENNA - JUNE 2009**



## **OBJECTIVES**

**To know the potential uranium zones in Colombia to call the attention of investors, for the realization of new projects in this field, and contribute to the development in Colombia.**

**Identify and characterize uranium anomalies in order to deepen in their knowledge. Case study Paipa and Iza (Boyaca Department) Colombia**

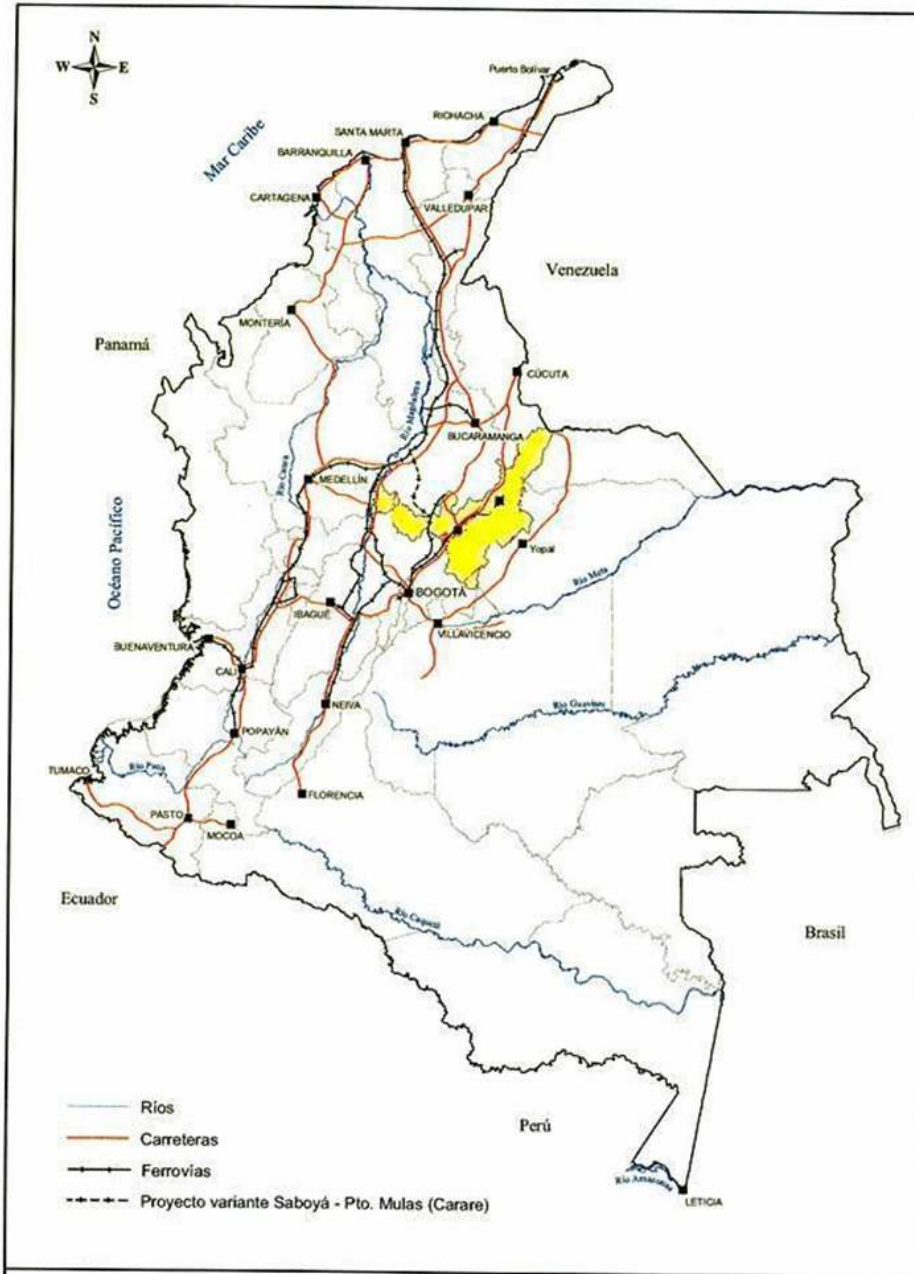


## **BACKGROUND**

**Exploration in the 80s**

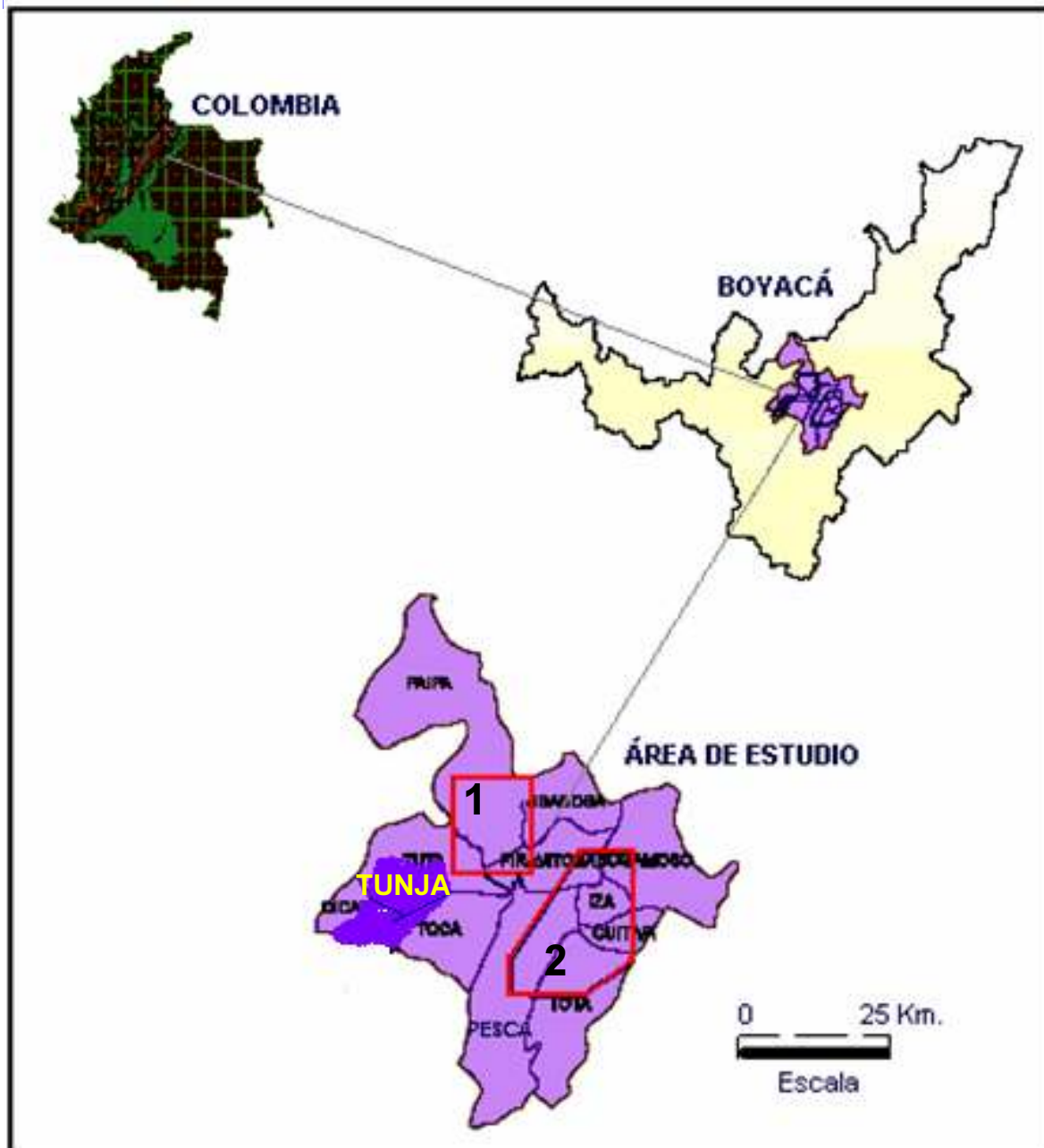
**INGEOMINAS – Group Energy Resources**

**Identify potential areas and publish the results**



# COLOMBIA

## BOYACA DEPARTMENT

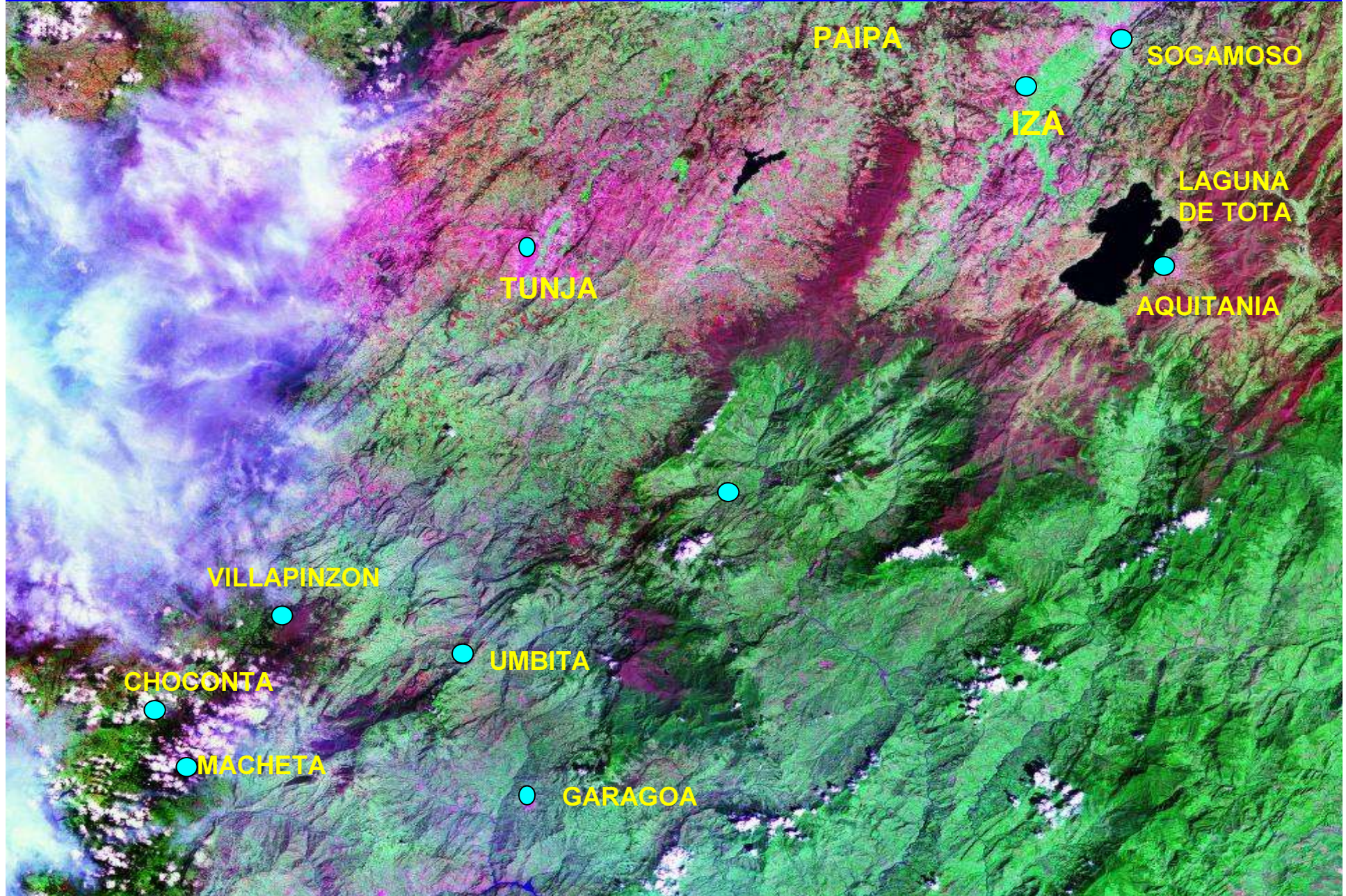


## LOCATION

## AREA

- 1 – PAIPA
- 2 - IZA





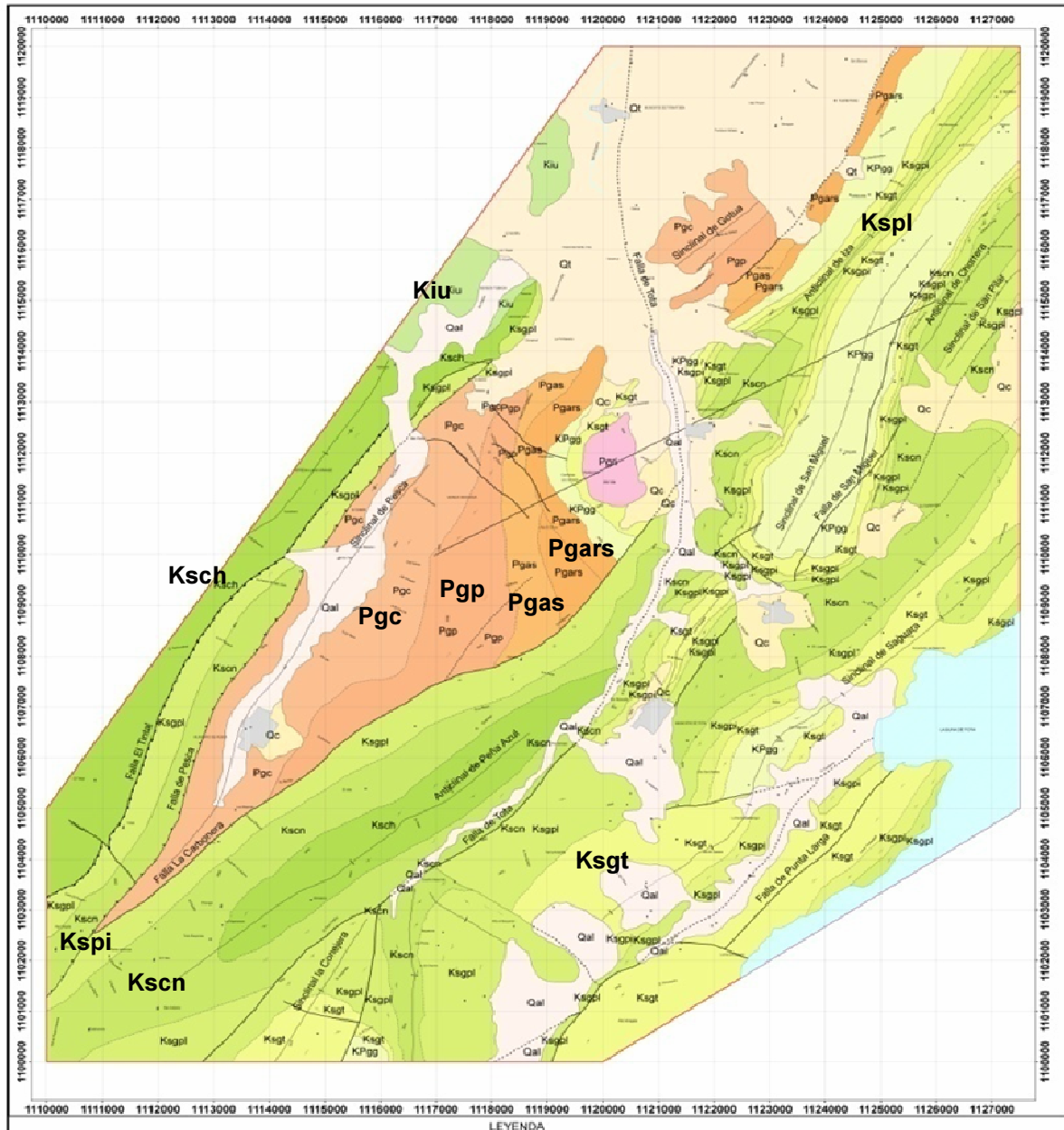




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## IZA AREA GEOLOGICAL MAP

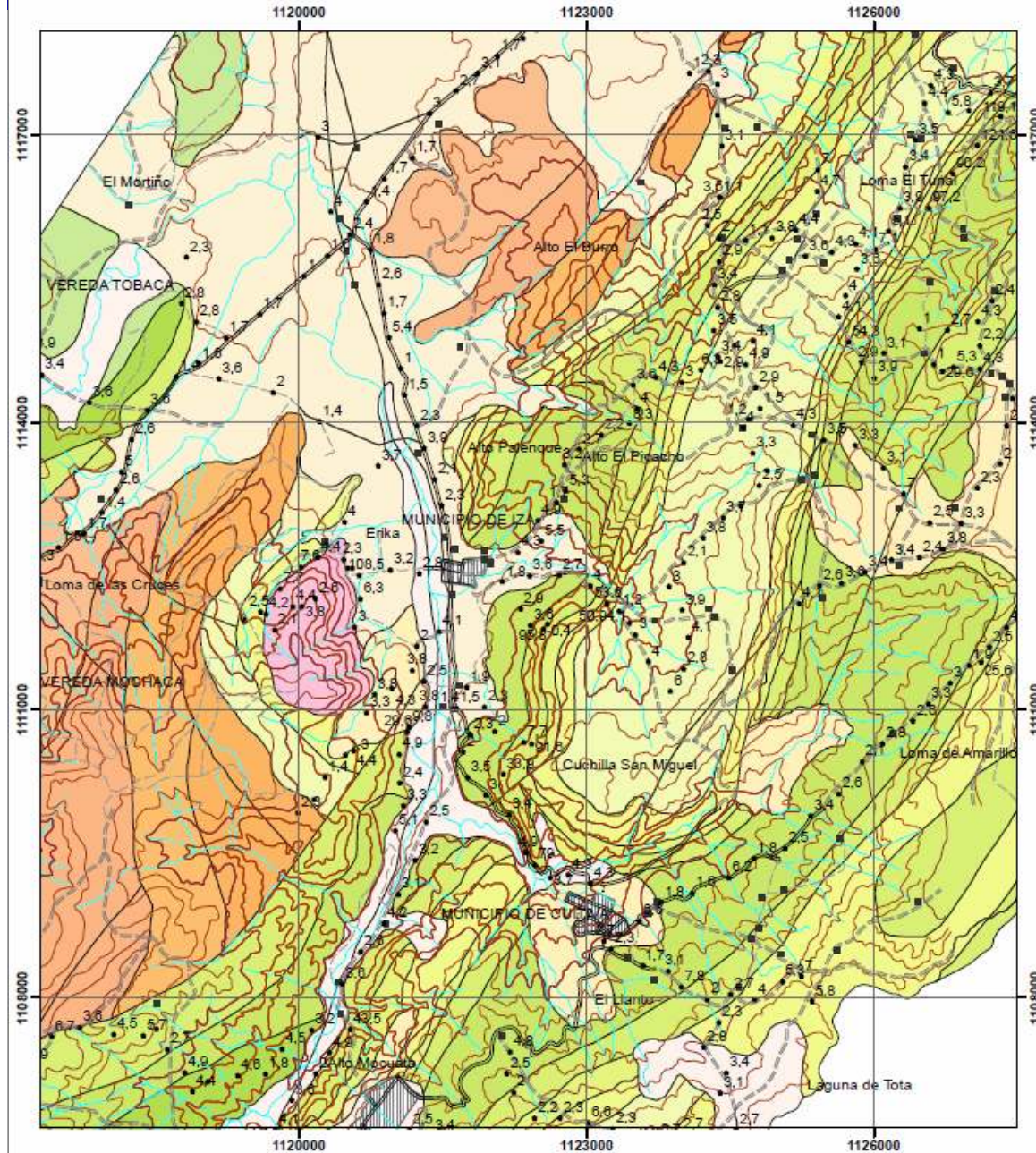


- Qt - Qc - Qal
- Pgri - Riolitas
- Pgc - Concentracion
- Pgp - Picacho
- Pgas - Socha sup
- Pgars - Socha inf
- KPgg - Guaduas
- Ksgt - Arn tierna
- Kspl - Plaeners
- Kspi - Los pinos
- Kscn - Conejo
- Ksch - Churuvita
- Kiu - Une



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# IZA AREA

## MAP OF GEOPHYSICAL STATIONS

### URANIUM VALUES

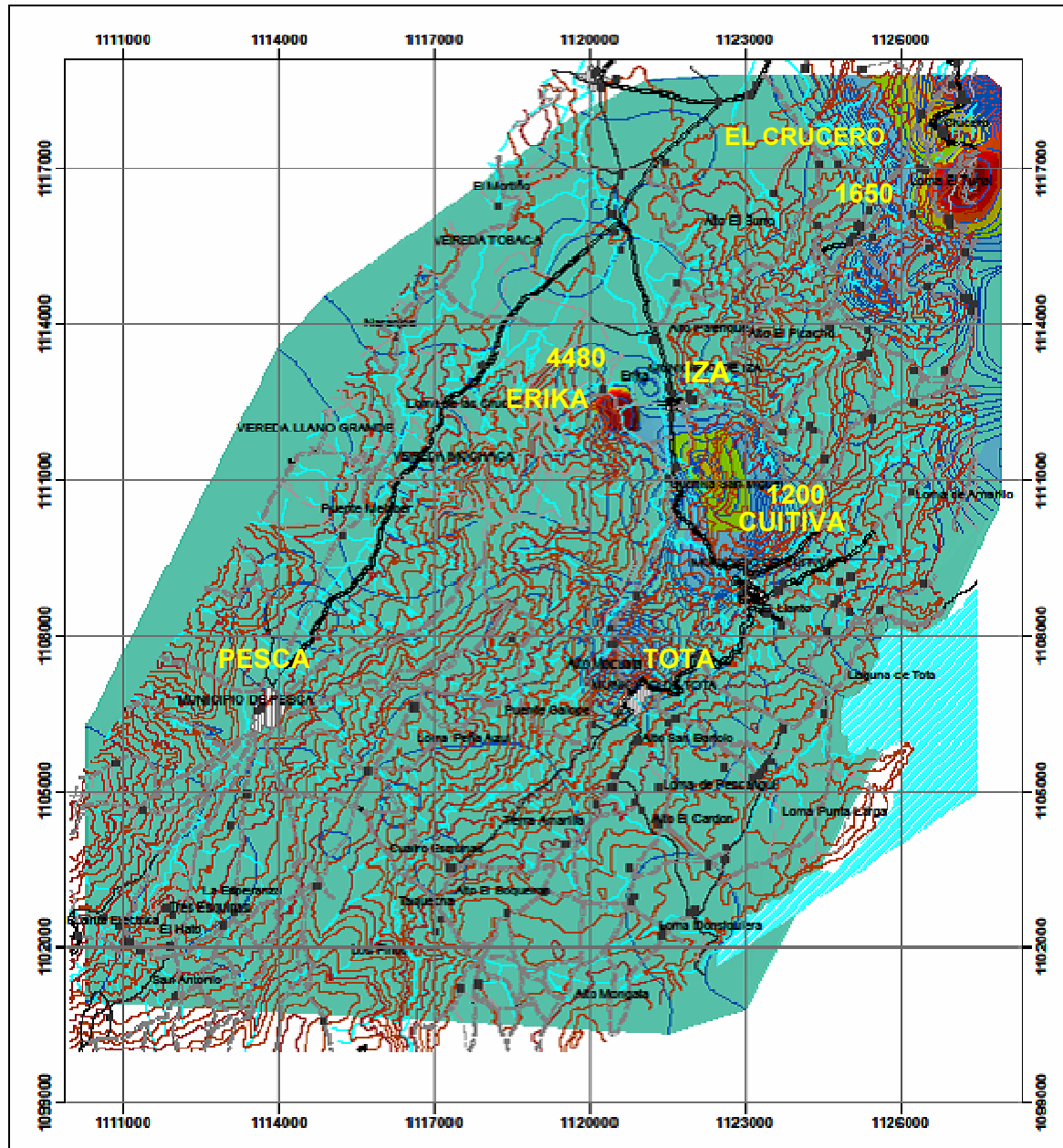




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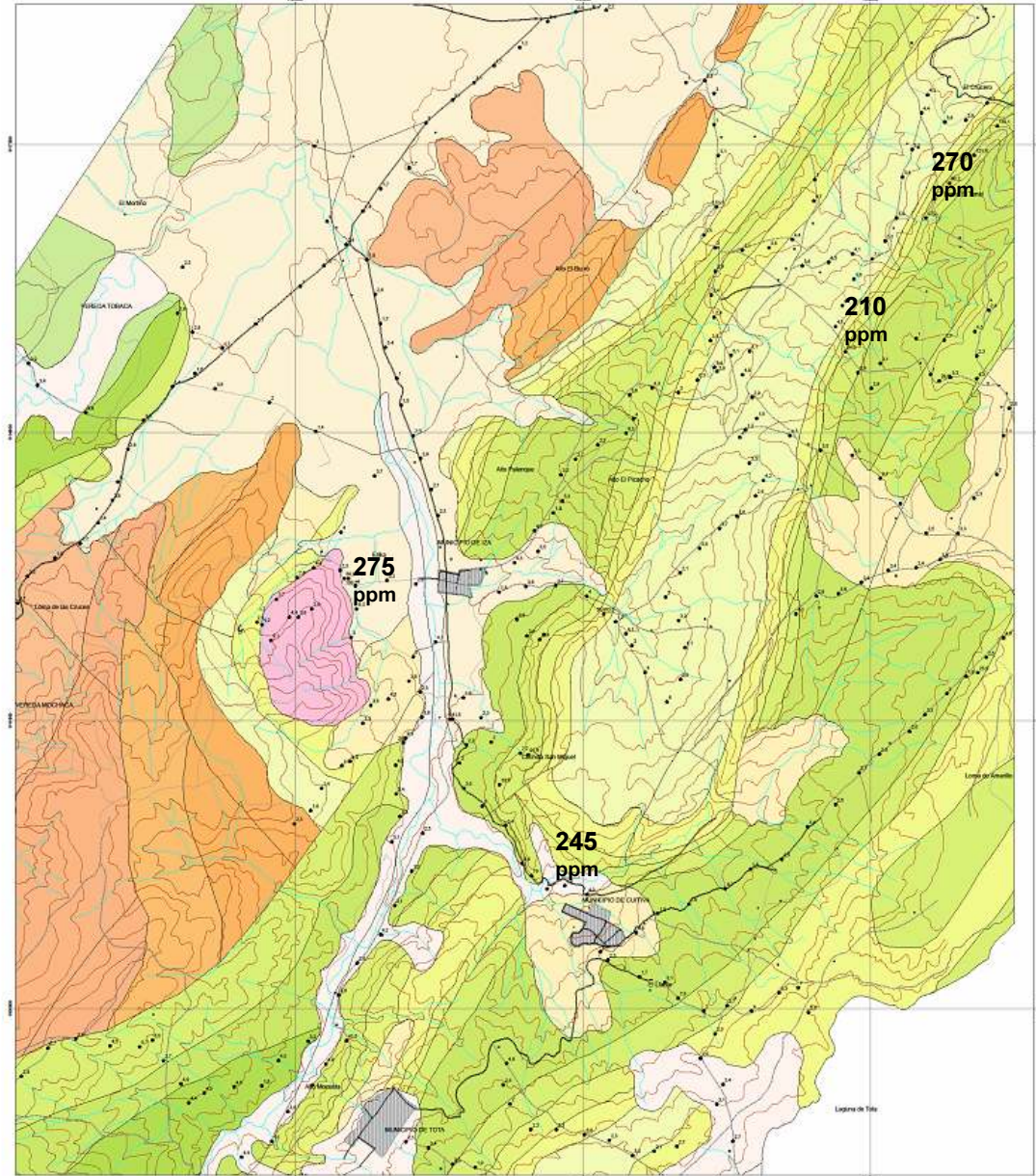
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Flechas: 101-40,101-40,101-40-A,101-40



## GEOPHYSICAL MAP

### IZA AREA

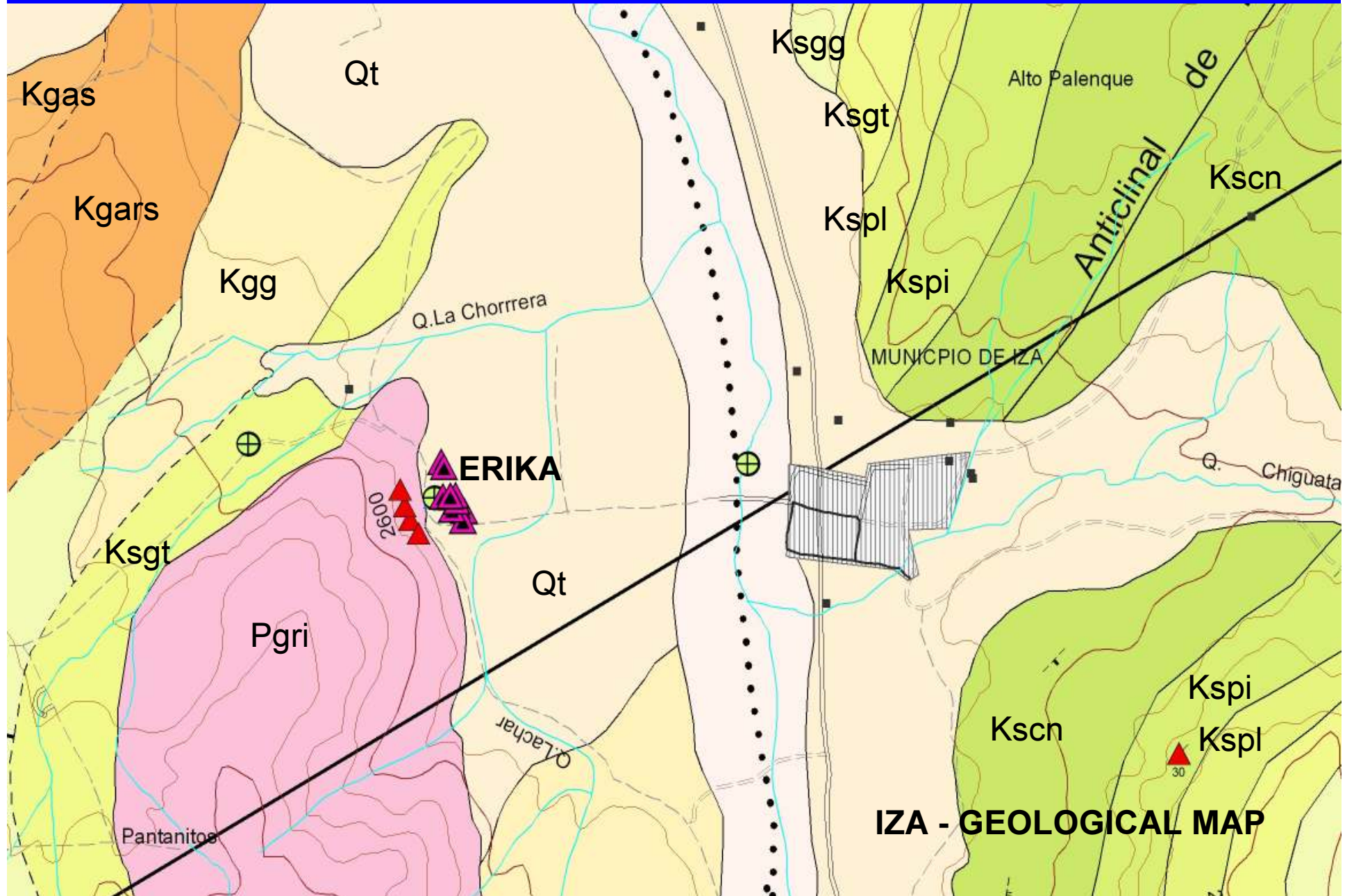


**IZA AREA**

**MAP OF  
GEOCHEMICAL  
STATIONS**

**URANIUM VALUES**

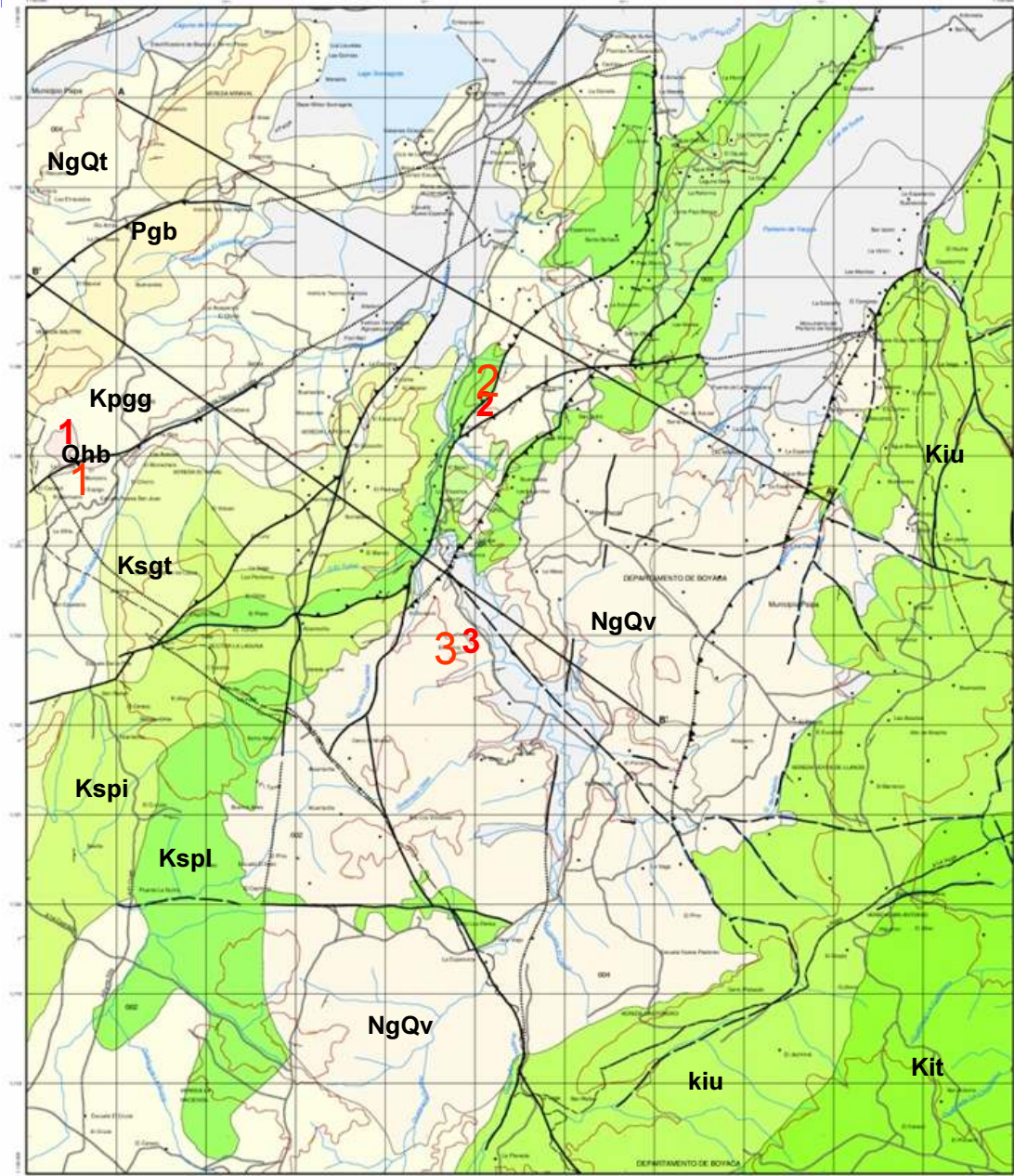








## PAIPA AREA GEOLOGICAL MAP

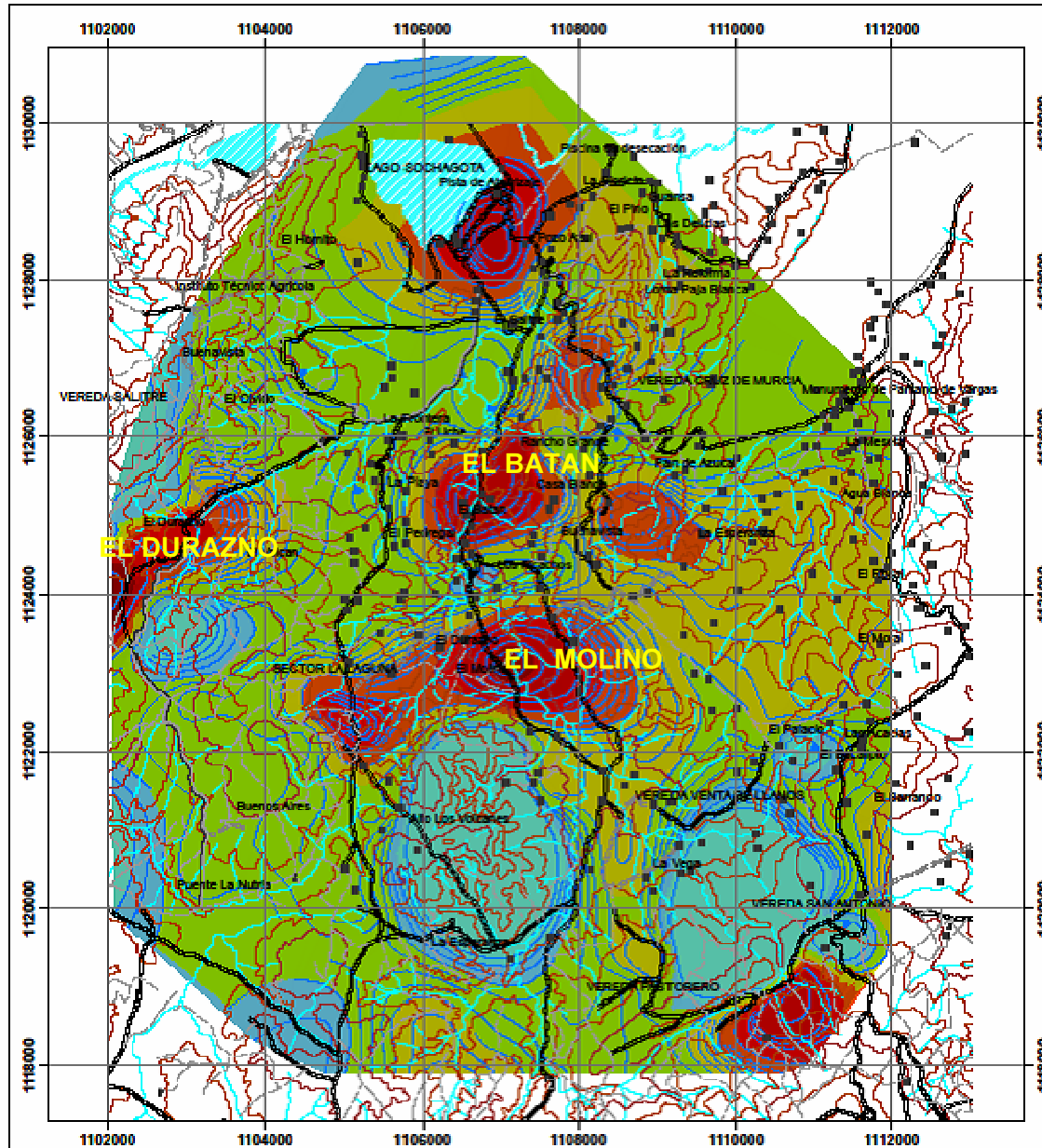


- Q - Dep cuaternarios
- Qhb – Brecha
- NgQv - Vulcanitas
- NgQt - Tilata
- Pgb - Bogota
- Kpgg - Guaduas
- Ksgt - Labor y Tierna
- Kspl - Plaeners
- Kspi - Los pinos
- Kscn - Conejo
- Ksch - Churuvita
- Kiu - Une
- Kit – Tibasosa

- 1** – El Durazno
- 2** – El Batán
- 3** – El Molino



Planchas 171-N-C,171-ND,171-8A,9H-E



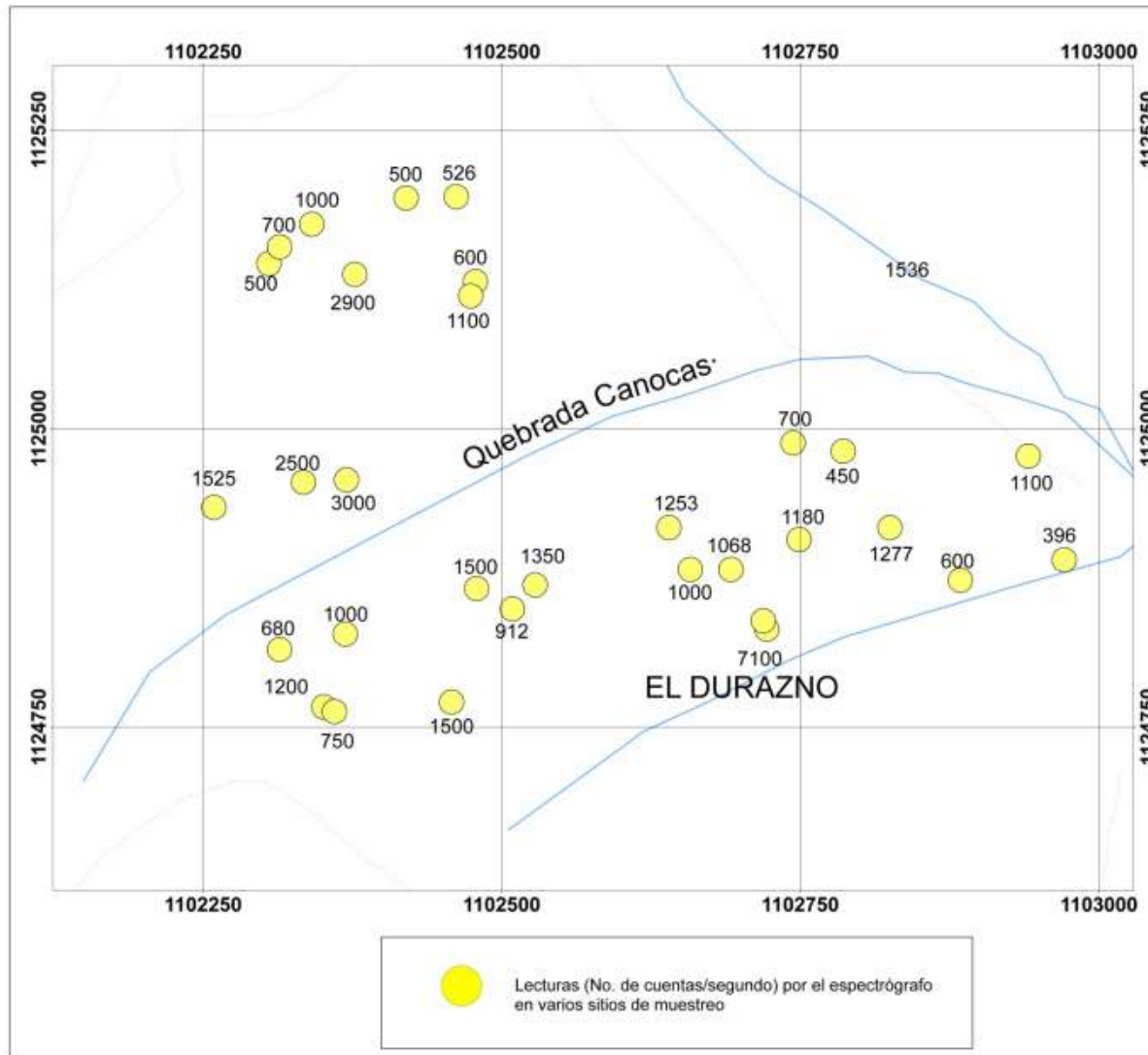
## PAIPA AREA GEOPHYSICAL MAP

**Durazno 4500 – 7500 c/s**  
**El Batan 440 c/s**  
**El Molino 450 c/s**



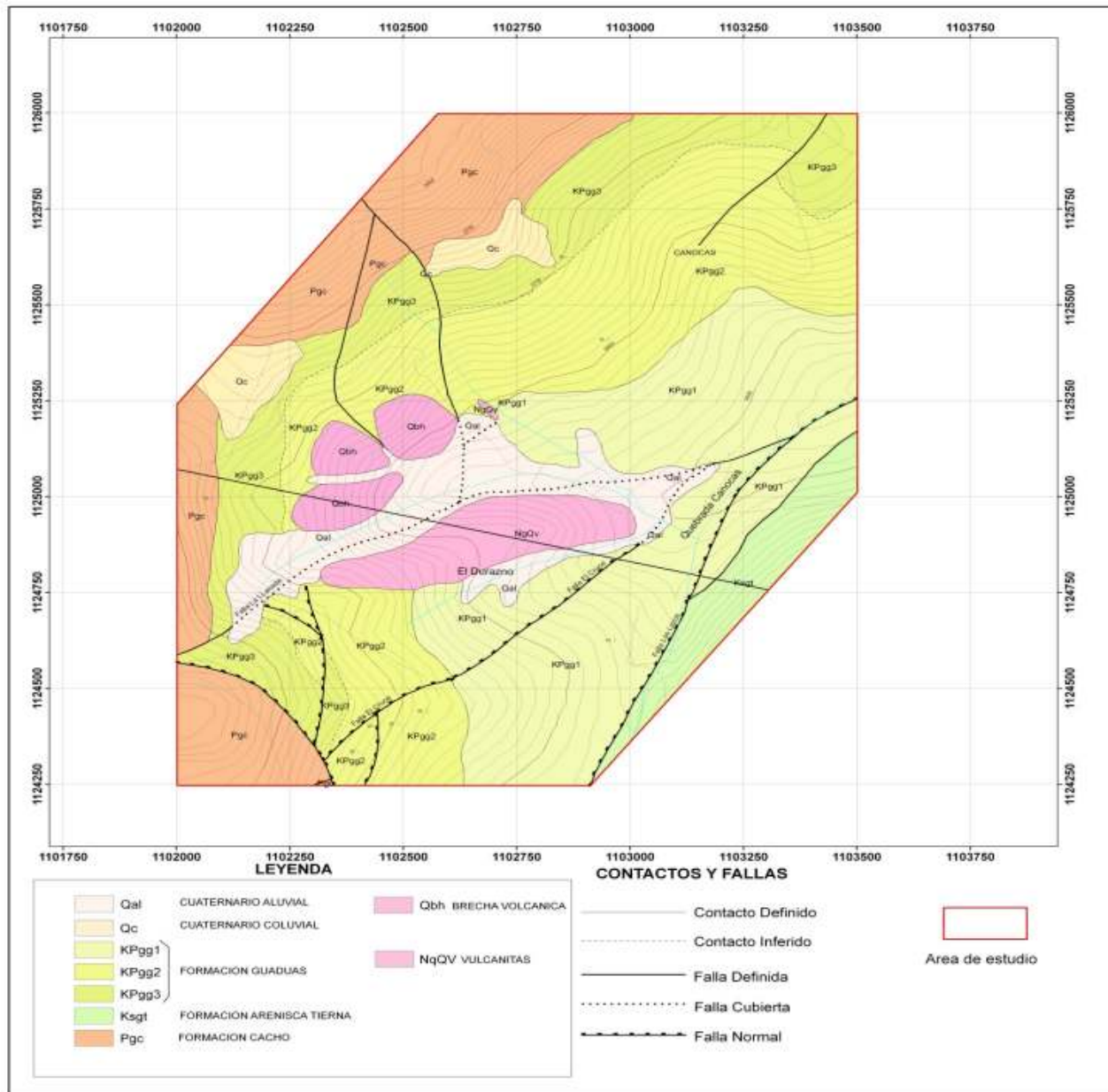






## DURAZNO SECTOR

## GEOPHYSICAL STATIONS MAP



## GEOLOGICAL MAP

### EL DURAZNO

Qbh - Brechas  
NqQv – Vulcanitas  
Pgc - Cacho  
Kpgg - Guaduas  
Ksqt - Arn Tierna



## RESULTS

### IZA AREA

#### Geophysical data

Anomalous zones (El Crucero, San Miguel, Cuitiva - Iza, Erika and Tota - Pesca)

Values between 480 and 4480 c/s;

The highest values In igneous rocks - Erika sector – 4480 c/s

The highest values in phosphates were found in El Crucero sector - 2100 c/s.

#### Chemical data

Erika 275 ppm

El Crucero 210 – 270 ppm

Cuitiva 245 ppm

The anomalous data are in igneous rocks are in riolytes

The anomalous data are in sedimentary rocks, in phosphates sands in Plaeners Formation





## RESULTS

### PAIPA AREA

#### Geophysical data

Anomalous zones; El Durazno, El Batán and El Molino

Values between 440 and 7500 c/s (the highest values was reported in the Durazno

#### Chemical data

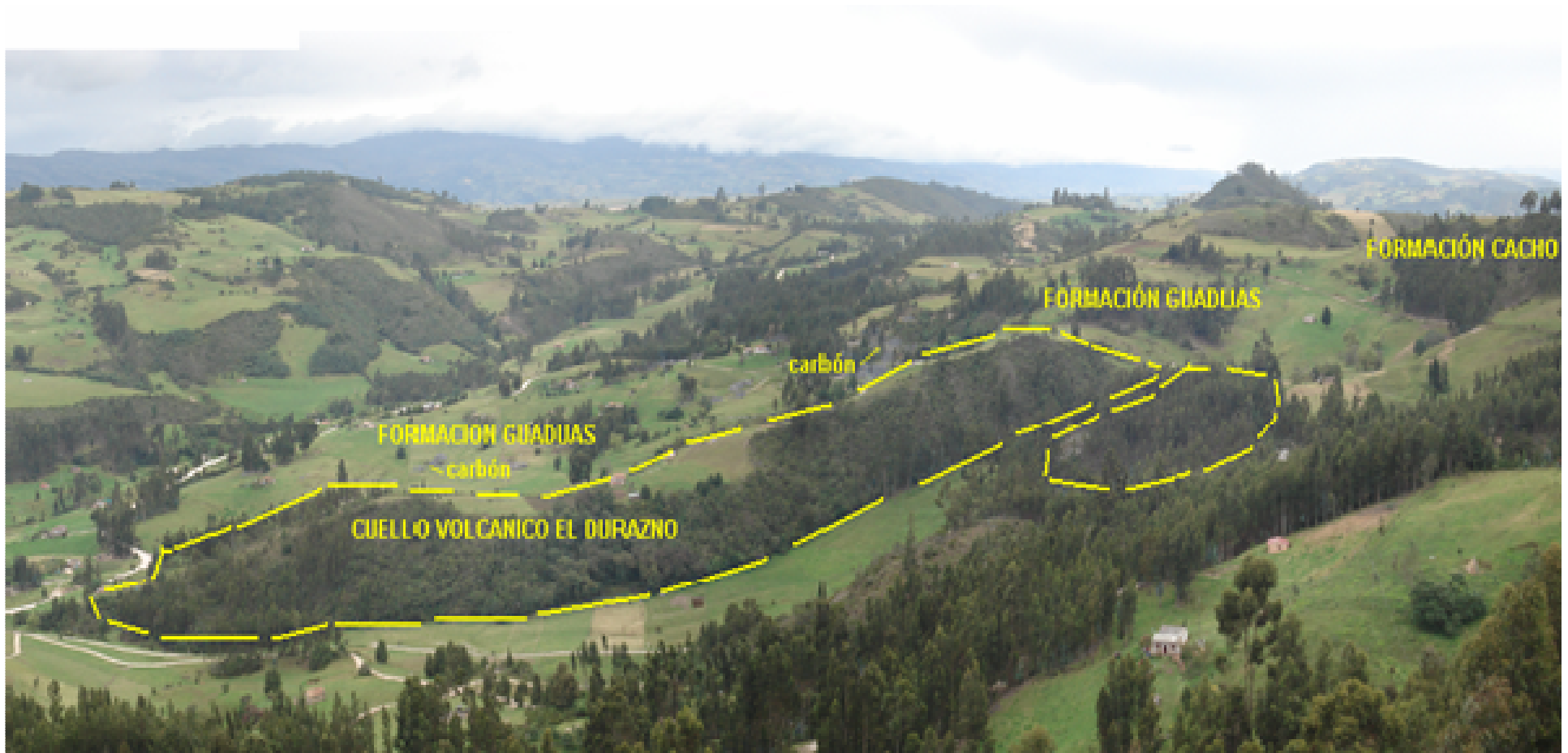
Durazno between 200 y 5435 ppm

The anomalous data are in volcanic rocks (Ryolites) and tectonic breccias in the presence of thin strips of coal from the Guaduas Formation

Other geological units are in (phosphates) Plaeners Formation

The presence of high levels of radioactivity (Durazno Sector) can be by the contact between organic matter - coal (from Guaduas Formation) volcanic rocks and pyroclastic rocks is based on the principle of the uranium solubility, that can break the water and be transported chemically to be reduced and precipitated, and be absorbed by clay minerals and organic matter, so part of the sedimentary rocks sandstones and shales type in the area.

## Durazno sector







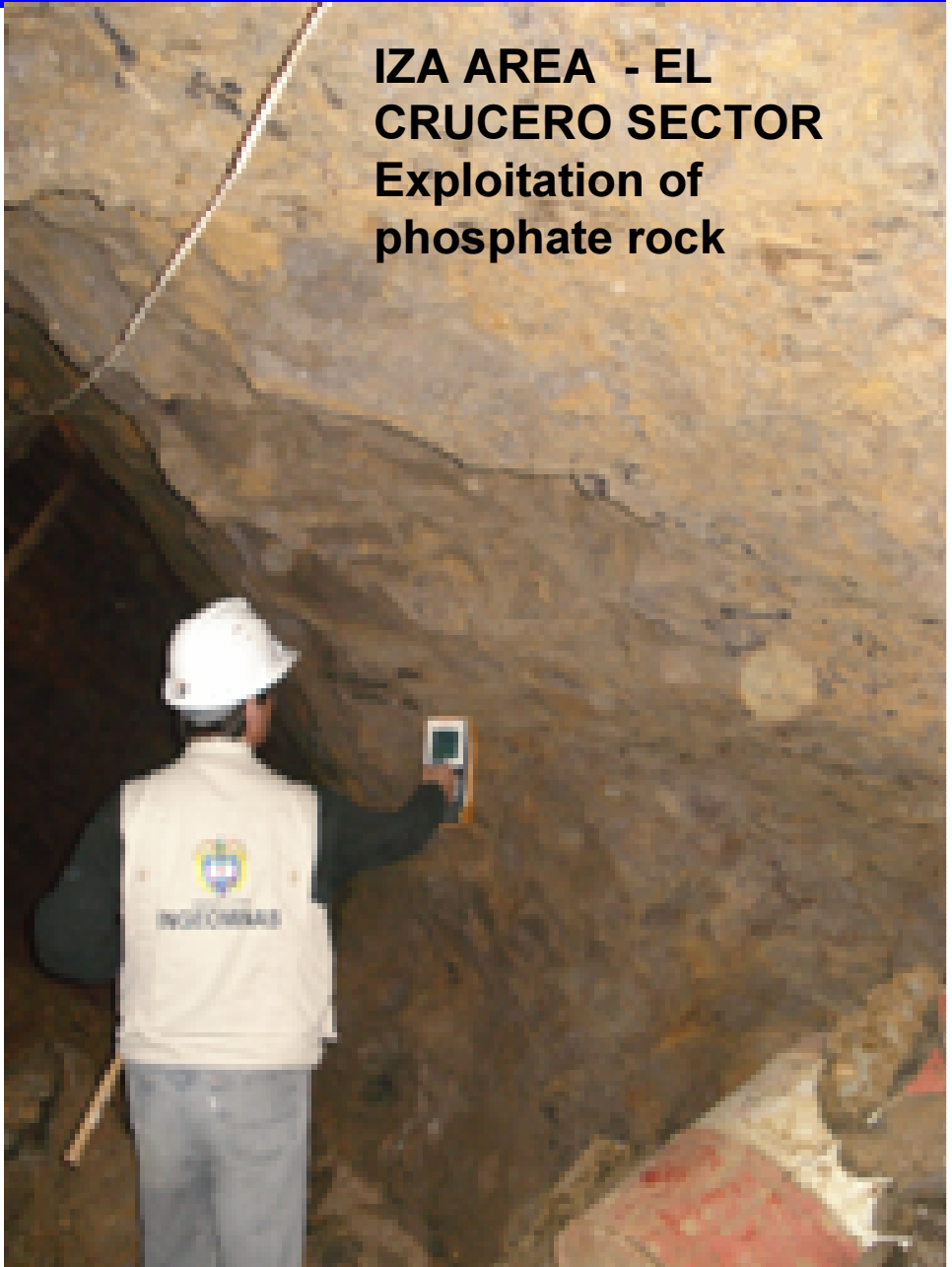




**IZA AREA – EL CRUCERO  
SECTOR  
Plaeners Formation  
Phosphate layers**



**IZA AREA - EL  
CRUCERO SECTOR  
Exploitation of  
phosphate rock**







PAIPA - EL  
DURAZNO









**PAIPA - V.R**





**IZA - ERIKA**





**PAIPA - V.R**













IZA - Rio Tota









**CHIVATA – Cerro Tres Cruces**





**PESCA Rio Pesca**





IZA Q La Chorrera





# THANK YOU

