



# Geochemical Soil Survey for Au Exploration in the Kenieba District in Mali, Africa



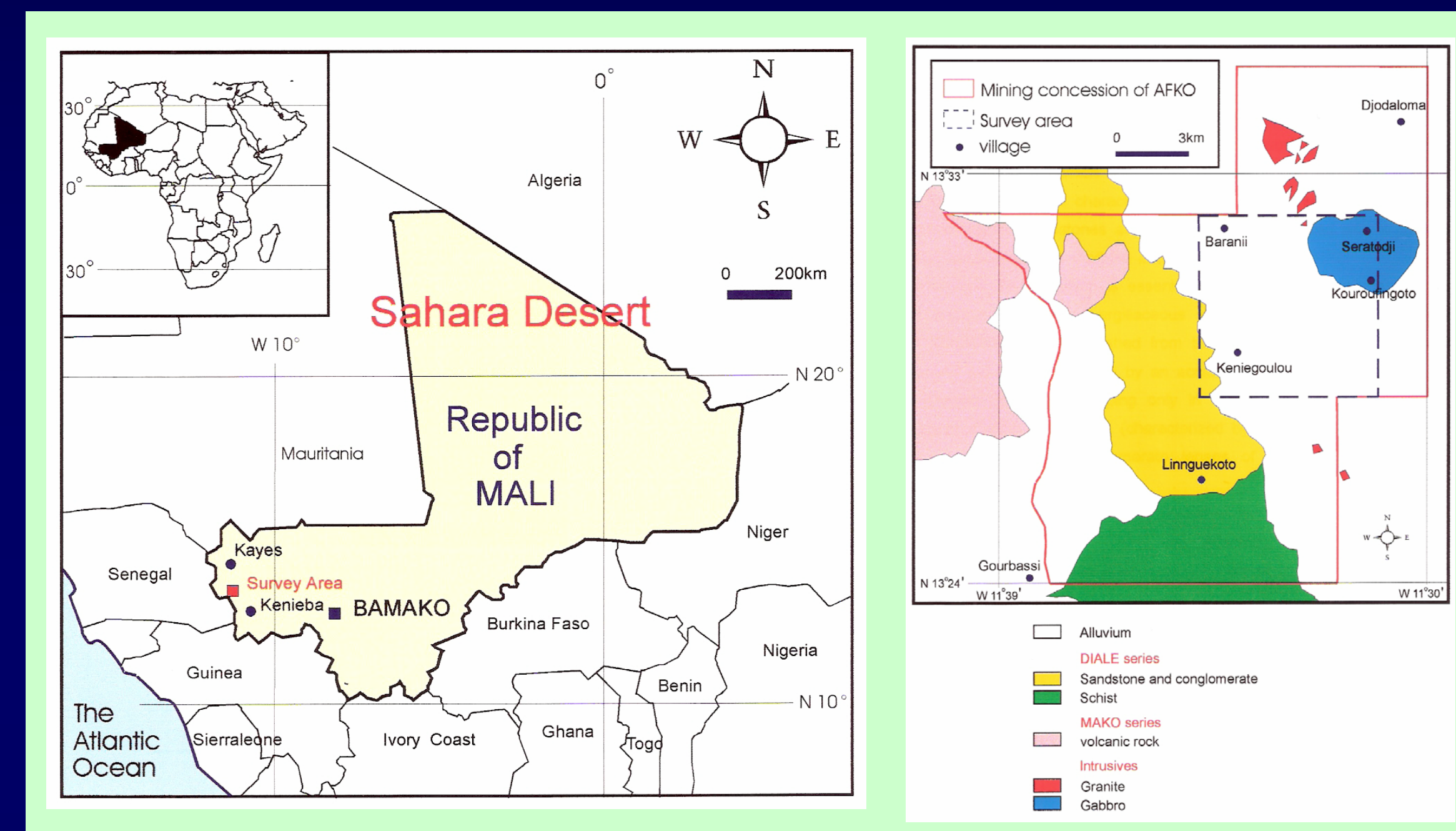
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## Abstract

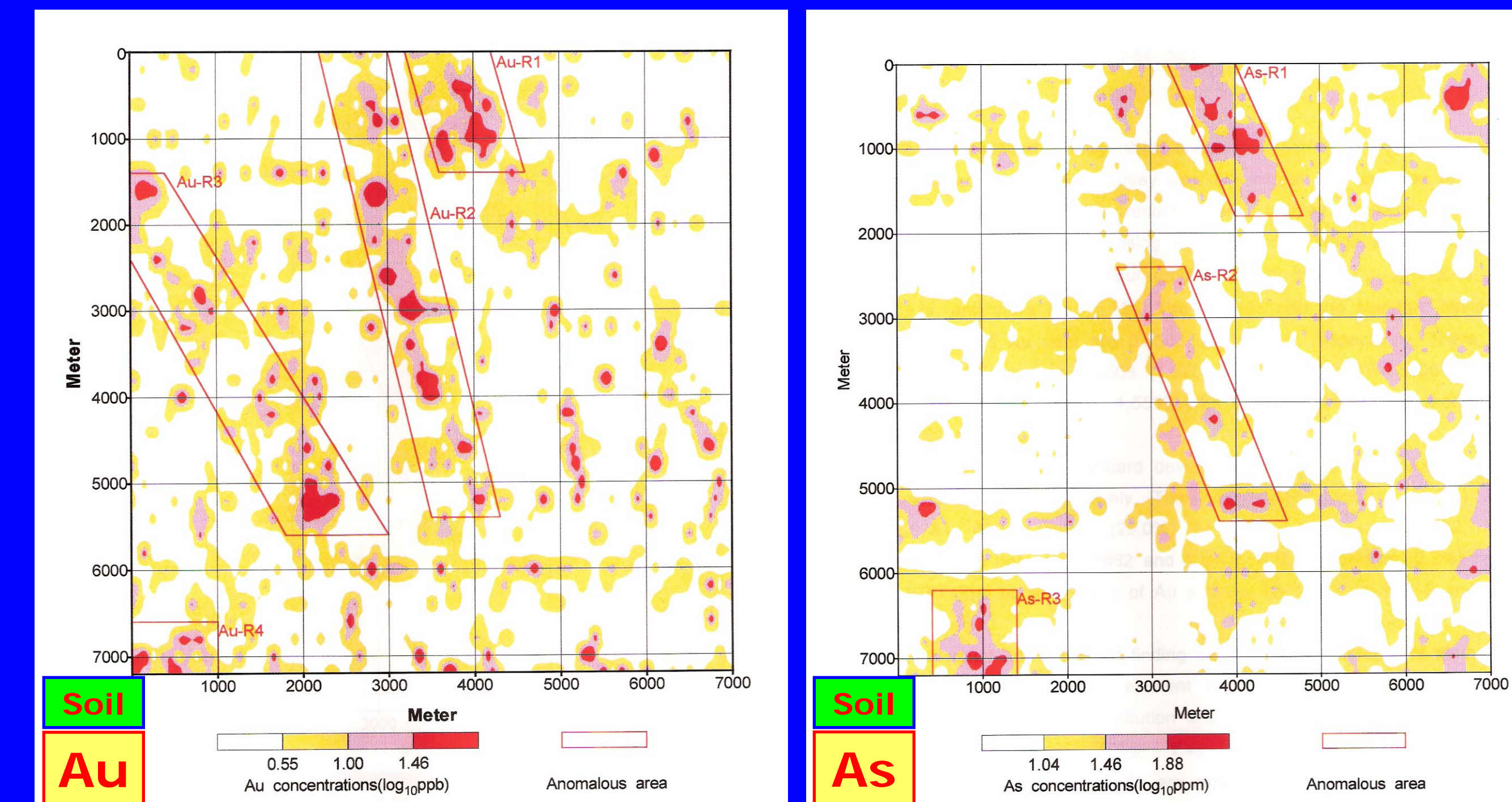
Geochemical soil survey was carried out over an area of 50 km<sup>2</sup> in Mali, Africa, in order to select the promising areas for gold occurrences. The survey area is situated in the southwestern part of Mali near the border with Senegal, and is located between 13°28'N - 13°32'N and 11°31'W - 11°35'W, about 600 km northwest of Bamako, the capital of Mali. The survey area is underlain within the Kenieba inlier, composed of Birimian rocks (lower Proterozoic) surrounded by upper Proterozoic and Paleozoic formations. In the reconnaissance survey, a total of 2,597 soil samples were collected using the grid patterns of 200 m  $\square$  100 m, and an area of 10 km<sup>2</sup> was selected for the detailed geochemical survey. During the detailed survey, a total of 2,146 soil samples were taken using the grid pattern of 200 m  $\square$  25 m, and 80 termitaria samples were also collected. All samples were analyzed for Au and As after aqua regia digestion. From the reconnaissance survey, four Au and As anomalous areas were selected and the areas show similar directional patterns with the NS direction of the main regional fractures. From the detailed soil survey, two Au and As anomalous areas were finally proposed as promising prospects for Au occurrences.

## Location and Geologic Map of Survey Area

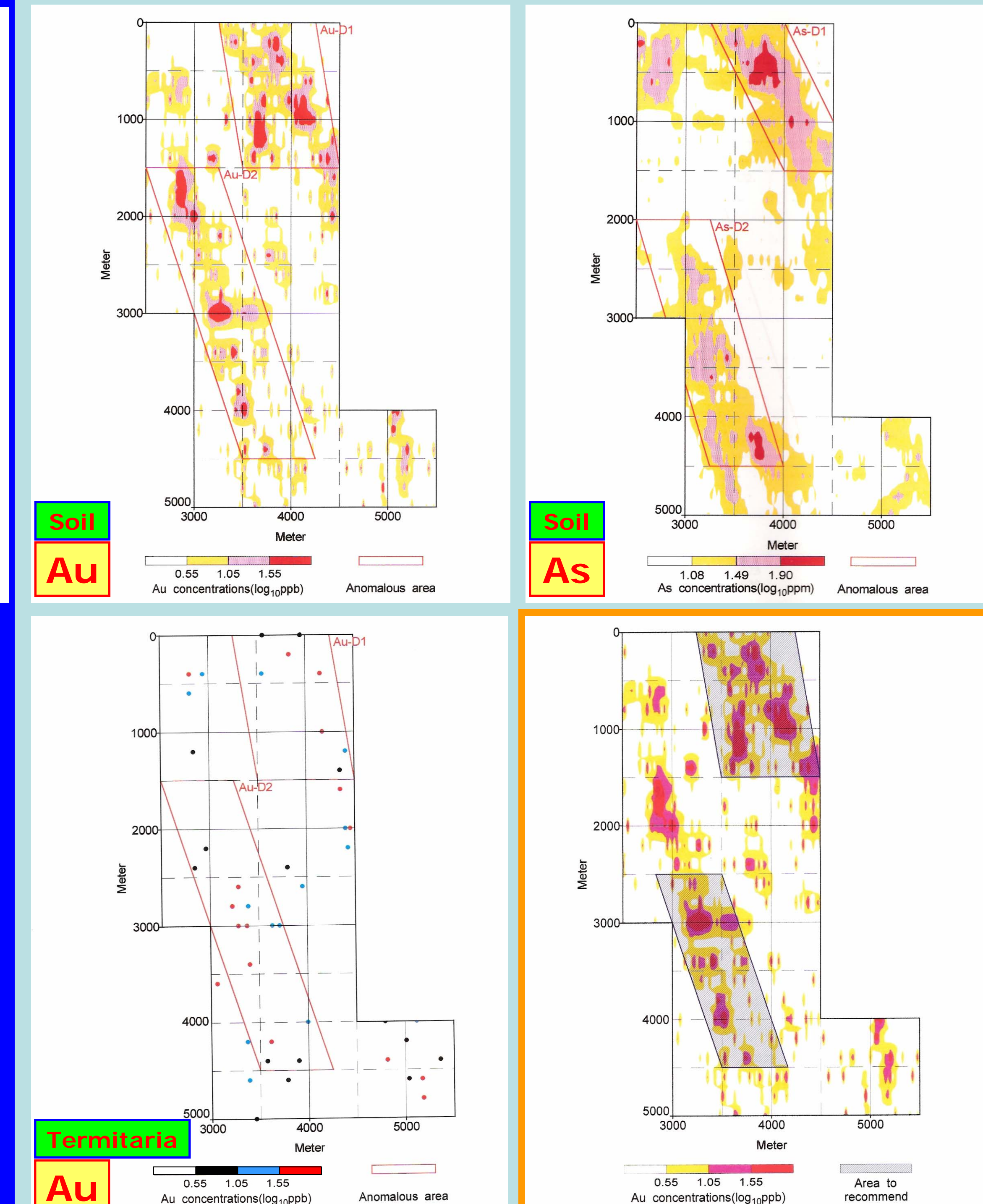


## Interpretation of Geochemical Data

### Distribution patterns of Au and As Reconnaissance survey

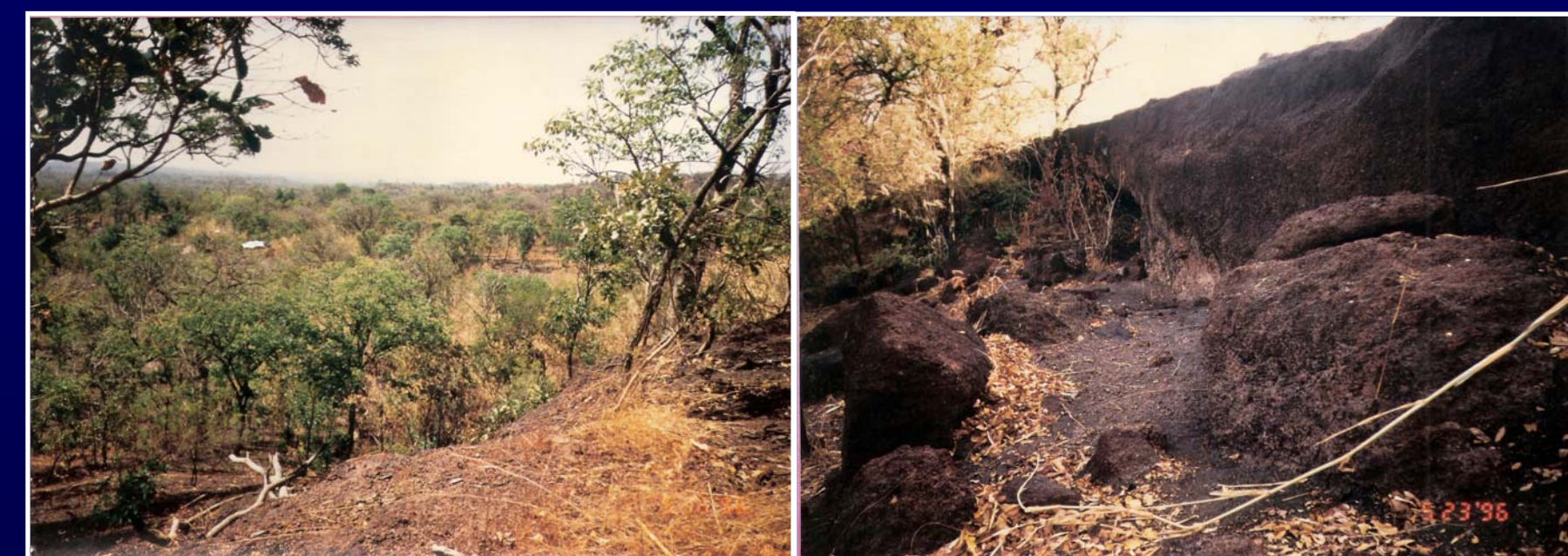


### Detailed survey



## Sampling and Chemical Analysis

### Landscape



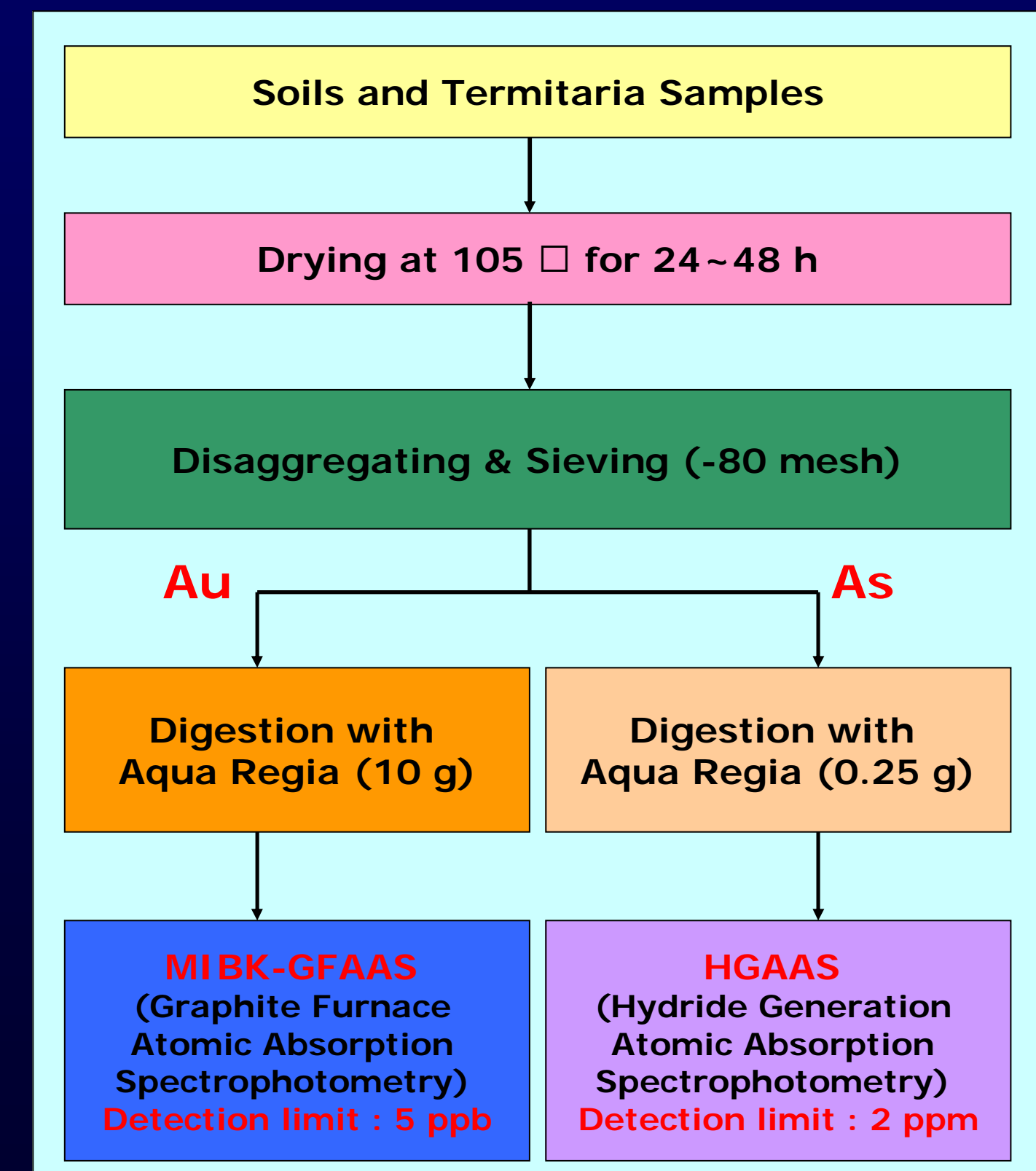
### Termitaria



### Sampling



### Chemical analysis



### Statistics of data

#### Summary statistics of Au and As in soil and termitaria

Elements Sample (Number of samples)	Au (ppb)		As (ppm)	
	soil (4,664)	termitaria (80)	soil (4,743)	termitaria (80)
Mean	41	42	19	17
Minimum	5	5	2	2
25 <sup>th</sup> percentile	7	8	6	6
Median	12	15	11	12
75 <sup>th</sup> percentile	32	51	22	23
Maximum	2,490	335	325	90
SD	129	66	25	16
CV (%)	3.17	1.57	1.37	0.96

\* SD (standard deviation) and CV (coefficient of variation)

Recommended promising areas for Au occurrences