

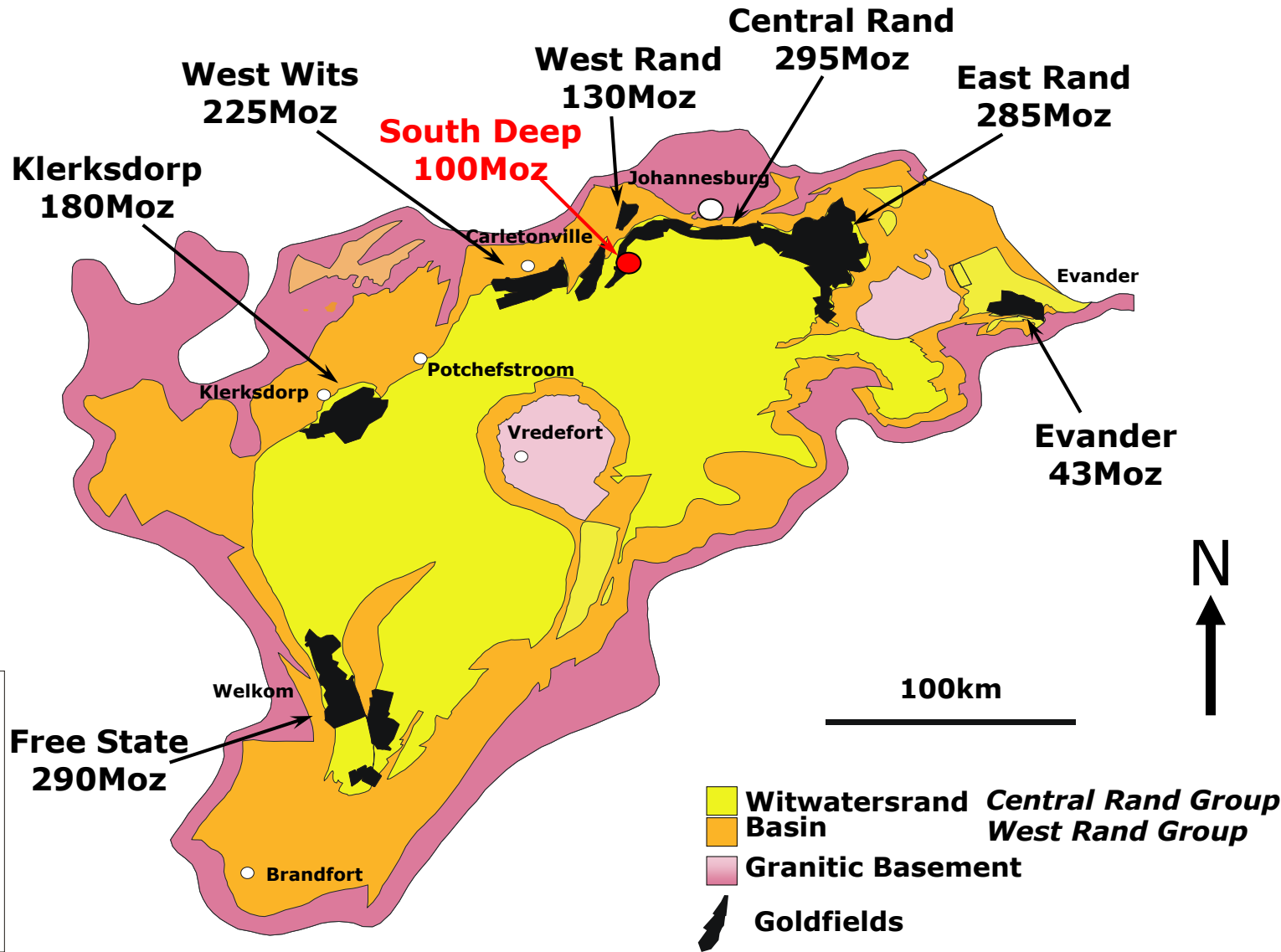


Lithogeochemical study of South Deep

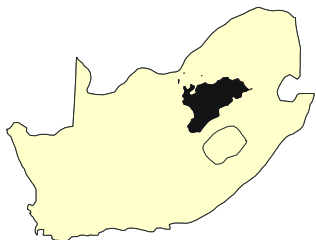
Scott Halley

May, 2006

Rand Group Geology Witwatersrand Basin

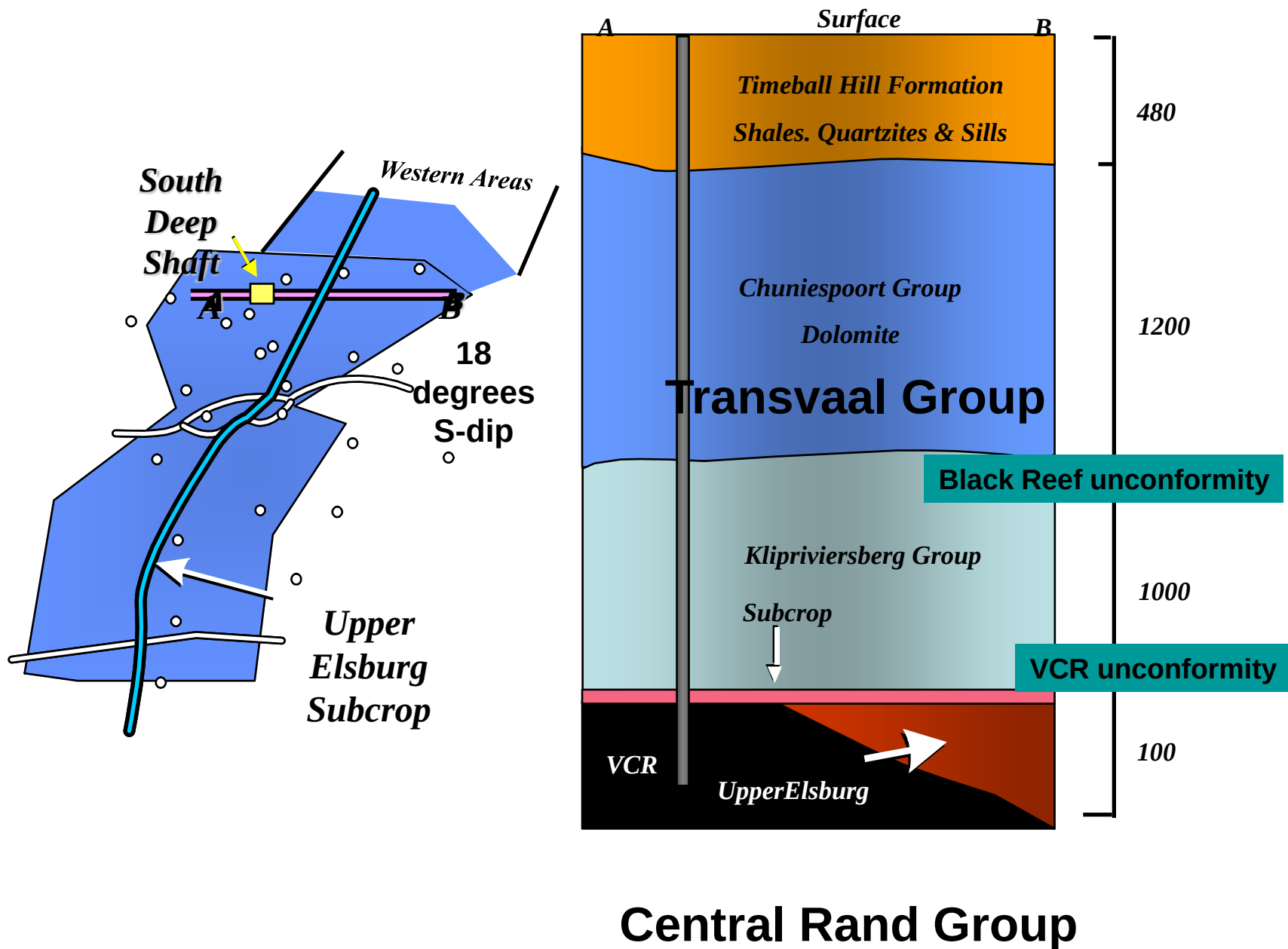


Location Plan

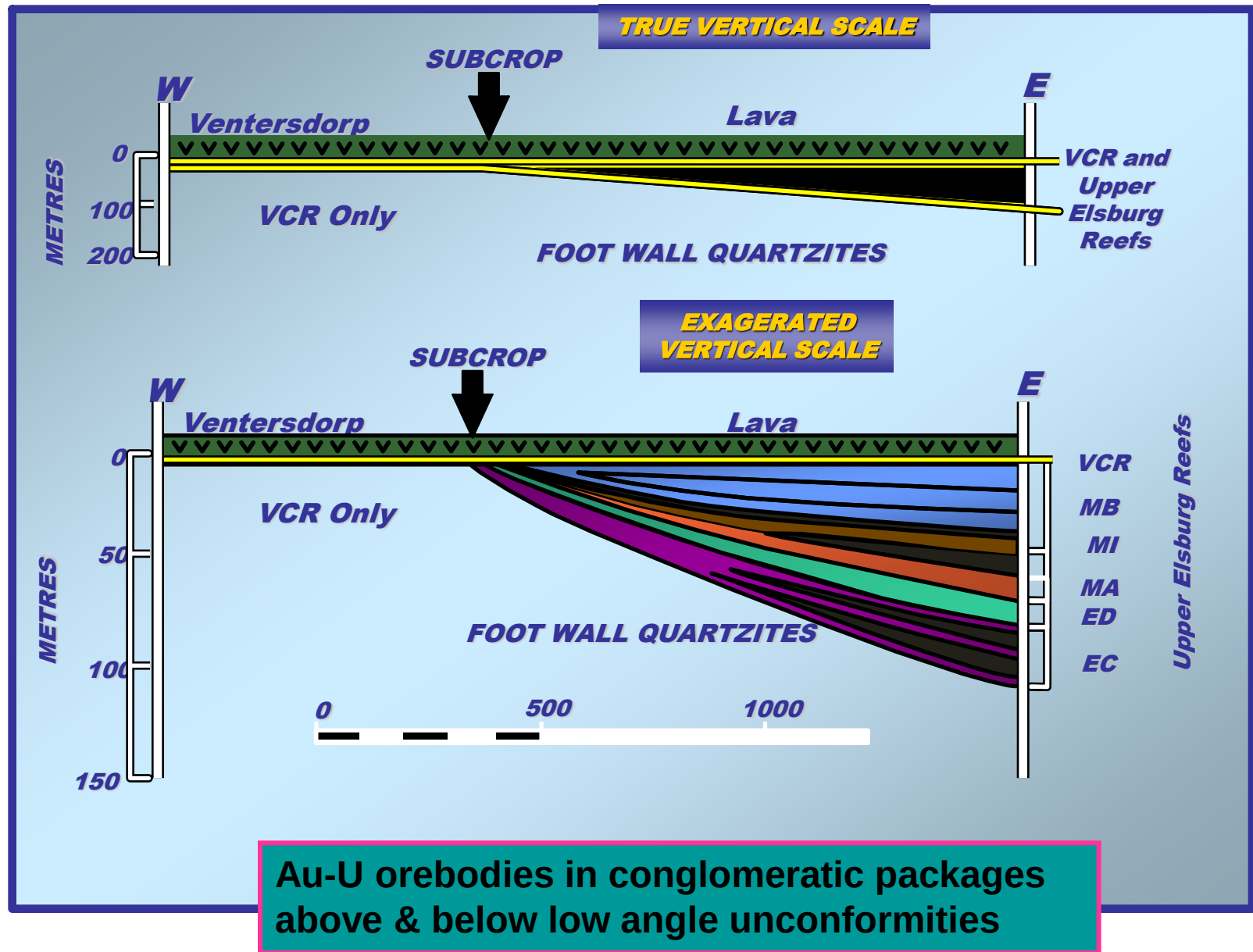


SOUTH AFRICA

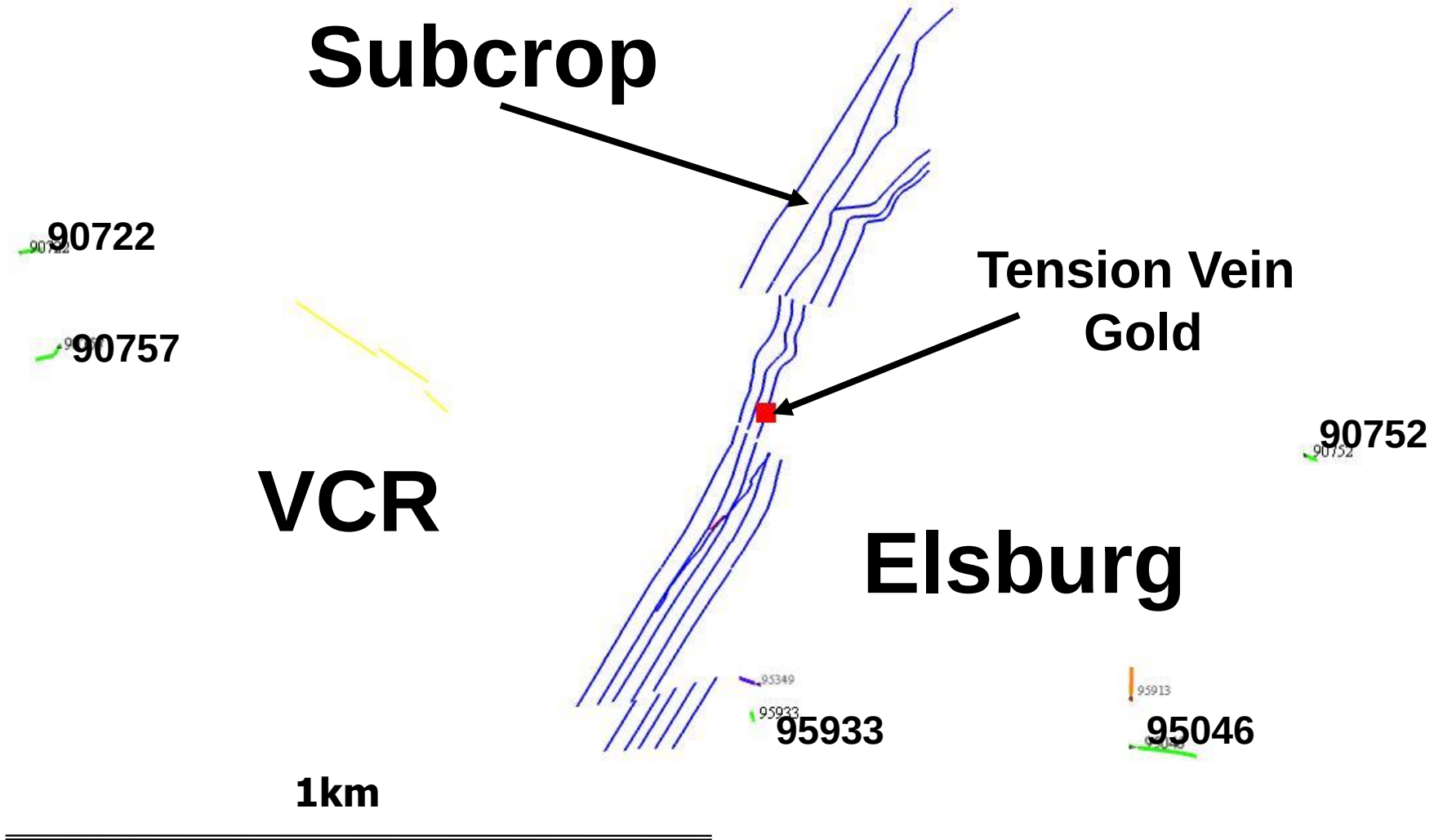
Schematic section: South Deep



South Deep: West-East schematic section



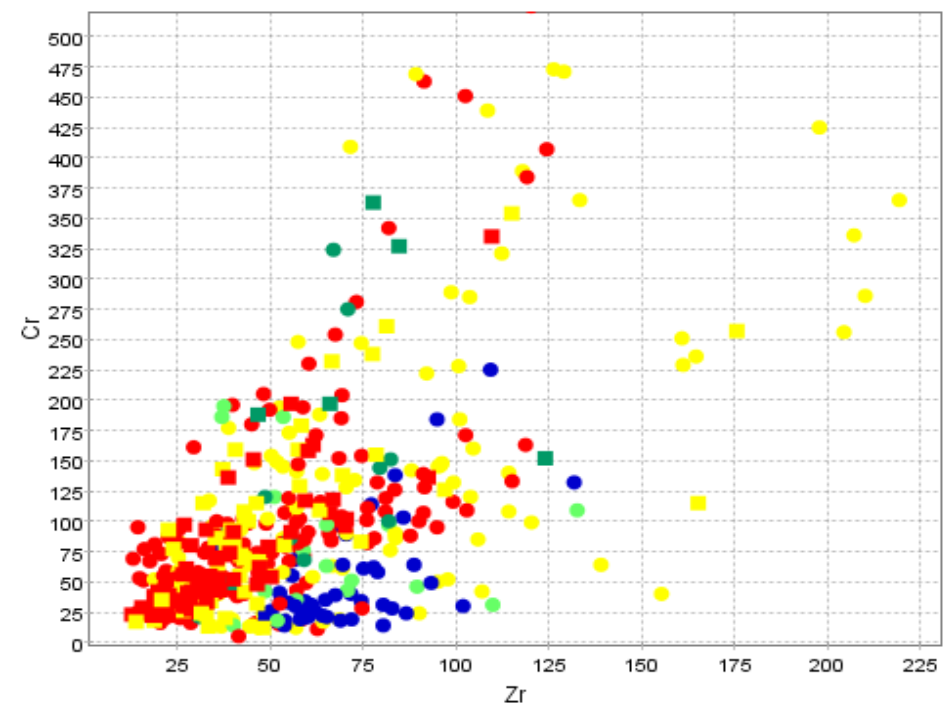
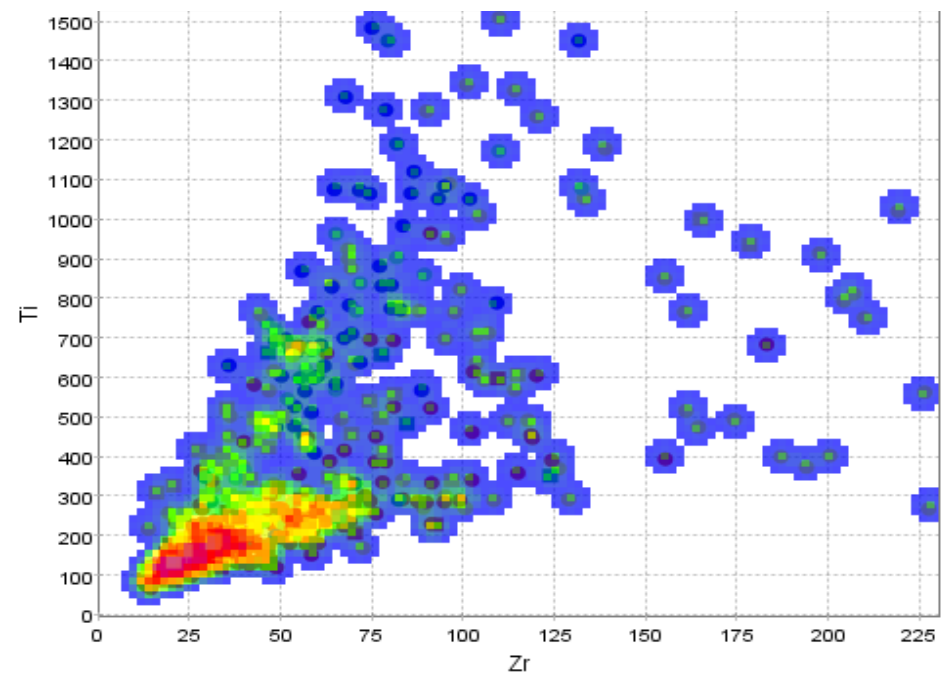
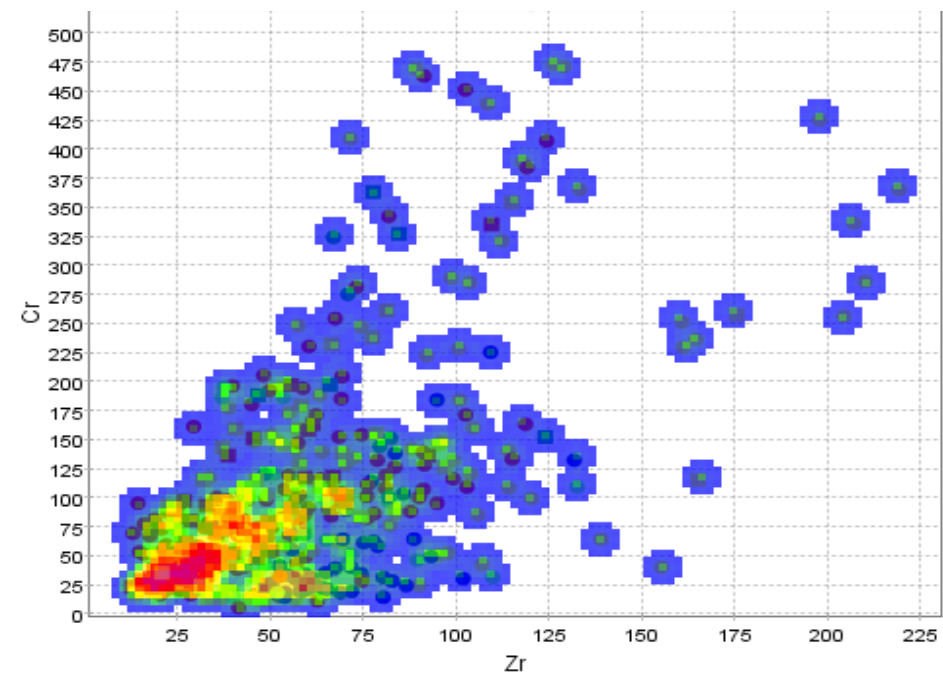
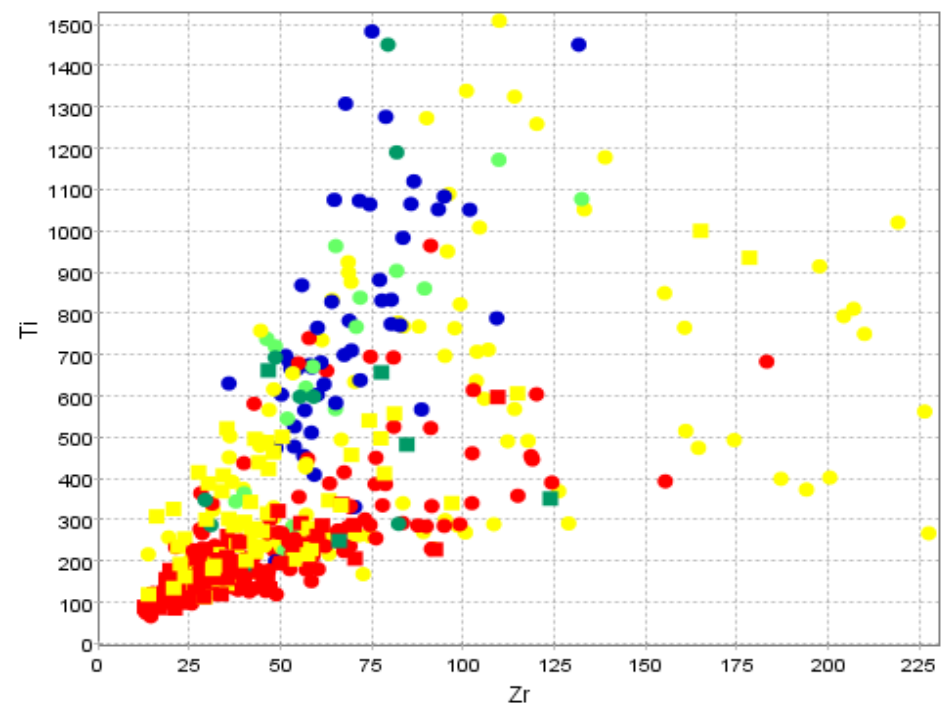
Drill Hole Locations South Deep Mine



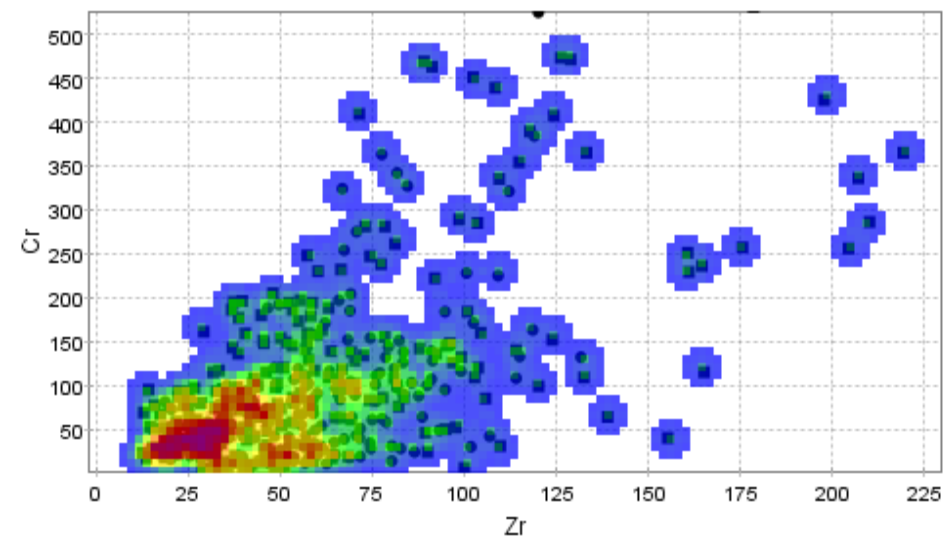
Legend for following charts;
Coloured by dominant sheet silicate mineral.

Colours

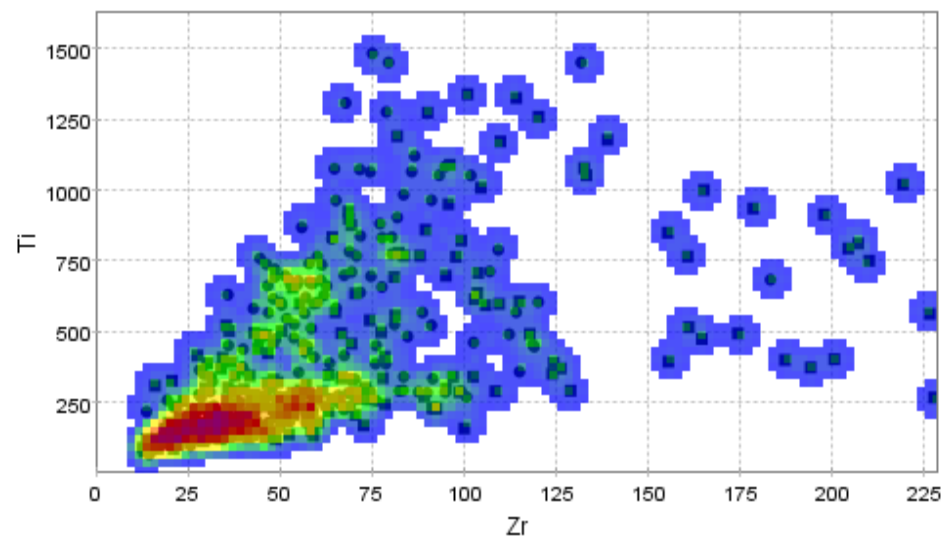
-  Phengite
-  Muscovite
-  Paragonite
-  Chlorite
-  Pyrophyllite

Zr:Cr**Zr:Ti**

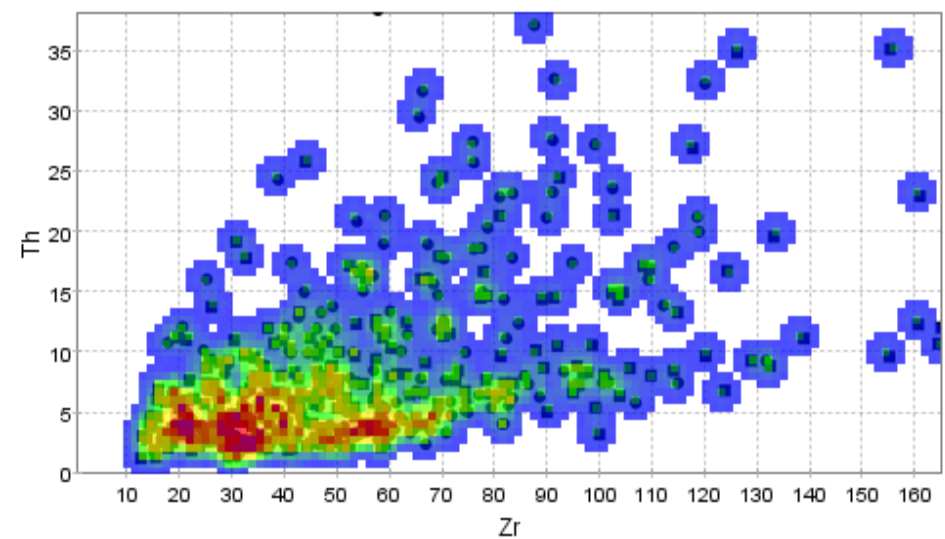
Zr:Cr



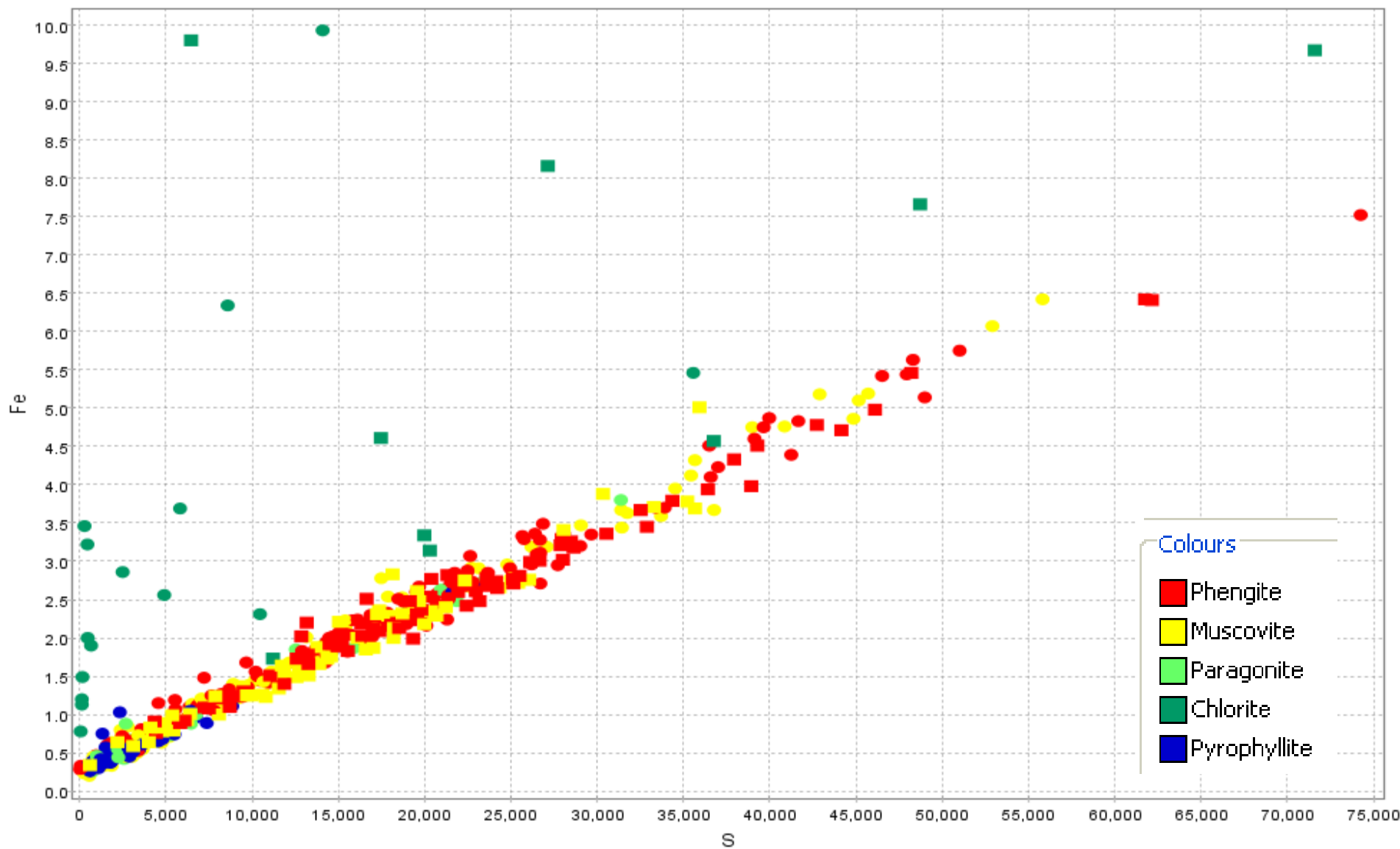
Zr:Ti



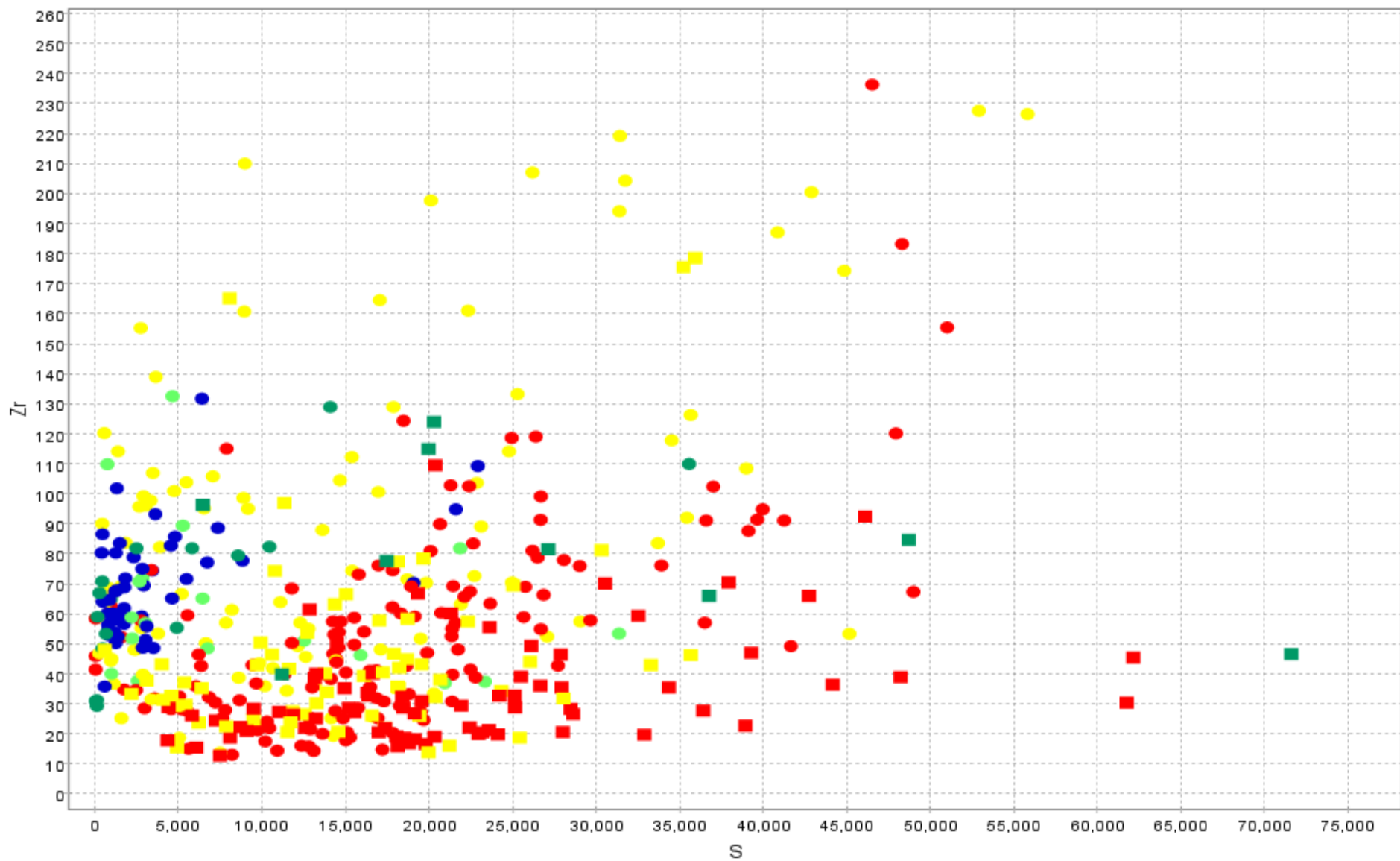
Zr:Th



S:Fe



S:Zr



THE GEOCHEMISTRY OF THE VAAL REEF
Log-Log Plot of Zr vs Au (ppm)

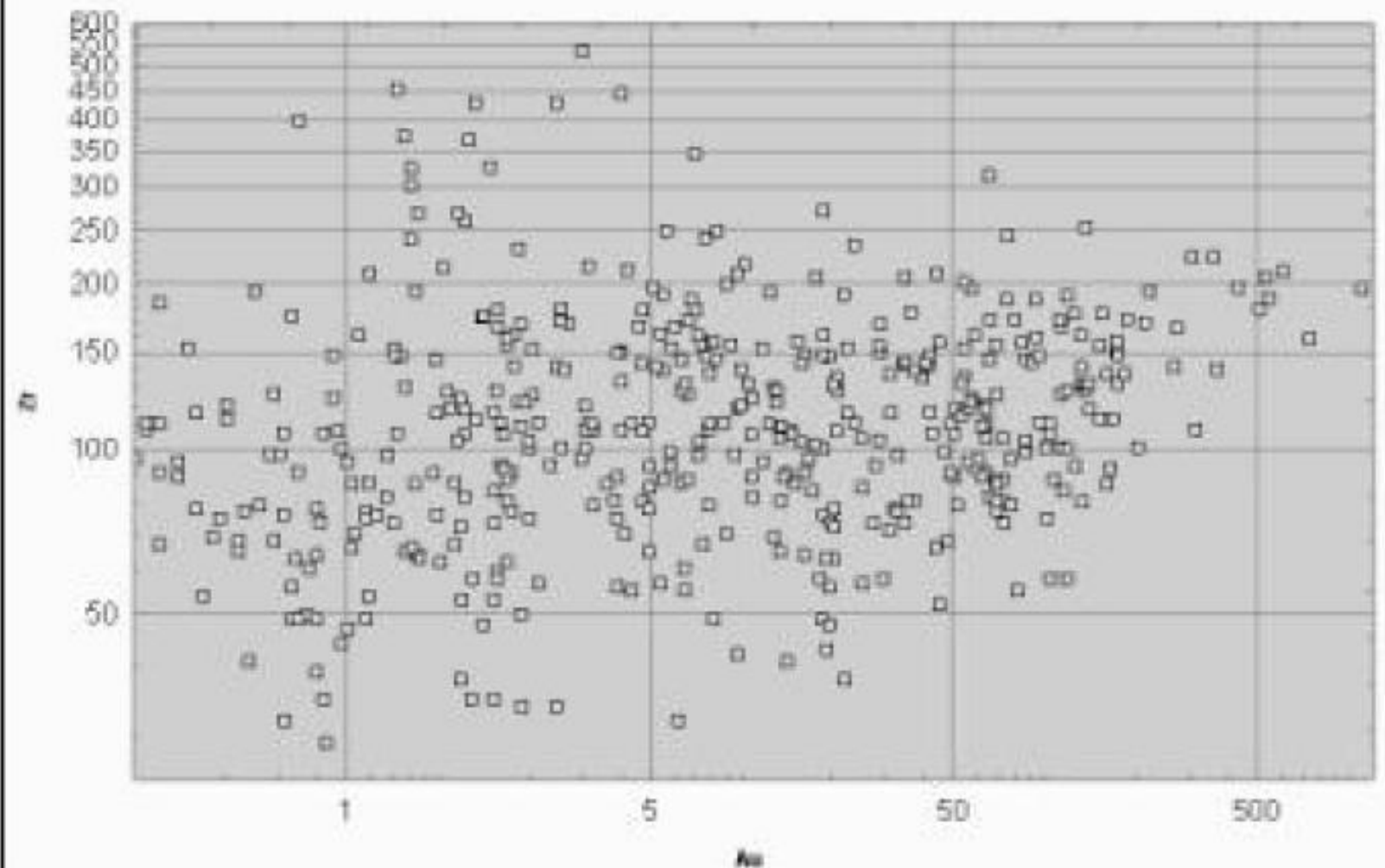
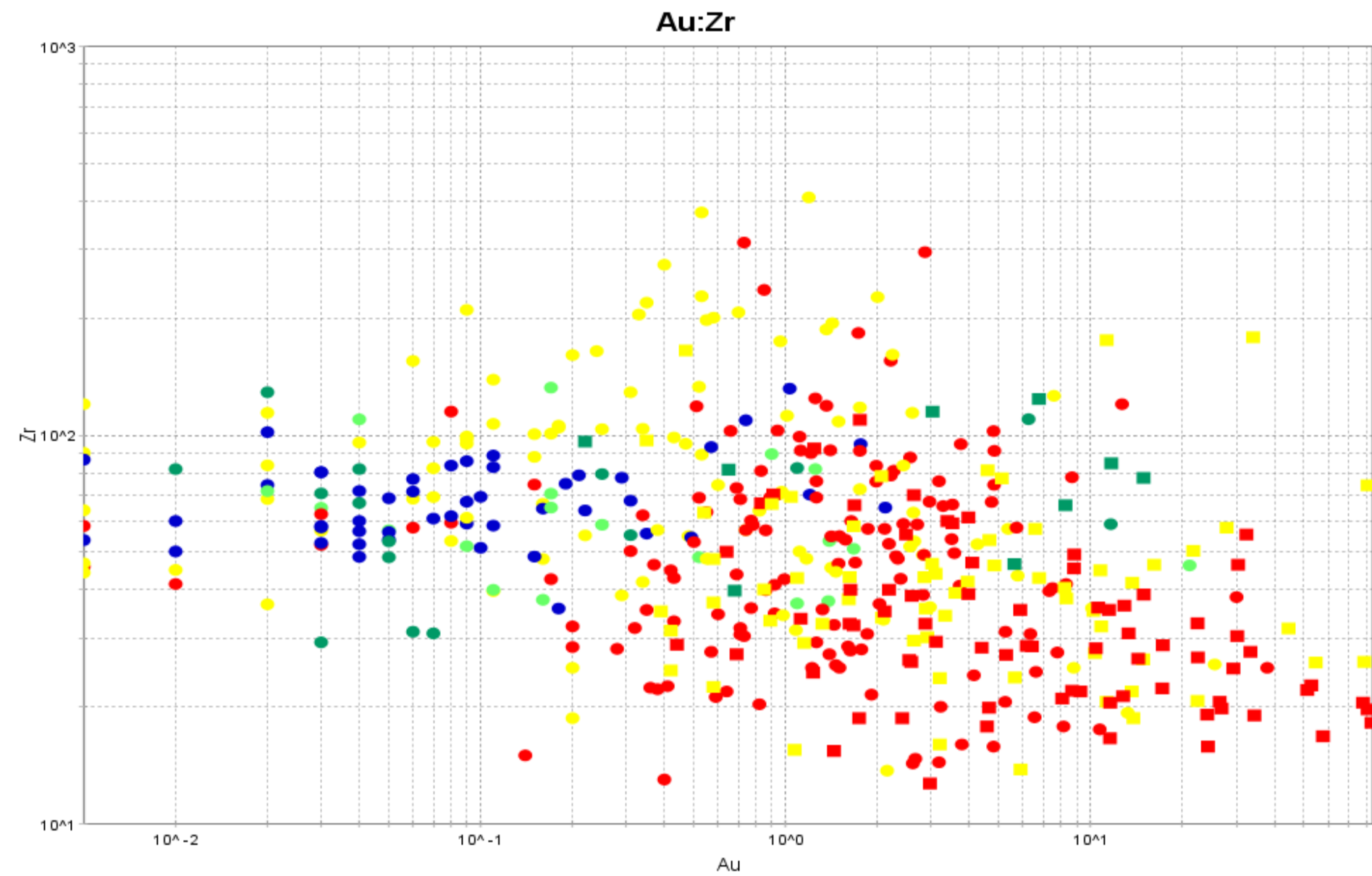
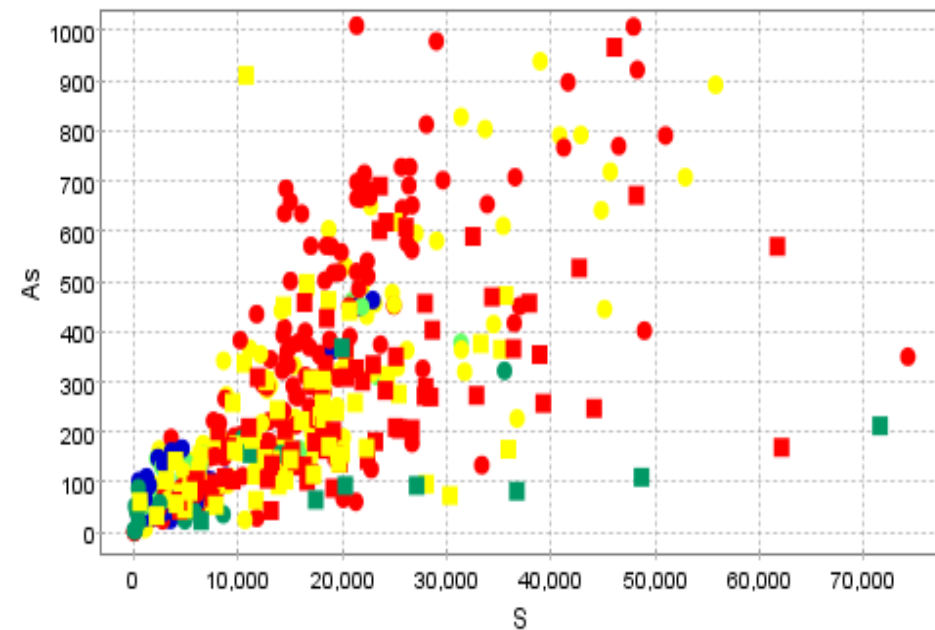
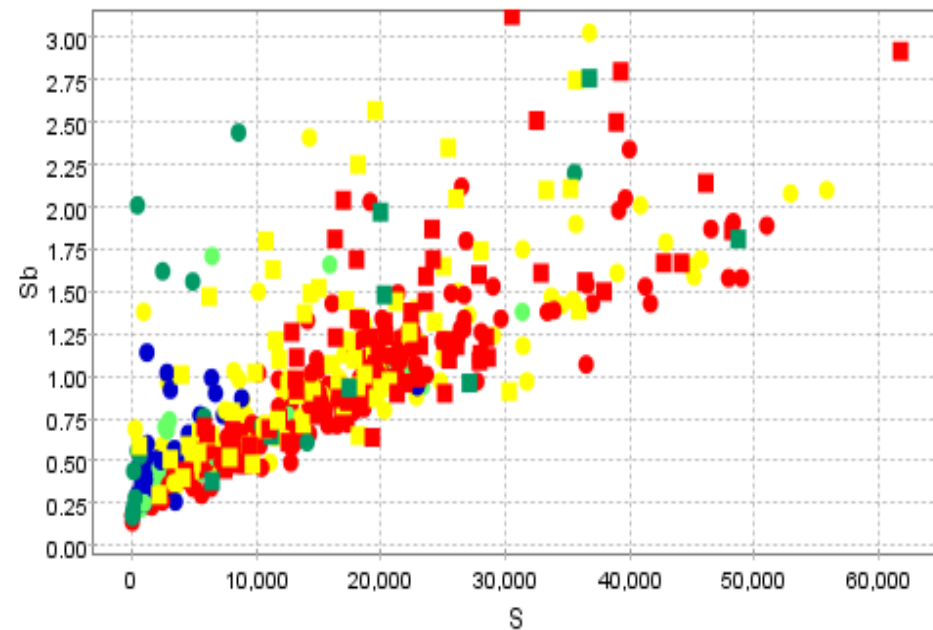
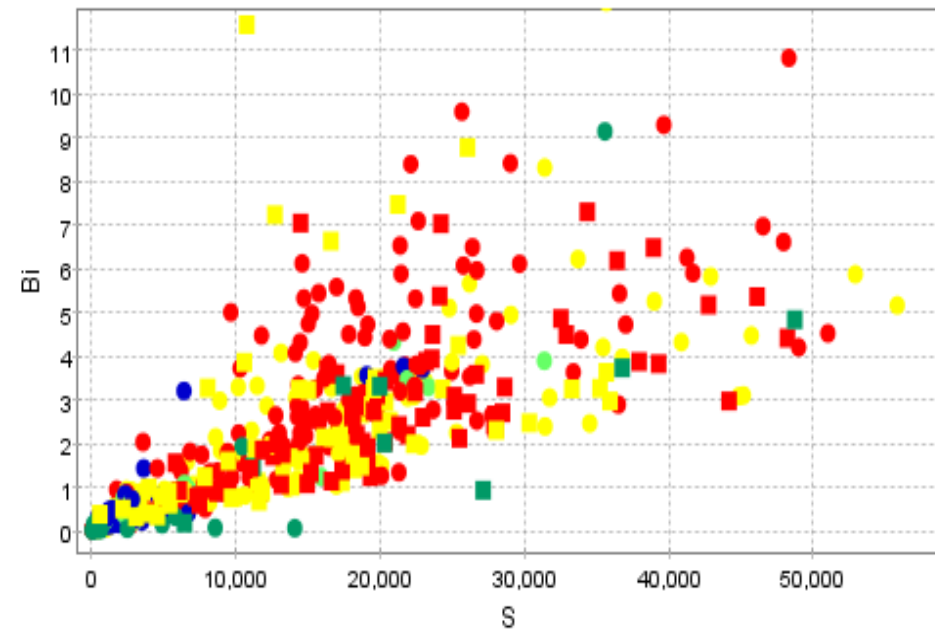
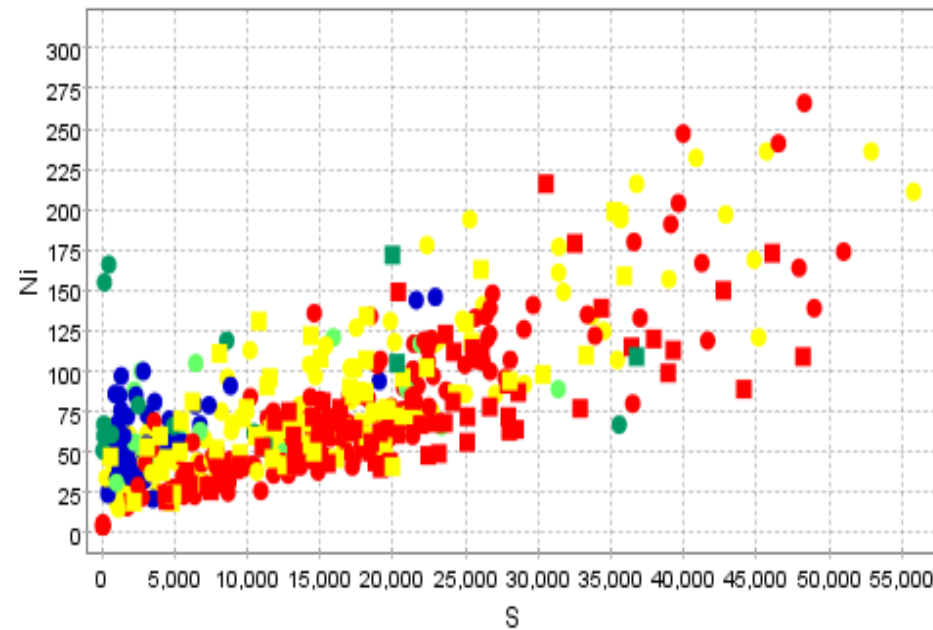
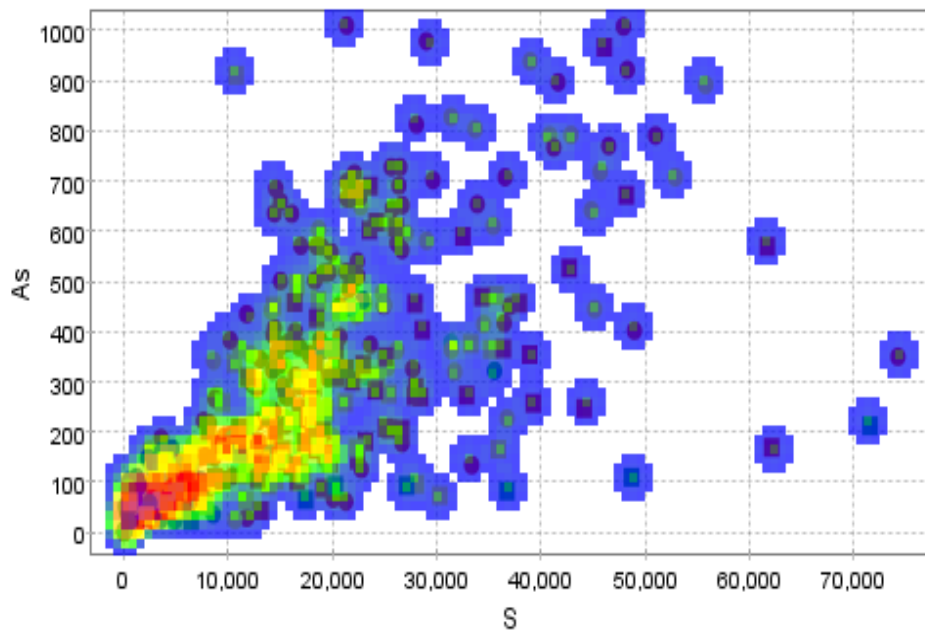
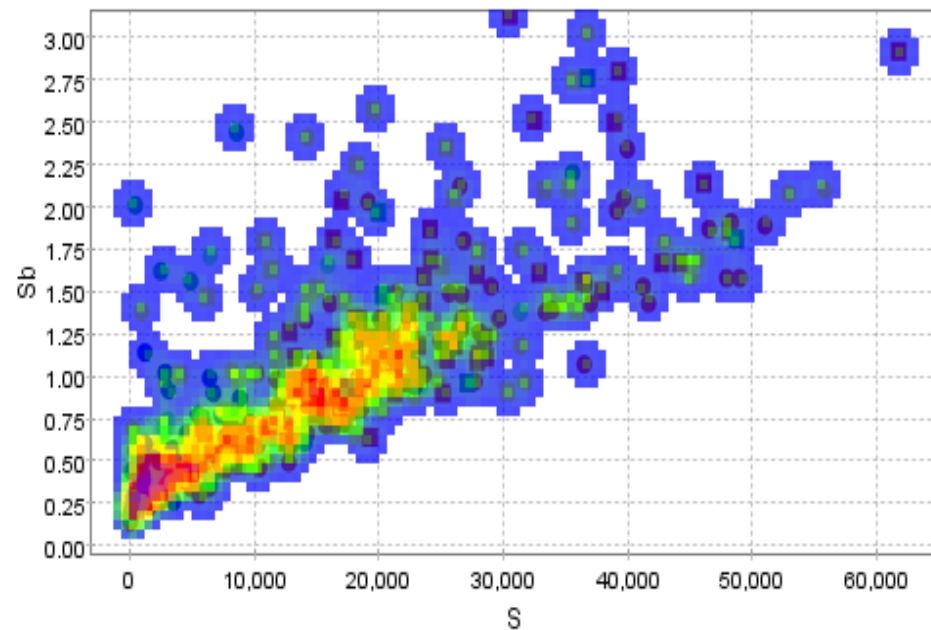
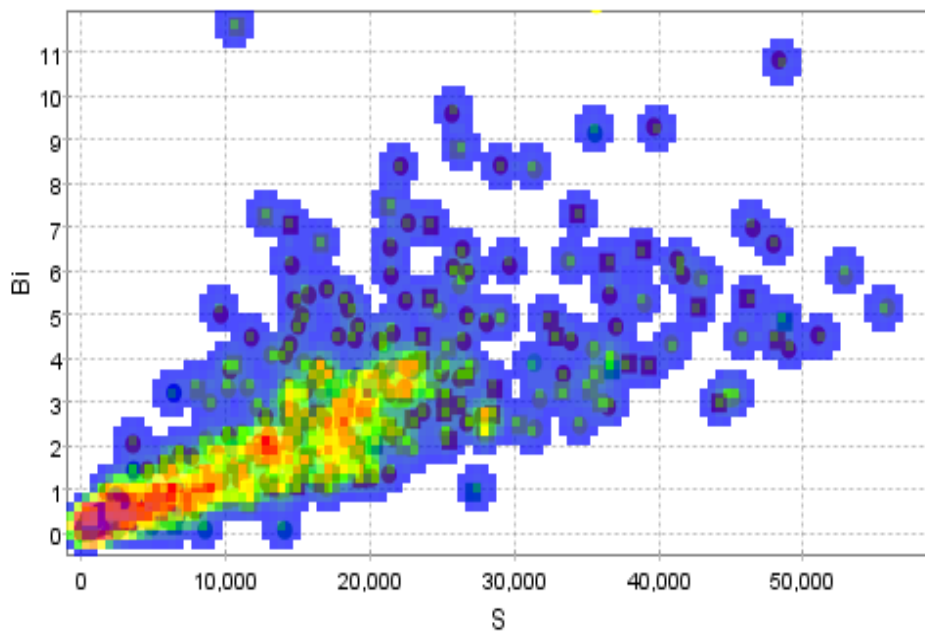
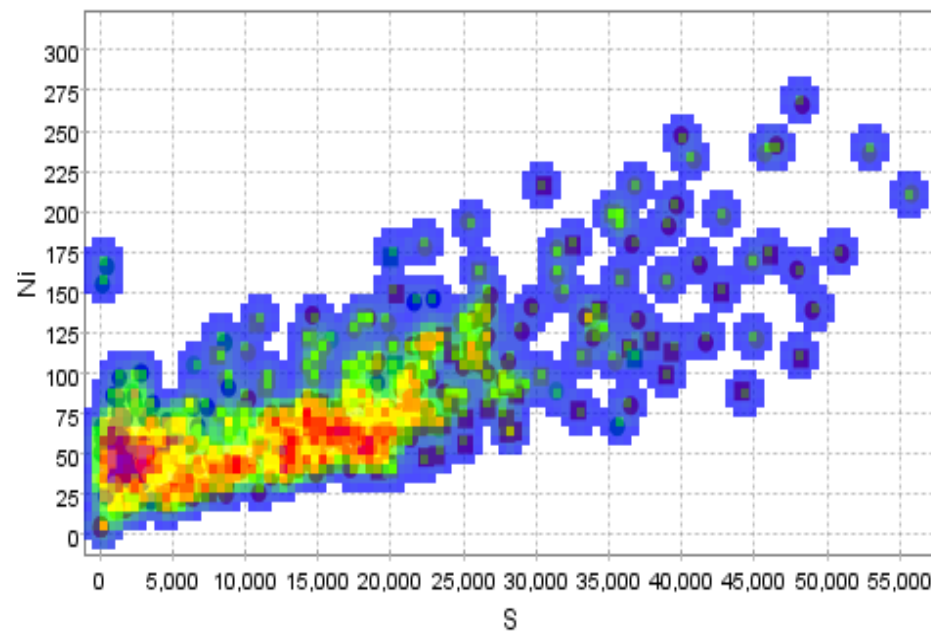
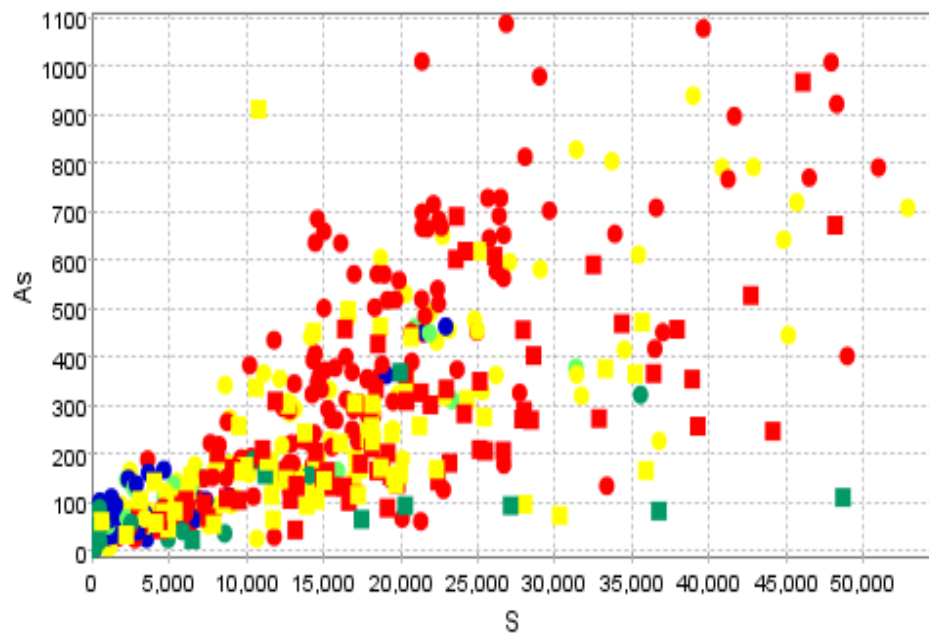
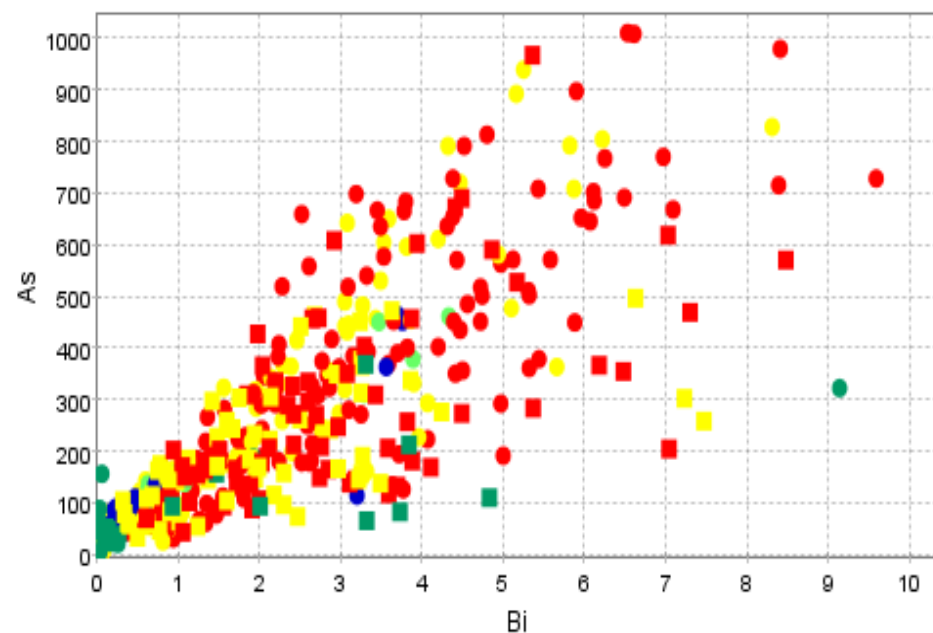
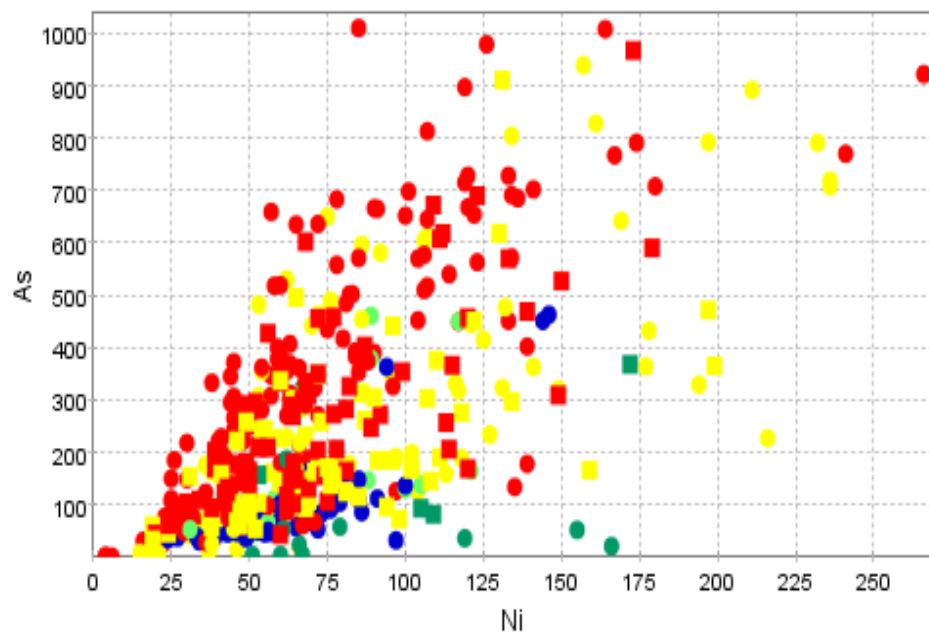
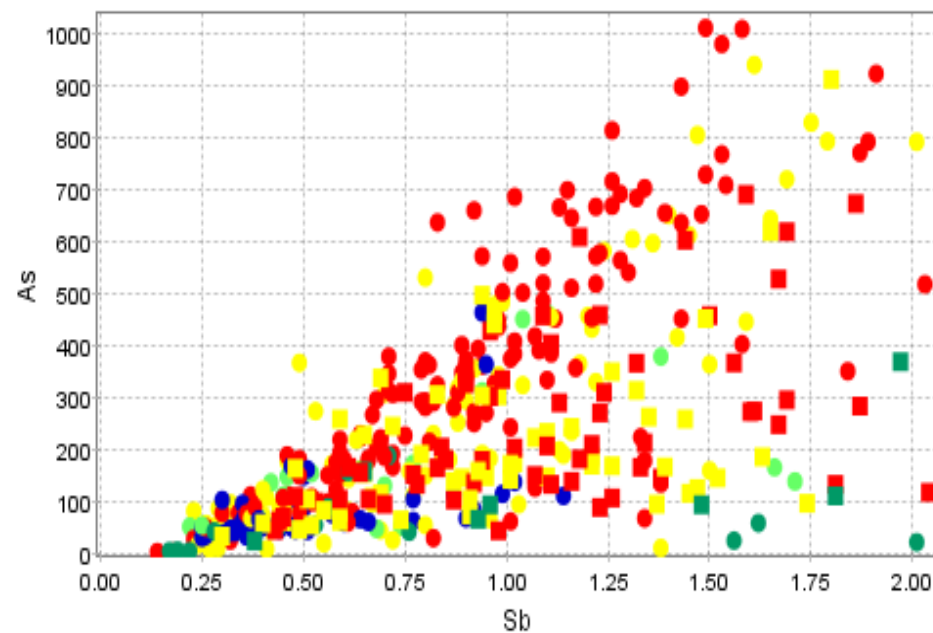


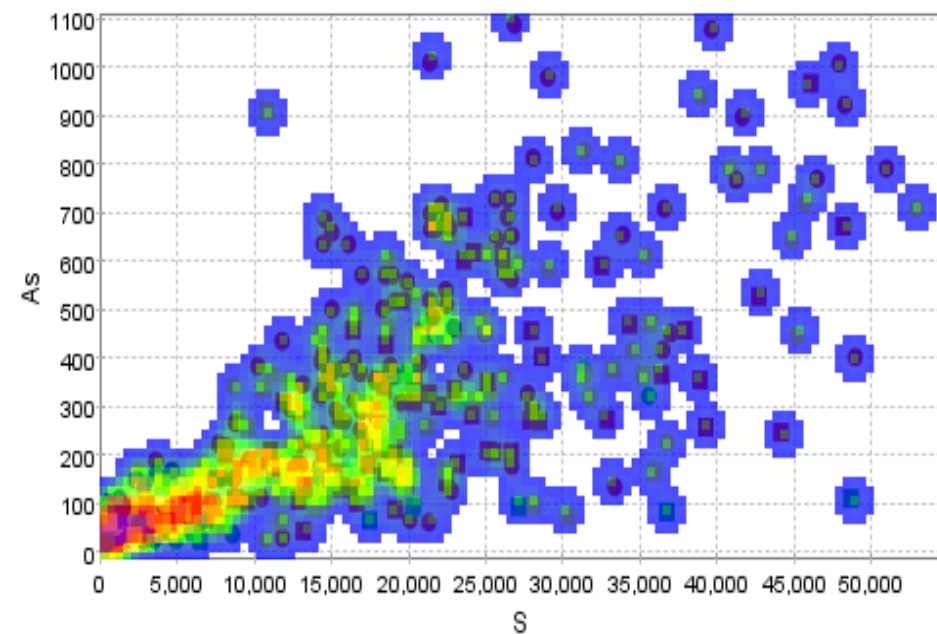
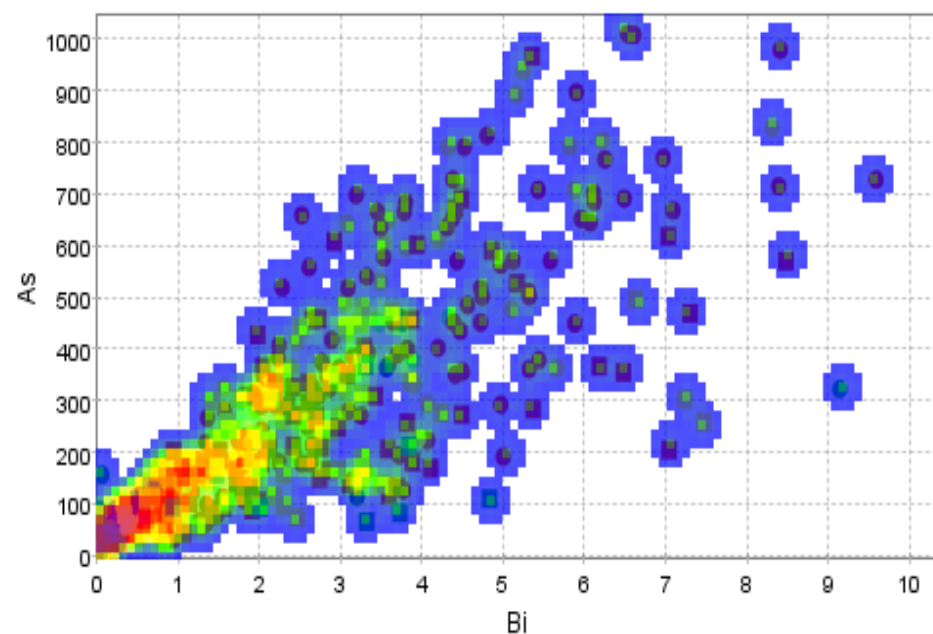
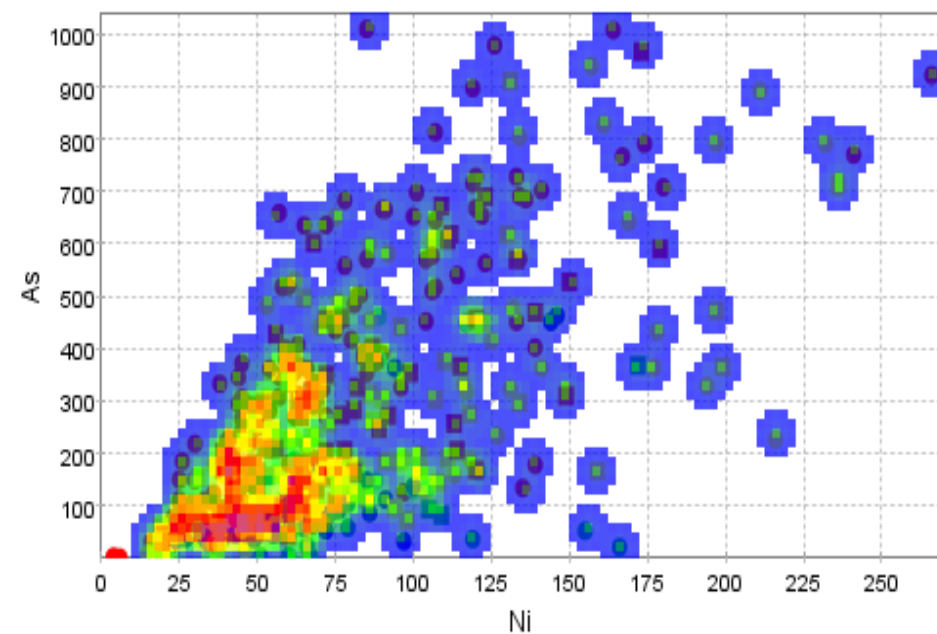
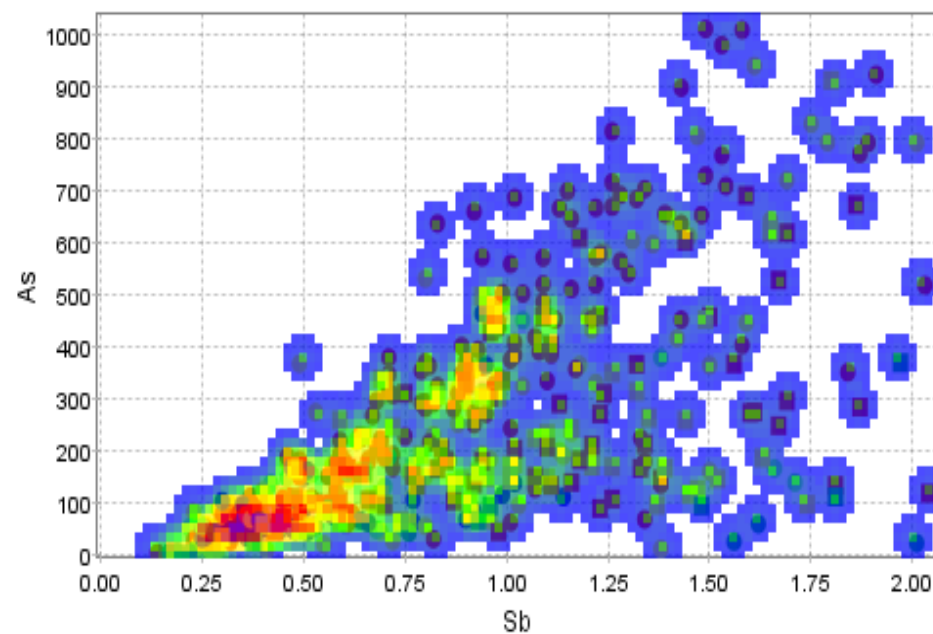
Figure 1-22: Vaal River project dataset: Plot of gold versus zirconium in log-log space (n=290).

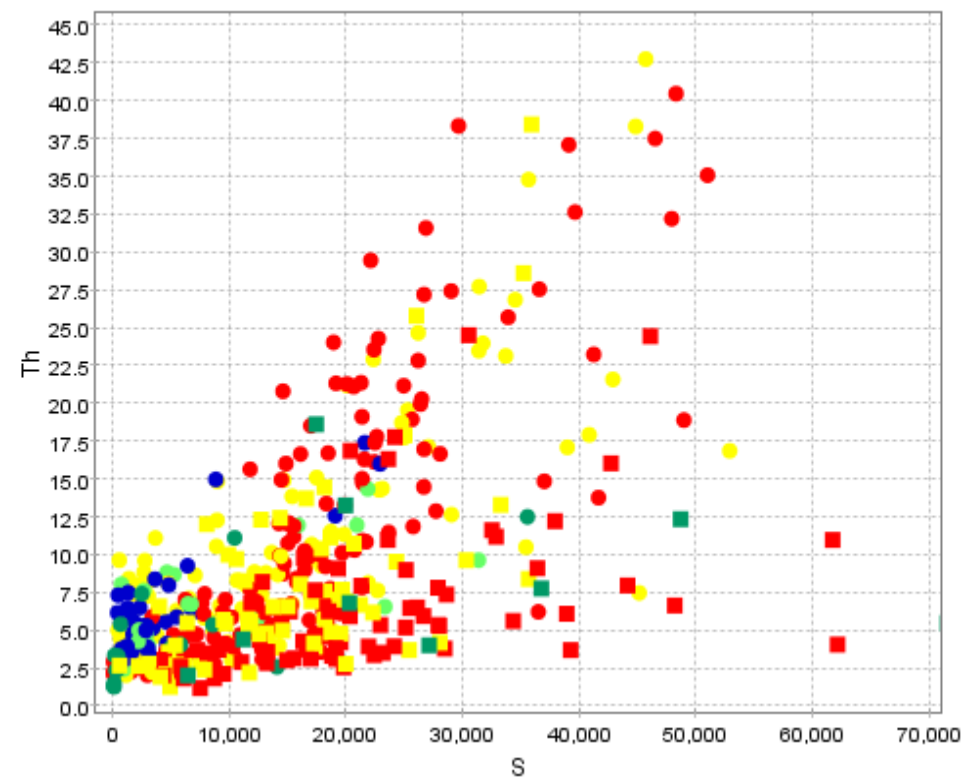
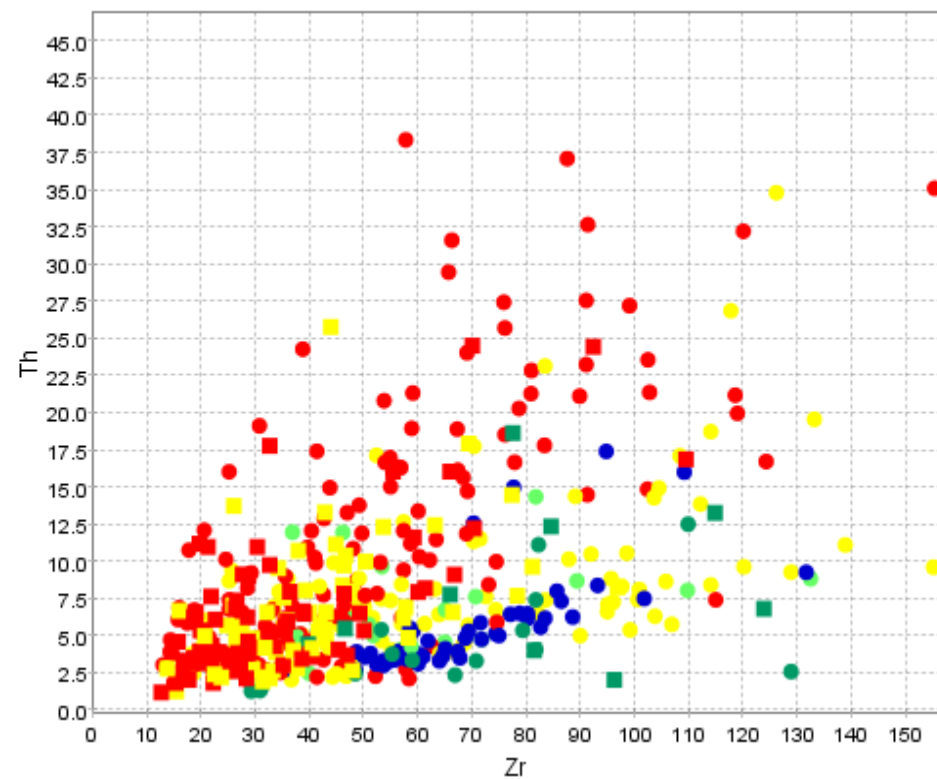


S:As**S:Sb****S:Bi****S:Ni**

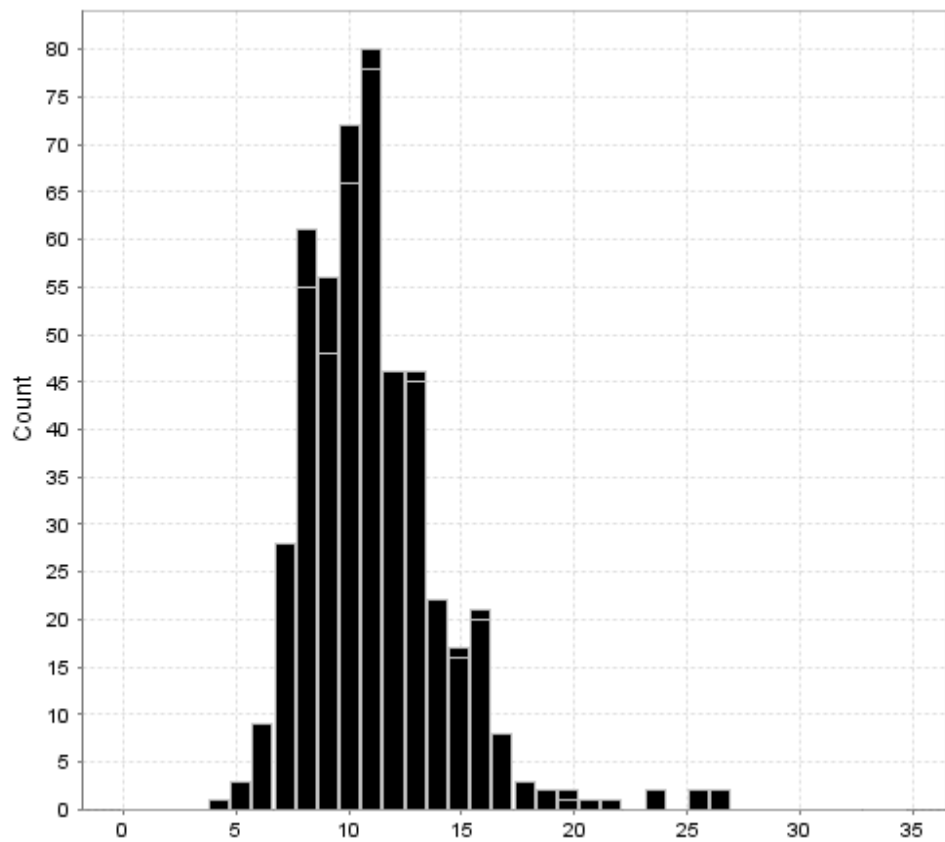
S:As**S:Sb****S:Bi****S:Ni**

S:As**Bi:As****Ni:As****Sb:As**

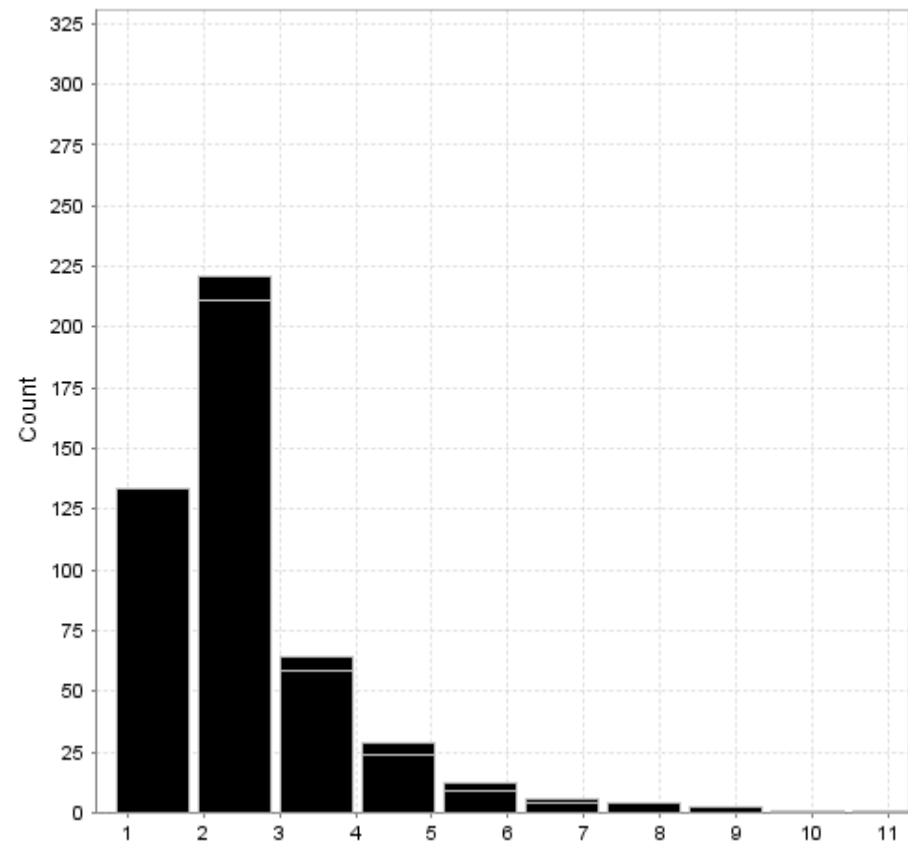
S:As**Bi:As****Ni:As****Sb:As**

S:Th**Zr:Th**

W

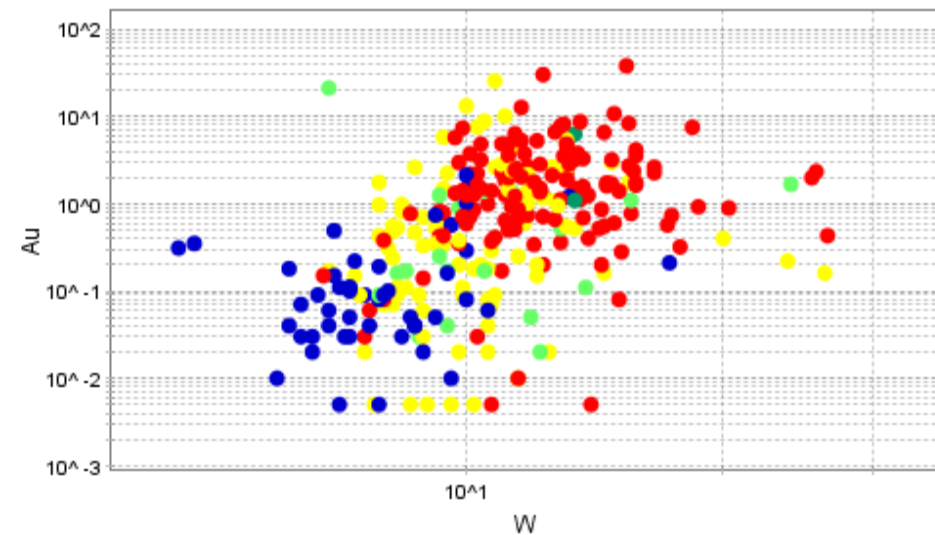


Mo

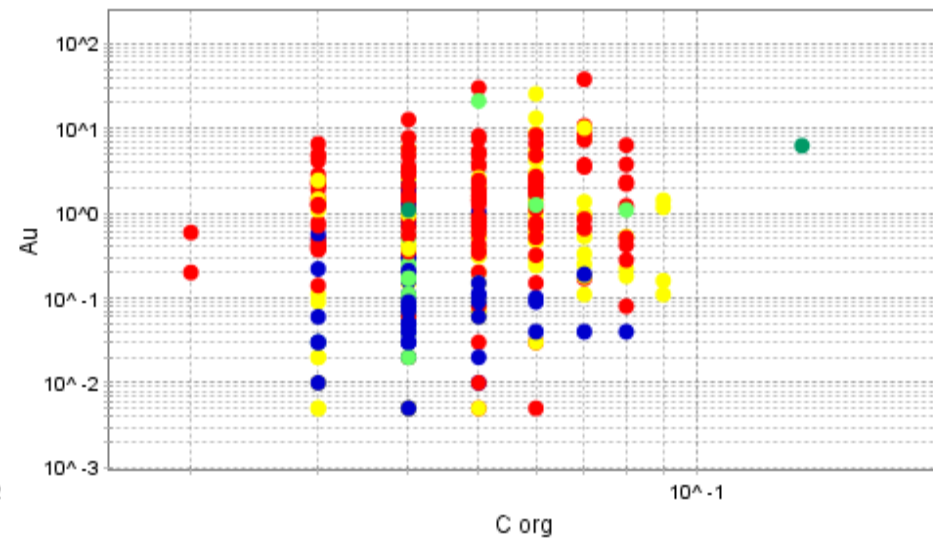


Au correlations; Hole 90-752

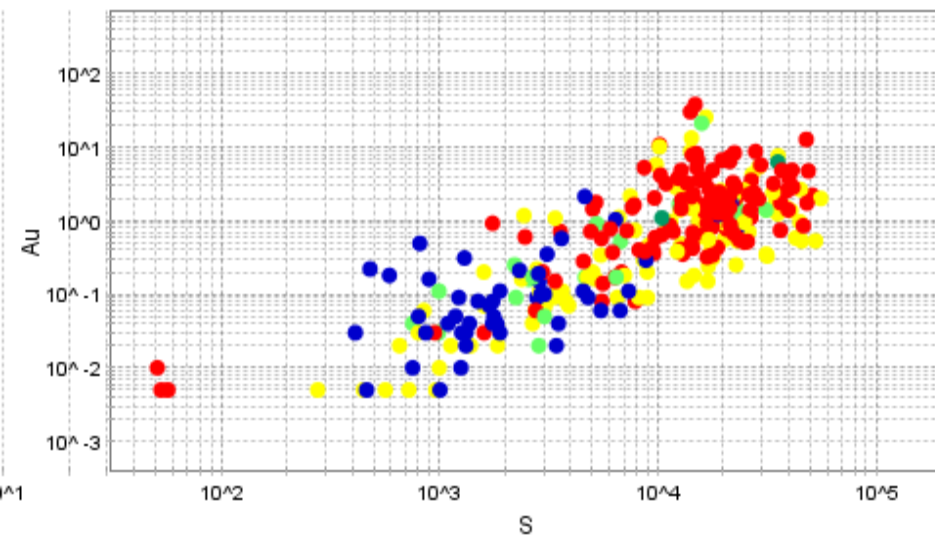
W:Au



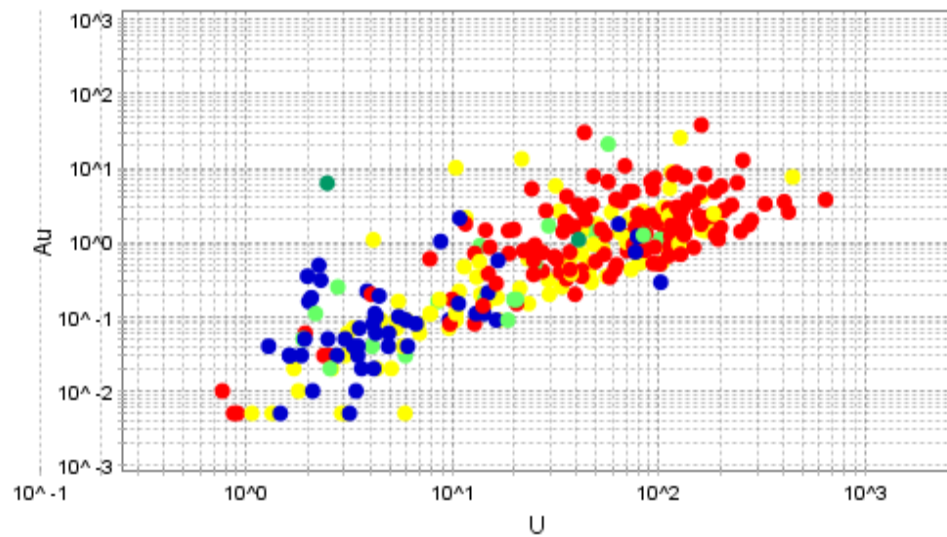
C org:Au



S:Au

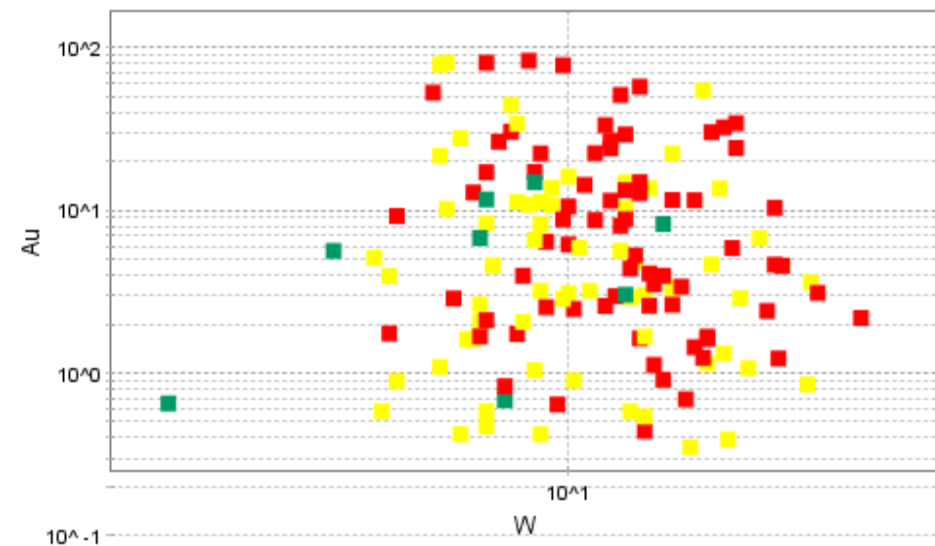


U:Au

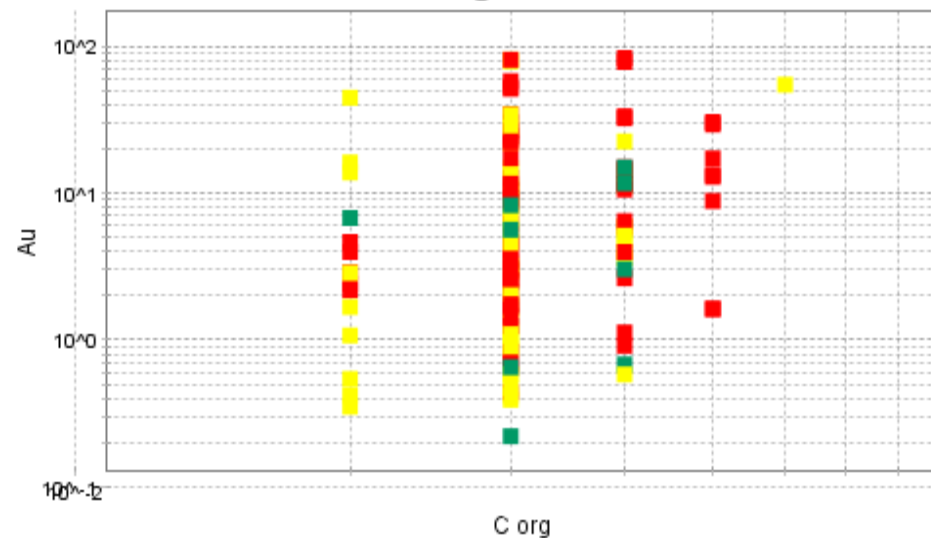


Au correlations; Hole 95-934

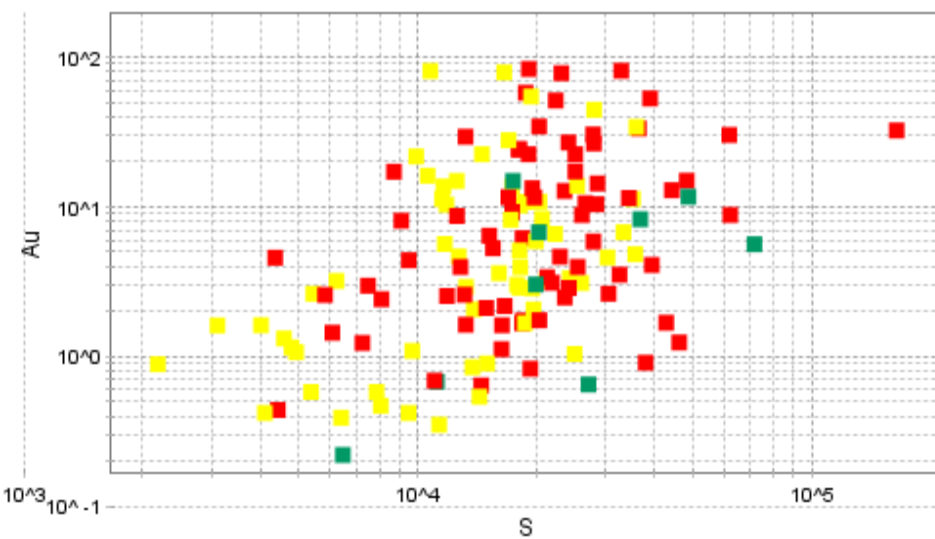
W:Au



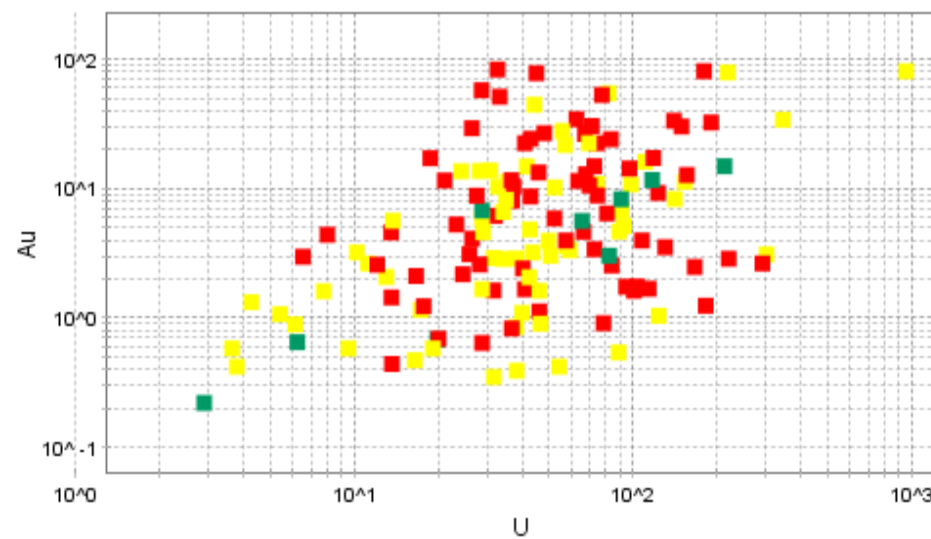
C org:Au



S:Au



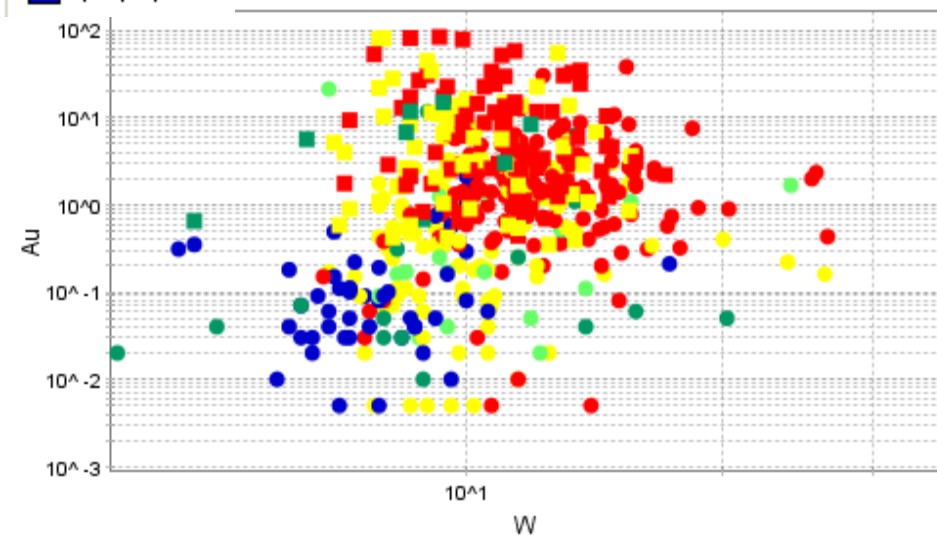
U:Au



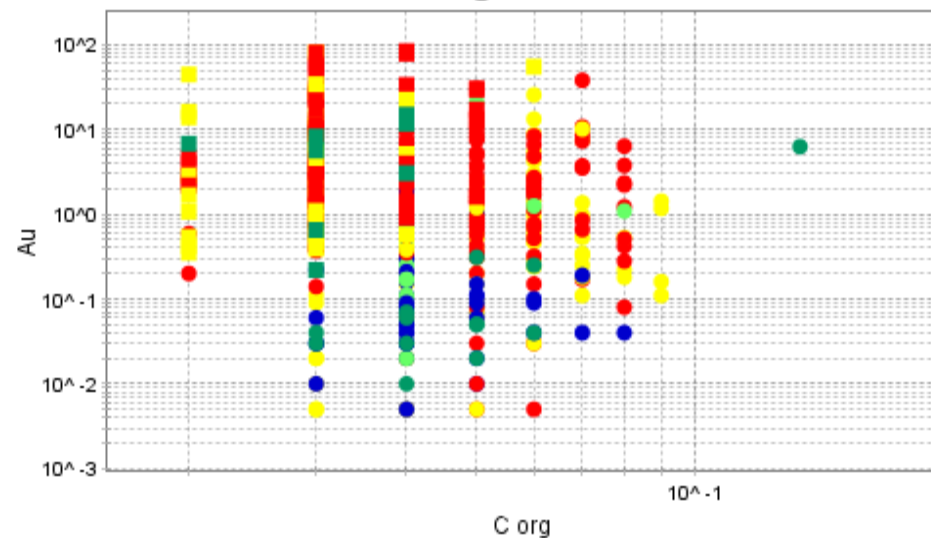
- Phengite
- Muscovite
- Paragonite
- Chlorite
- Pyrophyllite

Au correlations; all holes

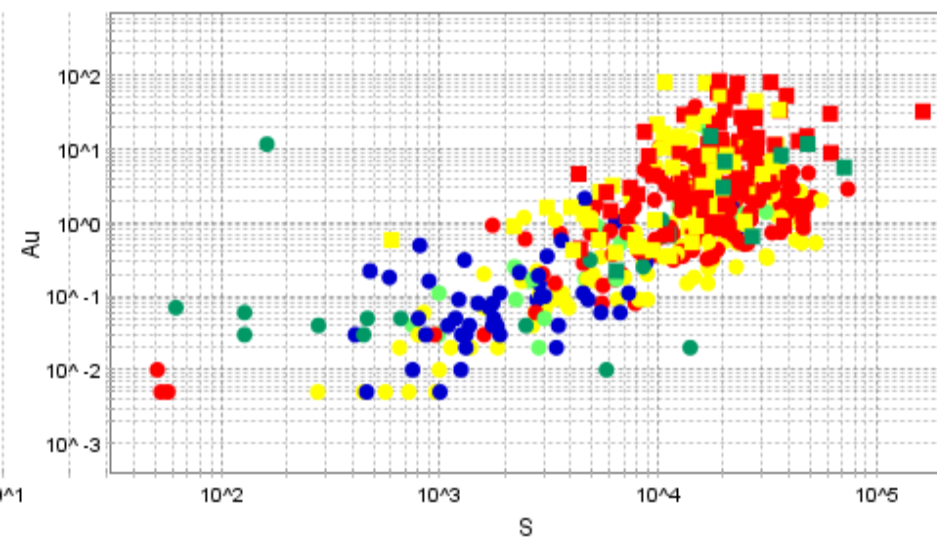
W:Au



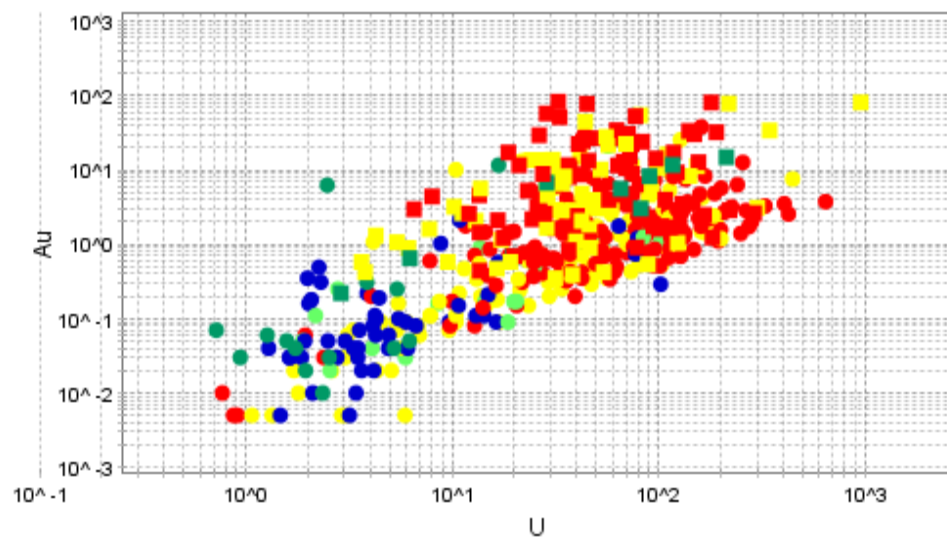
C org:Au



S:Au



U:Au



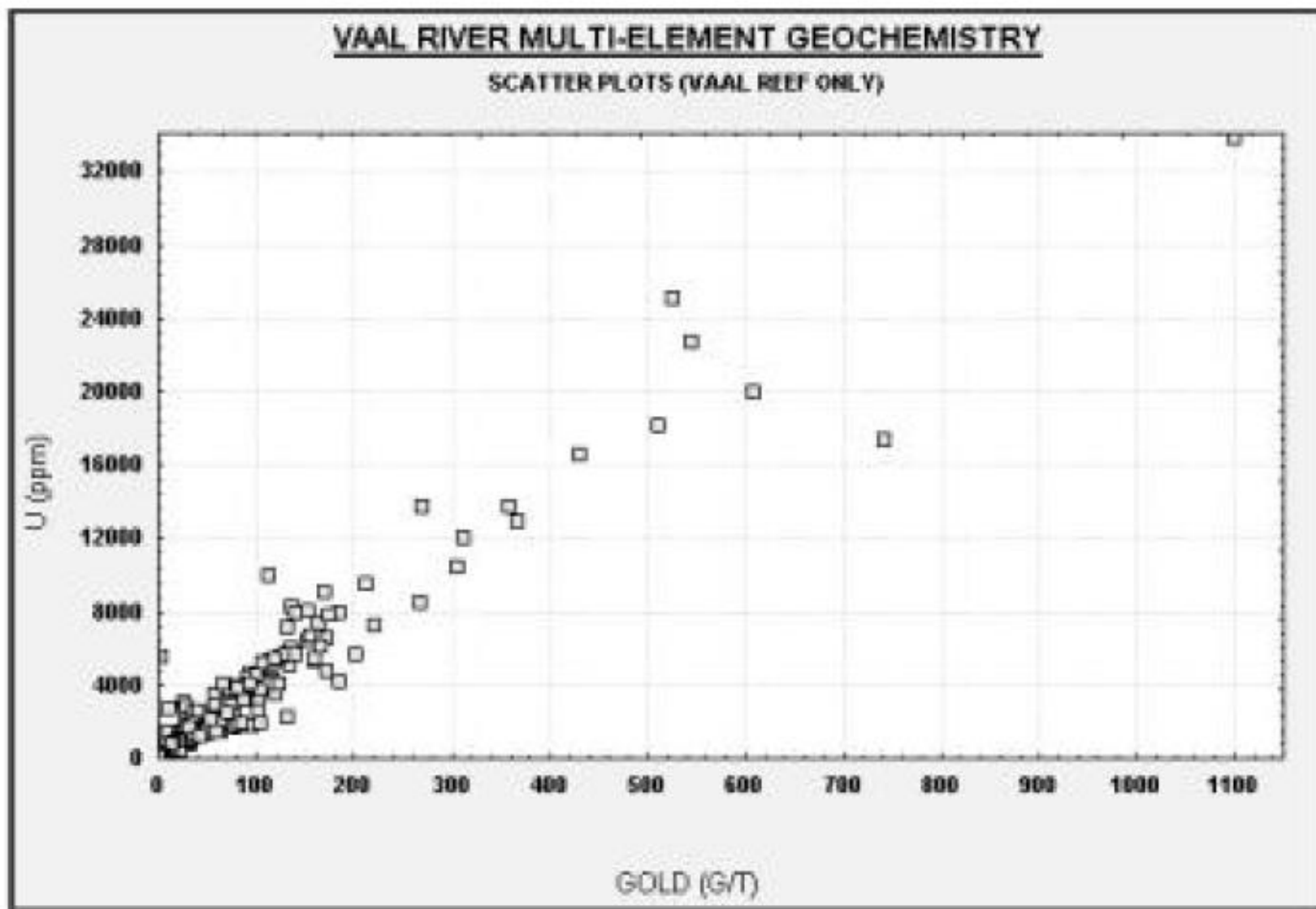


Figure 1-18: Vaale River project dataset: Plot of gold versus uranium for conglomerate samples (n=290).