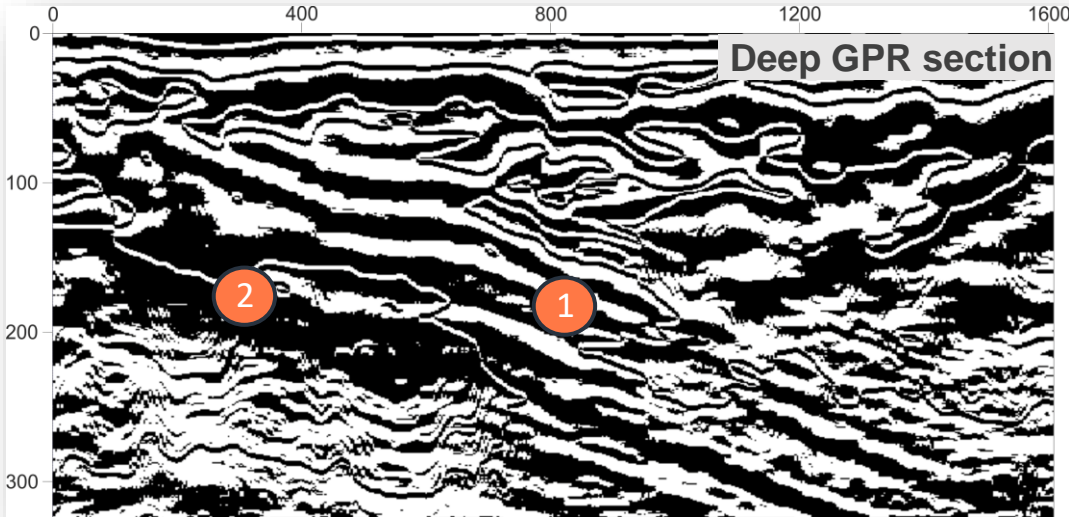


Application of the method of Deep GPR for solving geological tasks in finding ore deposits



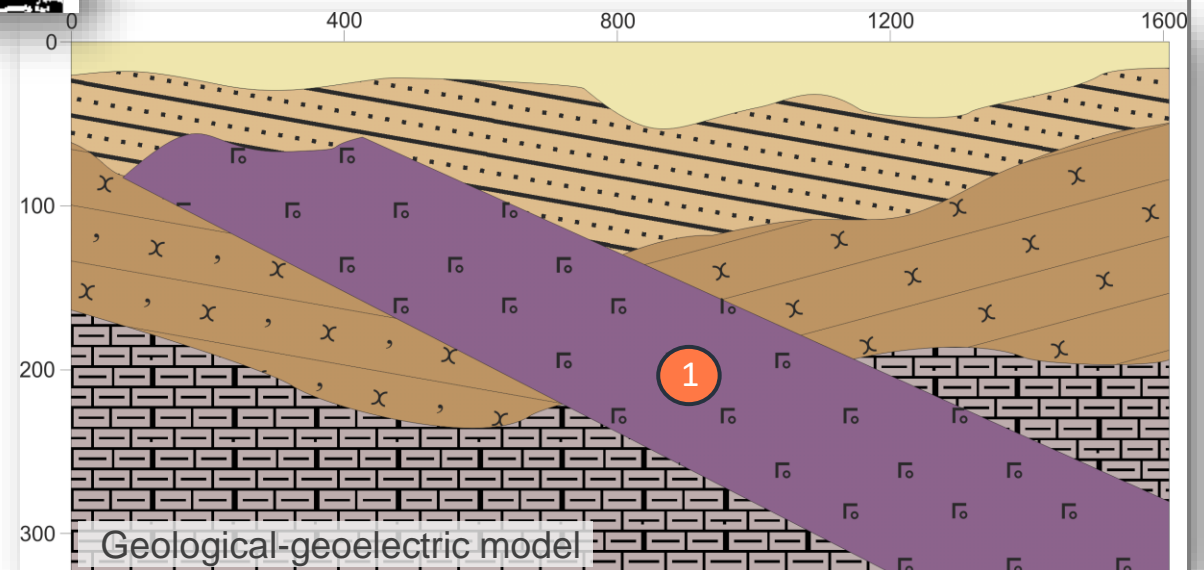
Example of the allocation of structural-tectonic elements. Intrusions



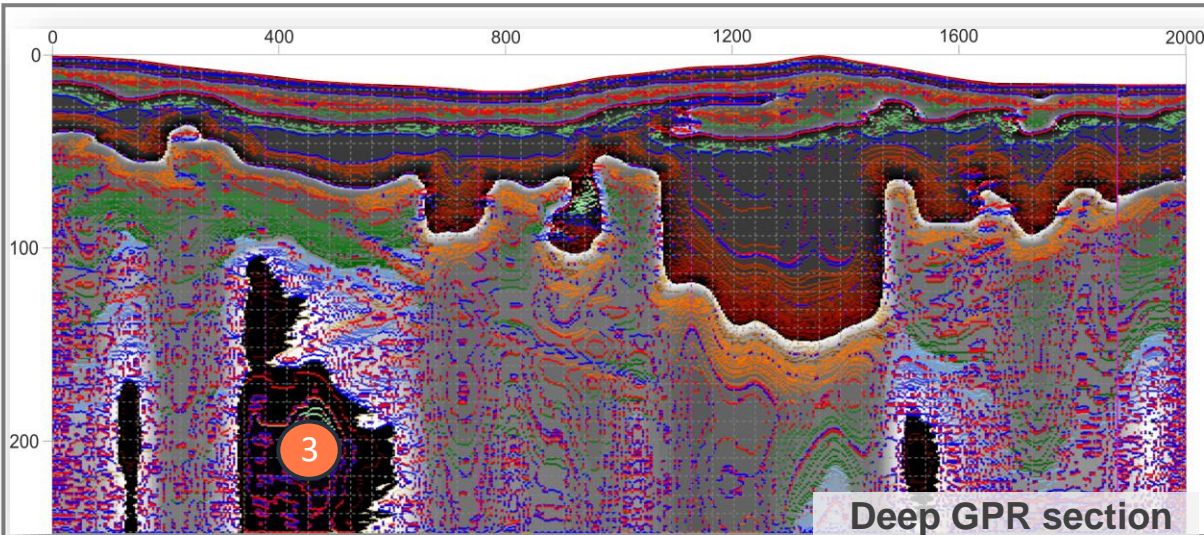
① INTRUSION ② HIGH CONDUCTIVITY ZONES

The example under consideration shows the definition in the section of an inclined intrusive body, at the lower contact of which a zone of increased conductivity is fixed.

At the early stages of prospecting and exploration work, the use of the **Deep GPR** method makes it possible to identify high-lying intrusions, dikes, as well as associated zones of contact metamorphism in the geological section



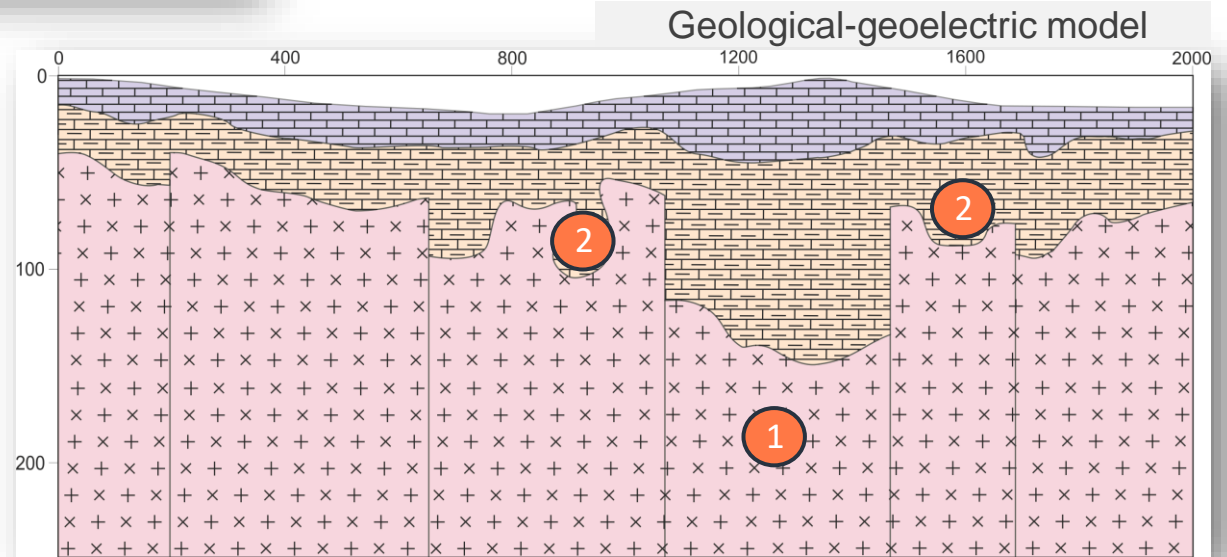
Example of the allocation of structural-tectonic elements. Horst-Graben



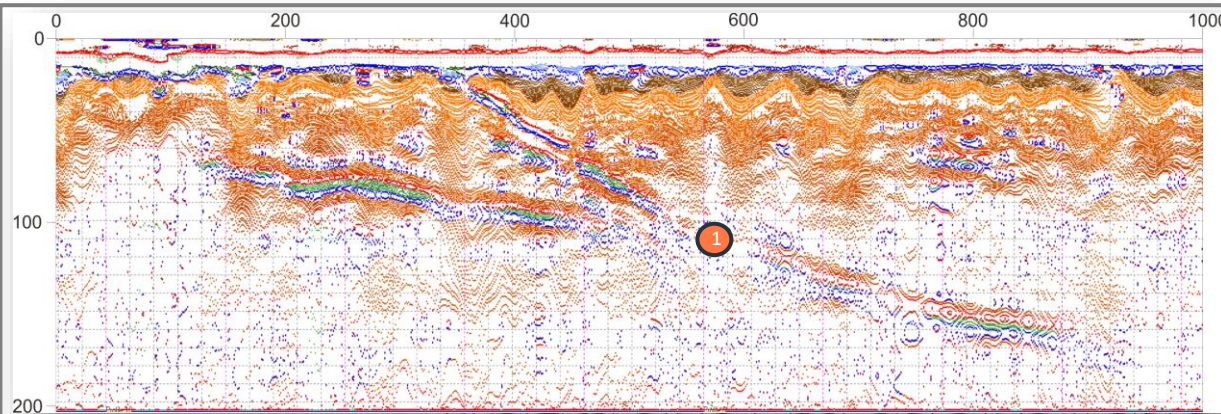
Isolation and mapping of structural and tectonic structure elements of the section allows to build a more detailed geological model, which makes it possible to correct exploration boreholes, to increase their information content and efficiency.

- ① GRABEN
- ② HORST
- ③ ZONE OF COPPER ORE MINERALIZATION

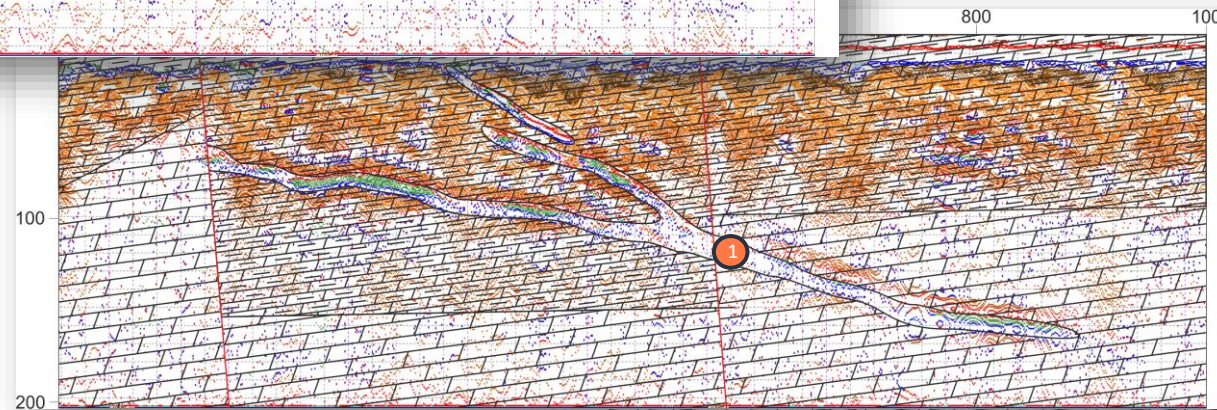
When performing prospecting and exploration works on a copper-skarn deposit, the structure of a horst-graben type was identified using a Deep GPR method. Faults and zones of ore mineralization have been identified.



Example of the separation of an ore-supplying dike

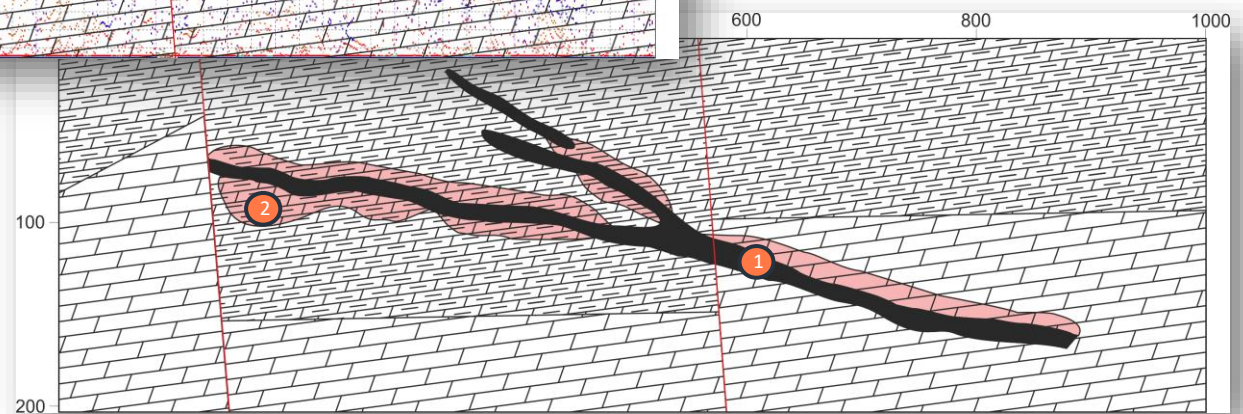


Using the **Deep GPR** method, dikes, ore supply channels and the zones of metasomatic changes formed by them are confidently recorded.

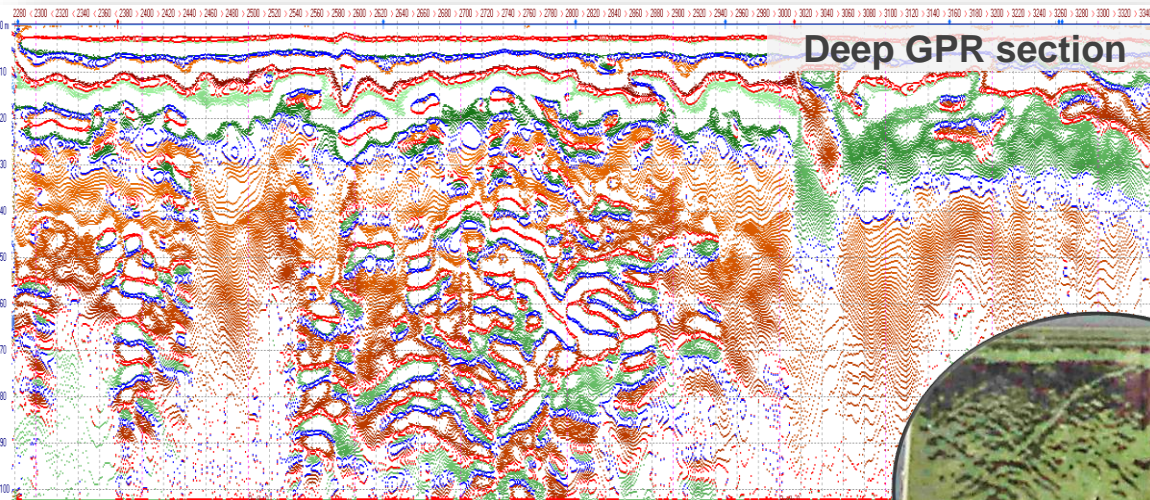


- ① ORE SUPPLYING DIKE
- ② ZONES OF METASOMATISM

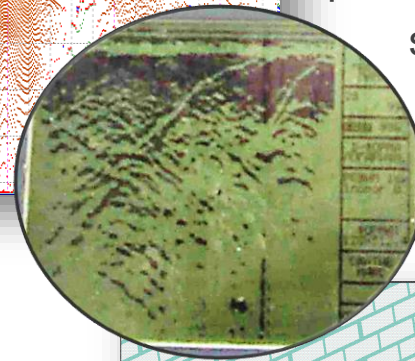
The high informativeness and the detail of the data obtained makes it possible to fix objects and geological bodies of low thickness at depths of more than 100 m, which is difficult by other geophysical methods.



Example of the allocation of quartz veins

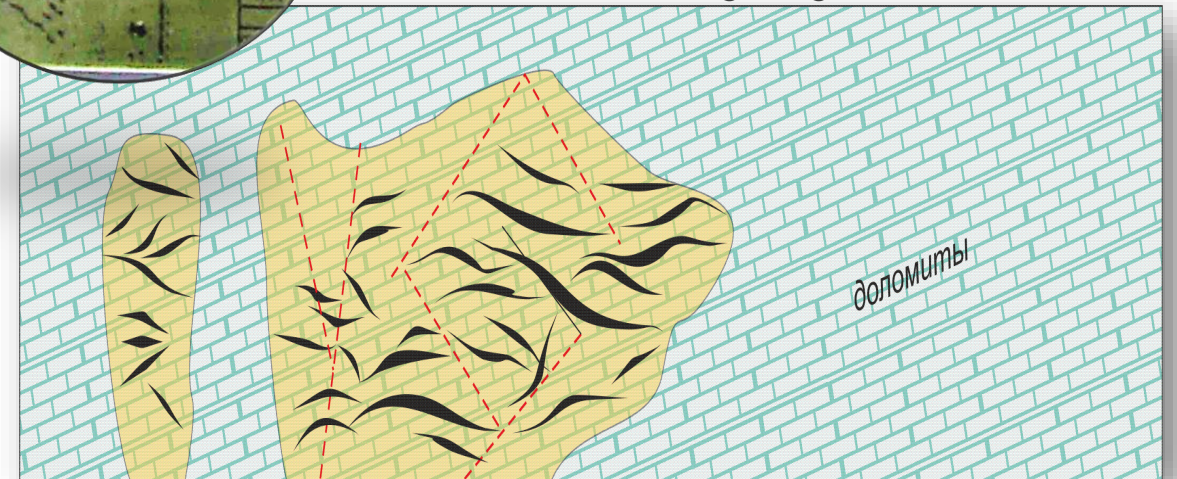


Using the deep GPR method, zones of quartz-vein formations, ore-controlling faults and fracturing systems are confidently recorded. Using a **Deep GPR** method, it is possible to identify single quartz veins with a thickness of 5-10 cm and quartz stockwork ore bodies.

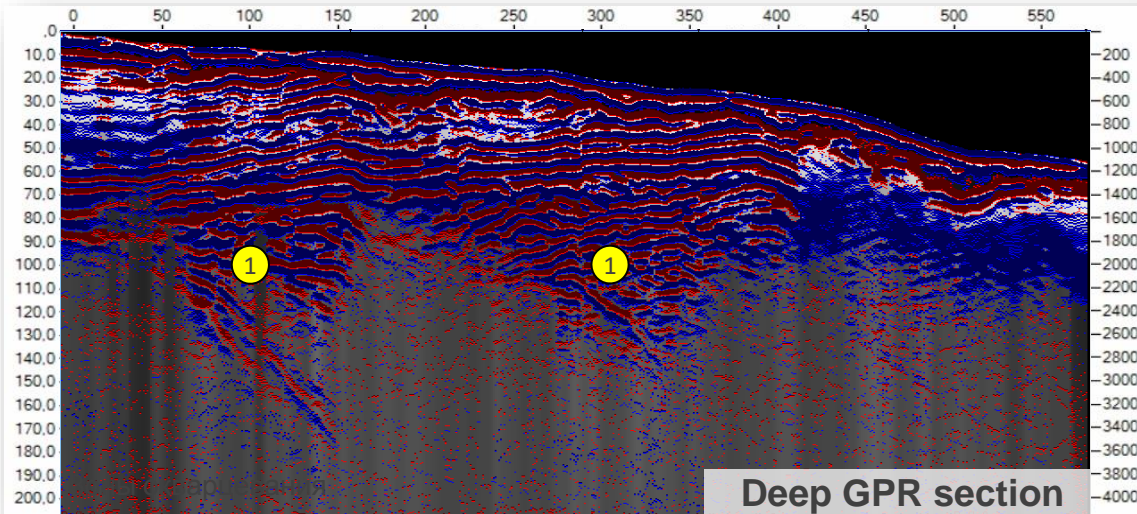


Determination of the structural-tectonic framework of highly mineralized zones will allow more accurate planning of exploration boreholes, as well as obtaining a more detailed model of the geological structure of the section.

Geological-geolectric model



Example of the allocation of quartz veins

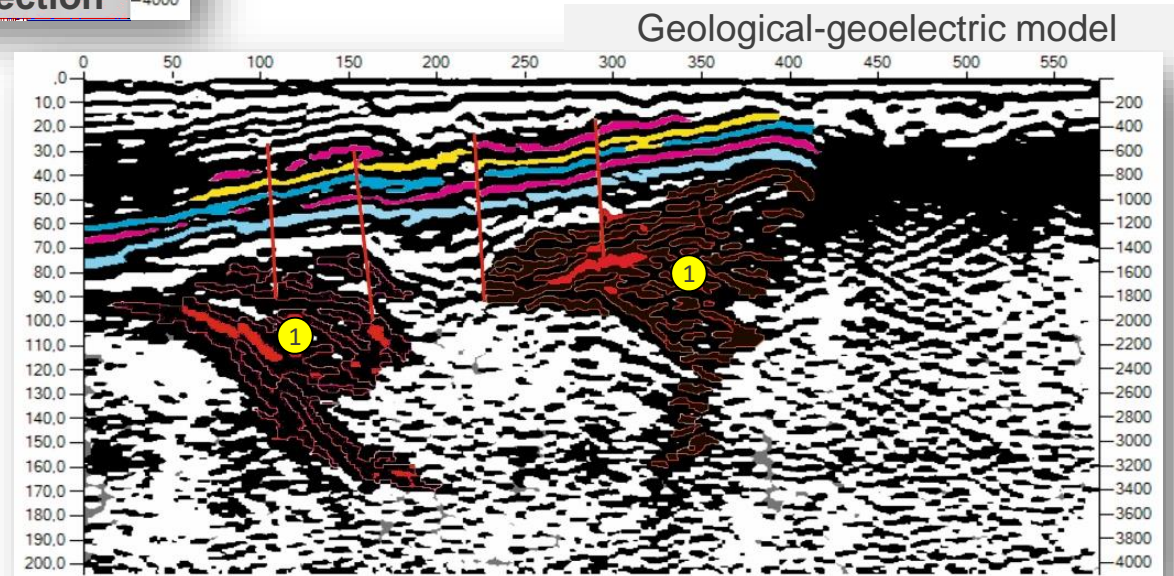


Deep GPR section

① QUARTZING ZONES

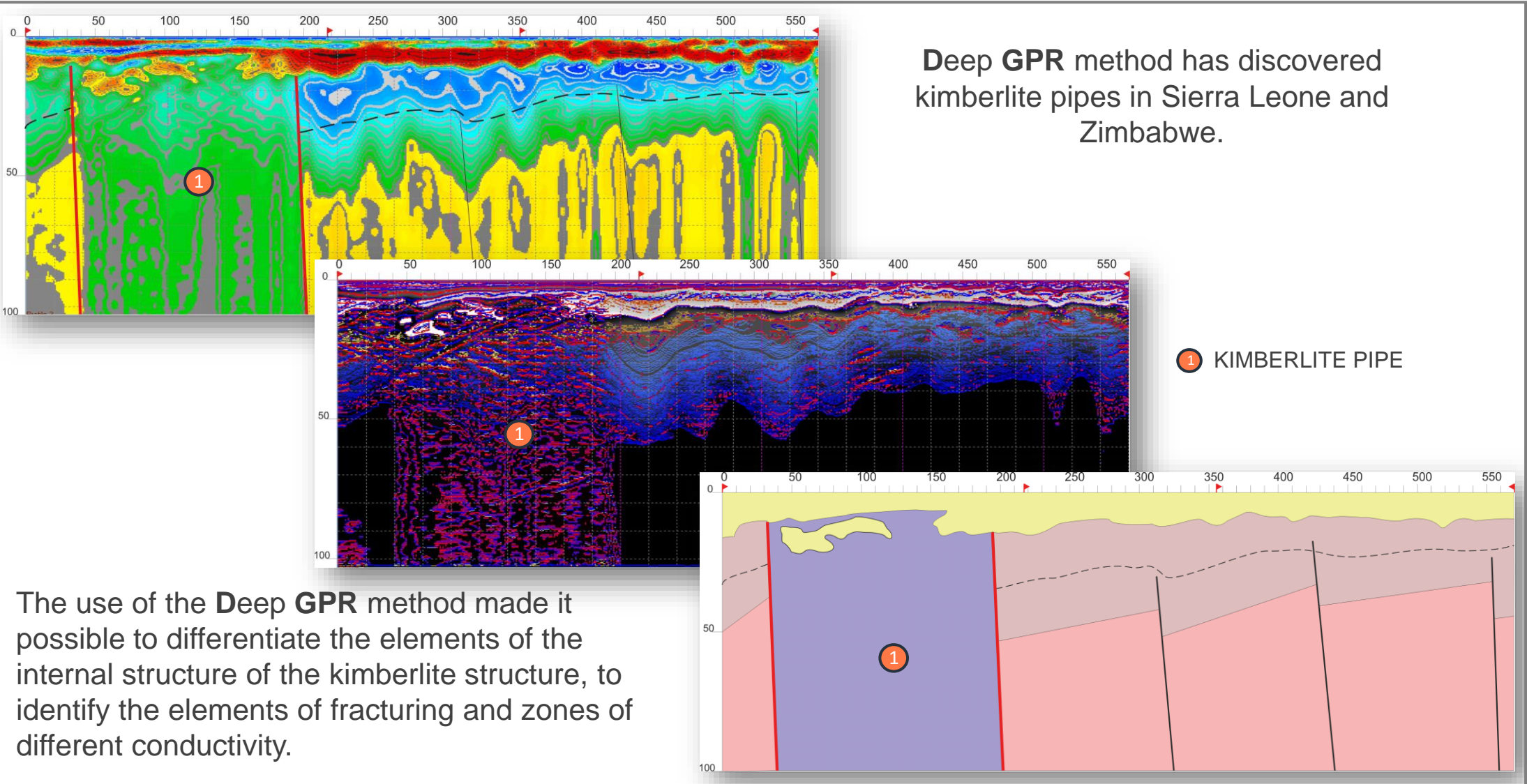
Detection and mapping of "blind" zones at different stages of geological exploration contributes to an increase in the reserves of the field, increases its capitalization and investment attractiveness.

The example under consideration clearly shows two zones of quartz-vein formations occurring below the sedimentary strata. Revealing "blind" ore zones is one of the most effective tasks solved using the **Deep GPR** method.



Geological-geolectric model

Example of a kimberlite pipe discovery

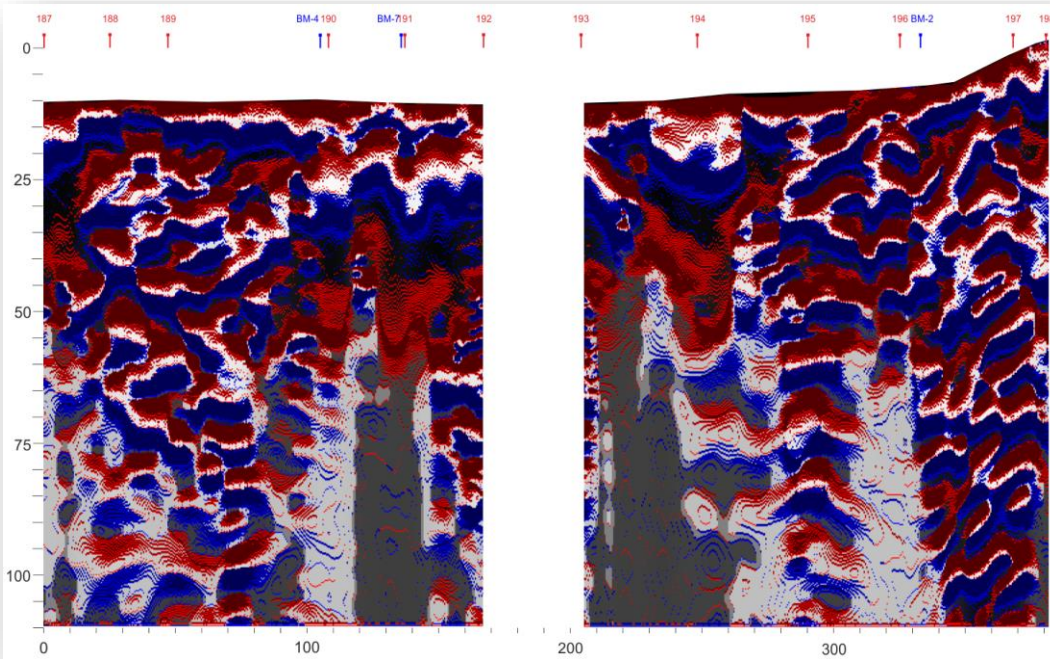


The use of the **Deep GPR** method made it possible to differentiate the elements of the internal structure of the kimberlite structure, to identify the elements of fracturing and zones of different conductivity.

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Example of building complex geological models



The high productivity and adaptability of the equipment to work in any conditions makes the GPR complex we use an indispensable tool for increasing the efficiency of geological exploration, increasing the information content of boreholes against the background of a significant decrease in boreholes volumes.

Informativeness **Deep GPR** method allows to differentiate resistivity section in the construction of complex geological-structural-tectonic areas models.

