

## **GABBRO/DIKE AND DIKE/BASALT TRANSITION ZONES REVEALED IN THE NOWA RUDA MASSIF OF THE CENTRAL SUDETIC OPHIOLITE**

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Ophiolites represent remnants of an ancient oceanic lithosphere exposed on continents. Central Sudetic Ophiolite (CSO) is a unique example of such rock formation in Poland, and Nowa Ruda Massif (NRM) is an integral part of it. The southern part of the NRM is essential because it contains gabbro/diabase and diabase/basalt contact zones, vital to understanding crustal accretion in the ophiolite. However, the documentation of the lithologies occurring in this zone is sparse, and only two documents, one written in 1908 by Dathe and the other in 1981 by Jamrozik, describe the lithology of the area, both of which provide only an overview on the topic.

Therefore, our sampling campaign, which took place this September and resulted in 37 samples taken from 12 different localities, allowed for a better understanding of the previous descriptions and more comprehensive knowledge about the spatial relations between gabbro, diabase and basalt and transition zones between them.

Our sampling revealed a 350-m-wide contact zone between gabbro and diabase, in which multiple vertical and angled (between 80° and 90°) diabase veins, between 0.1 m and 0.5 m in width, crosscut the gabbro (50°33'11.4"N 16°34'31.6"E). Five samples of the contact zone and rocks on both sides were collected and will be examined further. Diabase in this zone was finely grained (visible crystals, roughly 0,1 mm in the longest dimension) as it was in the rest of localities in which diabase was recovered. Gabbro was of varied roughness, from fine (3-5 mm) to coarse (>10 mm). Diabase found south of the contact zone bears marks of dyke structures. Diabase/basalt contact zone was discovered 2.8 km to the south (50°31'27.8"N 16°35'20.9"E). Basalt occur as massive rock and as pillow lavas. Ilmenite mineralization is present in the massive basalts and calcite veins of possibly hydrothermal origin across all lithologies.

In conclusion, recovered samples significantly increased our knowledge of the area, and collected samples should allow us to vastly improve our understanding of gabbro/diabase and diabase/basalt transition zones in the Nowa Ruda Massif as part of the Central Sudetic ophiolite. Recovered samples will also be used in further research involving geochemical and petrological investigation.