



### **ICDP Workshop: “Drilling the Bushveld Complex- the world’s largest layered intrusion”**

Surprising new discoveries are still being made in layered mafic intrusions and major advances in analytical tools promise many more. We are still in the first-order characterization phase of understanding these objects and there is much to be learned on a wide range of topics. To focus international research in this field, we are pleased to announce an ICDP workshop to discuss plans for a drilling project in the Bushveld Complex, the world’s largest and richest layered mafic intrusion.

With an estimated volume of 1 million km<sup>3</sup> of magma, this one complex is a Large Igneous Province in its own right. The science objectives include, but are not limited to: (1) Magma chamber processes & melt evolution (2) Crust-mantle interactions & the origin of Bushveld granitoids (3) Metallogeny and ore-forming processes: what were the relative roles of gravity settling, magma mixing, immiscibility and hydrothermal fluid transport? We identified 3 potential drilling targets for discussion at the workshop. For target A, East-Central Bushveld Complex, we propose 3 overlapping, 3 km boreholes to provide the first-ever continuous roof-to-floor coverage of the Rustenburg Layered Suite. Target B in the SE Bushveld Complex is a single borehole of ~2 km depth, which will intersect the Roof Zone, Upper Zone, Main Zone and floor to resolve conflicting interpretations of the late differentiates. Target C, in the Northern Lobe, would involve 2 ca. 500 m deep boreholes sited to (a) fill critical gaps between existing cores and (b) study the nature of the transgressive Main Zone – Upper Zone boundary.

The workshop will be held from September 7-9, 2014 at the University of the Witwatersrand in Johannesburg, South Africa, immediately following the International Mineralogical Association meeting in that city. Workshop goals are to discuss scientific objectives, potential drill sites, operations, logistics and funding. Members of the international scientific community who wish to contribute are invited to submit an application with contact details and a 1-page summary of relevant expertise and intended contribution. The workshop will be limited to a maximum of 50 participants. Full or partial travel support will be available; preference will be given to scientists from ICDP member countries (or from those with interest in joining ICDP). Applications should be sent to Dr. Robert Trumbull ([bobby@gfz-potsdam.de](mailto:bobby@gfz-potsdam.de)) before March 1, 2014.