

Dear Members of the BASE Science Team,

as we approach the drilling phase of BASE, I would like to update you on developments.

## **Funding**

Based on our 2017 drilling budget of ca. 1.81 Mio €, we have secured 74% of the necessary funds as of February 2021. Martin Homann (UK), Stefan Lalonde (France) and Martin van Kranendonk (Australia) are expecting funding decisions from their respective national agencies on first-time or resubmitted proposals within the next few weeks. A small proposal submitted by Paul Mason (The Netherlands) will be decided on a few months later. If two of the three “big countries” come through, we’d be at about 88% funding. This is enough to get started, we think.

## **Drilling**

Nic Beukes asked the drilling companies for updated quotes in Dec. 2020. To my surprise, they were all about 9% less than they had been 2 years earlier. We may be able to secure a drilling rig within two to three months after signing a contract. We may also be able to lower costs by hiring two rigs; because they would be mostly drilling within a few km from each other at relatively low penetration rates of about 25 m/day, our geoscience team would be able to handle the cores from both rigs. If the drillers worked extended hours, we may further benefit by balancing the overtime charges against reduced accommodation and other costs etc. Much will depend on Nic’s negotiations and planning with the drillers in the coming two or three months.

This means for you: We may be able to start drilling a bit earlier than generally anticipated (probably August to October 2021), and we may also get done sooner than thought (probably between February and May 2022).

However, there are still many uncertainties: We still have not been able to transfer any funds to SA. It’s a lot of money, and the involved parties want to make sure the funds will only be used for the project. The receiving party needs to make sure there will be enough funds to perform the objectives expected from them. But we are working on this topic almost every day. In addition, we all know what incalculable effects corona may have on our schedules. So we cannot give you any firm dates yet.

## **Operations**

We are fortunate to have with Nic Beukes a very experienced and active project manager in South Africa overseeing BASE. Nic has identified and contacted a reliable drilling manager. I will brief a small group, including landowners and others, in early April in the field on the precise locations, objectives and the geology of our sites in preparation for mobilization and site preparation within the next half year or so.

Thus, please tentatively plan to visit the drill site to help out with core handling and description, and possibly outreach and public relations. A meaningful residence time may be three weeks. Because there should neither be too many helpers nor too few, we will set up a schedule to regulate the staffing flux. For anyone intending to do research on the core, it would certainly be beneficial to visit. Those who help will be rewarded by relevant BGB geology field trips when time allows.

I will take a sabbatical in order to be free from teaching approximately between the end of July 2021 and early April 2022 and will spend as much time in SA (mostly next to the rig) as possible.

One important position to be filled is that of the data manager who will oversee entry and management of all core data at the rig. He/she needs to be trained in the ICDP Data and Sample Management/mDIS system (done online). We need one or several persons for this very important task.

## **Core**

If everything will go as expected, we may have the slabbed research half of the core in the Berlin core storage anywhere between April and June, 2022. We then need to refine the on-site description done already at or near the drill site by detailed core scanning, thorough lithological description, and some first-order geochemical sampling. Because we anticipate up to 4400 m of core, this will take a few months. The resulting report will serve as the handbook for the following sampling party. We'll send out that report as a handbook and base for discussion prior to holding the sampling party. That sampling party may possibly be in the last third of 2022. Then your research can begin in earnest.

## **Science Projects**

We would therefore encourage you to make known to each other your expertise, interests and research plans in more detail, knowing that precise plans can only be made when all core has been retrieved and described. Although the Science Management Board (SMB) will decide on sample allocation only at the sampling party (unless we will encounter particularly reactive rock types), we would encourage you to gradually form alliances and come to mutual understandings of "who would do what". Be aware that we may have a lot of core. The SMB's principal role at that stage will be to evaluate research proposals and coordinate efforts; our objective is to have the right number of people with the right expertise and interests at the core after the sampling party. We will therefore probably create soon a digital pin wall where we will be able to post and share our research intentions.

## **Science Team**

I attach the most recent list of science team members. You will see that this has the new column "caretaker", for lack of a better word. It is meant to be the SMB member who should be your first contact to ask questions or whom to inform about changes in your status. In the other direction, this SMB member has a certain responsibility to keep you updated, especially informally, with advice etc. Your "caretaker" is usually your country representative on the SMB but in some cases we found it more practically to go by personal contact or scientific field. Around him or her you may want to rally to start a nationally or internationally coordinated research group on BASE core material.

Please also be aware that we have "focus groups" on Life, Paleoenvironment (Geochem.), Sedimentation and Surface Processes, and High-T (Magmatism and Metamorphism, Structure and Tectonics, Diagenesis etc.). Their members, probably not entirely complete, were listed in my August newsletter.

The list of science team members will certainly continue to evolve but should do so along the rules we gave ourselves last year. We welcome Georg Feulner (GFZ Potsdam, Germany), Philippe Claeys

(Univ. Bruxelles), Mattias Green (Bangor Univ., Wales), Eva Stueeken (Univ. of St. Andrews), Desiree Roerdink (Univ. Bergen) and Tomaso Bontognali (Univ. Basel) to the science team. Johanna Marin-Carbonne has resigned from the SMB but will continue as a science team member. Some other participants of the 2017 workshop have left (geo-)science and are no longer in this list.

Do you know of a must-have scientist who would complement our science team ? Please pass your information to your SMB representative.

Lastly, please note that the [new ICDP science plan 2020-2030](#) has been published.

Frohes Forschen!

Christoph