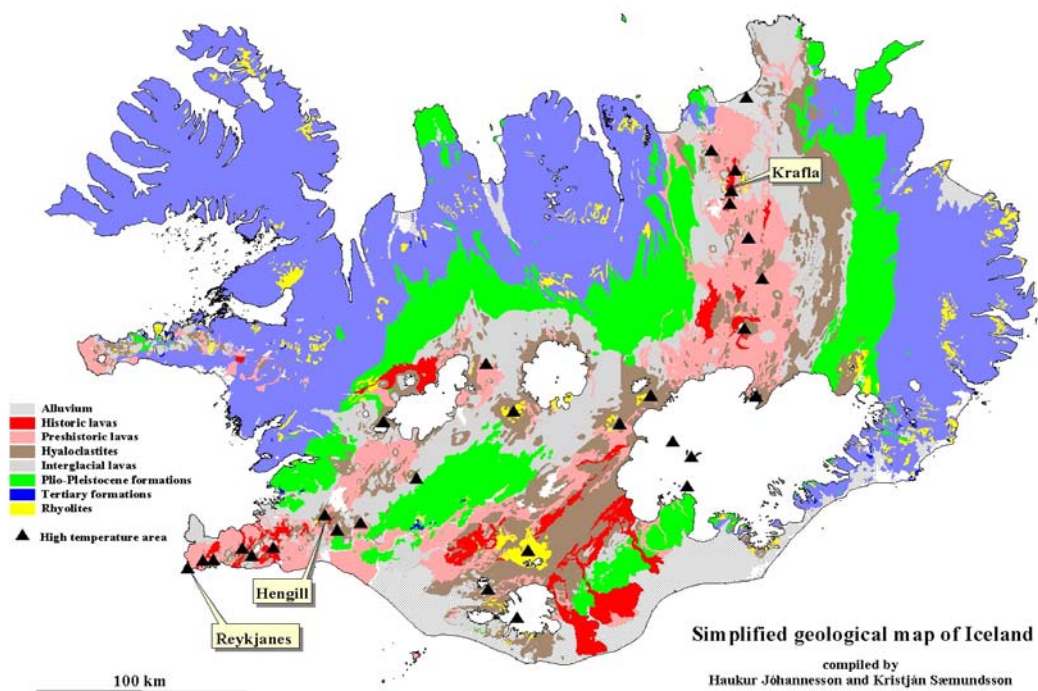


Update on the Iceland Deep Drilling Project (IDDP)

The IDDP, a project of Deep Vision, a consortium of leading energy companies in Iceland together with the state, has the economic aim of exploring for supercritical hydrothermal fluids as a possible energy source. This will require drilling to depths of 4 to 5 km in order to reach temperatures of 400-600°C. In late 2003 a member of the consortium offered one of its planned exploratory wells located on the Reykjanes peninsula for deepening by the IDDP. It was completed at 3.1 km depth in February 2005. However, this well of opportunity became blocked during a flow test in November 2005. After subsequent attempts at reconditioning failed, this hole was abandoned in February 2006. This decision required a change in the IDDP work plan.



A geological map of Iceland showing the location of the three high-temperature hydrothermal systems being considered as sites for deep boreholes by the IDDP.

In April 2006, after careful consideration of all of the options available, Deep Vision decided to move operations to Krafla, one of the high-temperature areas shown on the geological map of Iceland above, as the site for the first deep IDDP borehole. This location is within a volcanic caldera with higher temperature gradients and more recent volcanic activity than Reykjanes. The IDDP plan is to rotary drill and spot core this hole to 3.5 km depth, and then deepen it to ~4.5 km, using continuous wireline coring for scientific purposes, and then attempt a flow test from the deepest portion of the well. A 60 MW power plant is currently operated in Krafla (see photo).

In addition to exploring for new sources of energy, the IDDP project will provide the *first opportunity worldwide* for scientists to investigate the deep, high temperature reaction zone of a mid-ocean ridge hydrothermal system that reaches supercritical conditions, with amphibolite facies grade of metamorphism ($>400^{\circ}\text{C}$). This drill site is ideally situated for a broad array of scientific studies involving water/rock reactions at extremely high temperatures in active setting. Active processes in such deep high-temperature reaction zones that control fluid compositions on mid-ocean ridges have never before been available for comprehensive direct study and sampling.

Bid documents are being prepared for the supply of casings and valves for the proposed well, and well design is being finalized. Given the competition for drilling rigs posed by a rapid expansion of the pace drilling by the geothermal industry in Iceland, the rise in drilling costs internationally, and the year-long lead times in obtaining well completion materials, it now seems certain that there will be a delay of a more than a year before deep drilling at Krafla can begin. It should take about 3-4 months to reach 3.5 km depth and an additional 2-3 months to reach 4.5 km depth. It is anticipated that the drilling will take place no later than early 2008. For further information see <http://www.iddp.is>.



A view to the Krafla Central Volcano. A 60 MW power plant is seen in the foreground. The red circle denotes the potential IDDP drillsite.