Stockholm University C/O Prof. Dr. Wolf Dietrich Geppert Roslagstullsbacken 21 10691 Stockholm. Sweden



Mývatnssveit 30. maí 2016 UST201605-130/D.Ö.H. UST201605-130

Subject: Research Permit – Hverfjall Crater

The Environment Agency received a request from prof. Dr. Wolf Geppert, on behalf of Stockholm University, dated 18th of May, regarding a permit to collect research samples within the National monument of Hverfjall (Hverfell), from the 9th until the 31st of July 2016.

Hverfjall was protected as a national monument on the 22<sup>nd</sup> of June 2011. According to the terms of protection no traffic is allowed on the outside slopes of the Hverfjall Crater except on marked footpaths on the northeast-, and south sides.

## Description of the project:

According to prof. Dr. Wolf Geppert the research at Hverfjall is a part of investigating habitability and microbial population of Mars-analogue landscapes in Iceland. Samples will be collected within the protected area with minimum effect on the environment.

"The samples will be collected from the surface or near the surface only. The only exception is that we will dig one hole of 50 cm, depth and 20 cm width at one of the sites, and 20 cm deep holes on the exploration sites. This will be done avoiding any damage to plants. The holes will be completely covered after the operation. For the testing of the HABIT device it might be necessary to drill down 2m with a drill of 5 cm diameter to measure the depth humidity of the soil. All this sampling will be done in places with no or very limited vegetation. Disturbance of the fauna and geologic formations can be safely ruled out, since areas where birds nest will be avoided".

"The following samples will be collected: 400 samples weighing 10 grams each at the lava field of the Hverfell explosion crater close to Myvatn, the Gjástykki area and the Krafla lava field."

While at the location the use of chemicals and the number of people will be minimized and all traces will be covered.

## Evaluation

The Environment Agency concludes that collecting research samples within Hverfjall will not cause damage to the site if the following conditions are fulfilled. The permit is hereby granted on following conditions.

- This permit is granted for the period 9<sup>th</sup> to 31<sup>st</sup> of July 2016
- No traffic is allowed on the outside slopes of the Hverfjall Crater except on marked footpaths on the northeast-, and south sides. Sampling must therefore be done on the inside slopes of the mountain itself, inside the crater, or in the open fields around Hverfjall.
- If sampling on the outside slopes of Hverfjall are necessary please contact Davíð Örvar Hansson, advisor at the Myvatn and Laxa Nature Reserve for further advice.
- This permit is valid for 400 samples weighing 10 grams each at the lava field of the Hverfell.
- All traces should be well covered after the collecting of samples. If a test hole will be drilled the hole should be marked for further inspection of safety.
- While at the location keep in mind that the region is a popular tourist site. Therefor it is important to follow the terms of protection and show a good example to others. For the same reason you are asked to minimalize the use of drones during the day, from 10:00 to 18:00, in respect to the visitors of the Natural Monument.
- Before the work by Hverfjall begins, please contact Davíð Örvar Hansson.
- Please keep the signed permit with you during the research.

According to Prof. Geppert permit will be sought to the Institute of Natural History if samples will be exported. For all research in the Krafla region, you are advised to contact landowners in Reykjahlíð, Myvatn. Landowner's spokesman is Olafur H. Jonsson; email: olih@oson.is

All further information will be given by Davíð Örvar Hansson, by email: <a href="mailto:david.hansson@umhverfisstofnun.is">david.hansson@umhverfisstofnun.is</a>, or by phone +354 591 2000 at office hours.

The Environment Agency of Iceland notes that the agency charges a fee for processing applications for permits in protected areas on the basis of Article 92 of Act nr. 61/2013 on Nature Conservation. Fee for activities and construction in protected areas is kr. 39,400. Fee for filming and/or photography in protected areas is kr. 52,600.

Sincerely

Sigrún Agústsdóttir/

Sviðsstióri

Davíð Örvar Hansson

J Örvar Hansson

Sérfræðingur