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Hella 10. maí 2017  
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09.05.01

**Subject: Research application in Hverfjall and Laugahraun**

The Environment Agency of Iceland has received a request from the Stockwell Laboratory Columbia University, date 20<sup>th</sup> of April 2017 to collect samples of loose volcanic rock and tephra from slightly below surface in May – September this year.

The Environment Agency manages following protected areas that are mentioned in the application: Hverfjall natural monument and Laugahraun in the nature reserve Fjallabak. Disturbance to geological formations, vegetation and wild animal life in the protected area is prohibited without permission from the Environment Agency of Iceland. That also includes sampling for scientific research.

Separated research permission is needed for following sides. Holuhraun, National Park Vatnajökull [vjp@vjp.is](mailto:vjp@vjp.is). Krafla and Gjástykki of Reykjahlíð, [gudrunm@lre.is](mailto:gudrunm@lre.is). Eldhraun, the municipality Skaftárhrepp, [klaustur@klaustur.is](mailto:klaustur@klaustur.is).

**Description of the project:**

The purpose of project is to collect and analyse various Martina analog soils from Mars analog environments such as Iceland, etc. This method aim is to focuses on any small molecules associated with metabolism, a function that is required by all life.

The sample collection is rather non-invasive, requiring only a little digging with scoop. No hammering or drilling will be required.

**Condition**

The Environmental Agency of Iceland grants you permission for the research project as described above at Laugahraun inside the Fjallabak nature reserve and at Hverfjall natural monument. The research permit is subjected to the following conditions:

- This permission is granted for Laugahraun and Hverfjall May to September 2017.
- The Environment Agency requests that the researcher will contact the ranger working in Fjallabak and Hverfajall before field work begins and inform him on your intentions.
- Keep the signed permit letter with you during your research.
- Sample quantity should be restricted as described above and only used for research purpose.
- Samples should be taken where the laceration in remaining rock will not be too obvious to others.
- Only loose material should be taken. Use of hammer or similarly tools to loose material is prohibited.
- Every measure should be taken to avoid unnecessary disturbance to vegetation on site.
- The Environment Agency of Iceland wishes to be secured, free of charge, a copy of all reports and scientific articles that result from the research project.
- Off road driving is prohibited.

If you wish to transport the samples from Iceland you will need a permission from the Icelandic Institute of Natural History ([www.ni.is](http://www.ni.is)), e-mail: [ni@ni.is](mailto:ni@ni.is)

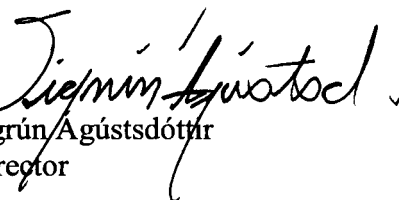
#### **Permission fee**

The Environment Agency charges a fee for processing applications for permits in protected areas in accordance with the art. 92 of law nr. 60/2013 (the Nature Protection Act). The fee is ISK 39.400. The invoice will follow this permit.

#### **Supervision**

The Environment Agency charges a fee of ISK 13.200 per hour for supervision of the research. The sites in questions will be evaluated before and after the research and EA' ranger will be available for guidance. An estimate of 2 hours of supervision in each side is needed for this research project.

Sincerely

  
Sigrún Agústsdóttir  
Director

  
Hákon Ásgeirsson  
Advisor