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09.05.01

Subject: Permit to sample Fresh hyaloclastite (móberg) within the protected areas of Kerlingarfjöll and Fjallabak

The Environment Agency of Iceland has received an application from Tenley Banik, dated 2nd June 2021, for a research project within the protected areas of Kerlingarfjöll and Fjallabak.

Fjallabak is protected as a nature reserve, cf. regulation no. 354/1979. Construction work, extraction of minerals, disturbance to geological formations, vegetation and wild animal life in the protected area is prohibited, except with a permit from the Environment Agency of Iceland.

Kerlingarfjöll is protected as an area of landscape, cf. Regulation no. 822/2020. Disturbance to geological formations, landscape, hot springs, other springs and ecosystems in hot springs in the protected area is prohibited. Permission must be obtained from the Environment Agency of Iceland for organized events and projects that need facilities, labour force or use of equipment within the protected area such as filming, at events and ceremonies.

Description of the project:

The applicant is Investigating Oxygen Isotopes in Icelandic Hyaloclastites. Fresh hyaloclastite (móberg) will be hammered from outcrop in a discrete place not obvious to others. In places where outcrop sampling is impossible, loose clasts whose origins are obvious will be sampled instead. No chemicals will be used, strictly rock collection with hammer/chisel.

At Kerlingarfjöll, the applicant aims to collect 1-2 samples, ~ 1 kg each, from Mosfell, Kúpa, or Skeljafell, or potentially Ásgarðsfjall. At Landmannalaugar, the applicant aims to collect 1-2 samples, ~ 1kg each, from Tjörvafell, Norðurnámur, Aldan or Tjaldfell.

The applicant aims to collect 1-2 samples of ~1 kg each from each of the Kerlingarfjöll and Landmannalaugar areas. No more than 4 total samples will be collected.

Depending on what the data shows, the results of the study will be published in an internationally visible geologic journal with the appropriate focus.

Impact assessment:

The Environment Agency of Iceland considers the project to be minimal and not likely to have negative impact on the protected areas of Kerlingarfjöll and Fjallabak. Damage due to 1 kg sampling in four different areas is small or insignificant. Research might however contribute to increased knowledge of the geology of the areas and is likely to increase their conservation value.

Conclusions and conditions:

The Environment Agency of Iceland hereby grants Tenley Banik permission on its behalf to investigate Oxygen Isotopes in Icelandic Hyaloclastites within Kerlingarfjöll and Fjallabak as described above on 4. - 13. of July 2021 on the following conditions:

- Keep this letter with you on site during the project. The permit conditions should be introduced to the staff of the project before work begins.
- The applicant shall inform rangers in the area about their arrival and departure. This is to be done 24 hours before entering the area and again before leaving it.
- If the project dates or description changes the Environment Agency shall be notified as soon as possible.
- When it is necessary to go off-path, extra care must be taken not to cause damage to terrain, including vegetation, soil and geological formation. All traces of activity must be removed afterwards.
- Crew members should stay on authorized paths/tracks/roads.
- The crew must follow rules of conduct that apply to the area.
- This permit is only valid for research purposes. It does not include permit to utilize the samples for commercial purposes. The samples cannot be signed over to third party for commercial use.
- Every measure should be taken to avoid damage to the sites and unnecessary disturbance while collecting samples.
- Samples should be collected where any resulting disturbance to soil, vegetation or geological formations is not visible to other visitors.
- All participants in the project must wear high-visibility clothing during field work, labelled with the identity of the researcher or the research institute.
- All disturbance to animals and wildlife is strictly prohibited.
- Off-road driving in Iceland is strictly prohibited.
- The project's staff is required to prevent all disturbance to the environment and make sure that all litter is removed from the sites.

If the developer causes damage to nature, according to art. 87 in the Nature Conservation Act no. 60/2013, the Environment Agency of Iceland can, according to the Nature Conservation Act, i.e. order the licensee to fix damage to nature and vegetation and/or stop the project.

The Environment Agency of Iceland can according to art. 89 in the Nature Conservation Act no. 60/2013 change conditions of the permit, add new conditions or withdraw the permit in order to prevent damage to nature if environmental conditions change.

According to art 89. in the Nature Conservation Act no. 60/2013, the Environment Agency can withdraw the permit if conditions of the permit are not complied to.

Permit from the National Energy Authority is needed for research in geothermal areas (www.os.is).

If you wish to export samples from Iceland a special permit is needed from the Icelandic Institute of Natural History (www.ni.is).

The Environment Agency of Iceland wishes to receive, free of charge, a copy of all reports and scientific articles that result from the research project.

Permission fee:

Environment Agency of Iceland charges a fee for processing applications for permits in protected areas based on Article 92 of Act no. 61/2013 on Nature Conservation. The fee for research is 39.400 ISK according to art. 24. b. in the agency's tariff no. 535/2015.

Sincerely

Sigríður Skaftadóttir
lawyer

Magnús Freyr Sigurkarlsson
advisor