

University of Wisconsin - Milwaukee

PO Box 413 Geosciences Milwaukee WI

Vestmannaeyjum 29. júní 2017
UST201706-084/P.V.B.

Subject: Research permit

The Environment Agency of Iceland has received a request from Barry I Cameron on behalf University of Wisconsin-Milwaukee, dated 7th of June 2017, regarding permits to collect altered sediment samples from geothermal sites in Trölladyngja.

Trölladyngja is inside the country park Reykjanes. Disturbance to geological formations in the protected area is prohibited without permission from the Environment Agency of Iceland. That also includes sampling for scientific research.

Description of the project:

The objective of the project is to characterize the life-sustaining redox gradients developed in Icelandic volcanic hydrothermal environments, and how these are reflected in the geochemical and mineralogical patterns of associated basalt alteration. The environmental controls will be determined on the alteration mineralogy and geochemistry by examining deposits that span a range of pH, temperature (T), redox state, salinity, and fluid and substrate compositions in Icelandic fumarole and hot spring environments in an effort to identify unique signatures of hydrothermal conditions that can be applied to interpretations of putative martian hydrothermal deposits. 10-15 samples of the altered sediment will be collected to ensure that all the different collors will be collected. Each sample is 2 cm³ and will be colected by scraping the surfase.

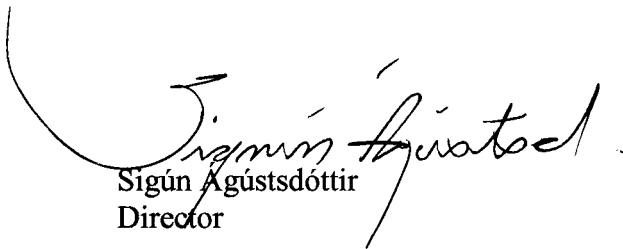
Guidelines from the Environment Agency:

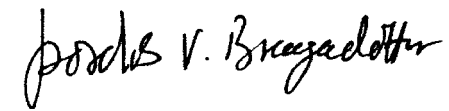
The Environmental Agency of Iceland grants you permission to collect the sediment samples at geothermal sites in Trölladyngja inside Reykjanes country park. The permit is subjected to the following conditions:

- This permission is granted for the period 22th June to 4th of July 2017.
- The Environment Agency requests that the researcher will contact the rangers working in these areas before field work begins and inform him on your intensions.
- Sampling should be conducted while visitor number is at minimum.

- Keep the signed permit letter with you during your research.
- Sample quantity is restricted to 15 2 cm³ samples sediment as described above.
- 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 the purpose of commercial use.
- Every measure should be taken to avoid damage to the sites and unnecessary disturbance while collecting the samples.
- 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 in all circumstances.
- A separate permit from the National Energy Authority in Iceland, os@os.is is needed to conduct research at geothermal sites in Iceland which should also be kept with you at the research site.
- If you wish to transport the samples from Iceland you will need a permission from the Icelandic Institute of Natural History (www.ni.is), e-mail: ni@ni.is

Sincerely


Sigún Agústsðóttir
Director


Þórdís Vilhelmína Bragadóttir
Advisor