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UMHVERFISSTOFNUN

Vestmannaeyjum 1. júlí 2016
UST201605-077/P.V.B.
09.05.01

Subject: Research permitt

The Environment Agency of Iceland has received a request from Mark van Zuilen on behalf of Institute de Physique du Globe de Paris, dated 23rd of May 2016, regarding permits to collect silica sinter and water samples from for Seltun at Krysuvik and Geysir park.

Seltun at Krysuvík 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.

Geysir is a site of special interest, where the hot springs are protected by article 61 in the Icelandic nature protection law, no. 60/2013. The Environment Agency of Iceland handles the part owned by the government inside Geysir area.

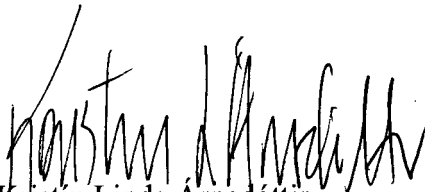
Description of the project: The objective of the project is to study the structural and compositional variation of key groups of microorganisms as they are subjected to artificial silicification in the laboratory, and to compare these characteristics with those of already silicified microbial communities in natural hot spring silica sinters. The silica sinters surrounding Geysir, Strokkur and Krísuvík have been studied extensively in the past by other research groups, and a large knowledge base already exists for silicified microfossils of cyanobacteria. The specific goal of this project is to obtain a sample base of these sinters to be compared with experimentally silicified microorganisms. The plan is to collect small sample pieces (few cm) from the silica sinters and the microbial mats (if present), and obtain small test tubes of the hot spring fluids. Sample size of sinter will be 5 cm by 3 cm. At Geysir 10-20 silica sinter samples and silicified microbial mat samples will be collected. Samples will be collected at the oldest silica terraces at the northwest side. At Strokkur 10-20 samples will be collected of the silica sinter and silicified microbial mat. Samples will be collected close to the paths that surround the site. At Krísuvík 10-20 samples will be collected of the silica sinter and silicified microbial mat. Sampling will take place at the main hot spring. Also 10 water samples (small test tubes) will be collected at each location. All these samples will be brought back to our laboratory in Paris for further study.

According to article 60 of the Icelandic nature conservation law it is prohibited to collect fossils and minerals in Iceland except with permit from the minister of the Environment. Your application has therefore been forwarded to the ministry for the environment and natural resources. Permission to collect samples of silica sinter and from the microbial mat in Icelandic geothermal sites must therefore be obtained from the ministry.

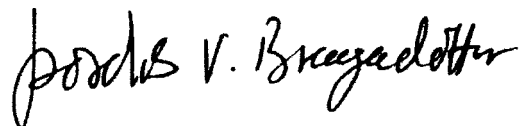
The Environmental Agency of Iceland grants you permission to collect water samples in Krísuvík, Geysir and Strokkur. The research permit for the water samples is subjected to the following conditions:

- This permission is granted for the period 3rd to 10th of August 2016.
- The Environment Agency requests that the researcher will contact the rangers working in these areas before field work begins and inform him on your intentions.
- 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 maximum 10 small test tubes per site 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.
- It is strictly prohibited to walk on the sinter.
- 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



Kristín Linda Árnadóttir
General Director



Þórdís Vilhelmína Bragadóttir
Advisor