Preparation of samples for analyses

Ten water samples were collected at a low-enthalpy geothermal heat-power plant. Two samples were collected at every sample-point. See the figure below for a schematic of the power plant and the locations of the five sample-points. Samples collected at location A were from one production well, whereas the other samples came from a flowstream that consisted of two water coming fromo two production wells. The samples were collected in 1-litre PP bottles; silica based bottles were avoided due to the possibility of it impacting the silicon concentrations. The samples were stored at room temperature for 24 hours and 48 hours, after which the samples were prepared for ion-chromotagraphy (IC) and induced coupled plasma mass-spectrometry (ICP-MS) respectively. The analyzed samples were diluted ten times with milliQ water and nitric acid, with the final solution having a nitric acid concentration of 0.68 wt% HNO3. In the case of the IC analyses the solutions were immediately filtered (0.45 μm mesh, Chromafil Xtra) and in the case of ICP-MS the solutions were filtered 72 hours after dilution (0.20 μm mesh, Chromafil Xtra). The solutions were then diluted further, to achieve ion concentrations in the solutions within the measurement range of the IC and ICP-MS devices.

