

Scaling in geothermal pipelines

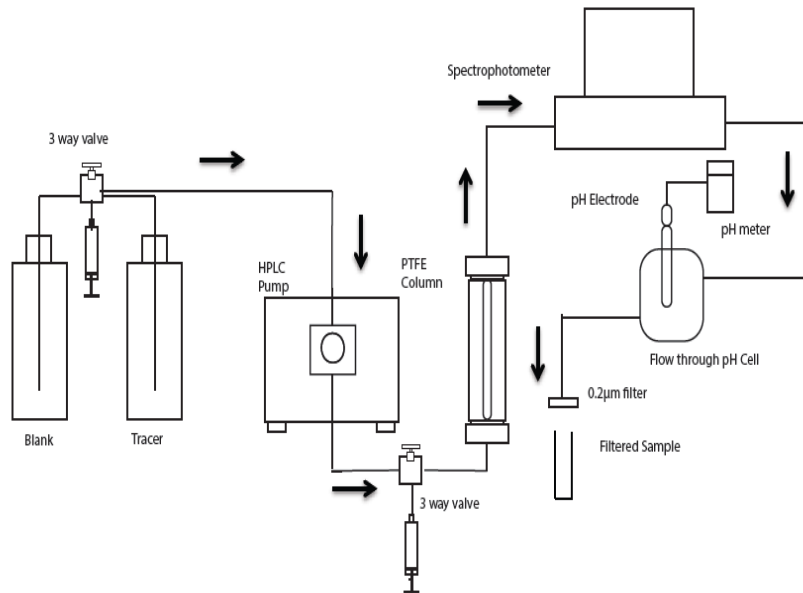


Fig 1. Experimental setup



Fig 2. Sampling at high temperature geothermal well

Tracer tests were conducted on six commonly used geo hydrological tracers for three different rocks Basalt, Rhyolite and Quartz at pH acid, basic and neutral respectively. Teflon reactors are pre loaded with dry rock and tracer was pumped at fixed flow rate for 3-4 pore volumes and switched back to back ground solution. Break through curves obtained from spectrophotometer assist to calculate the concentration and recovery percent of the particular tracers. Out of six tracers Rhodamine B and Fluorescein sodium salt have less recovery percent and high sorption tendency compared to other four tracers. At present working on 1-D reactive transport simulations with the aid of the PHREEQC program.

In the past 6 months learned how to sample from high temperature geothermal wells and analyze the samples by various analytical techniques such as Ion chromatography for major anions ,H₂S and CO₂ by titration and spectrophotometer technique and Gas chromatography for the gas species in steam samples.