BS Geokinetics ApS

Specialized Company for electro chemical remediation of soil, ground - and wastewater.

Test for treatment of PFOS in wastewater

Test cell with electrodes.

Date: 13.10.2023

Place: Odense, Deanmark.

Medie: Wastewater from Ragn Sells in Norrköping, Sweden (100 Liter).

Used technologi: ElectroChemicalGeoOxidation (ECGO).

Test duration: 12 hours.

The Test :

The Test was performed as a lab test with 100 liter of wastewater delivered from Ragn Sells in Norrköping. The water was from an external container pumped through an electrochemical cell during 12 hours, with an flowrate of 13 liter/minute or approx. 780 liter/hour. The test cell has the dimensions of 65 x 35 x 20 (17) cm, equal to an amount of 38 liter. The flow of water from the external container to the test cell and back was made with a small electrical pump. In the external container was added 50 liter Co^2/hour through a diffuser. To the electrodes in the test cell there was put on an DC power of 220 Watt/hour. The electrode surface was 0,9 m^2 in total (anodes + cathodes). As electrode material was used graphite plates.

Test media:

100 liter of Wastewater was picked up at Ragn Sells in Norrköping, Sweden,
There was taken 2 samples prior start of the test. Through the duration of the test time of 12 hours, samples was taken after 1 hour, 4 hours, 6 hours, 9 hours og 12 hours, each time 2 pieces, which then was places in the cooling box. Following up, 2 samples was sent to be analyzed (0 sample and 12 hour sample) at Eurofins Laboratory in Denmark.

Here the results:

	0 sample	12 hour treatment
PFOA	310 ng/l	73 ng/l
PFOS	98 ng/l	4,3 ng/l
PFNA	7,8 ng/l	0,62 ng/l
PFHxS	52 ng/l	29 ng/l
Sum of 4	470 ng/l	110 ng/l

The remaining samples are in analyzing progress at Eurofins laboratory.