Surface water treatment

Leachate basin, Traiskirchen, Austria

Compost plant
2514 Traiskirchen, Austria

Operation
1 OLOID Type 400 each in rectangular basin (max. 90 m³) and L-basin (max. 215 m³)

Period
Since 08/2018 (basin 1) and 12/2018 (basin 2)

Success
Reliable odour removal

Avoidance of anaerobic biology

Plant description

At the commercial composting plant, the biological waste from communal collection is processed together with shredder material (green waste / shrub cut). The total annual amount of less than 10,000 tons of input material allows composting on open windrows. The rotting is thus in triangular heaps under the open sky on the asphalted area of the plant. Waste water from heaps and leachate from the heaps is collected in collecting basins - this water is used to irrigate the windrows when needed.

The 1. rectangular basin is equipped with an OLOID Type 400 with jetfloat floats (dimensions: about 9 m length and 4 m width, a max. of 2.5 m depth, left in the top picture) - here is the load the largest and also most deposits are included. The overflow goes into basin 2.

In the 2nd L-shaped pool (dimensions: about 9 m and 4 m respectively width x 4 m and 14 m respectively length, max 2.5 m depth, right in the top picture and picture next page) is an OLOID type 400 with PE floats installed. Here, the load is slightly lower and the deposits are much lower.

Depending on the quality, the overflow of the second basin is added directly to the heaps or mixed with fresh water in the third basin (square basin, dimensions: approx. 4 x 4 m, maximum 2.5 m depth) to reduce the load on the heaps and prevent collapse of the aerobic composting process.

Basin 4 (like pool 3, dimensions: approx. 4 x 4 x 2.5 m) serves as a template for the fresh water, which is used if the water quality of the other basins is not sufficiently good for the advanced heaps.

Problem description

The wastewater is highly enriched with organic matter and develops under anaerobic conditions intensive odour emissions as well as digested sludge deposits in the basins. Watering the windrows with this anaerobically contaminated water impairs the composting process, which requires an aerobic environment for the bacteria.

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Solution
Movement (agitation, circulate) and oxygen intake (aeration) with the OLOID technique.
For this purpose, both the rectangular basin (dimension: about 9 m length and 4 m width, max. 2.5 m depth, left in the picture, 1st page) and the L-shaped basin (dimensions: approx. 9m or 4 m respectively width x 4 m or 14 m respectively length, max. 2.5 m, right in the picture, 1st side and bottom) each equipped with an OLOID type 400.

Goal of the OLOID operation
In August 2018, an OLOID Type 400 was initially installed in the heavily loaded rectangular basin. The aim of this first OLOID mission was:
- Ventilation and flow through the leachate for odour reduction
- Oxygenation in the basin, as anaerobic conditions and strong sludge deposits are present, which have a negative effect on the windrows.

Success of the OLOID operation
Through the agitation and aeration of the leachate, all goals have been achieved:
The odour reduction is evident.
- The odour emissions are evidently greatly reduced
- The "tipping" of biology to anaerobic environment was prevented
- The sludge deposits could obviously be reduced very much

The good success led to the fact that in December 2018 a further OLOID Type 400 in the second basin (L-shaped) was installed.

See also a YouTube video:
https://youtu.be/AagI2260cps

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