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Case study

Clew park wastewater treatment plant

Background

Cleo Park Sharm El Sheikh - five-star hotel, the largest and first water park in Sharm El Sheikh. It contains 22 games in addition to an artificial wave pool and many different activities. It was established in 2006 AD, to be one of the most beautiful places for entertainment and recreation in the Sharm El Sheikh region in the Arab state of Egypt. It was established on a large area estimated at 50 thousand square meters. The park is managed according to the highest international standards for operating water games around the world.

The resort's waste is discharged to a sewage treatment plant with a capacity of 500 cubic meters per day, but in seasonal conditions it reaches 700 cubic meters per day. It operates with activated sludge process.

Objectives

- Remove bad odors
- Reducing sludge removal costs.
- Increase plant capacity.
- Reducing the chemicals used.

Solution

- According to Valens Company’s professional experience in managing, operating and maintaining sewage treatment plants, it was contacted to design and activate the required solution.
- Increasing the operational efficiency of the station through the use of Valence technology

Implementation program

- Using Valens company technology with initial shock doses to rehabilitate the system, then maintenance doses that gradually decrease to reach complete stability in the system.
- The program was carried out in successive strong shock doses from our product on the first, second and third days, 3 ppm and 1 ppm on the fourth and fifth days, then maintenance doses of 1 ppm every week.
- The doses included all the tanks in the plant, as well as the production tank, in the first stages
- Maintenance doses were on the plant's tanks only, without the production tank, because the product outflow conformed to the specifications

Results

Laboratory test analysis results

Analysis Report

Characteristic	Sample (Treatment)		Ref.Range	Intern.Units
	No.1 (Before Treatment)	No.2(After Treatment)		
ph	6.65	6.9	6-8.4	.----------
Conductivity	2120	1530		µs/cm
Total dissolved solid (TDS)	1400	1010		ppm
Total suspended solid (TSS)	424	31	40.0 Max.	ppm
Turbidity	190	12.33		NTU
Total Nitrogen	10.4	3.5		ppm
COD	410	48.7		ppm
BOD	324	31.5	40 max	ppm
Ammonium (NH4	47	0.58	5.0 Max.	ppm
Nitrates (NO-3)	1.2	<0.2	10.0 Max.	ppm
Copper (Cu2+)	0.2	<0.1	0.4 Max.	ppm
Zinc (Zn2+)	0.4	<0.2	4.0 Max.	ppm
Chromium (Cr6+)	0.03	<0.02	0.1Max.	ppm
Lead (Pb2+)	<0.1	<0.1	0.1Max.	ppm
Cadmium (Cd2+)	0.02	<0.01	0.01 Max.	ppm
Nickel (Ni2+)	<0.02	<0.02	0.2 Max.	ppm

Results after the end of the experiment:

1- Completely remove bad odors from the resort 3 days after starting treatment with our product
2- Increasing the plant's capacity as a result of reducing the retention time.
3- Increasing the efficiency of the plant means enhancing, stimulating and accelerating the digestion process of organic materials and thus reducing the volume of sludge by a large percentage of up to 80% from what it was before the treatment operations and thus reducing the costs of sludge disposal.
4- Improving the chemical properties of treated water (BOD & COD)
5- Reducing the amounts of chemicals used in all treatment operations up to 70%.

Conclusion

Based on the visual observations and laboratory analysis results, the administration's recommendation was to use our product product in all stages of treatment, and also to discuss the extent of its use in the feed lines coming to the plant to eliminate odors permanently.

Contact

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