THE ORGANIC BEHAVIOR IN THE SEWAGE WATER OF THE (ENAJUC) CHLIF BY USING Q STABILIZING PONDS

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INTRODUCTION

Waste water stabilization pond technology is one of the most important natural methods for waste water treatment. Consist of Shallow man- made basins comprising a single or several series of anearobic, facultative or maturation ponds. The primary treatment takes place in the anaeroble pond, which is mainly designed for removing suspended solide, and some of the soluble element of organic matter (BOD_5).

During the secondary stage by facultative pond most of the remaning BOD_5 is removed through the coordinated activity of algae and heterotrophic bacteria and in the maturation pond insist on the remoral of pathogens and nutrients (especially niitrgen).

Waste stabilization ponds is well suited for tropical and subtropical countries because the intensity of the sunlight and temperature which consider a key factors for the efficiency of the removal elements.

So, our study conclude appling the natural facultative waste treatment sewage water for its operating technical appraise because of its experimental basin inside the factory by optimal dimensions for facultative pond, our study insiste on concentration variability of on as BOD_5 and dco and suspended matter for the pond in depth direction with the time.

The basin dimensions are fallow (length 6 m, width 3m, depth 1.5m and walls slope are 1/3).

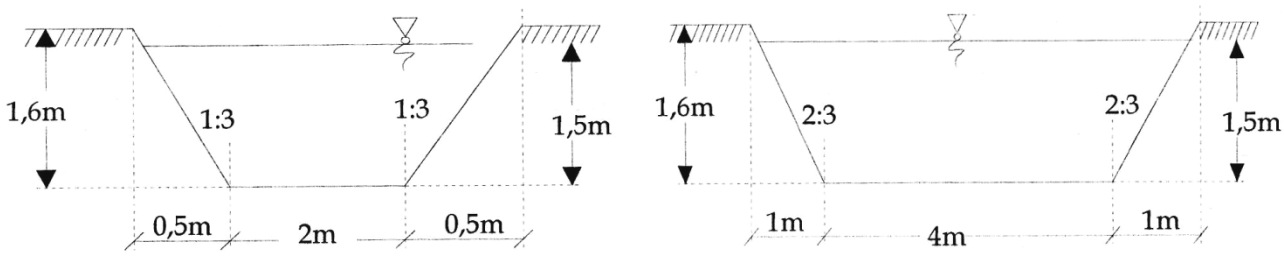

Fig.1. Experimental basin desigen

EXPERIMENTAL RESULTS

Soluble oxygen measurment as the figer bellow showing that the oxygen concentrations were near to zero during firstand second weeks and then jumping with the biggining of thrid week fro; 4.6;g/l to 5.5;g/lm the en gradually reducing toward the end of seventh week to reach from3.4mg/l to 3.1mg/l.

The figher showes the biological processes in beginning of experiment and with the biggining of thred week algae activity appearing supplying oxygen through photosynthesis then because of arobic oxidation the oxygen reduced with reducing algae with reducing food material.

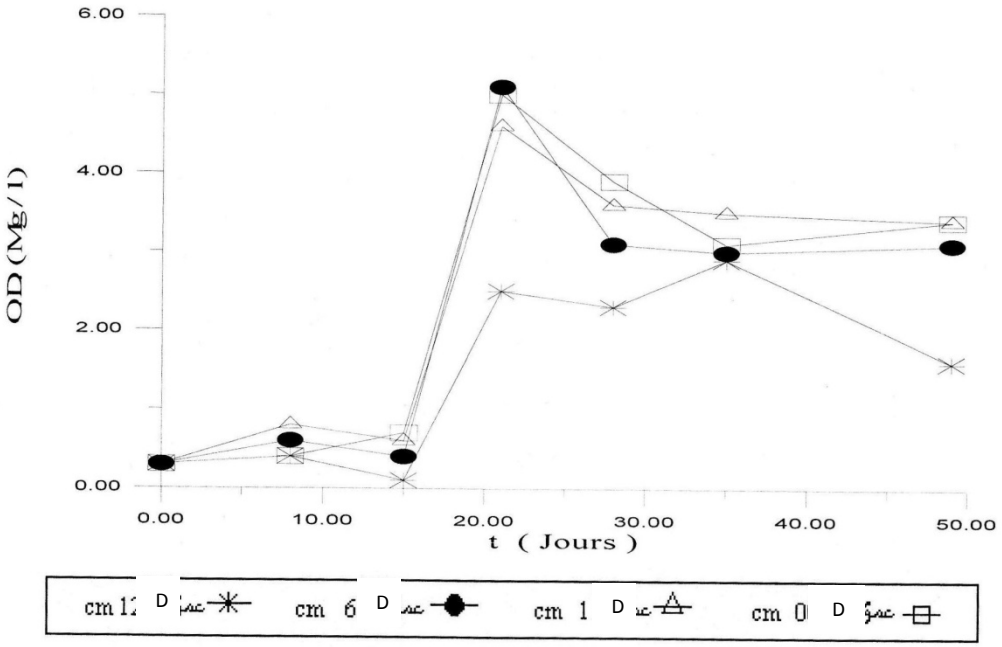

Fig. 2. dissolved oxygen variance with time

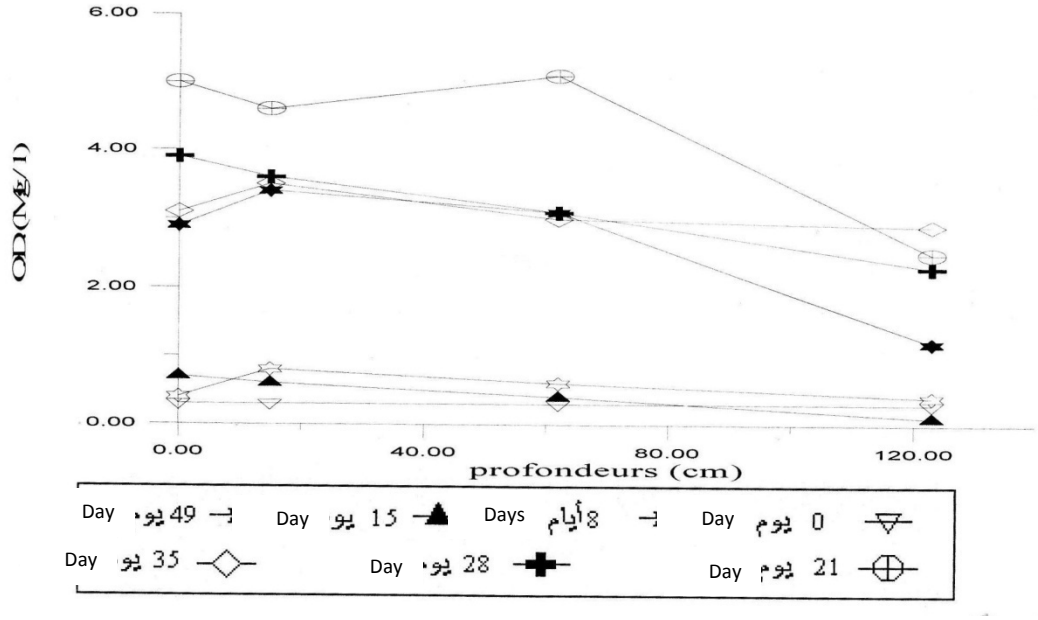

Fig.3. dissolved oxygen variance with depth

Oxygen chemical demand (Dco)

The oxygen chemical demand consideran important parameter for biological contamination and by which we can estimate the total organic matter read for oxidation, Dco always relating to DBO_5, in the beginning Hs value about 760mg/L, but H reducing Slowly reaching to thired week and fifth week which that rotated with organic matter degradation as illustrated intable below.

Tabel 1: Removing percentage for organic materiel.

Setting time (days)	7	14	21	28	35	49
Surface	10,73	27,84	36,60	49,48	59,88	88,16
First depth	5,86	10,62	16,32	58,03	80,90	-
Second depth	5,65	24,09	39,69	43,33	71,80	86,84
Thired depth	2,72	12,41	24,97	46,17	69,63	76,32

The oxygen biological demand (DBO_5)

The average measurement for oxygen biological demand around 68.33 mg 0_2/L and Hs value approprate with the scour of would health organization (wHo) which estimate by 30mg/L and that depend on the time and removing percentage of oranic matter. Hs value showes the constant value at sixth week, therefore Hs approprate to constructing aerating stabilization pond to get agoot quality of water, the value of DBO_5 reducing from about 450 mg 0_2/L to around 100 mg0_2 /L within 50 days.

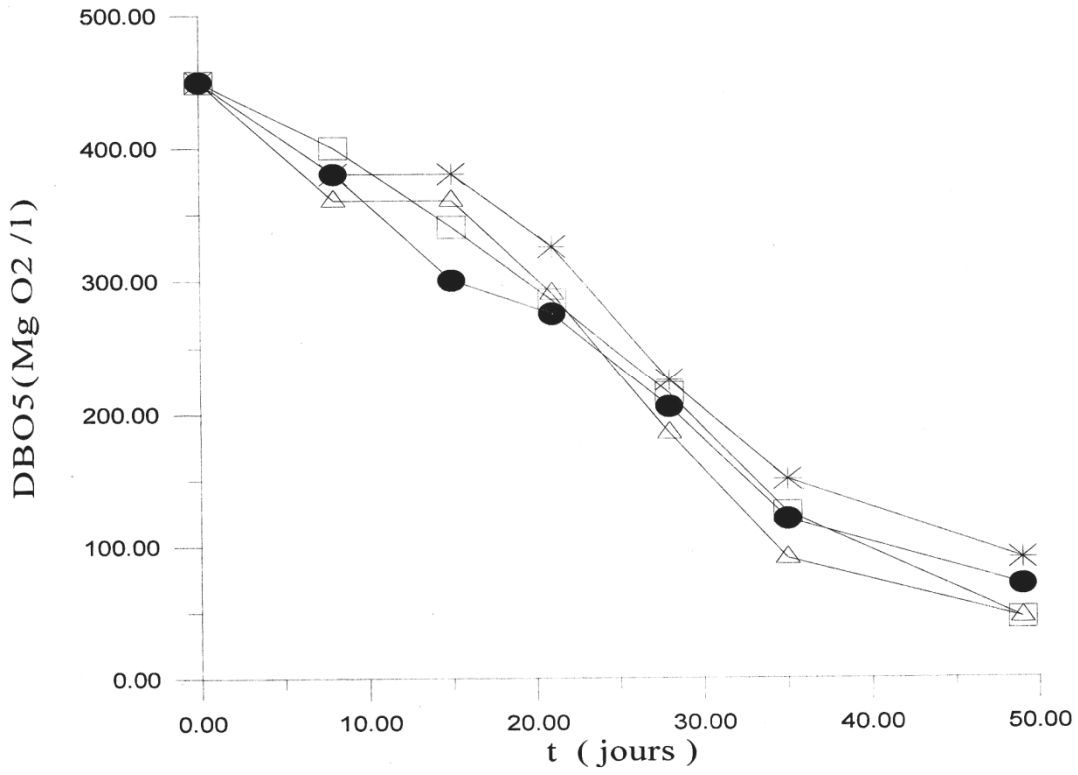

Fig.4. BDO_5 concentration variance with days

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