



April 15, 2014

Derk Maat M. Eng., P.Eng
President
Scicorp International Corp
15-220 Bayview Drive
Barrie On
L4N 4Y8

Dear Mr. Maat

We started using SR2 at the New Horizon's Subdivision WWTP to try to deal with some issues that we have had problems with. The New Horizon's WWTP is a small RBC plant (3 stage aerobic, 1 stage anaerobic) that has a flow capacity of 175m³/day. Since it's a small plant, corners were cut during the design stage of the plant to save money. This has lead to difficulty in the operating the plant and trying to achieve the final effluent objectives.

We used SR2 to try to deal with a few issues we were having and found that we have some real success with the product.

Fat - One very big problem for us in the plant is fat. When fat gets caught on the RBC it sticks to it and prevents the growth of the bio-film, which reduced the amount of treatment that can happen. When we first started adding SR2 the first stage RBC was virtually doing no treatment and was covered in a film of fat. After around a month into the treatment we noticed a definite change in the fat layer and could see bio-film growing. Within a few months you would have never know that we had a fat issue. The colour of the bio-film also changed into a healthy chocolate brown.

Settling issues – We have always had settling issues at the plant and it has been hard to control the TSS at times. I find the TSS at an RBC to be very different from a plant conventional, extended air or SBR plant. The solids are very fine and are difficult to filter out or settle. After adding the SR2 we noticed that the primary tank had a visible change and you could tell that the TSS had dropped significantly. You could also see well into the water level in the RBC, whereas before it was only a few inches. We also noticed that the final effluent was very clear and with minimal solids.

Odor – One real positive aspect was the odor reduction that we noticed. The treatment facility is indoors and in the summer, odours and gases are very noticeable. We have an online gas monitor and in the summer we are usually running 5-8% LEL, 1-3 ppm H₂S, 19.9-20.1 O₂ and 1-2 ppm CO. After adding the SR2 we noticed a real difference in smells. The gas readings also dropped but the oxygen level stayed around the same (due to the demand) 1-2% LEL, 0-1 ppm H₂S, 0-1 ppm CO.



Scum – We found that we had a real scum issue in the final clarifier. Not only with the scum very dense, thick and sticky but it stunk. After adding SR2 the scum went from a dark brown to a light cream colour. The scum became very light and virtually had no real offence smell. The part that we really appreciated was that the scum almost went completely away.

Since the plant was poorly designed, sludge stays in the primary clarifier (and all sludge collected in the final clarifier is returned to the primary clarifier) until we get it pumped out. The SR2 product stimulated the digestion of sludge stored in the primary clarifier. As a result we started having issues with sludge releasing ammonia and we felt that it was due to the bugs breaking down the sludge even further. There is also a possibility that we were having ammonia issues with the RBC itself, but this still has to be determined. We ended up lowering the dose rate of the SR2 significantly to combat this possible problem but weren't able to achieve the same results that we were getting at the recommended dosage rate. I think that wastewater plants with normal sludge wasting, digestion and or processing from the final clarifier should not experience this problem.

I believe that SR2 is an excellent product and it can have a real positive effect on wastewater plant operations on a cost effective basis.

Regards,

Brad Hoover
Operations Manager – South
OCWA – Georgian Bay Hub