



# Monitoring Report

Riffa Views - Irrigation

Kingdom of Bahrain

ScaleWatcher (SW) Water Treatment Report for  
Irrigation in Riffa Views, 29<sup>th</sup> June 2019



# Objective

OperaKool team is aiming to **provide solution on the challenges concerning the microorganism problems in Irrigation system for Riffa views.** The usual microorganism growth is always accompanied with challenges that causes so much expenses to the maintenance department. These water problems are usually:

- Microorganisms growth in pipes, pumps, strainers and sprinklers causes decrease in efficiency of the system and more pressure drop leading to more power consumption.
- Scaling and corrosion affecting the whole system.
- Algae and bacterial challenges resulting to fouling of odour of the water.
- Increased power usage due to variable water parameters affecting the system.
- High maintenance which is an additional operational expenses of the maintenance department such as replacement and maintenance shutdown of the irrigation system.

The problems stated above are the main concern and objectives, this report shows how our team was able to solve them.



# Riffa Views – Irrigation Water Treatment with SW Electronic Water Treatment



# Method of Investigation

We have covered three methods of investigation for the report to support and ensure case study of the successful working of ScaleWatcher to tackle problems faced by Irrigation System of Riffa Views. The methods are as follows:-

- Visual Analysis
- pH Testing Analysis
- Interview of maintenance and landscaping team technicians



# Visual Analysis



# Comparison

Before Installation, 20<sup>th</sup> March 2019  
Thick sludge almost making the strainer totally blocked

After Installation, 27<sup>th</sup> June 2019  
Thickness of sludge has decreased inside the strainer



Before Installation, 20<sup>th</sup> March 2019  
Thick and Greenish microorganism covering  
whole strainer



After Installation, 27<sup>th</sup> June 2019  
Less and Dull yellowish microorganism  
on some parts of strainer



After Installation, 2<sup>nd</sup> June 2019  
Reduced in thickness compared to  
before installation



After Installation, 27<sup>th</sup> June 2019  
Thickness of sludge has decreased inside  
the strainer





After Installation, 2<sup>nd</sup> June 2019

Broken and melted scaling from pipes  
with reduced microorganism on strainer



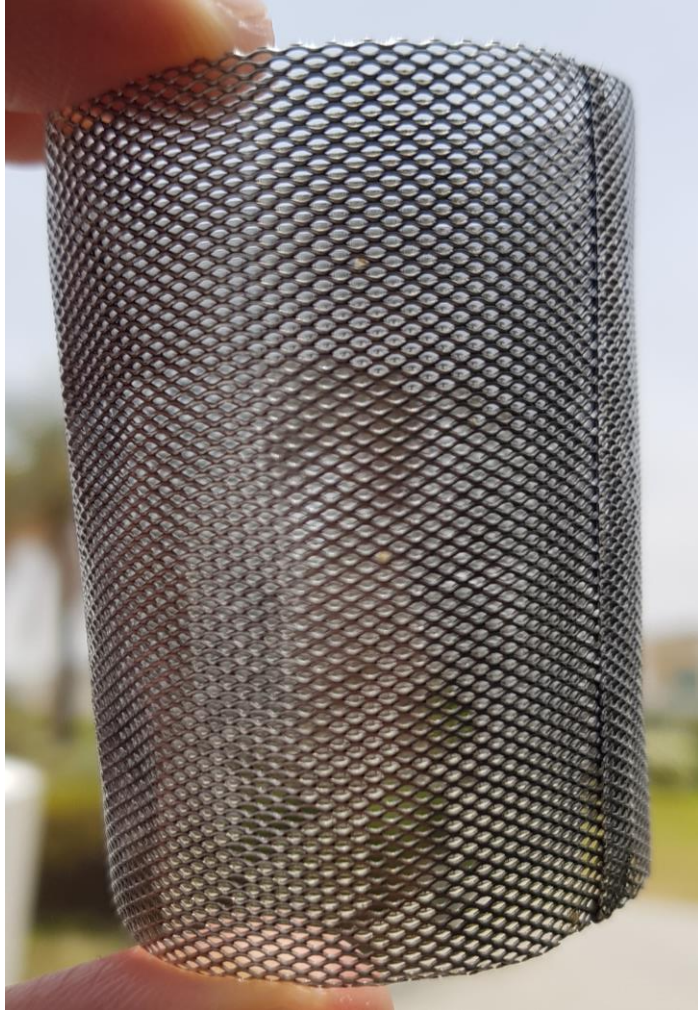
After Installation, 27<sup>th</sup> June 2019

Less and Dull yellowish microorganism  
on some parts of strainer



2<sup>nd</sup> June 2019

After cleaning



Running for 15 mins after cleaning  
The layer of microorganism within 15 mins



2<sup>nd</sup> June 2019

After cleaning

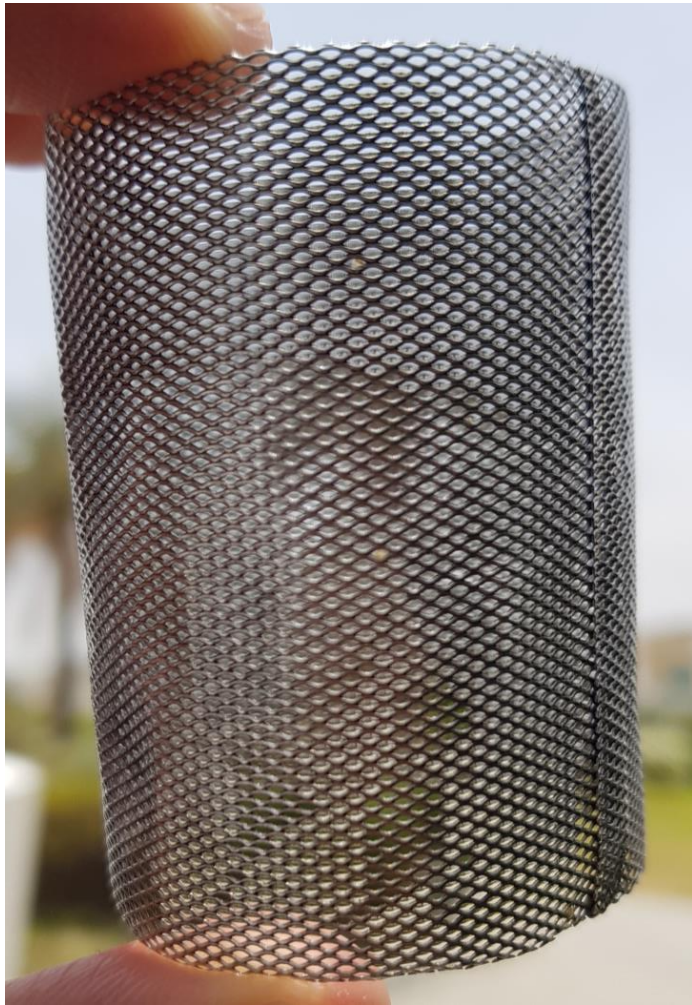


Running for 15 mins after cleaning  
The layer of microorganism within 15 mins

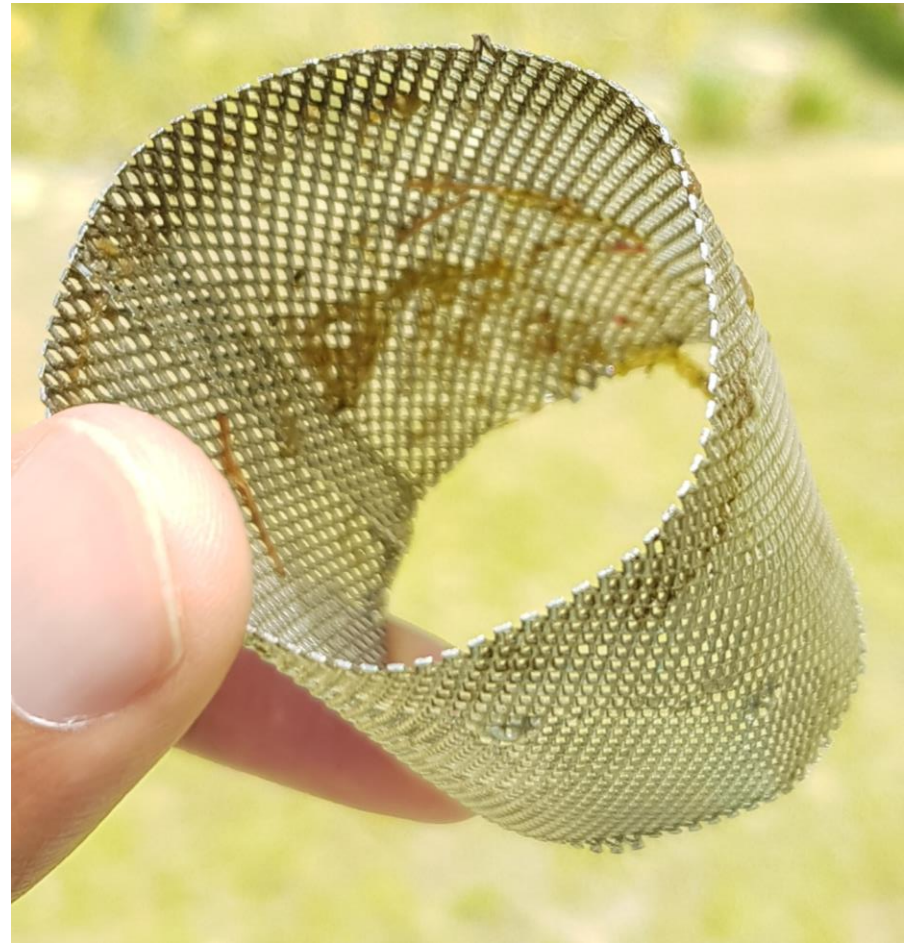


27<sup>th</sup> June 2019

After cleaning



Running for 15 mins after cleaning  
Almost no microorganism after 15 mins



27<sup>th</sup> June 2019

After cleaning



Running for 15 mins after cleaning  
Almost no microorganism after 15 mins



# Visual Analysis Summary

20<sup>th</sup> March 2019



2<sup>nd</sup> June 2019



27<sup>th</sup> June 2019



# Visual Analysis Summary

20<sup>th</sup> March 2019



2<sup>nd</sup> June 2019



27<sup>th</sup> June 2019



# pH Testing Analysis

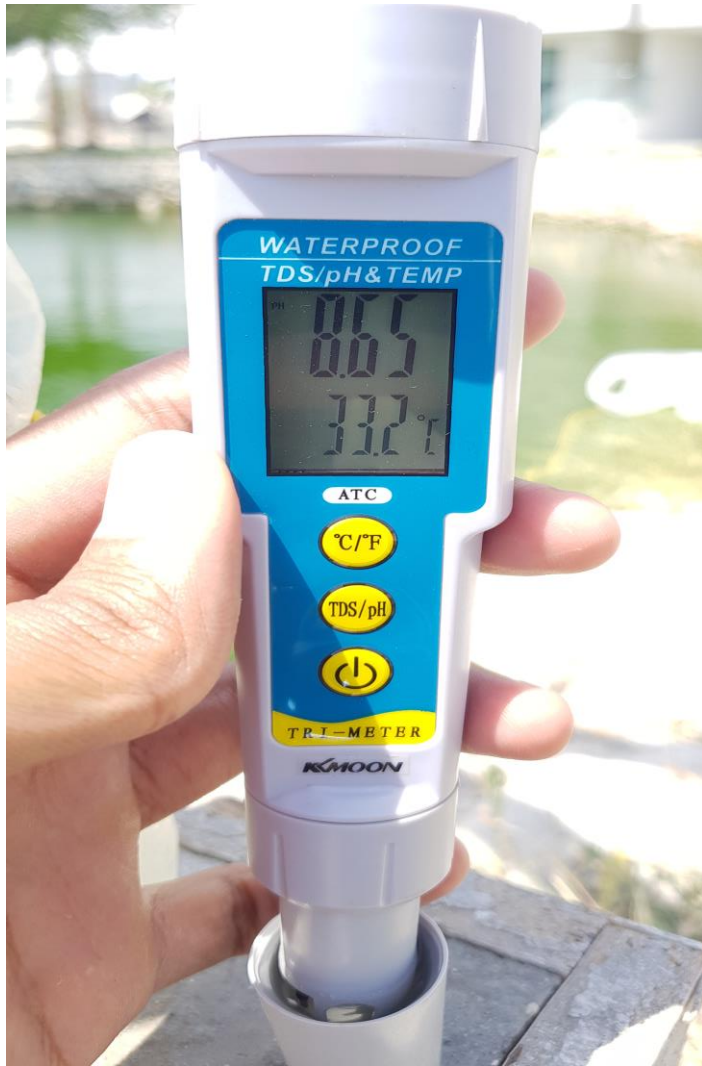




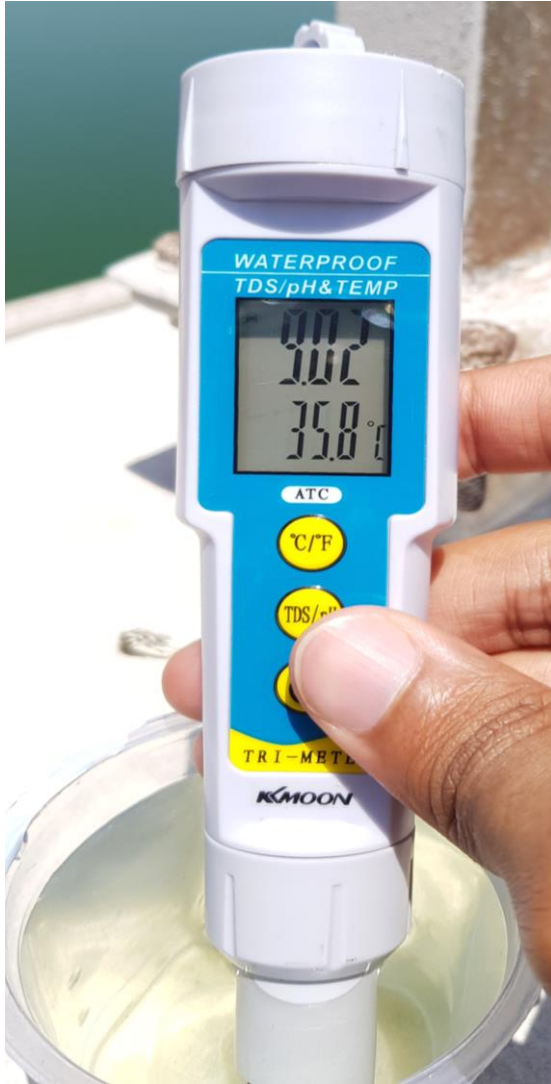
Lake Water  
2<sup>nd</sup> June 2019

# Comparison

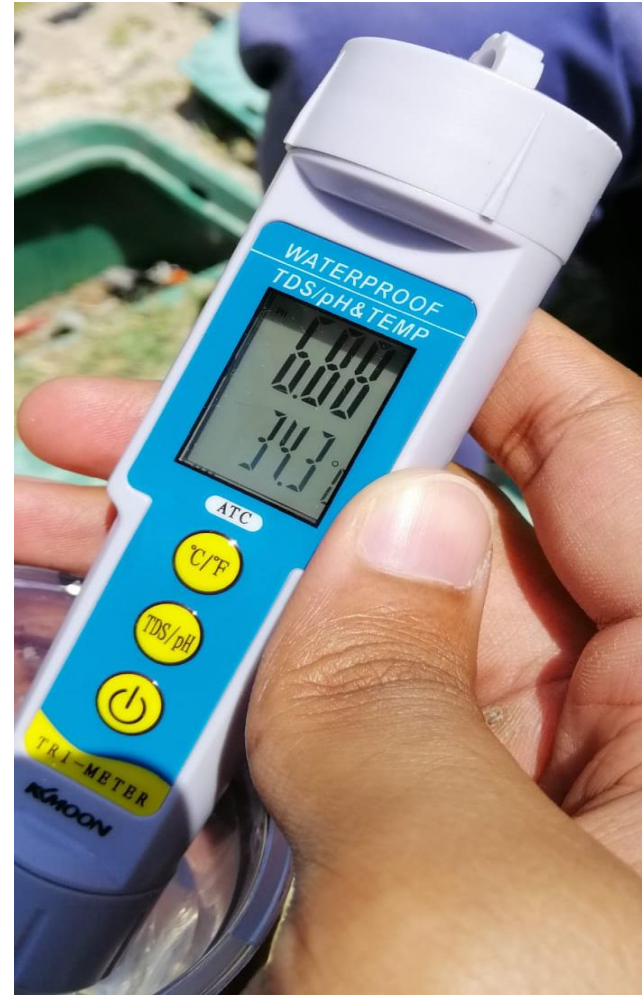
After Scalewatcher water treatment  
from irrigation line  
2<sup>nd</sup> June 2019



Lake Water  
27<sup>th</sup> June 2019



After Scalewatcher water treatment  
from irrigation line  
27<sup>th</sup> June 2019



# Interview of maintenance and landscaping team technicians



# Interview and Observation

- All the data were taken under the presence of Riffa Views Management and Landscape Management technicians.
- It was observed and even noted by interviewing management that they used to clean daily on all strainers but now it has reduced to each strainer being cleaned once or twice a week.
- During the interview of one of the landscape technician, he mentioned that the thickness of dirt and sludge around the strainers has reduced drastically , our visual reports above supports the comments.



# Conclusion

- Providing an effective water treatment will ensure a significant reduction of maintenance expenses of the irrigation system, lesser maintenance shutdown of high invested units with longer performance period and minimal concerns on water parameters affecting any system or application.
- Achieving these results will positively increase the revenue of the property.
- In order to achieve and maintain the ideal water parameters with a minimal expenses, we are proposing to install an Electronic Water Treatment (EWT) - ScaleWatcher to have a 24/7 water treatment.
- ScaleWatcher is a patented technology from The Netherlands proven to provide solutions to various problems associated with water.
- It is a maintenance free, non-invasive and eco-friendly water solution that guarantees to eliminate scaling, corrosion, biofilm causing the fouling of odour and significantly lower the maintenance expenses for Riffa Views.



# Recommendations:

- Secure a 24/7 electrical power connection for the SW Electronic Water Treatment System.
- Monitor the status of the heater and check the inner surfaces of the system and compare to the records of expenses before the SW was installed.
- Check the status of the microorganism and the pH of water.
- Installation of SW Commercial and Industrial Models for the inlet water line of irrigation systems, main storage tank, pumps, RO system, washing machine, steamers, chillers, pumps, swimming pool and spa area to significantly reduce maintenance expenses and provide protection to extend functionality of the said high-value equipment.



# OperaKool

ENVIRONMENTAL CONTROLLERS

Your **SERVICE**  
**SPECIALIST** in saving  
water, money and  
energy for the  
Kingdom of Bahrain  
and the rest of the  
GCC Region



Team OperaKool #@yourservice



# Testimonials of Satisfied ScaleWatcher Users Bahrain and Other Countries





# Testimonies

**Sharjah Electricity & Water Authority**  
WATER DEPARTMENT  
P.O. Box : 150 Sharjah - U.A.E.  
Telephone : 06 - 5671114  
Telefax : 06 - 5670008



**هيئة كهرباء ومياه الشارقة**  
إدارة المياه  
ص.ب : ١٥٠ - الشارقة - ا.ع.م.  
هاتف : ٥٦٧١١١٤ - ٠٦  
فاكس : ٥٦٧٠٠٠٨ - ٠٦

**الموضوع : إجراء تجربة على جهاز إزالة الأملاح والمعادن من أنابيب المياه بواسطة اسمكبل واتشر ( Scale Watcher ) الهولندي المصنع .**

لقد قام مختبر المياه في الإدارة العامة للمياه بالشارقة بتركيب الجهاز في أماكن محددة لمعرفة نسبة الحديد في الماء قبل وبعد تركيب جهاز ( Scale Watcher ) في كل من مستشفى الأسنان بكلية الهندسة والمجمع السكني بو خاطر حيث أنه قد تم تركيب جهاز واحد في مستشفى الأسنان - كلية الهندسة ولثلاثة أجهزة في المجمع السكني بو خاطر - الشارقة ( جهازين في أنابيب توصيل المياه الرئيسية وجهاز في الخزان العلوي ) وقدما بإجراء التحاليل وكانت النتائج كالتالي :

**مستشفى الأسنان بكلية**

S#	PARAMETERS	DIRECT	AFTER SCALE ATCHER	DATE
1	IRON	0.733	0.005	20/07/03
2	IRON	0.494	0.008	19/09/03

**المجمع السكني بو خاطر - الشارقة**

S#	PARAMETERS	DIRECT	AFTER SCALE ATCHER	DATE
1	IRON	0.134	0.008	22/09/03
2	IRON	0.135	0.08	13/10/03
3	IRON	0.134	0.069	22/12/03

وهذا يوضح تأثير جهاز ( Scale Watcher ) في إزالة الترسبات التي تؤدي إلى تآكل مواسير التوصيل في المباني التجارية والسكنية .  
هذا وقد أعطيت هذه الرسالة بناء على طلب الشركة ودون تحميل الإدارة العامة للمياه أي مسؤولية .  
**ملحوظة : مرفق شهادات بالنتائج .**

  
**Michael Datan**  
Senior Technician  
Fraser Suites Seef- Bahrain  
Road 2825, Block Al Seef 428, Bldg 2109  
Al Seef, Kingdom of Bahrain





November 10, 2016

## Recommendation for Scale Watcher

Fraser Suites Seef Bahrain is a fantastic 5-star luxury hotel ideally situated next to the Al Seef Mall. Located in the heart of Al Seef's financial and business centre, this excellent hotel offers superb accommodation in a central location for valued guests.

Providing a well maintained amenities such as the swimming pool as well as the shower area with good quality house water is a daily routine closely monitored by our Maintenance Team.

It is a monthly exhausting routine for us to bring the chemical softener on the 20th floor to regularly treat the main water tank that ensures the normal water supply of our hotel. Another perennial challenge that we encounter is the regular replacement of heating elements situated in each floor of our hotel and the scaling and corrosion that greatly affecting our pipelines and medium size RO unit.

Our challenge to overcome this water related problems was impressively solved when we tried Scale/Watcher which was introduced to us by OperaKool. There were 3 units of the said Electronic Water Treatment(EWT) were installed in our main water tank as well as to inlet pipe to our RO unit. Scale/Watcher models of IE8(after main water tank), IE4(before main water tank), and CM2(inlet pipe before RO) has clearly demonstrated to us very convincing results for the next 60 days after installation.

The cost of the 3 installed units mentioned was relatively very economical to our company as compared to the total costs of the usual water treatment expenses for the next 5 years which is approximately 40% cheaper excluding the expenses of the water heater replacement.

The usual problems and chemical water treatment is no longer being observed which is a very strong indication that this EWT is perfect alternative maintenance free solution. We noticed a significant improvement on the water pressure specially in the 7th floor where some pipe problems has been noted before installation as well as in the shower areas of each room in each floor.

This testimonial is hereby issued to support our satisfaction on the performance of Scale/Watcher.

Yours truly,

  
**Michael Datan**  
Senior Technician  
Fraser Suites Seef- Bahrain  
Road 2825, Block Al Seef 428, Bldg 2109  
Al Seef, Kingdom of Bahrain

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EMAIL:sales.bahrain@fraserhospitality.com WEBSITE: www.fraserhospitality.com  
C.R 68676

The Fraser Collection  
Bahrain, Bangkok, Beijing, Glasgow, Hanoi, Hong Kong, London, Manila, Nanjing, Paris, Seoul, Shenzhen, Singapore, Sydney, Tokyo, Vancouver (2009)  
Beijing (2008), Chongqing (2011), Dubai (2008), Edinburgh (2009), Guangzhou (2010), Harbin (2010), Hyderabad (2010),



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البريد الإلكتروني info@adharipark.com.bh



January 21, 2016

#### RECOMMENDATION FOR SCALEWATCHER

Adhari Park is the kingdom's largest indoor and outdoor amusement park covering a total of 165,000 square meters, consisting of various built up areas, green areas along with 3 outdoor lakes.

Ever since the park began its operations in April 2008, maintaining these lakes has been a huge challenge as we had to use large quantities of chlorine and other chemicals to ensure the water remains clean and bacteria free. Unfortunately because of the increased chlorine and chemical levels the water was hazardous for our visitors.

After extensive research and searching the local market we came across Mr. Ali and he offered us a simple solution by the name of "Scalewatcher" which he said would make all our water worries go away, being highly skeptical of his claims the management decided to invest in one unit for testing purposes and to our surprise the effects were visible within a week.

The water was much cleaner, there were no algae or bacteria floating in the water and our cost of chlorine became zero. Looking at this we decided the management decided to invest in two more units and it has been over four years now and we have not had any issues with the units and in the process increasing the longevity of our pushback systems.

Not to mention excellent after sales service and support offered by Mr. Ali and his organization "Opera Kool Trading".

We recommend "Scalewatcher" to everyone and like us you can conduct your own research online to compare and help you make your decision.

Sincerely,

Khayari Ali Salem  
General Manager  
Adhari Park Development Co.



شركة تطوير منطقة عذاري، ش.م.ب (مفصلة)  
Part of Adhari Park Development Co.B.S.C.(c)



## Unigate Dairies

Unigate Dairies Limited  
Station Yard, Tames  
Devon TQ9 5UP

Tel: 0803 865898 Fax: 0803 865899

22nd October 1993

Mr Jeff Clark,  
Etcetera Limited  
Funtley Court,  
Funtley Hill,  
Parnham.  
Hants.  
PO16 7UY

Dear Jeff,

I would like to inform you as to how we are getting on with our trial of your scale watcher system on our bottle washers.

As you know we were experiencing condensation and water droplets on the glass leaving the bottle washer which was giving us high false rejects on our dairy scan bottle scanners.

I suggested that the problem could be caused by water hardness in our washer in the area of 20 - 30 ppm.

Having installed the scale watcher the problem has completely disappeared. While I am very happy with this inexpensive and simple way of overcoming our problem I still have to confirm my trial is complete by turning the system off and monitoring the return of the problem.

In the meantime many thanks for your support and I will keep you informed as and when I have some final results to report.

Yours sincerely

M. R. Allen  
Engineering Manager

Registered Office: Unigate 96-98 Alcorn Lane, Colchester CO1 1 1SP  
Registered in London Number 367206



GFC/RF/16/001  
2<sup>nd</sup> February 2016

RECOMMENDATION FOR SCALEWATCHER

Gulf Air club is a part of Gulf Air company engaged in promoting leisure and recreational facilities to Gulf Air Staff and their families. After initial success of operations these facilities were extended to general public so that they could take advantage of the facilities offered by our company.

Amongst other facilities, we have 3 swimming pools – one which is semi-Olympic in size for Mix gender and the remaining two are exclusively for Ladies. For the past several years, it is the struggle of our maintenance crew to properly maintain our swimming pools. The company's maintenance expenses is a significant budget that really burdens our operational expenses. In addition to this concern is the scaling that we observed not only in some area of our swimming pools but also to the water tanks that we have in the area.

This is a concern that our team seek to have other alternatives to address the problem. Our company was introduced to OperKool which is providing EWT solution to our problem. The basic and simple approach of Scale Watcher to treat water was clearly explained with the support of shared experiences of satisfied customers of the said application.

After careful assessment of pros & cons of the instrument, we have decided to install one unit of IE-8 model for trial basis and within a week's time of installation, we noticed visible changes on the quality of water compared to the past. Scaling in some area in the swimming pool as well as the water tank were gradually reduced and our expenses for chlorine and acid treatment has significantly improved by 25%. Having satisfied with the improvements. The company is planning an additional 2 units to serve the same purpose that we have in our first installation since our problem for high maintenance, scaling concerns and even the not so clear water quality withy intense chlorine odor was really improved with satisfaction by ScaleWatcher.

Sincerely,



Adnan Al Khadem  
Senior Supervisor Recreation & Maintenance  
Gulf Air Club



Date : August 12, 2004  
To : Mr. Mousab Mousa  
Subject : Approval Scalewatcher in Steamer

Dear Mousa,

*It's my pleasure to inform you about your Scalewatcher unit which you have installed on 17<sup>th</sup> of May 2004. Our technical engineer had noticed the performance of this unit after 1 week of the installation.*

*The Scale around muzzles in the steam room became very soft and was easy to remove than before. Also we didn't suffer from this scale anymore because of the effect of Scalewater.*

*Moreover is no any chemical treatment needed from now to keep muzzles clean and open. The maintenance of the steamer in the steam piping is also reduced. In short, the unit is perfect.*

*I hope you hereby sufficiently have been informed.*

Sincerely yours,



Khalil Khamiri  
Asst. Chief Engineer  
Engineering Department  
Tel No. : 17 586801  
Fax No. : 17 580172  
Mobile No. : 3 9688845

