



Monitoring Report

The Ritz Carlton - Seef

Kingdom of Bahrain

ScaleWatcher (SW) Water Treatment Report



The Ritz Carlton, Seef – Lake Technical Specification to Treat The Water



Visual Analysis



Comparison

Before Installation
27th November 2017

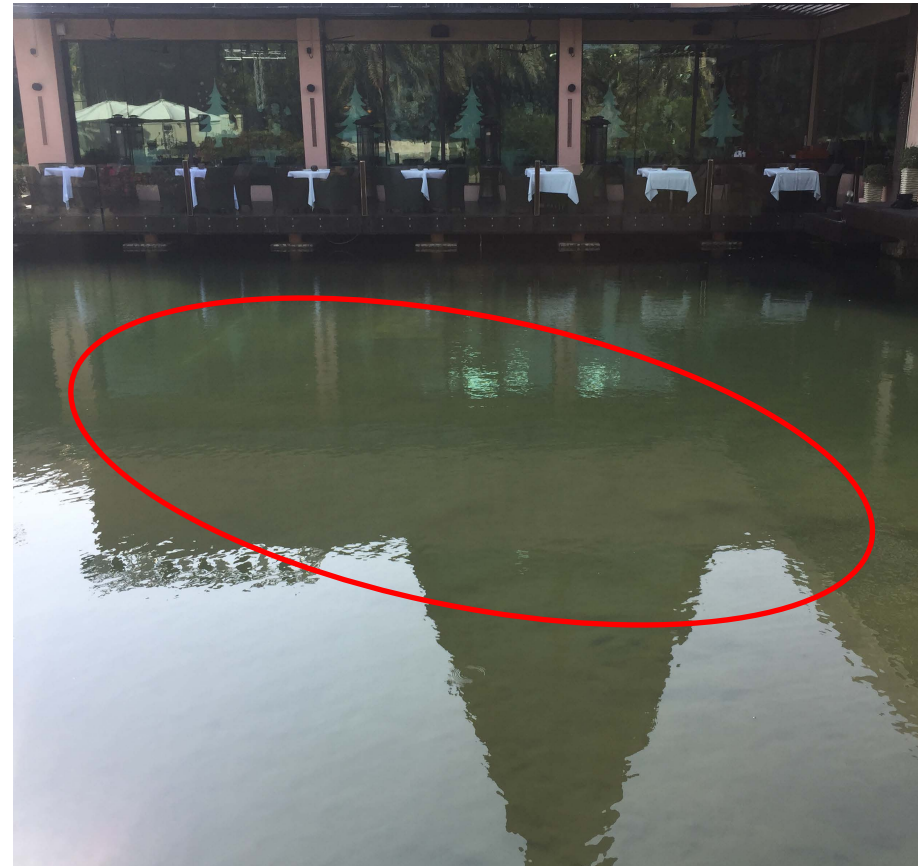
After Installation
30th December 2017
Algae getting dull and dried



Before Installation
27th November 2017



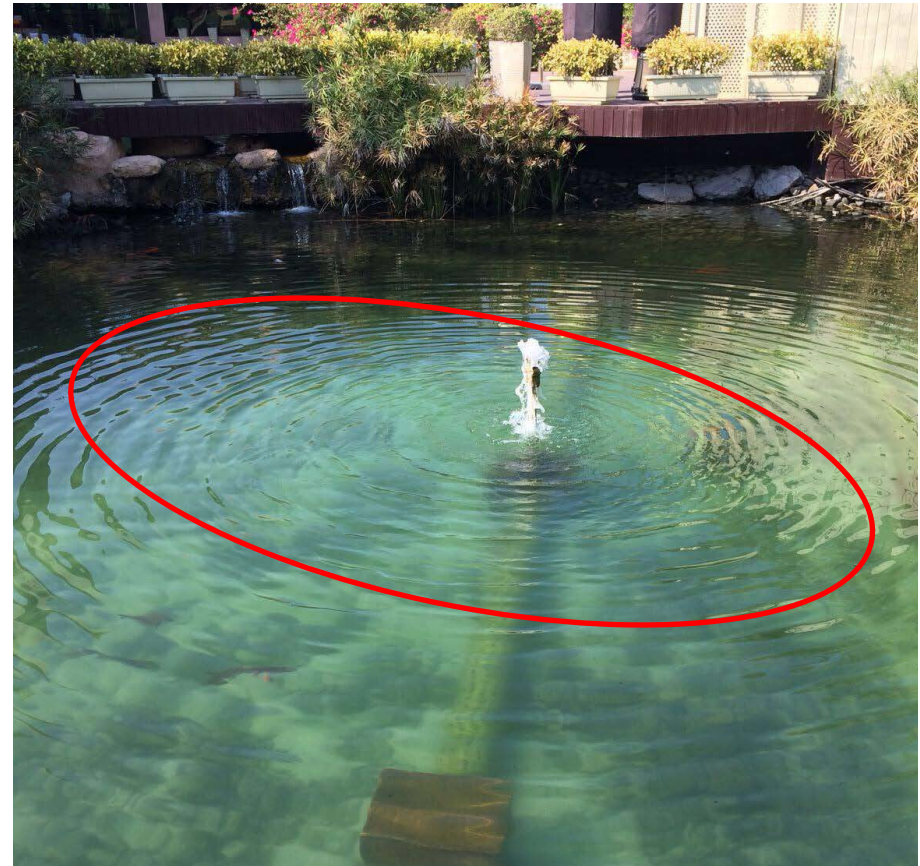
After Installation
30th December 2017
Algae getting dull and dried



Before Installation
27th November 2017



After Installation
30th December 2017
Algae getting dull and dried



Before Installation
27th November 2017



After Installation 30th December 2017
Algae getting dull and dried



Before Installation
27th November 2017
The edge of water level is full of fresh
green algae

After Installation 30th December 2017
Algae getting dull and dried
As seen on the edge on water level



Before Installation
27th November 2017



After Installation 30th December 2017 Algae
getting dull and settled, water getting more clear



pH Test

Before Installation
27th November 2017



After Installation 7th December 2017
You can observe that the water has changed from acidic to basic, this is due to decrease in algae there is decrease in Carbon dioxide level in water (As carbon dioxide is acidic in nature)



Recommendation

We would like to recommend you that according to our one week study on the lake, it is studied that we are already getting results in the areas of lake where there is a sufficient good amount of flow in the lake, whereas the lake area which comes under Trader Vic's is not showing fast results due to almost no flow of water in that area. We would recommend that that area should be covered with two or more fountains in the middle so that it accelerates more flow which will return in quick results



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 | | 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 .





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 to 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 ScaleWatcher 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. ScaleWatcher 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 ScaleWatcher.

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@frasershospitality.com WEBSITE:www.frasershospitality.com
C.R 68676

The Fraser Collection
Bahrain, Bangkok, Beijing, Glasgow, Hanoi, Hong Kong, London, Manila, Nanjing, Paris, Seoul, Shenzhen, Singapore, Sydney, Tokyo, Bangalore (2009)
Bahrain (2009), Bangkok (2009), Beijing (2009), Glasgow (2009), Hanoi (2009), Hong Kong (2009), London (2009), Manila (2009), Nanjing (2009), Paris (2009), Seoul (2009), Shenzhen (2009), Singapore (2009), Sydney (2009), Tokyo (2009), Bangalore (2009)



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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 PLC, 59 Abchurch Lane, London EC4A 3DF
Company registered in London, Number 367206



GFC/RF/16/001
2nd 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 17th 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



Technical specifications

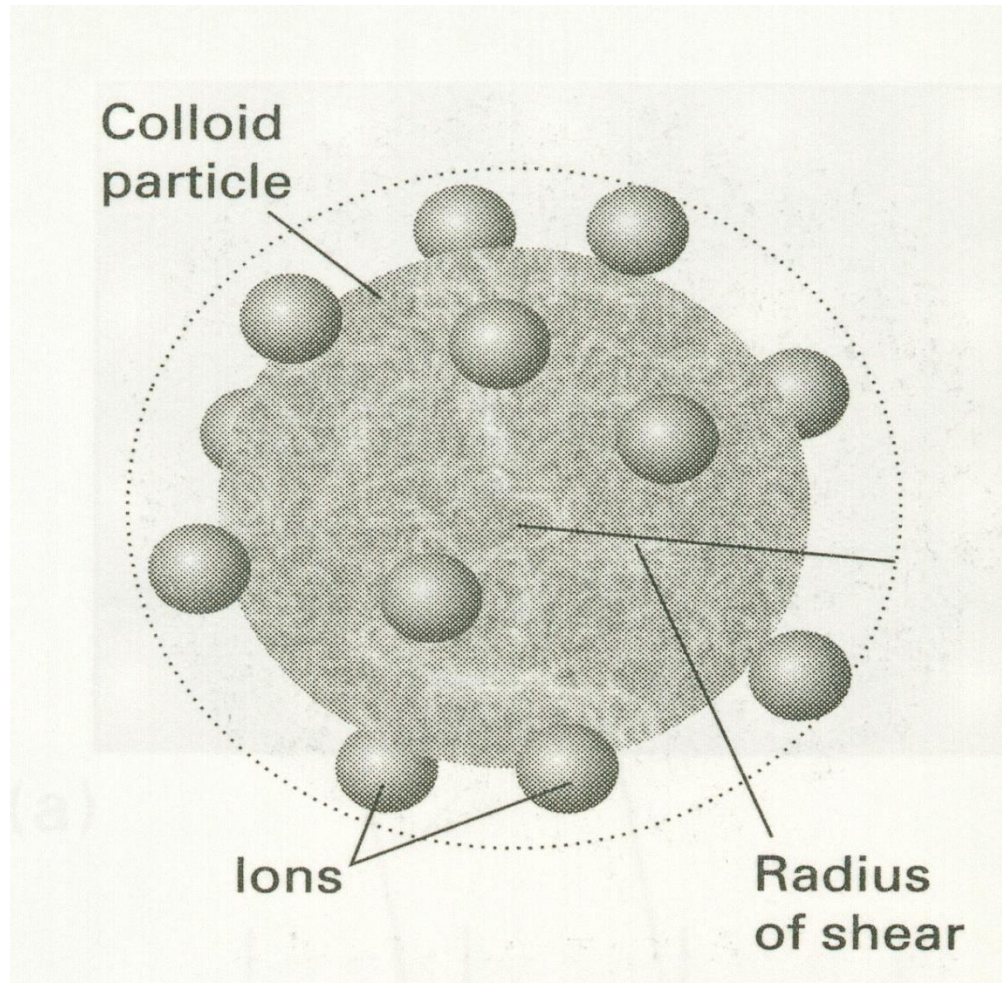
| Pipe diameter | Coil wire | Length (ft/m) | Weight cable (lbs/kg) |
|-----------------------------|-----------------------|--|-----------------------|
| 4"/100 mm | 3x1.5 mm ² | 175/53 | 13/5.8 |
| 8"/200 mm | 3x1.5 mm ² | 215/65 | 16/7.1 |
| 12"/300 mm | 3x1.5 mm ² | 257/78 | 19/8.5 |
| 16"/400 mm | 3x1.5 mm ² | 297/90 | 22/9.8 |
| Supply voltage | | 110-240 V AC, ± 20 %, 50/60 Hz | |
| Power | | Less than 100 Watt | |
| Overload protection | | Internal mains fuse 3A, External fuse 10 A. Fuse size 0.8x0.2" | |
| Maximum coil temperature | | 392 °F/200 °C Silicone cable | |
| Optional Heavy Duty Cable | | -22 °F to 176 °F/-30 °C to 80 °C | |
| Remote Alarm facility | | Isolated alternating switch, contacts rated 24V 1 A | |
| Indicators | | 7-segment display, with self test software. | |
| Enclosure | | Epoxy coated stainless steel | |
| Protection rate | | NEMA4X/IP66 | |
| Maximum ambient temperature | | 140 °F/60 °C | |
| Minimum ambient temperature | | -22 °F/-30 °C | |
| Humidity | | 20-90% | |
| Weight unit | | 24 lbs/11 kg | |
| Dimension | | 12.1x18.1x5.9"/308x460x150 mm ³ | |
| Dimension packed | | 20"x12"x16"/50x31x41 cm ³ | |

Explanation of Electronic Water Treatment (EWT)

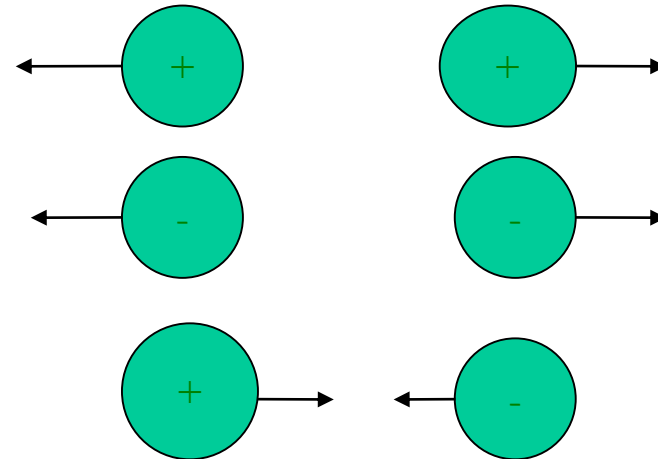
The following are three ways of explaining or showing the operating principle of EWT

1. Physical explanation, interaction between charged particles under influence of magnetic and electric field.
2. Chemical explanation by means of simple equations.
3. Laboratory test supporting our hypothesis of the operating principle.

Physical explanation (1)

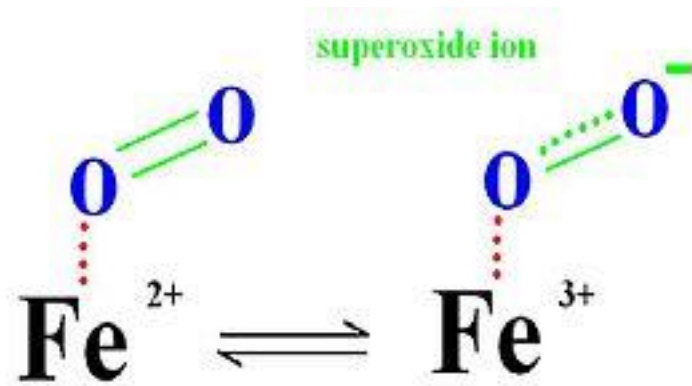


- A charged particle in the water will be surrounded by opposite charged ions



Mechanism of Rust

RUST BY OXIDATION

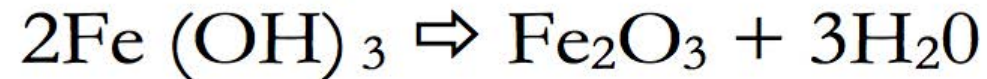
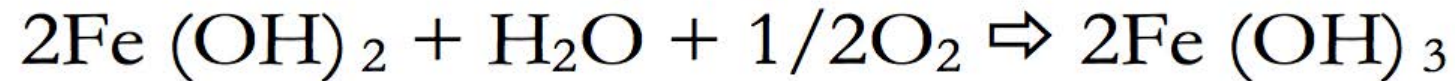
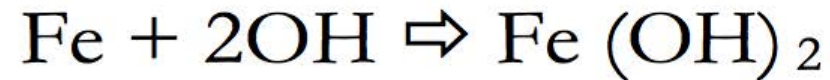


One of the chemical characteristics of Iron is to have a great chemical affinity with Oxygen. So when there is more dissolved oxygen in water, iron is easily oxidized and then grows into rust (Fe_2O_3). Moreover, this ferrous iron, as catalysis, continuously accelerates the anode action so that rust proceeds inside the pipe.

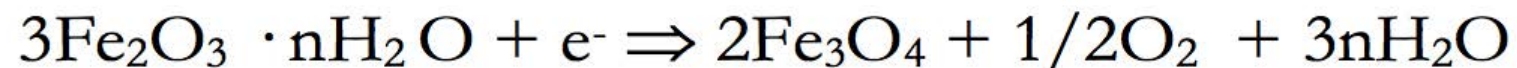
Mechanism of Rust

RUST BY OXIDATION

When rust grows by iron bacteria, the progress of rust can be expressed as follows:

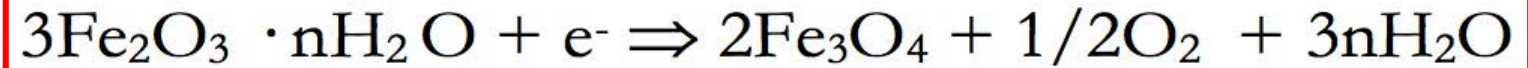


Generally, this is called RED RUST. But **EWT** changes it into BLACK RUST as shown below:



Mechanism of Rust

RUST BY OXIDATION



Cathode action by **EWT[®]**



MAGNETITE or BLACK RUST

Extends the life span of the pipe by forming a film inside the pipe wall that prevents growth of rust.