



# Monitoring Report

SULB - Hidd

Kingdom of Bahrain

ScaleWatcher (SW) Water Treatment Report for  
Desulfurization Oxidizer, 10<sup>th</sup> February 2021



# Executive Summary

This is to summarize that as shown in the images below, there is difference in the texture of the sulfur sediments. The one on September 2020 shows sulfur scaling with hard rock like structure which used to make the pump choke leading in pressure drop from 3.9 bar to 1.9 bar in 2 to 3 months, whereas the image on January 2021 shows that the sulfur is more over like a foam which does not block the pump and hence no pressure drop for longer period of time. Keeping in mind that the scalewatcher treatment was only for four months. The scalewatcher treatment can show much better results if running throughout the year.



As seen in image, **sulfur scaling is like hard rock**



September 2020

As seen in image, **sulfur sediments is like foam**



January 2021



As seen in image, **sulfur scaling is like hard rock**

September 2020



As seen in image, **sulfur sediments is like foam**

January 2021



# Observation

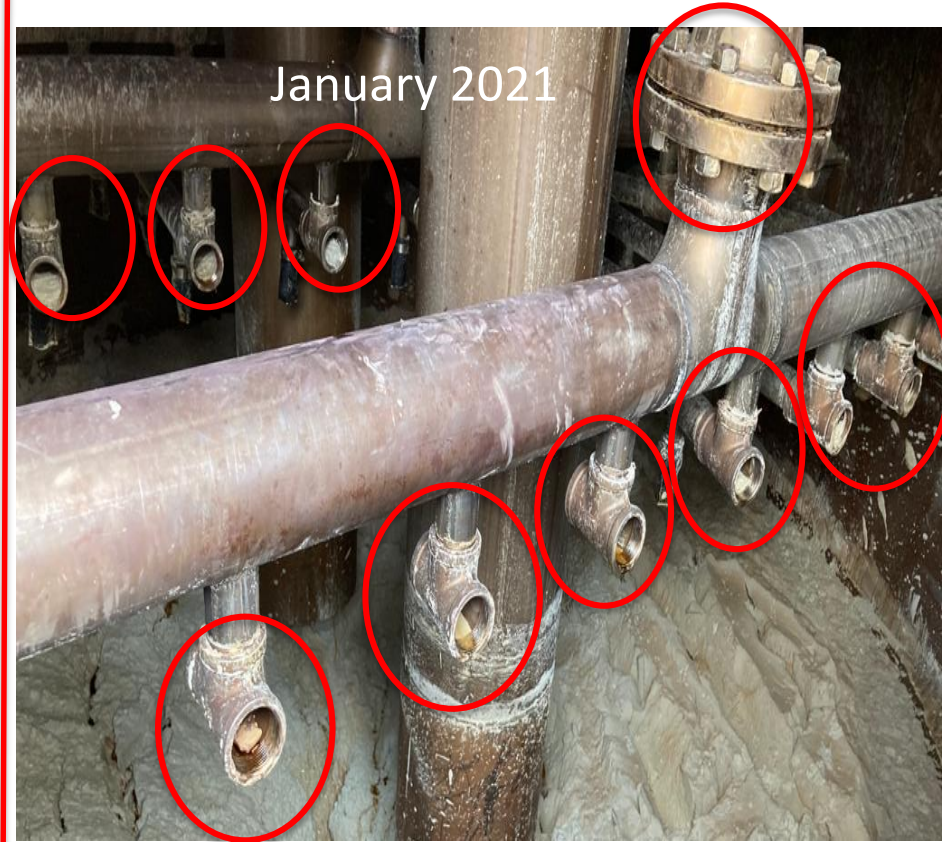
As seen in image, **sulfur scaling is like hard rock blocking the opening of nozzles**

September 2020



As seen in image, all the nozzle openings are **clean and open**

January 2021



# Observation

As seen in image, **sulfur scaling** is like **hard rock blocking the opening of nozzles**

September 2020



As seen in image, all the nozzle openings are **clean and open**

January 2021



# Observation

- We would like to highlight the observations that we found in the trials as shown in the images , the surface for the flanges and pipes for spraying water within the cone appears to be clean and no accumulation of scaling is found on the highlighted parts.
- Keeping in mind that the scalewatcher was working on cone for effective period of 3 to 4 months and it did a good job in maintaining the operating pressure for the cone vessel for up to 3.5 to 3.9 bars.
- The results that was achieved was only 30 to 40% as the scalewatcher run was for 3 to 4 months, to gain 100% result the scalewatcher has to run more than 7 to 8 months depending on how old or severe the vessel is being affected due to scaling.
- As compared to previous shutdown the sulfur scaling blockage used to happen very frequently and the pressure used to drop below 2 to 1.5 bar frequently, after scalewatcher installation the drop in pressure was not reported frequently.



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