REFERENCE / CASE STUDY

Enhancing Municipal Water Quality

Location: Mexico City, Mexico

Technology: Katayst Light (a.k.a. Katalox Light)

WATCH WATER
a Water Company

BACKGROUND

Watch Water is a global leader in providing the most effective solutions for water and waste water treatment. This case study focuses on Watch Water's successful implementation of **KATALYST LIGHT** filtration media for the municipal treatment of drinking water in the city of Mexico.

PROJECT BACKGROUND

The State of Mexico, like many regions globally, faced a growing concern over the quality of its municipal water supply. Elevated iron levels, both at the entrance and exit points, posed a significant threat to the health and well-being of the community. In response to the critical challenge of ensuring clean and safe municipal water, a collaborative effort was launched to develop a comprehensive solution that would exceed the water quality standards. The primary objective of this project was to revolutionize water qua-lity standards by implementing a sophisticated treatment system capable of efficiently reducing the iron content. For this purpose, our **KATALYST LIGHT** filtration media was adapted to not only meet the regulatory requirements but to elevate the overall quality of municipal water to unprecedented levels. The project represents a transformative step forward in water management.

WHAT IS KATALYST LIGHT?

KATALYST LIGHT is a revolutionary advanced filtration media with a unique gamma coating of Manganese Dioxide (10%) on the high capacity filter material 'Zeosorb' allowing it to remove various contaminants like **iron, manganese, H2S, and other heavy metals** from water.

A combination of mechanical filtration, catalytic precipitation, and subsequently adsorption are the core strengths of Katalyst light. Katalyst Light does not require any regeneration chemicals under ideal conditions. The only maintenance required is intermittent backwashing. It is extremely light weight and hence require very Less backwash water.

KATALYST LIGHT is certified according to NSF/ANSI/CAN - 61 standards for drinking water applications and has met the NSF/ANSI 372 lead free compliance.
With a bulk density similar to water, Katalyst Light is extremely light weight and helps is reducing energy consumption while backwashing. Katalyst Light has high affinity for iron and manganese removal and is the industry leading for the same. The major advantage of Katalyst-Light is the slower head loss which leads to longer operation time.

TREATMENT PROCESS

The treatment process involved a multi-stage approach, utilizing advanced technologies to achieve optimal results. Initial treatment involved chlorination to control microbial activity and prepare the water for subsequent stages. Then grit filters ensured removal of coarse particles and sediments, providing a cleaner water stream for further processing.

Subsequently, **KATALYST LIGHT** media, played a pivotal role in achieving the remarkable iron removal efficiency of 96%. The treatment plant comprised six strategically positioned tanks, each contributing uniquely to the overall efficacy of the system. Sufficient contact time, good initial conditioning and frequent backwashing ensured a thorough and effective treatment of the municipal water supply.

PROCESS DATA

Flow Rate	144 m^3/h (634 gpm)
No. of Tanks	6
Dimensions of each tank	60" x 94"
Amount of Katalyst Light per tank	1415 Liters ($50ft^3$)
Total Katalyst Light media used	8500 Liters ($300ft^3$)
Contact Time	3.5 min
Backwash Flow	45.4 m^3/h 200 (gpm)

RESULTS

The successful implementation of the water treatment project resulted in a substantial reduction in iron levels, from 3.2 ppm at the entrance to a mere 0.12 ppm at the exit. This impressive removal efficiency of 96% underscored the effectiveness of the treatment process in purifying the municipal water supply.

Iron at INLET	3.2 ppm
Iron at OUTLET	0.12 ppm
Removal Efficiency	96%

CONCLUSION

This municipal project, marked by innovation and precision, stands as a testament to the commitment to providing the residents of the State of Mexico with water of the highest quality. By surpassing initial objectives, **KATALYST LIGHT** set a new benchmark for municipal water treatment, emphasizing the importance of proactive and advanced solutions in securing a sustainable and healthy water supply.

The collaborative efforts of all stakeholders, from project planners to installers, reflect a shared commitment to the well-being of the community. As we look to the future, it is our hope that the success of this project serves as a beacon, guiding similar endeavors worldwide towards a future where clean, safe, and sustainable water is a reality for all.

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