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It has been a very busy past six months and no matter what I pick as news and highlights for this period, I am going to miss something important. Personally, I travelled quite extensively for both projects and conferences which was a big change from 2022 and early 2023, but I enjoyed it. Of course, it has been great connecting with people in person, but it has also given me an opportunity to observe and reflect on changes that had occurred both on the ground in operations, and in strategies in corporate offices in the mining industry globally since the pre-pandemic state. I am grateful to all those who have shared their experiences and thoughts with me and look forward to a lot more exchanges this year. It is through sharing that we can help the industry improve and transform to better serve those who depend on our products and communities where we operate while protecting the environment.

Enjoy the read and please let me know what you have been up to and where and when we could potentially meet up this year.

David

[Email David](#)



[Increasing Capacity of Existing RO Desalination System to Supply Water to a Mine in Chile](#)

One of the major copper producers in Chile engaged BQE Water to help assess options for increasing the capacity of their existing desalination system that supplies water to their mining operation. Our Santiago based team mobilized to site and performed an in-depth review of the existing system design and operation. The outcome of the review revealed an opportunity to achieve 10% increase in the output from the desalination plant while keeping constant both the product water quality and the overall power consumption. The increase in output would require only a minor capital investment. The results of the study were supported by modelling of the RO system and information provided by equipment vendors. The 10% increase is very significant for this project and may have positive impact on local communities as well by providing them with a reliable source of clean water. Prior to implementation, an onsite pilot demonstration of the proposed upgrade is proposed. If



Bringing a new water treatment plant into operation at a US mine

We are proud to have completed the commissioning phase and transitioned to the operating phase, helping another project to advance from permitting to operation. The plant removes a host of metals and metalloids to ultralow discharge limits, eliminates reliance on dilution, and is fully managed by BQE Water.

One of the treatment stages involves selenium removal by our Selen-IX™ process to achieve less than 2 ppb (Parts Per Billion) at the end-of-pipe. Since the completion of commissioning, the plant has been operating 24/7 with an overall plant availability more than 95%. It is expected to run year-round and treat up to 4,500 gallons of water per minute which makes the selenium portion of the overall plant the largest Selen-IX™ system currently in operation.

I would like to congratulate our team on achieving this significant milestone in a project where BQE Water acted as a single point of accountability for clean water production from the initial treatability assessment through piloting, permitting, design and commissioning to operations. The project showcases not only our technical expertise but also our ability to de-risk projects while working closely with our clients and other stakeholders.



New technique for Field Thiosalts Measurement and On-site Pilot Testing of Thiosalts Removal Process

Working closely together, our operations and laboratory teams developed a new analytical technique enabling a reliable field measurement of thiosalts in mine water, and subsequently applied this technique during pilot demonstration of a new process for thiosalts removal at a Canadian mine. Formed by partial oxidation of reactive sulphide minerals during mineral processing, thiosalts sometimes accumulate in mine influenced waters and require removal prior to discharge into environment. Although there is no explicit regulatory limit, the requirement for thiosalt removal is established indirectly through effluent toxicity testing. One of the complicating factors is that thiosalts are unstable and the lead times offered by commercial labs to get samples analyzed for thiosalts is too long to obtain accurate picture of their levels in effluents. Our newly developed technique requires only the use of HACH spectrophotometer – the base model portable instrument suffices. As part of a broader effort to mitigate effluent toxicity linked to thiosalts, our team completed an on-site pilot campaign at a mine in Eastern Canada, removing thiosalts selectively from a lime plant effluent and from the mill process water. The application of the new field thiosalts measurement was instrumental in achieving target effluent quality in the pilot quickly without delays and helped increase confidence in thiosalts measurements. We will be presenting the results of the pilot at one of the upcoming conferences and publishing a paper on the new analytical technique to make it widely available to all mining operations that are challenged by the presence of thiosalts and the status quo in their treatment and/or measurement.



Selenium Treatment at Wharf Mine

We successfully completed the on-site pilot demonstration of our patented Selen-IX™ process at the Coeur Wharf Mine, in the northern Black Hills of South Dakota – USA, being the first critical step in the process of implementing selenium treatment that meets permit conditions associated with the mine expansion. The project is now fast tracked for full scale implementation in 2024.

Although there are multiple successful large scale Selen-IX™ plants currently in operation, Coeur requested the pilot demonstration to verify the process performance on the Wharf mine influenced water, prior to initiating engineering design to minimize implementation risks.

The pilot phase of the project involved a rapid deployment, start-up, and continuous operation of BQE's mobile Selen-IX™ unit at site. The campaign was accompanied by a rigorous sampling program to monitor process management and disposal in the full scale. This project also demonstrates the unique value of the Selen-IX™ process for clients with short timelines to reach environmental compliance by treating water at design capacity and producing target effluent water quality immediately after start-up. This feature is critical for Wharf as it fast tracks the full-scale treatment implementation in accordance with the mine permit, and BQE is committed to delivering technical excellence through all stages of the project and have another Selen-IX™ plant in operation as soon as possible.

News & Events



Hydroprocess Nov 2023 – Santiago

I had the pleasure to attend and present at [Hydroprocess](#) last year which was the first in-person event of this scale held in Santiago since the pandemic. My talk was about Two-Stage SART for selective recovery of copper and zinc from cyanide solution where I presented operations data from our plants that started operating in 2020/2021 recycling cyanide at metallurgical facilities processing gold ores rich in cyanide soluble copper and zinc. I also enjoyed learning about the development and new challenges faced by some of the aging copper mines and new projects in Chile.

Winner of Winners at the 2023 BC Export Awards

We are thrilled about our continuous recognition towards our efforts on environmental protection. Over 20 finalists across different industries on the [BIV News program](#), BQE Water was selected overall winner, and we proudly took home two awards: the Clean Technology and the Exporter of the Year. Many thanks to our staff, industry partners and local communities for supporting our work and making these awards possible.



This year, we delivered two presentations at SME Annual Conference – [Minexchange](#), including: "Lessons Learned from Commissioning Full-Scale, Non-Biological Selenium Removal Plants", by Brent Baker, and "Environmental and Economic Benefits from Optimizing Cyanide Destruction Process at Gold Processing Facilities", by Andrew Jacobson. I could not attend this year but I hear that these talks were well received. Make sure you let me know if you hear otherwise.

El Congreso Internacional Minero Sinaloa March 2024

As we continue to grow our presence in Mexico, attending this [congress](#) has become a must for our senior technical team lead. Please contact [Guillermo Almendariz](#) and/or [Oscar Lopez](#) if you want to meet. I know that they look forward to this exciting networking opportunity and learning more about the needs and trends in the Mexican mining industry.

Planning for Closure Conference – Santiago May 2024

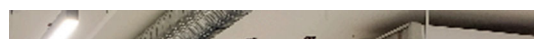
At this [conference](#), our Latin America team will be presenting on the topic of Smart Plan for Copper Heap Leach Closure where we will talk about opportunities to extend production and reduce closure costs for copper heap leach operation through the application of BioSulphide process.

CIM Connect Booth – Vancouver May 2024

Come say hello to BQE Water at [CIM Connect conference](#) May 12-15, 2024 in Vancouver, where we will have the number 1351 booth space. The CIM event theme this year is "Brand Canada: Our Critical Advantage," shining a spotlight on Canada's unique role in the global minerals, metals, and energy landscape, on what we are proudly part of. See you there!



The Office



It has always been our dream to combine our office and lab into one space and have finally done it. Our new digs will be on 6th Avenue between Ontario and Quebec st. The modern 9,000 ft² space will not only enable us to create fun and stimulating environment for all in our growing team but it will also help achieve better integration between groups that will benefit our clients and our ongoing innovation efforts. We hope to invite you soon to check it out and share a meal or a beverage in one of the funky establishments in this trendy part of town.

year's accomplishments, we hosted a festive dinner in December with our employees and their plus ones. The evening was filled with a lot of fun and smiles as we reflected on our collective achievements. Around some delicious food and spirited conversations, reminding us of the dedication and teamwork that define our company. It was an important moment to be grateful for a successful year and the beginning of new aspirations.

