

# Gas Scrubber Lightens its Lode with a HydroChem Clean

## The Background:

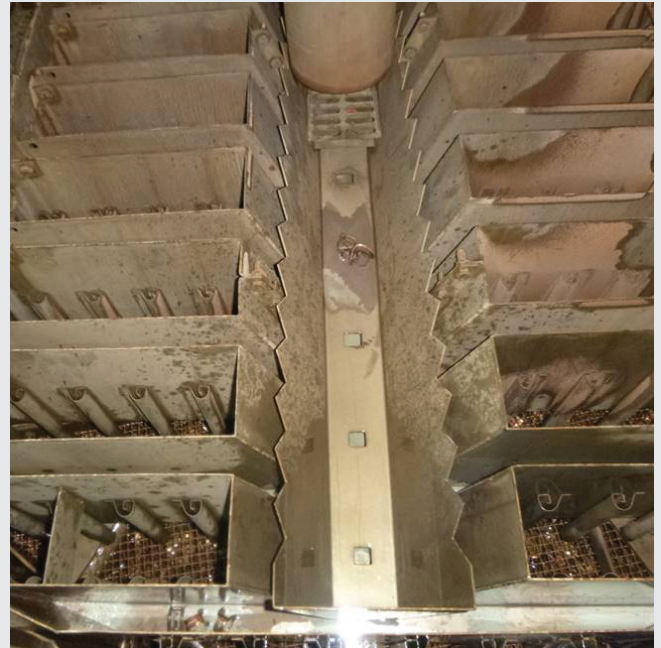
A West Australian mineral processing plant approached HydroChem with a complex task. The internal surfaces of a gas scrubber were showing signs of severe scaling. The significant level of scaling was restricting regular flow and leading to elevated temperatures and low pressure drops. Downtime for rectification work was limited to a brief annual maintenance shutdown. The HydroChem team recommended a chemical clean of the scrubber system with the commitment to performing the work in the required time frame.

## The Challenge:

The client engaged HydroChem to conduct a chemical clean of the gas scrubber during the upcoming maintenance shutdown, leaving the HydroChem team just three days to complete their task.

As the scrubber had never been cleaned previously, a thorough technical evaluation and operational review was carried out. HydroChem developed a new set of procedures to ensure the complex task was carried out safely, effectively and within the rigid timeframe allocated.

The clean incorporated large volumes of chemicals with a Dangerous Goods (DG) classification, and equipment that was necessary to circulate the cleaning solution safely and efficiently through the scrubber.

**Before Chemical Clean****After Chemical Clean**

## The Solution:

A critical step in developing a successful chemical cleaning program is determining what the material is that needs to be removed. HydroChem collected sample deposits from inside the scrubber and sent them for full chemical and X-ray analysis.

The test results showed that the deposits were predominantly made up of scale. HydroChem's Melbourne laboratory rapidly bench tested suitable products. The results determined that the proprietary Hydro 204 product, a complex inhibited acid solution, would be the most effective at dissolving the scale within the scrubber.

The execution of a one-off clean of a process unit requiring the recirculation of such a large volume of cleaning solution necessitated a bespoke design. After a series of collaborative project meetings and safety reviews, a customised process was developed incorporating some necessary plant modifications.

The holistic approach led to HydroChem supplying the perfect chemical solution, the right equipment to circulate it and 24-hour on-site management and technical support to enable a seamless clean and positive outcome.

## The Result:

A joint inspection was conducted with the client after the clean was completed and the demobilisation of equipment was in process. Both parties were very positive and confirmed that the clean had met their collective expectation.

The successful clean removed an estimated 1,360kg of calcium salts from the scrubber circuit.

The client later confirmed a significant improvement in the performance of the gas scrubber once the process unit was brought back online. In the final review, they recognised HydroChem's excellent work in developing and implementing a safe, efficient and effective cleaning solution for their processing site.