

## California American Water Manages Hexavalent Chromium Contaminant Levels in Real-time



Many utilities across California are turning to real-time data to identify hexavalent chromium [Cr(VI)] contaminant threats and diagnose critical treatment system performance.

One such utility, California American Water, which delivers clean, safe water and wastewater services to 675,000 people, was experiencing elevated Cr(VI) levels at two of its well sites — Moonbeam and Oak Forrest/Citrus Heights. Cr(VI) levels were in the 25 ppb range after well water was filtered with granular activated carbon (GAC) and before being stored in a 5,000-gallon hydro tank. Extensive research didn't uncover the cause of the Cr(VI) load to the GAC filters, and without timely and accurate chromium analysis, California American Water would not be able to keep these wells open.

As a result, the utility turned to AMS's MetalGuard™, a fully automated, online multi-stream Cr(VI) analyzer which provides high-frequency real-time data on influent and effluent chromium contaminant levels in 30 minutes with sensitivity down to 1 ppb, allowing California American Water to monitor, control and address critical steps in its remediation process. The analyzer features a robust and stable design that is capable of maintaining its sensitivity and calibrated status for an unlimited timeframe while operating reliably regardless of sample matrix conditions.

The Cr(VI) analyzers were installed and connected to the motor starter of the wells — Oak Forest/Citrus Heights was installed in February 2017 and Moonbeam in February 2018. If the MetalGuard analyzers detect Cr(VI) at 10 ppb or above, the well is automatically shut off. An operator would then take a sample, which is sent to a lab, and if the lab values correlate with the online Cr(VI) analyzer values, the system is flushed and retested before being put back online.

Utilities employing drinking water remediation techniques to address Cr(VI) contamination must measure influent and effluent chromium levels to adequately control and optimize water treatment and removal processes. MetalGuard Chromium provides real-time, multi-stream reliable and accurate analysis of Cr(VI) to ensure compliance with regulatory requirements.



California American Water installed AMS's online, MetalGuard Cr(VI) analyzers, which allowed it to monitor and address critical steps in its remediation process.



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According to Lacy Carothers, P.E., Project Manager for California American Water, “The MetalGuard Cr(VI) analyzer enabled California American Water to have higher visibility of contaminant levels in real-time. The fast and reliable online data allowed us to maintain the wells operational while continuing to deliver safe drinking water to our customers.”

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