PROJECT PROFILE
WATER MANAGEMENT

CLIENT
Sahuarita Water Company, LLC.

ARSENIC REMOVAL

Sahuarita, Arizona

SITUATION:

Sahuarita Water Company (SWC), a private water utility, provides quality drinking water to the community of Sahuarita, Arizona, serving 12,000 residents in 4,200 homes as well as retail businesses, the local school district and the Municipal Complex. SWC is completely dependent on groundwater supplies. As water demands increased and to comply with the USEPA Arsenic Rule, SWC developed a new drinking water well drilled by Layne. SWC's two existing wells had arsenic levels above the MCL of 10 µg/L; one slightly above the limit, the other with 30 µg/L of arsenic. SWC was on a tight timetable to provide increased water supply, and after considering other options, the decision was made to treat all three wells to remove the arsenic.

SOLUTION:

A critical concern was to find a treatment system that could be managed by the skills of the existing staff with minimal impact to operations. Adsorption was selected as the treatment technology due to the low relative maintenance required compared to other methods. To aid the decision process, a pilot was run with two leading adsorption technologies, LayneRT, a resin based, regenerable media, and granular ferric oxide (GFO). The pilot showed GFO breaking through the MCL at 15,000 bed volumes versus LayneRT at 23,000 bed volumes. Besides outperforming GFO in the pilot, LayneRT does not produce fines, does not need to be backwashed and produces no on-site waste. In addition, the ease of operation of a LayneRT adsorption system matched the minimum staff impact philosophy SWC had adopted for the arsenic treatment system. SWC installed a 2,000-gpm LayneRT arsenic treatment system, which has been in place since 2009.

SERVICES EMPLOYED:

+ Well Design and Construction
+ Well Maintenance
+ Water Treatment - Drinking Water
+ Filtration – LayneRT
+ Fabrication
+ Water Management Services
+ Field Service Technician Group

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