CITY OF LATHROP, CALIFORNIA
Arsenic Removal Water Treatment Plant
Project

The Northern California City of Lathrop, located in San Joaquin County, was in need of a new groundwater treatment plant, and turned to Tonka Water to provide the solution. Tonka Water, a U.S. Water Brand, submitted a direct bid to the City and was selected to provide a new water treatment system to meet their strict requirements. The engineers, the City and Tonka Water then worked collaboratively throughout conceptual design to find the most cost-effective treatment system. That system continues to meet the needs of the City, and complies with California and US EPA standards. This 10 MGD plant was commissioned in 2012.

Process

The well water, after chemical addition, is pumped through Tonka Water’s static mixers, to OptaCell™ pressure filters, and finally into a finished water above-grade clearwell. Prior to entering the filters, the water is conditioned using sodium hypochlorite, ferric chloride and sulfuric acid. In the Tonka Water process, chlorine serves to oxidize any natural iron while changing the valence of the arsenic from As+3 to As+5, creating an absorbable solid. Water then passes through the filter bed containing Tonka Water’s IMAR™ media. This engineered media is specifically designed for optimal filter efficiency and is particularly suited when combined with iron and arsenic removal. IMAR™ is engineered to provide uniform interstitial capacity in the filter bed promoting the capture of fine solids created during co-precipitation of iron and arsenic compounds. It also permits storage of significant solids, making for longer filter runs than conventional or “electro-type” media. IMAR™ is NSF/WWA/WQA compliant and also allows the operator to backwash at much lower rates than other comparable media. In the final step, after water passes through the filters, sodium hypochlorite is added for disinfection and sodium hydroxide is added for final pH adjustment and stability. Lastly, the filter backwash water is collected in a backwash reclaim tank for settling, so it can be recycled back to the inlet of the facility.
Performance

With over 60 years of water treatment experience, Tonka Water can create a customized system to meet varying water treatment needs as illustrated with the Lathrop, CA project. With a robust product line of arsenic treatment options, we will provide a solution that meets your needs.

<table>
<thead>
<tr>
<th>Raw Water</th>
<th>Finished Water</th>
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<tbody>
<tr>
<td>Arsenic (As)</td>
<td>15-23 μg/L</td>
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