

An anionic polymer was added downstream of the aeration columns to agglomerate the precipitated iron and chromium into small floc that could be easily filtered by the dual media filters. The dual media filters contained approximately 24 inches of anthracite over 12 inches of sand. The filters were backwashed after each test run, which sometimes lasted in excess of 24 continuous hours of operation. Product water was collected in a tank that overflowed to the local sewer. The water in the product water tank was used for backwashing the dual media filters. The backwash was collected in tank, mixed with a polymer, and then allowed to settle. The clarified supernate was transferred back to the feed of the system at a rate of no more than 5% of the feed flow and the flocculated/ settled solids were dewatered through filter media that was associated with the Flo-Trend passive dewatering system.

Test results showed that RCF was successful in reducing Cr(VI) and removing total Cr to concentrations below 1 µg/L (*i.e., the method reporting level*). Removal of the total chromium contamination {Cr(III) + Cr(VI)} is important because it mitigates the potential of chromium being oxidized from the less hazardous Cr(III) to the more hazardous Cr(VI) at an uncontrolled downstream location. Addition test findings are as follows:

- Filter run times of > 24 hours were achieved with a DP increase of only 0.5 psid.
- Filter backwash water was recycled to the influent tank and processed through the system without any problems. Therefore, no secondary wastewater required offsite treatment or discharge.
- Settled solids from the bottom of the backwash tank were removed from and dewatered in a passive Flo-Trend filter. The dewatering filtrate had metal concentrations of 0.3 g/L Cr(VI), 24 g/L total Cr, and 0.06 mg/L total iron.

Based on favorable test results, the City of Glendale is moving forward with demonstration scale components for removing the Cr(VI) from groundwater at greater than 100 gpm.

For more information please feel free to contact your local representative or Avantech directly. You can also find out more about Avantech's products and services at our website www.avantechinc.com

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