Project Profile

Ion Exchange/Radium Removal System

Well # 13 - 1400 GPM Radium Removal Facility

Well #13 - Ion Exchange Unit

Layne Christensen designed and constructed two radium removal treatment plants for the City of Vineland. After extensive pilot testing, a 1,400 GPM facility was built and began operation in May 2001. The full scale system consists of three 9.5-foot diameter x 6-foot straight side ASME code pressure vessels. Each unit contains three feet of cation exchange resin. Layne designed an automated PLC-based control system that indicates when regeneration is necessary based on the volume of water treated through each vessel. An important feature of this system is its ability to regenerate the exchange resin with potassium chloride, thus reducing sodium levels in the wastewater. Wastewater is directed to a holding tank which is then pumped to the local sewer system. The system has been on-line since Spring of 2001 and was among the first of its kind in New Jersey. This successful installation contributed to a subsequent award from Vineland to construct a 1,250 GPM system that, in addition to ion exchange, included radium removal with Radium Selective Complexer (RSC) adsorption resin that permanently removes radium from water and allows it to be disposed of as a solid waste.

Owner:
City Of Vineland, NJ

Contact:
John Snidenbach (859) 794-4056

Site Location:
Vineland, NJ

System Capacity:
1,400 GPM, 1,250 GPM

Year Completed:
2001

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