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PILOT SCALE EVALUATION OF MBR-AOP-BAC TREATMENTS FOR WASTEWATER REUSE AND AQUIFER RECHARGE

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ABSTRACT: The City of Rio Rancho, New Mexico is expanding its water reuse system to supplement and sustain the water supply for this growing community of approximately 75,000 people within the Middle Rio Grande valley. This presentation provides an overview of pilot testing completed in 2010 of an ozone-based advanced oxidation process followed by a biologically activated carbon step to reduce wastewater-derived organics still remaining within membrane bioreactor effluent obtained directly from the Cabezon Water Reclamation Facility. Full scale implementation of the treatment process will be discussed.The project included an assessment of various membrane separation processes, a demonstration of microconstituent reduction (endocrine disrupting compounds and pharmaceuticals and personal care products) and control of bromate formation, and evaluation of adsorption media for water purification. These efforts build on a growing body of knowledge and testing by multiple investigators in support of water reuse and aquifer recharge applications suitable for inland environments.

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