



TABLE MOUNTAIN RECLAMATION FACILITY TO CONSTRUCT ADDITIONAL TREATMENT SYSTEMS TO COMPLY WITH ITS NEW EFFLUENT PERMIT REQUIREMENTS

In 2014, based upon Water Quality Assessments completed by Colorado Department of Public Health and Environment, a change in the effluent permit limit for potentially dissolved copper was added to the Colorado Discharge Permit System permit for the Table Mountain Reclamation Facility (TMRF) owned by Three Lakes Water and Sanitation District. In 2019 the TMRF is required to meet the new effluent maximum concentrations for potentially dissolved copper.

REGULATIONS

The Colorado Department of Public Health & Environment Water Quality Control Commission instated two regulations which have created the basis for the lower effluent permit limits for potentially dissolved copper for the TMRF.

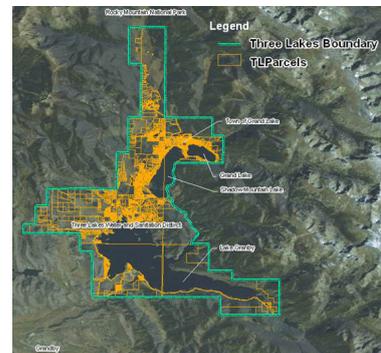
Regulation No.31 – The Basics Standards and Methodologies for Surface Water

Focused on maintaining and improving the quality of the state surface water this regulation applies to “waters of the state” and defines stream water quality standards for aquatic life. State surface waters shall be free from substances attributable to human-caused point source and nonpoint source discharge.

Regulation No.33 – Classifications and Numeric Standards for Upper Colorado River Basin and North Platte River (Planning Region 12)

Classifies tributaries and water bodies within the watershed based on their beneficial use and establishes numeric water quality standards for discharging into those tributaries and water bodies.

You can read these regulations in full on the Water Quality Control Division website <https://www.colorado.gov/pacific/cdphe/wqcd>.





Existing Table Mountain Reclamation Facility

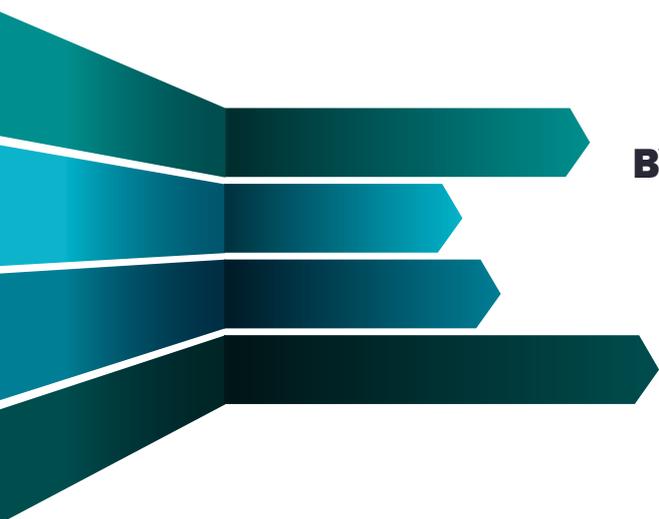
WHAT IS POTENTIALLY DISSOLVED COPPER AND WHAT IS THE SOURCE OF IT?

Dissolved copper is copper found in water after suspended sediment has been removed by a 0.45 micron filter. CDPHE requires a laboratory method called “potential dissolved” that digests the water sample in acid to release metals present in the suspended sediment then passes the sample through a 0.45 micron filter. In doing so, CDPHE uses a conservative approach to determine the amount of copper in the sample and is striving to achieve high water quality to better ensure protection of aquatic life.

The District hired Kennedy/Jenks Consultants to conduct a study to evaluate alternatives for compliance with the new effluent permit limits. This study sampled raw and potable water located within the district, as well influent and effluent wastewater from the TMRF. It was determined that copper leaching from pipes in household plumbing in the potable water system is the primary source of the potentially dissolved copper in Three Lakes’ wastewater system.

WHAT THIS MEANS FOR THE DISTRICT

Several compliance alternatives were researched including changing the discharge location, potable water corrosion control, a water quality assessment to change the permit limit, and treatment technologies. Based upon this research it was concluded that the only viable option for compliance is treatment. Treatment with sand filters has been identified as the most cost effective way to achieve compliance by the deadline mandated by the State. Preliminary design of the treatment system is underway. Construction is expected to commence in early 2019, with full compliance by December 31, 2020.



BY THE NUMBERS

Estimated Construction Cost	\$3,000,000
Estimated Engineering Services	\$500,000
Estimated Annual Operations and Maintenance of New System	\$115,000



For more information on the project contact our office.

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