

**Utah Division of Water Quality
Statement of Basis
ADDENDUM
Wasteload Analysis and Antidegradation Level I Review**

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Facility: Lake Point Improvement District (Lagoons)
UPDES No. UT0020231

Receiving water: Un-named ditch (3E)

This addendum summarizes the wasteload analysis that was performed to determine water quality based effluent limits (WQBEL) for this discharge. Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses (UAC R317-2-8). Projected concentrations are compared to numeric water quality standards to determine acceptability. The numeric criteria in this wasteload analysis may be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

Discharge

001 Outfall (Lagoon Discharge):Un-named ditch→abandoned evaporation ponds/salt playa.
The mean monthly design discharge is 0.392 MGD (0.61 cfs)

Receiving Water

The discharge is to an unnamed ditch which is classified as 3E according to *Utah Administrative Code (UAC) R317-2-13.3(a)*:

- *Class 3E -- Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.*

The discharge flows into an unnamed ditch, and then enters what appears to be an old industrial canal. As the water flows through the ditch and canal, some of the water infiltrates into the soil. At the end of the canal, the water exits the dike and flows onto a flat playa-like area where the rest of the water dissipates into the soil. The discharge appears to only exit the dike-canal system during wet periods, such as spring runoff. According to the operator, during the summer months, the discharge rarely makes it to the end of the old canal because of the evaporation and infiltration. In our best professional judgment we believe it is highly unlikely the discharge could ever reach the surface waters of the Great Salt Lake. Discharge water would have to go up and over numerous dikes and roads, then through the old evaporation ponds before it could enter the surface waters of the Great Salt Lake.

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Total Maximum Daily Load (TMDL)

The receiving water and downstream waterbodies are not listed as impaired for any parameters according to the 2016 303(d) list.

Mixing Zone

The maximum allowable mixing zone is 15 minutes of travel time for acute conditions, not to exceed 50% of stream width, and for chronic conditions is 2500 ft, per UAC R317-2-5. Water quality standards must be met at the end of the mixing zone.

In this case, because the receiving water is classified as 3E, no mixing zone analysis was considered.

Parameters of Concern

The potential parameters of concern identified for the discharge/receiving water were BOD₅, TSS, pH, and total residual chlorine.

WET Limits

The percent of effluent in the receiving water in a fully mixed condition, and acute and chronic dilution in a not fully mixed condition are calculated in the WLA in order to generate WET limits.

The LC₅₀ (lethal concentration, 50%) percent effluent for acute toxicity and the IC₂₅ (inhibition concentration, 25%) percent effluent for chronic toxicity, as determined by the WET test, needs to be below the WET limits, as determined by the WLA. In this case, there is no dilution, and the percent effluent is assumed as 100%.

The WET limit for LC₅₀ is typically 100% effluent and does not need to be determined by the WLA.

Wasteload Allocation Methods

In this case, because the receiving water is classified as 3E (no numeric criteria), no wasteload allocation analysis was conducted. The previous permit included a 2.0 mg/L total residual chlorine (TRC) limit that was based on best professional judgment.

Antidegradation Level I Review

The objective of the Level I ADR is to ensure the protection of existing uses, defined as the beneficial uses attained in the receiving water on or after November 28, 1975. No evidence is known that the existing uses deviate from the designated beneficial uses for the receiving water. Therefore, the beneficial uses will be protected if the discharge remains below the WQBELs presented in this wasteload.

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A Level II Antidegradation Review (ADR) is not required for this facility. The proposed permit is a simple renewal of an existing UPDES permit. No increase in flow or concentration of pollutants over those authorized in the existing permit is being requested.

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