

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

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UPDES Section

Facility: Chamberlain Investments – Salt Creek
UPDES No. UT-000739

Receiving water: Salt Creek (2B, 3B, 3D)

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 effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of a discharge 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 secondary standards, categorical limits, narrative criteria and other conditions determined by staff of the Division of Water Quality.

Discharge

Outfall 001: Salt Creek

The mean monthly design discharge for the facility is 1.0 cfs or .65 MGD.

Receiving Water

Chamberlin Investment Company (CIC) discharges into a small pond which forms the headwaters of Salt Creek. The pond is fed by two natural springs situated about 50 yards from each other. One is a hot spring with a flow of about four cfs, the second is a cold spring with a flow of about five cfs. The waters of Salt Creek are classified as 2B, 3B, 3D, as per UAC R317-2, and are part of the Bear River Drainage.

- *Class 2B - Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.*
- *Class 3B - Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.*
- *Class 3D - Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.*

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Eureka Wastewater Treatment Facility
UPDES No. UT0024601

MIXING ZONE

CIC discharges into a pond/slough that forms the headwaters of Salt Creek. The discharge is approximately 50 feet from the point where the western edge of the pond forms Salt Creek proper. The flow at this point goes through a culvert under a railroad crossing. Because of the influence of spring inflow/groundwater inflow, and the configuration of the ponds, determining a discrete mixing zone is problematic. As a result, we have determined the compliance point to be the point where the combined flow exits the pond at the railroad culvert. In-stream water quality standards must be met at this point.

TMDL

Salt Creek is not listed as impaired on the 2010 303(d) list.

Parameters of Concern

When the CIC Spa is developed, chlorine will be required to be added to the pool water. As a result, total residual chlorine is a parameter of concern. Because of the nature of the thermal discharge, temperature is also a parameter of concern.

Water Quality Modeling

No modeling was required for this discharge because in-stream standards are required to be met at the point of compliance.

Effluent Limitations

Effluent limitations applicable to 3B and 3D waters for the identified parameters of concern.

Total Residual Chlorine	.011	mg/l
Temperature	27	Degrees C

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.

A Level II Antidegradation Review (ADR) is not required for this discharge since neither the design capacity or allowable effluent concentration has increased from the previous permit cycle.