

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

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UPDES Section

Facility: Eureka Wastewater Treatment Facility
UPDES No. UT0024601

Receiving water: Eureka Creek (2B, 3E, 4)

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: Eureka Creek

The mean monthly design discharge for the facility is .2 MGD.

Receiving Water

EWTF discharges into Eureka Creek, an ephemeral wash, which is tributary to Tanner Creek. The confluence of Tanner and Eureka Creek is approximately 9 miles south of where the effluent enters Eureka Creek. The waters of Tanner Creek are classified as 2B, 3E, 4, as per UAC R317-2, and are part of the Sevier River system.

- *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 3E -- 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.*
- *Class 4 - Protected for agricultural uses including irrigation of crops and stock watering.*

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Wasteload Analysis
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The critical low flow for the wasteload analysis is the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). Since Eureka Creek is an ephemeral wash, the 7Q10 is assumed to be zero. As a result, effluent limits revert to the applicable water quality standards at end-of-pipe.

TMDL

Tanner Creek and its tributaries are not listed as impaired on the 2010 303(d) list.

Parameters of Concern

No additional parameters of concern were identified in addition to covered under secondary standards.

Water Quality Modeling

No modeling was required for this discharge because standards are assumed to be end-of pipe (no mixing).

Effluent Limitations

Effluent limitations applicable to Class 4 waters

TDS	1200.00	mg/l
Arsenic	100.00	ug/l
Boron	750	ug/l
Cadmium	10.00	ug/l
Chromium	100.00	ug/l
Copper	200.00	ug/l
Lead	100.00	ug/l
Selenium	50.00	ug/l
Gross Alpha	15.00	pCi/l

Effluent limitations applicable to Class 2B waters

E.Coli (30 day max)	206	No./100 ml
E.Coli (max)	668	No./100 ml
Turbidity increase	10	NTU

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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Wasteload Analysis
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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.

