Official Draft Public Notice Version **December 24, 2025**
The findings, determinations, and assertions contained in this document are not final and subject to change following the public comment period.

FACT SHEET
PAROWAN CITY
RENEWAL PERMIT: DISCHARGE
UPDES PERMIT NUMBER: UT0026158
MINOR MUNICIPAL

FACILITY CONTACTS

Operator Name:	Parowan City
Contact:	Aldo Biasi
Position:	Plant Operator
Phone Number:	(435) 592-0031
Person Name:	Dan Jessen
Position:	City Manager
Phone Number:	(435) 477-3331
Permittee Name:	Parowan City
Facility Name:	Parowan City Wastewater Treatment Facility
Mailing Address:	35 East 100 North Parowan, Utah 84761
Telephone:	(435) 477-3331
Actual Address:	2800 West 2200 North

DESCRIPTION OF FACILITY

The Parowan City Wastewater Treatment Facility (Facility) is a minor municipal wastewater treatment plant owned and operated by Parowan City (Permittee) under Utah Pollutant Discharge Elimination System (UPDES) Permit Number UT0026158. The Facility is located at 2800 West 2200 North in Parowan, Iron County, Utah, and serves the communities of Parowan City and Brian Head Town with a combined service population of roughly 3,500.

The Facility operates as a discharging lagoon system consisting of five (5) treatment cells encompassing 55.8 acres of total surface area. The Facility has a design capacity of 0.474 million gallons a day (MGD), and the current retention time ranges from 150 to 271 days. The Facility's outfall (Outfall 001) discharges to the Little Salt Lake Dry Lakebed, located at latitude 37°53'43" N and longitude 112°54'01" W.

The lagoons began operation in 2006, originally intended to be non-discharging; however, the necessary evaporation and seepage losses were not achieved according to the design plans. The Permittee obtained a land disposal operating permit from the Division of Water Quality (DWQ) in 2009. In spring 2020, the Permittee applied for and received an UPDES permit authorizing discharge into the Little Salt Lake. The Permittee continues to maintain coverage under the DWQ operating permit for land disposal (UTOP00206), alongside the surface water discharge covered by the Permit. The Facility is currently evaluating expansion alternatives to meet future capacity needs.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

The 2020 permit was the Permittee's first UPDES discharge permit, and as such, this 2025 permit renewal represents the first five-year permit cycle with operational data. The permit renewal process is a simple renewal of the existing UPDES permit with no changes to flow or concentration of pollutants. The Facility has indicated it is currently planning to identify expansion alternatives that address future capacity needs, though specific schedules have not been finalized.

Ammonia:
The limits for Total Ammonia (TNH_3) in the 2025 UPDES permit renewal show consistency in the acute limitation but a slight restriction in the chronic limitations compared to the previous 2020 permit. The maximum daily acute ammonia limit remains unchanged at 2.7 mg/L across all seasons (Summer, Fall, Winter, Spring). The most significant change occurs in the chronic Total Ammonia maximum monthly average limits, which are lower (more conservative) in the 2025 calculations compared to the 2020 limits. This shift is primarily driven by the pH data utilized in the Wasteload Analysis (WLA) for chronic toxicity determination. Additionally, a monthly composite monitoring requirement for Total Ammonia has been added to the permit in accordance with monitoring mandated under the Technology-based Phosphorus Effluent Limit (TBPEL) Rule.

Total Residual Chlorine:
The 2025 WLA identifies Total Residual Chlorine (TRC) as a pollutant of concern, which was not included in the 2020 WLA. This addition reflects the Facility's use of chlorine for disinfection and its discharge to Little Salt Lake Dry Lakebed, classified as Class 3D waters for protection of waterfowl and aquatic life. Water quality standards establish TRC criteria of 0.011 mg/L (chronic) and 0.019 mg/L (acute) for Class 3D waters. As TRC represents a newly identified pollutant for this Facility, the 2025 permit establishes daily monitoring during discharge periods to collect baseline data. This monitoring will inform potential effluent limitation development in the next permit cycle.

TBPEL:
Following the initial monitoring period, the Facility has established a baseline for phosphorus control, resulting in a Phosphorus Loading Cap calculated at 125% of the baseline annual phosphorus load (measured in pounds per year). This loading cap requirement is mandated by UAC R317-1-3.3.B for discharging lagoon systems. The Phosphorus Loading Cap is set at 125% of the Facility's current annual total phosphorus load to allow for growth capacity. Once a lagoon exceeds its Phosphorus Loading Cap, the facility owner has five years to construct treatment processes or implement treatment alternatives to achieve compliance. The loading cap provisions became effective July 1, 2018.

Based on the Facility's discharge monitoring data, the proposed Annual Phosphorus Loading Cap has been calculated at **1,488 lbs/yr**, which represents 125% of the Current Annual Total Phosphorus Load of 1,190 lbs/yr.

Under UAC R317-1-3.3.E, discharging treatment works subject to the TBPEL rule must conduct, at minimum, monthly monitoring of the following parameters beginning July 1, 2015:

R317-1-3.3, E, 1, a.	Influent for total phosphorus (as P) and total Kjeldahl nitrogen (as N) concentrations;
R317-1-3.3, E, 1, b.	Effluent for total phosphorus and orthophosphate (as P), ammonia, nitrate-nitrite and total Kjeldahl nitrogen (an N);

Per UAC R317-1-3.3.E.3, all monitoring samples must be collected as 24-hour composite samples using either an automatic sampler or a minimum of four grab samples collected at least two hours apart.

The Phosphorus Annual Loading Cap is defined as:

> *"Annual Loading Cap" is the highest allowable phosphorus loading discharged over a calendar year, calculated as the sum of all the monthly loading discharges measured during a calendar year divided by the number of monthly discharges measured during that year.*

The monthly phosphorus loading is calculated using the following method:

$$Monthyl\ Mass\ Loading, \frac{lbs}{Month} = (Ave\ Flow) * (Ave\ Concetration) * \left(8.34 \frac{lbs}{gal}\right) * \left(\frac{Days\ Discharged}{Month}\right)$$

The Annual Total Phosphorus Loading

$$Annual\ Mass\ Loading, lbs = Sum\left(Monthyl\ Mass\ Loading, \frac{lbs}{Month}\right)$$

DISCHARGE

DESCRIPTION OF DISCHARGE

The Facility operates as an intermittent discharge system and maintains a UPDES permit to authorize releases when operational conditions necessitate discharge. The Permittee submits monthly Discharge Monitoring Reports (DMRs) through NetDMR regardless of discharge status, reporting either monitoring results or no-discharge conditions as appropriate.

During the previous permit cycle, the Facility discharged on limited occasions: one day in 2022 (March), seven days in 2023 (April, May, August, and September) and two days in 2024 (February and March). Seven permit violations were recorded during the last permit cycle.

Outfall	Description of Discharge Point
001	Located at Latitude 37°53'43" N and Longitude 112°54'01" W. Discharge enters the Little Salt Lake dry lakebed.

RECEIVING WATERS AND STREAM CLASSIFICATION

The effluent from Outfall 001 will discharge directly to Little Salt Lake, which is typically a dry lakebed.

Per UAC R317-2-13.13, the designated beneficial uses is Unclassified Waters: All waters not specifically classified are presumptively classified 2B and 3D.

> 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 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.*

Per UAC R317-2-10, the designated beneficial uses All drainage canals and ditches statewide, except as otherwise designated are 2B and 3E.

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

TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

According to Utah's Final 2024 Integrated Report on Water Quality, the receiving water for Outfall 001 (Little Salt Lake) discharge is classified as "Unclassified Waters: All waters not specifically classified are presumptively classified" (Assessment Unit name: NA, Assessment Unit ID: NA) and was not listed as impaired for any parameters.

BASIS FOR EFFLUENT LIMITATIONS

Effluent limitations are derived from the application and subsequent incorporation of both TBELs and water quality-based effluent limitations (WQBELs), which together represent the minimum required control necessary to protect the receiving water in accordance with 40 Code of Federal Regulations (CFR) Part 122.44 and Utah Administrative Code (UAC) R317-8-4.2. In instances where multiple limitations are developed for a single constituent, the more stringent limitation must apply. In cases where no limits or multiple limits have been developed, Best Professional Judgment (BPJ) of the permitting authority may be used where applicable. BPJ refers to a discretionary, best professional decision made by the permit writer based upon precedent, prevailing regulatory standards, or other relevant information.

Permit limits can also be derived from the WLA, which incorporates Secondary Treatment Standards, Water Quality Standards (including any applicable TMDL impairments as appropriate), Antidegradation Reviews (ADR), and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During this UPDES renewal permit development, a WLA and ADR were completed (Attachment 3). The ADR Level I review concluded that an ADR Level II review was not required since this is a simple renewal of an existing UPDES permit with no increase in flow or concentration of pollutants over those authorized in the existing permit (as per UAC R317-2-3.5.b.1.(b)). The WLA indicates that effluent limitations will be sufficiently protective of water quality to meet state water quality standards in the receiving waters.

Limitations for conventional pollutants, including biochemical oxygen demand (BOD5), total suspended solids (TSS), E. coli, pH, and the associated percent removal requirements for BOD5 and TSS, are based upon the current Utah Secondary Treatment Standards (UAC R317-1-3.2). The limitation for Oil and Grease is established based on BPJ. Ammonia, dissolved oxygen (DO), and TRC were derived by the WLA. Normally, WLA derived effluent limits are calculated using the critical low flow of the receiving water. However, because the discharge flows directly to the shoreline of Little Salt Lake, which is typically dry, no receiving water is assumed to be present under critical conditions. Therefore, end-of-pipe water quality standards must be met, and no mixing zone was applied in calculating WLA derived effluent limits.

The Facility previously requested to relax the TSS limitations from 25 mg/L (monthly average) and 35 mg/L (weekly average) to 45 mg/L and 65 mg/L, respectively. DWQ denied this request because the Facility did not demonstrate consistent inability to meet secondary treatment standards. The Facility violated TSS limits only once (April 2022) out of eight months of monitoring data and met the current limits in the six

subsequent discharge events. Therefore, TSS limits remain at 25 mg/L (monthly average) and 35 mg/L (weekly average).

The TBPEL Rule (UAC R317-1-3.3), adopted in 2014, requires discharging treatment lagoons to establish a phosphorus loading cap in pounds per year based on monthly average flow rates and concentrations. On June 20, 2024, the Permittee requested a variance from the phosphorus loading cap under R317-1-3.3.C.1.c., claiming it was "clearly unnecessary" because the discharge goes to the Little Salt Lake dry lakebed, where nutrients could benefit waterfowl habitat or provide dust control. DWQ denied this variance on September 17, 2024 (DWQ-2024-005162). The denial was based on insufficient demonstration that the cap was unnecessary to protect downstream waters. DWQ noted that satellite imagery from October 24, 2023, showed the lakebed was not dry, and high-nutrient effluent could cause harmful algae blooms (HABs) or uncontrolled phragmites growth. Since no further action was taken, a phosphorus loading cap has been calculated and incorporated into this permit renewal. The permit requires monthly monitoring of influent for total phosphorus (as P) and total Kjeldahl nitrogen (as N), and monthly monitoring of effluent for total phosphorus, orthophosphate (as P), ammonia, nitrate-nitrite, and total Kjeldahl nitrogen (as N).

A Level I ADR was performed to ensure the protection of existing beneficial uses. Because the proposed permit is a simple renewal, and there is no requested increase in flow or concentration of pollutants beyond those previously authorized, a Level II ADR is not required.

The Permittee is expected to be able to comply with these limitations.

Reasonable Potential Analysis

The Reasonable Potential Analysis (RP) process is conducted by the DWQ on all new and renewal applications received since January 1, 2016. The RP for this permit renewal was conducted following DWQ's September 10, 2015, Reasonable Potential Analysis Guidance. To conduct a statistically valid quantitative RP, more than 10 data points per parameter are needed. Since the 2020 permit cycle, the Facility has been required to conduct annual metals monitoring to collect data for RP evaluation. Due to the limited number of sampling events completed to date, insufficient data are available to conduct a complete quantitative RP for metals and other pollutants of concern. Annual metals monitoring will continue to be required in this permit to support future reasonable potential determinations.

The permit limitations are:

Parameter	Effluent Limitations[a]					
	Maximum Monthly Avg	Monthly Minimum	Maximum Weekly Avg	Yearly Maximum	Daily Minimum	Daily Maximum
Total Flow, MGD	0.474	--	--	--	--	0.711
BOD_5, mg/L	25	--	35	--	--	--
BOD_5 Min. % Removal	85		--	--	--	--
TSS, mg/L	25	--	35	--	--	--
TSS Min. % Removal	85		--	--	--	--
DO, mg/L	--	5.0	--	--	3.0	--
Total Ammonia (as N), mg/L						
Summer (Jul-Sep)	0.5	--	--	--	--	2.7
Fall (Oct-Dec)	1.0	--	--	--	--	2.7

Winter (Jan-Mar)	1.5	--	--	--	--	2.7
Spring (Apr-Jun)	0.7	--	--	--	--	2.7
E. coli, No./100mL	126	--	158	--	--	--
Total Phosphorus, lbs/yr (Final)[(d)(f)]	--	--	--	1,488	--	--
Oil & Grease, mg/L	--	--	--	--	--	10.0
pH, Standard Units	--	--	--	--	6.5	9

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are not the same as in the previous permit, as explained above. The permit requires reports to be submitted monthly and annually, as applicable, on DMR forms due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results shall be submitted using NetDMR unless the Permittee has successfully petitioned for an exception. Lab sheets for metals shall be attached to the DMRs.

Self-Monitoring and Reporting Requirements[(a)]			
Parameter	**Frequency**	**Sample Type**	**Units**
Total Flow[(b)(c)]	Continuous	Recorder	MGD
BOD_5[(d)]			
Influent	Weekly	Composite	mg/L
Effluent	Weekly	Composite	mg/L
TSS[(d)]			
Influent	Weekly	Composite	mg/L
Effluent	Weekly	Composite	mg/L
E. coli	Weekly	Grab	No./100mL
pH	Daily	Grab	SU
Total Ammonia (as N)	Daily	Grab	mg/L
DO	Daily	Grab	mg/L
Total Residual Chlorine (TRC)	Daily	Grab	mg/L
Oil & Grease[(e)]	When Sheen Observed	Grab	mg/L
Orthophosphate (as P)[(f)]			
Effluent	Monthly	Composite	mg/L
Total Phosphorus (as P)[(d)(f)]			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen TKN (as N)[(d)(f)]			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrate, NO3[(d)(f)]	Monthly	Composite	mg/L
Nitrite, NO2[(d)(f)]	Monthly	Composite	mg/L
Total Ammonia (as N)[(f)]	Monthly	Composite	mg/L
Temperature, mg/L	Monthly	Recorder	Fahrenheit
Metals[(g)(h)]	Annually	Composite	mg/L

a. See Definitions, Part VIII, for definition of terms.

b. Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
c. If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
d. The Permittee shall monitor influent for listed parameter at a monthly frequency even when not discharging effluent during a particular month.
e. Oil & Grease shall be sampled when sheen is present or visible. If no sheen is present or visible, report NA.
f. These reflect changes required with the adoption of UAC R317-1-3.3, Technology-based Phosphorus Effluent Limits rule.
g. Metals samples should be analyzed using a method that meets minimum detection limit (MDL) requirements. If a test method is not available, the permittee must submit documentation to the Director regarding the method that will be used. The sample type (composite or grab) should be performed according to the method's requirements.
h. Metals are being sampled in support of the work being done for the Reasonable Potential Analysis. The metals will be monitored and reported annually by the Facility on Discharge Monitoring Report but will not have a limit associated with them. If the Permittee decides to sample more frequently for these metals, the additional data will be welcome. Metals include Arsenic, Cadmium, Total Chromium, Copper, Cyanide, Lead, Mercury, Nickel, Selenium, Silver, and Zinc.

MANAGEMENT PRACTICES FOR LAND APPLICATION OF TREATED EFFLENT

(1) The application of treated effluent to frozen, ice-covered, or snow-covered land is prohibited.
(2) No person shall apply treated effluent where the slope of the site exceeds 6 percent.
(3) The use shall not result in a surface water runoff.
(4) The use shall not result in the creation of an unhealthy or nuisance condition, as determined by the local health department.
(5) Any irrigation with treated effluent shall be at least 300 feet from a potable well.
(6) For Type I reuse, any irrigation shall be at least 50 feet from any potable water well.
(7) For Type II reuse, any irrigation shall be at least 300 feet from any potable water well.
(8) For Type II reuse, spray irrigation shall be at least 100 feet from areas intended for public access. This distance may be reduced or increased by the Director.
(9) Impoundments of treated effluent, if not sealed, shall be at least 500 feet from any potable well.
(10) Public access to effluent storage and irrigation or disposal sites shall be restricted by a stock-tight fence or other comparable means which shall be posted and controlled to exclude the public (Compliance Schedule for a Particular Parameter if necessary)

BIOSOLIDS

The State of Utah has adopted the 40 C.F.R. § 503 federal regulations for the disposal of sewage sludge (biosolids) by reference. However, since this Facility is a lagoon system, there is not any regular sludge production. Therefore 40 C.F.R. § 503 shall not apply at this time. In the future, if the sludge needs to be removed from the lagoons and is disposed of in some way, the DWQ must be contacted prior to the removal of the sludge to ensure that all applicable state and federal regulations are met.

STORM WATER

Permit coverage under the Construction General Storm Water Permit (CGP) is required for any construction at the Facility which disturbs an acre or more or is part of a common plan of development or sale that is an acre or greater. A Notice of Intent (NOI) is required to obtain a construction storm water permit prior to the period of construction.

Information on storm water permit requirements can be found at http://stormwater.utah.gov.

PRETREATMENT REQUIREMENTS

The Permit pretreatment requirements assist DWQ in understanding the sources discharging to the Parowan Publicly Owned Treatment Works (POTW) and determining the need for Industrial User oversight. Based on a review of the service area, Industrial Users may need to be further investigated to determine if the facilities are Significant Industrial Users (SIUs).

Parowan does not have an Approved POTW Pretreatment Program (Program). This is due to the flow through the plant being less than five (5) MGD and no known Significant Industrial Users.

Information regarding Industrial Users discharging to the Parowan POTW must be submitted as stated in Part II of the permit. This information will assist in determining the needs of DWQ to assist Parowan with implementing the Pretreatment Standards and Requirements. If an Industrial User begins to discharge or an existing Industrial User changes its discharge, Updates must be submitted within 60 days of any changes occurring with an existing Industrial User or a new Industrial User that begins discharging to the POTW.

Sampling will not be required in Part II of the UPDES Permit because the discharge is less than 1 MGD. However, if the discharge changes or an Industrial User discharges to the POTW, monitoring might be required in Part II of the UPDES Permit.

Any wastewater discharged to the POTW from an Industrial User is subject to Federal, State and local regulations. Pursuant to Section 307 of the Clean Water Act, Parowan and the Industrial Users discharging to the POTW shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in 40 CFR 403, and the State Pretreatment Requirements found in UAC R317-8-8.

It is required that any Local Limits be submitted to DWQ for review. If Local Limits are developed, it is required that Parowan perform an annual evaluation of the need to revise or develop technically based Local Limits for pollutants of concern to implement the general and specific prohibitions 40 CFR, Part 403.5(a) and Part 403.5(b). This evaluation may indicate that present Local Limits are sufficiently protective, need to be revised or should be developed.

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring), dated February 2018. Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

The permittee is a minor municipal facility that will be discharging an infrequent amount of effluent, in which toxicity is neither an existing concern, nor likely to be present. Also, Little Salt Lake is typically a

dry lakebed; therefore, there is insufficient water quality data available to determine whether the lake is impaired. Based on these considerations, and the absence of receiving stream water quality monitoring data, there is no reasonable potential for toxicity in the permittee's discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit.

Although routine WET monitoring is not required due to the low reasonable potential for toxicity and infrequent discharge, the Permit (Part I.C.1) includes a narrative standard of "no acute or chronic toxicity". Compliance with this narrative limitation, in the absence of WET testing, will be determined by the Permittee's ongoing compliance with all technology-based and water-quality-based chemical limits established in the permit. If the discharge frequency increases significantly or if operational changes occur, the Toxicity Limitation Re-opener Provision (Part VII.Q of the Permit) may be invoked to require WET testing to ensure continued compliance with the narrative standard.

PERMIT DURATION

It is recommended that this permit be effective for a duration of five (5) years.

Drafted and Reviewed By:
Jordan Bentley, Discharge Permit Writer, Reasonable Potential Analysis
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Carl Adams, Storm Water
Christopher L. Shope, PhD, Wasteload Analysis/ADR
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE INFORMATION (to be updated after)

Began: Month Day, Year
Ended: Month Day, Year

Comments will be received at: 195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870

The Public Notice of the draft permit was published on State of Utah and/or DWQ's website for at least 30 days as required.

During the public notice and comment period provided under UAC R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in UAC R317-8-6.12.

ADDENDUM TO FACT SHEET

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes, they are considered minor changes, and the permit is not required to be re Public Noticed as provided in UAC R317-8-5.6(3)

Responsiveness Summary

(Explain any comments received and responses sent. Actual letters can be referenced but not required to be included).

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ATTACHMENT 1

Industrial Waste Survey

Industrial Pretreatment Wastewater Survey

Do you periodically experience any of the following treatment works problems:

foam, floaties or unusual colors
plugged collection lines caused by grease, sand, flour, etc.
discharging excessive suspended solids, even in the winter
smells unusually bad
waste treatment facility doesn't seem to be treating the waste right

Perhaps the solution to a problem like one of these may lie in investigating the types and amounts of wastewater entering the sewer system from industrial users.

An industrial user (IU) is defined as a non-domestic user discharging to the waste treatment facility which meets any of the following criteria:

1. **has a lot of process wastewater (5% of the flow at the waste treatment facility or more than 25,000 gallons per work day.)**

   Examples: Food processor, dairy, slaughterhouse, industrial laundry.

2. **is subject to Federal Categorical Pretreatment Standards**;

   Examples: metal plating, cleaning or coating of metals, blueing of metals, aluminum extruding, circuit board manufacturing, tanning animal skins, pesticide formulating or packaging, and pharmaceutical manufacturing or packaging,

3. **is a concern to the POTW.**

   Examples: septage hauler, restaurant and food service, car wash, hospital, photo lab, carpet cleaner, commercial laundry.

All users of the water treatment facility are **prohibited** from making the following types of discharges:

1. A discharge which creates a fire or explosion hazard in the collection system.

2. A discharge which creates toxic gases, vapor or fumes in the collection system.

3. A discharge of solids or thick liquids which creates flow obstructions in the collection system.

4. An acidic discharge (low pH) which causes corrosive damage to the collection system.

5. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause problems in the collection system or at the waste treatment facility.

6. Waste haulers are prohibited from discharging without permission. (No midnight dumping!)

When the solution to a sewer system problem may be found by investigating the types and amounts of wastewater entering the sewer system discharged from IUs, it's appropriate to conduct an Industrial Waste Survey.

An Industrial Waste Survey consists of:

Step 1: Identify Industrial Users

Make a list of all the commercial and industrial sewer connections.

Sources for the list:

business license, building permits, water and wastewater billing, Chamber of Commerce, newspaper, telephone book, yellow pages.

Split the list into two groups:

domestic wastewater only--no further information needed
everyone else (IUs)

Step 2: Preliminary Inspection

Go visit each IU identified on the "everybody else" list.

Fill out the **Preliminary Inspection Form** during the site visit.

Step 3: Informing the State

Please fax or send a copy of the Preliminary inspection form (both sides) to:

Jennifer Robinson

Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, UT 84114-4870

Phone: (801) 536-4383
Fax: (801) 536-4301
E-mail: jenrobinson@utah.gov

PRELIMINARY INSPECTION FORM

INSPECTION DATE ___ / ____ /

Name of Business **Person Contacted**
Address **Phone Number**

Description of Business

Principal product or service:

Raw Materials used:

Production process is: [ ] Batch [ ] Continuous [ ] Both

Is production subject to seasonal variation? [ ] yes [ ] no
If yes, briefly describe seasonal production cycle.

This facility generates the following types of wastes (check all that apply):

1. [ ] Domestic wastes (Restrooms, employee showers, etc.)
2. [ ] Cooling water, non-contact
3. [ ] Boiler/Tower blowdown
4. [ ] Cooling water, contact
5. [ ] Process
6. [ ] Equipment/Facility washdown
7. [ ] Air Pollution Control Unit
8. [ ] Storm water runoff to sewer
9. [ ] Other describe _____

Wastes are discharged to (check all that apply):

[ ] Sanitary sewer **[ ] Storm sewer**
[ ] Surface water **[ ] Ground water**
[ ] Waste haulers **[ ] Evaporation**
[ ] Other (describe)
Name of waste hauler(s), if used _____

Is a grease trap installed? Yes No
Is it operational? Yes No

Does the business discharge a lot of process wastewater?
- **More than 5% of the flow to the waste treatment facility? Yes No**
- **More than 25,000 gallons per work day? Yes No**

Does the business do any of the following:

[ ] Adhesives
[ ] Aluminum Forming
[ ] Battery Manufacturing
[ ] Copper Forming
[ ] Electric & Electronic Components
[ ] Explosives Manufacturing
[ ] Foundries
[ ] Inorganic Chemicals Mfg. or Packaging
[ ] Industrial Porcelain Ceramic Manufacturing
[ ] Iron & Steel
[ ] Metal Finishing, Coating or Cleaning
[ ] Mining
[ ] Nonferrous Metals Manufacturing
[ ] Organic Chemicals Manufacturing or Packaging
[ ] Paint & Ink Manufacturing
[ ] Pesticides Formulating or Packaging
[ ] Petroleum Refining
[ ] Pharmaceuticals Manufacturing or Packaging
[ ] Plastics Manufacturing
[ ] Rubber Manufacturing
[ ] Soaps & Detergents Manufacturing
[ ] Steam Electric Generation
[ ] Tanning Animal Skins
[ ] Textile Mills

[ ] Car Wash
[ ] Carpet Cleaner
[ ] Dairy
[ ] Food Processor
[ ] Hospital
[ ] Laundries
[ ] Photo Lab
[ ] Restaurant & Food Service
[ ] Septage Hauler
[ ] Slaughter House

Are any process changes or expansions planned during the next three years? Yes No
If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Inspector

Waste Treatment Facility

Please send a copy of the preliminary inspection form (both sides) to:

Jennifer Robinson
Division of Water Quality
P. O. Box 144870
Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
Fax: (801) 536-4301
E-Mail: jenrobinson@utah.gov

	Industrial User	Jurisdiction	SIC Codes	Categorical Standard Number	Total Average Process Flow (gpd)	Total Average Facility Flow (gpd)	Facility Description
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

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ATTACHMENT 2

Effluent Monitoring Data

Effluent Monitoring Data

Date	Flow Rate		Dissolved Oxygen		BOD 5-day				pH		TSS			
	(MGD)		(mg/L)		(mg/L)				(SU)		(mg/L)			
	Daily Max	Mon. Avg	Daily Min	Mon. Min	Eff Weekly	Eff Monthly	Inf Weekly	Inf Monthly	Daily Min	Daily Max	Eff Weekly	Eff Monthly	Inf Weekly	Inf Monthly
4/17/2023	0.572	0.387	5.3	10.34	18.2	4.3	83	19.4	8.6	8.9	7	16	73	17
5/22/2023	0.665	0.444	3	6.98	24.6	21.1	102	308	8.1	8.35	18.72	11.38	57	501
8/24/2023	0.643	0.258	3	6.2	2.4	4.09	146	24	8.04	9	33.28	19.41	5.5	0.91
9/20/2023	0.685	0.251	3	3.6	3	6	151	10	8.9	9	31	5	5	10
2/22/2024	0.663	0.256	21	7.46	17.72	17.72	390	390	8.9	9	10	10	342	342
3/26/2024	0.659	0.454	8.12	12.72	22	9.42	27	174	8.2	9	31.66	3.27	29	184

Date	Oil & Grease	Ammonia-N		E. coli	
	(mg/L)	(mg/L)		(#/100mL)	
	Daily Max	Daily Max	Monthly Avg	Weekly Avg	Monthly Avg
4/17/2023	0	5.9	4.82	10.31	2.4
5/22/2023	0	1.04	0.69	0	0
8/24/2023	0	1.84	0.19	8.4	0.28
9/20/2023	0	0.46	0.35	3.05	6.1
2/22/2024	0	0.2	0.2	1	1
3/26/2024	0	2.63	1.65	2.4	0.37

Date	TKN		Total Phosphorus		Total Hardness	Ortho-Phosphate	Total Residual Chlorine	BOD % Removal	TSS % Removal	Temperature	TDS	Nitrate	Nitrite
	(mg/L)		(mg/L)		(mg/L as CaCO3)	(mg/L as P)	(mg/L)	(%)	(%)	(°F)	(mg/L)	(mg/L as NO3)	(mg/L as NO2)
	Effluent	Influent	Effluent	Influent	Monthly Avg	Monthly Avg	Monthly Avg	Minimum	Minimum	Monthly Avg	Monthly Avg	Monthly Avg	Monthly Avg
4/17/2023	7.3	57.1	2.6	4.5	305	2.1	0.49	83	90.29	55	940	0	0
5/22/2023	12.6	26.5	2.7	3.6	333	1.2	0.24	79.9	88.7	59.4	876	0	0
8/24/2023	6.6	38.1	2.4	3.2	371	2.5	0.31	96	95	77.6	176	0.28	2.6
9/20/2023	45.8	45.8	1.3	6.6	309	0.85	0.26	98	95	76	904	0	0.3
2/22/2024	5	45.3	2.2	4.7	295	1.2	0.34	94	89	50.5	1020	0	0
3/26/2024	2.3	50.8	2.3	4.5	273	1.5	0.58	94	94	52.65	868	0	0

Template updated 6/23/2025

Metals Monitoring Data

Date	Cyanide	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Silver	Zinc	Selenium	Mercury
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
1/18/2023	*BDL*	0.0086	*BDL*	*BDL*	0.001	*BDL*	0.0016	*BDL*	*BDL*	0.0006	*BDL*
1/18/2024	0.005	0.0076	0	0.0007	0.0069	0	0.0018	0	0.05	0.0007	0

BDL = Below Detection Limit

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ATTACHMENT 3

Wasteload Analysis
(DWQ-2025-006264)

State of Utah
SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Tim Davis
Executive Director

DIVISION OF WATER QUALITY
John K. Mackey, P.E.
Director

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

Date: **August 6, 2025**

Prepared by: **Christopher L. Shope, PhD**
Standards and Technical Services

Facility: **Parowan City Lagoons**
UPDES Permit No. UT-0026158

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

- Outfall 001 discharges to Little Salt Lake dry lakebed at a design flow of 0.474 MGD.

RECEIVING WATER AND STREAM CLASSIFICATION

The effluent from Outfall 001 will discharge directly to Little Salt Lake, which is typically a dry lakebed.

Per UAC R317-2-13.13, the designated beneficial uses is *Unclassified Waters: All waters not specifically classified are presumptively classified:* are *2B, 3D*.

- *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 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.*

Per UAC R317-2-10, the designated beneficial uses *All drainage canals and ditches statewide, except as otherwise designated*: are 2B, 3E.

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

PROTECTION OF DOWNSTREAM USES
Per UAC R317-2-8, all actions to control waste discharges under these rules shall be modified as necessary to protect downstream designated uses.

WATER QUALITY STANDARDS
Numeric criteria based on designated beneficial uses are specified in UAC R317-2-14. In addition, narrative water quality standards must not be violated per UAC R317-2-7.2:

> *It shall be unlawful, and a violation of these rules, for any person to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste; or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures; or determined by biological assessments in Subsection R317-2-7.3.*

RECEIVING WATER FLOW AND WATER QUALITY
Typically, the critical flow for the receiving water in a wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten-year return frequency (7Q10). The effluent discharge from the lagoons is directly to the shoreline of Little Salt Lake, which is typically a dry lakebed. Therefore, there are no representative upstream background flow locations. Additionally, no stage or water level records are available for Little Salt Lake. As a result, no water is assumed present under critical conditions and end-of-pipe water quality standards must be met.

TOTAL MAXIMUM DAILY LOAD (TMDL)
According to the Utah's Final 2024 Integrated Report on Water Quality dated April 30, 2024 (UDWQ, 2024), the receiving water for Outfall 001 discharge "*Unclassified Waters: All waters not specifically classified are presumptively classified* (AU name: *NA*, AU ID: *NA*)" was not listed as impaired for any parameters.

MIXING ZONE
Per UAC R317-2-5, the maximum allowable mixing zone is 15 minutes of travel time for acute conditions, not to exceed 50% of stream width, and 2,500 feet for chronic conditions. Water quality standards must be met at the end of the regulatory mixing zone. For this permit renewal,

the critical background flow is assumed to be zero and end-of-pipe conditions must be met. Therefore, no mixing was considered.

PARAMETERS OF CONCERN

The potential parameters of concern identified for the discharge/receiving water were determined in consultation with the UPDES Permit Writer, the Utah Water Quality Assessment Reports, and the industry SIC codes from https://www.osha.gov/data/sic-search. These include total suspended solids (TSS), dissolved oxygen (DO), BOD5, total ammonia (TAN), total phosphorus (TP), E. coli, and pH.

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 LC_{50} (lethal concentration, 50%) percent effluent for acute toxicity and the IC_{25} (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. The WET limit for LC_{50} is typically 100% effluent and does not need to be determined by the WLA. The IC_{25} WET limits for all seasons is 100% due to the end-of-pipe no flow restrictions.

WASTELOAD ALLOCATION METHODS

Effluent limits were determined for conservative constituents using a simple mass balance mixing analysis (UDWQ, 2021). The mass balance analysis is summarized in the Wasteload Addendums.

The toxicity of some metals is dependent on the hardness of the water. Due to the lack of sampling data, a hardness of 271 mg/L as CaCO3 was used based on a single sample tested on November 8th, 2013.

Because of the infrequency of the discharges, it is presumed that secondary standards for BOD5 and water quality criteria for DO are sufficiently protective of the receiving water.

The water quality standard for chronic ammonia toxicity is dependent on temperature and pH, and the water quality standard for acute ammonia toxicity is dependent on pH. This analysis is further summarized in the Wasteload Addendum.

Models and supporting documentation are available for review upon request.

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.

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. Therefore, a Level II ADR is not required.

LOCATION MAP

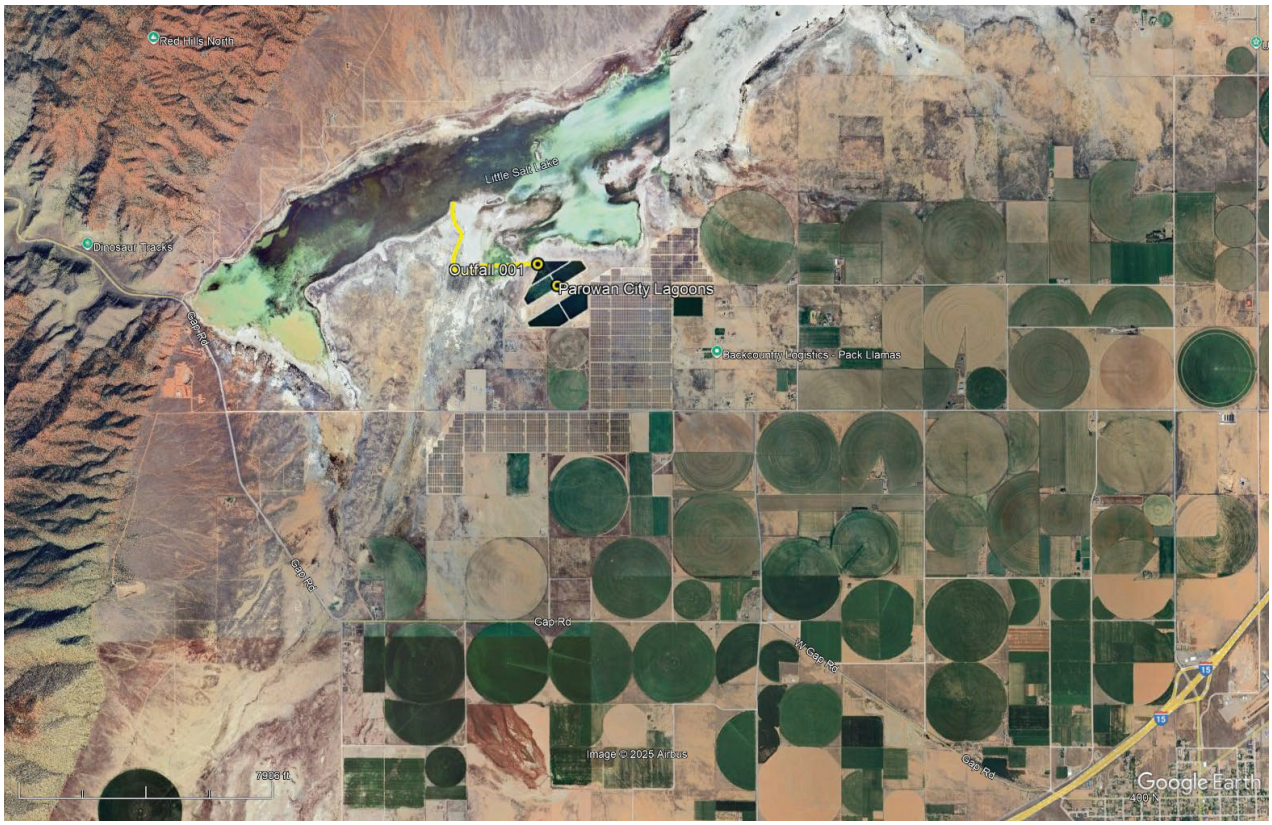

Figure 1-Location map of outfalls, monitoring locations, and surface water channels.

DOCUMENTS

WLA Document*: 250806-Parowan_City_WLA_EOP_2025.docx*
Wasteload Analysis and Addendums: *250806-Parowan_City_WLA_EOP_2025.xlsm*

REFERENCES

Utah Division of Water Quality. 2024. Final 2024 Integrated Report on Water Quality. https://lf-public.deq.utah.gov/WebLink/DocView.aspx?id=87957&repo=Public&searchid=fcd9ea4c-51e1-4227-aa29-fb1921c2cc19&cr=1

Utah Division of Water Quality. 2021. Utah Wasteload Analysis Procedures Version 2.0. https://documents.deq.utah.gov/water-quality/standards-technical-services/DWQ-2021-000684.pdf

WASTELOAD ANALYSIS [WLA] Date: 8/7/2025

Appendix A: Mass Balance Mixing Analysis for Conservative Constituents

A Level II Antidegradation Review (ADR) is required for this facility.

Discharging Facility:	Parowan City			
UPDES No:	UT0026158			
	Little Salt Lake dry lakebed			
Permit Flow [MGD]:	0.47400	Annual	Max. Daily	
	0.47400	Annual	Max. Monthly	
Receiving Water:	Little Salt Lake dry lakebed			
Stream Classification:	2B,3D			
Stream Flows [cfs]:	0.00	All Seasons	Critical Low Flow	DWQ 4990080 7Q10
	-	All Seasons	Critical Low Flow (20th %)	DWQ 4990080 20th percentile
Fully Mixed:	YES			
Acute River Width:	100%			
Chronic River Width:	100%			

Modeling Information

A mass balance mixing analysis was used to determine the effluent limits.

All model numerical inputs, intermediate calculations, outputs and graphs are available for discussion, inspection and copy at the Division of Water Quality.

Effluent Limitations

Current State water quality standards are required to be met under a variety of conditions including in-stream flows targeted to the 7-day, 10-year low flow (R317-2-9).

Other conditions used in the modeling effort reflect the environmental conditions expected at low stream flows.

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.474 MGD. If the discharger is allowed to have a flow greater than 0.474 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occuring, the permit writers must include the discharge flow limititation as indicated above; or, include loading effluent limits in the permit.

Technology Based Effluent Limits	**Limit**	
Total Phosphorus as P	1.0	mg/L

Effluent Limitations for Protection of Recreation (Class 2B Waters) (R317-2-14.1)

Physical Parameter	**Concentration Minimum**	**Maximum**
pH	6.5	9.0
Turbidity Increase (NTU)		10.0

Bacteriological (R317-2-14.1)

E. coli (30 Day Geometric Mean)	206	(#/100 mL)
E. coli (Maximum)	668	(#/100 mL)

Effluent Limitations for Protection of Aquatic Wildlife (Class 3D Waters) (R317-2-14.21)

Physical Parameter	**Concentration Minimum**	**Maximum**
pH	6.5	9.0
Turbidity Increase (NTU)		15.0
Temperature (deg C)		
Temperature Change (deg C)		

Dissolved Oxygen (mg/L)	**Minimum Concentration**

	ELS Present	Others Present
Instantaneous	3.0	3.0
30-day Average	5.0	5
7-day Average	5.0	5

Inorganics	Chronic (30-day ave)	Acute (1-hour ave)
Parameter		Standard
Phenol (mg/L)		0.010
Hydrogen Sulfide (Undissociated-mg/L)		0.002
Total Residual Chlorine (mg/L)	0.011	0.019

Ammonia-Total (mg/L)

	Chronic (30-day ave)			Acute (1-hour ave)		
	ELS Present					
Season	Standard	Background	Limit	Standard	Background	Limit
Summer	0.5		0.5	2.7		2.7
Fall	0.9		0.9	2.7		2.7
Winter	0.9		0.9	2.7		2.7
Spring	0.7		0.7	2.7		2.7

	ELS Absent					
Season	Standard	Background	Limit	Standard	Background	Limit
Summer	0.5		0.5	2.7		2.7
Fall	1.0		1.0	2.7		2.7
Winter	1.5		1.5	2.7		2.7
Spring	0.7		0.7	2.7		2.7

Metals-Total Recoverable

	Chronic (4-day ave)			Acute (1-hour ave)		
Parameter	Standard[1]	Background	Limit	Standard[1]	Background	Limit
Aluminum (µg/L)	87.0		87.0	750.0		750.0
Arsenic (µg/L)	150.0		150.0	340.0		340.0
Cadmium (µg/L)	1.8		1.8	5.0		5.0
Chromium VI (µg/L)	11.0		11.0	16.0		16.0
Chromium III (µg/L)	195.0		195.0	4,080		4,080
Copper (µg/L)	21.9		21.9	35.8		35.8
Cyanide (µg/L)[2]	5.2		5.2	22.0		22.0
Iron (µg/L)				1,000		1,000
Lead (µg/L)	11.3		11.3	290.5		290.5
Mercury (µg/L)[2]	0.012		0.012	2.4		2.4
Nickel (µg/L)	121.2		121.2	1,091		1,091
Selenium (µg/L)	4.6		4.6	18.4		18.4
Silver (µg/L)				21.0		21.0
Tributylin (µg/L)[2]	0.072		0.072	0.46		0.46
Zinc (µg/L)	278.9		278.9	278.9		278.9

1: Based upon a Hardness of 271 mg/l as CaCO3

2: Background concentration assumed 67% of chronic standard

Organics [Pesticides]

	Chronic (4-day ave)		Acute (1-hour ave)	
Parameter	Standard	Limit	Standard	Limit
Aldrin (µg/L)			1.5	1.5
Chlordane (µg/L)	0.0043	0.0043	1.2	1.2
DDT, DDE (µg/L)	0.001	0.001	0.55	0.55
Diazinon (µg/L)	0.17	0.17	0.17	0.17
Dieldrin (µg/L)	0.0056	0.0056	0.24	0.24
Endosulfan, a & b (µg/L)	0.056	0.056	0.11	0.11
Endrin (µg/L)	0.036	0.036	0.086	0.086
Heptachlor & H. epoxide (µg/L)	0.0038	0.0038	0.26	0.26
Lindane (µg/L)	0.08	0.08	1.0	1.0
Methoxychlor (µg/L)			0.03	0.03
Mirex (µg/L)			0.001	0.001
Nonylphenol (µg/L)	6.6	6.6	28.0	28.0
Parathion (µg/L)	0.0130	0.0130	0.066	0.066

PCB's (µg/L)	0.014	0.014		
Pentachlorophenol (µg/L)	15.0	15.0	19.0	19.0
Toxephene (µg/L)	0.0002	0.0002	0.73	0.73

Radiological	Maximum Concentration
Parameter	**Standard**
Gross Alpha (pCi/L)	15
Gross Beta (pCi/L)	50

Freshwater total ammonia criteria based on Title R317-2-14 Utah Administrative Code
Acute

INPUT	Summer	Fall	Winter	Spring
Temperature (deg C):	24.10	12.60	6.60	18.30
pH:	8.60	8.60	8.60	8.60
Beneficial use classification:	3D	3D	3D	3D

OUTPUT				
Total ammonia nitrogen criteria (mg N/L):				
Acute (Class 3A):	1.771	1.771	1.771	1.771
Acute (Class 3B, 3C, 3D):	**2.651**	**2.651**	**2.651**	**2.651**

Freshwater total ammonia criteria based on Title R317-2-14 Utah Administrative Code
Chronic

INPUT	Summer	Fall	Winter	Spring
Temperature (deg C):	24.10	12.60	6.60	18.30
pH:	8.60	8.60	8.60	8.60
Are fish early life stages present?	No	No	No	No

OUTPUT				
Total ammonia nitrogen criteria (mg N/L):				
Chronic - Fish Early Life Stages Present:	0.496	0.920	0.920	0.721
Chronic - Fish Early Life Stages Absent:	**0.496**	**1.041**	**1.494**	**0.721**

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ATTACHMENT 4

Reasonable Potential Analysis

REASONABLE POTENTIAL ANALYSIS

DWQ has worked to improve our reasonable potential analysis (RP) for the inclusion of limits for parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. RP for this permit renewal was not conducted because of lack of discharge data from this permit cycle.

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