STATE OF UTAH
DIVISION OF WATER QUALITY
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALT LAKE CITY, UTAH

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMITS

Minor Municipal Permit No. **UT0025771**

In compliance with provisions of the Utah *Water Quality Act, Title 19, Chapter 5, Utah Code Annotated ("UCA") 1953, as amended* (the *"Act"*),

THE CITY OF GREEN RIVER,

is hereby authorized to discharge from its wastewater treatment facility to receiving waters named

THE GREEN RIVER,

in accordance with specific limitations, outfalls, and other conditions set forth herein.

This permit shall become effective on February 1, 2020.

This permit expires at midnight on January 31, 2025.

Signed this 28th day of January, 2020.

Erica Brown Gaddis, PhD
Director

DWQ-2019-014875

Table of Contents

Outline Page Number

I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS

A. Description of Discharge Points. The authorization to discharge wastewater provided under this part is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit are violations of the *Act* and may be subject to penalties under the *Act*. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge may be subject to criminal penalties as provided under the *Act*.

Outfall Number	Location of Discharge Outfall
001	Located at latitude 38° 58' 50" and longitude 110° 9' 8". The discharge flows right into Green River.

B. Narrative Standard. It shall be unlawful, and a violation of this permit, for the permittee 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 a bioassay or other tests performed in accordance with standard procedures.

C. Specific Limitations and Self-Monitoring Requirements.

1. Effective immediately, and lasting through the life of this permit, there shall be no acute or chronic toxicity in Outfall 001 as defined in *Part VI*.

2.
   a. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below.
   b. GRWTF land applies a portion of water on their property. GRWTF 's Land Application reuse is currently covered under permit No. UTOP002## General Permit for Land Disposal of Treated Wastewater under coverage No. UTOP00207.

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Maximum	Daily Minimum	Daily Maximum
Flow, MGD	.56	--	--	--	--
BOD_5, mg/L	45	65	--	--	--
TSS, mg/L	45	65	--	--	--
Dissolved Oxygen, mg/L	--	--	--	5.0	--
TRC, mg/L	--	--	--	--	6.5
E. coli, No./100mL	126	157	--	--	--
Oil & Grease, mg/L	--	--	--	--	10.0
pH, Standard Units	--	--	--	6.5	9
TDS, mg/L *f	< 400 Increase	--	--	--	1 Ton/Day
Phosphorous, lbs	--	--	1,705	--	--

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD_5, Influent *d	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
TSS, Influent *d	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
E. coli	Monthly	Grab	No./100mL
pH	Monthly	Grab	SU
DO	Monthly	Grab	mg/L
TRC, mg/L	Monthly	Grab	mg/L
Oil & Grease *e	When Sheen Observed	Grab	mg/L
Orthophosphate, (as P) *g			
Effluent	Monthly	Composite	mg/L
Phosphorus, Total *g			
Influent		Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N) *g			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrate, NO3 *g	Monthly	Composite	mg/L
Nitrite, NO2 *g	Monthly	Composite	mg/L
TDS, mg/L *f	Monthly	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 In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.

*e Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.

*f The effluent shall not exceed the culinary source water intake by more than 400 mg/L of TDS (*******or the permittee could request 1 ton/day salt loading, or 366 tons/year*******).

*g These reflect changes required with the adoption of UCA R317-1-3.3, Technology-based Phosphorus Effluent Limits rule.

D. Reporting of Monitoring Results.

1. Reporting of Wastewater Monitoring Results Monitoring results obtained during the previous month shall be summarized for each month and reported on a Discharge

Monitoring Report Form (EPA No. 3320-1)* or by NetDMR, post-marked or entered into NetDMR no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports including whole effluent toxicity (WET) test reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part VII.G*), and submitted by NetDMR, or to the Division of Water Quality at the following address:

Department of Environmental Quality
Division of Water Quality
PO Box 144870
Salt Lake City, Utah 84114-4870

* Starting January 1, 2017 monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception.

II. INDUSTRIAL PRETREATMENT REQUIREMENTS

A. Definitions. For this section the following definitions shall apply:

1. *Indirect Discharge* means the introduction of pollutants into a publicly-owned treatment works (POTW) from any non-domestic source regulated under section 307 (b), (c) or (d) of the Act.

2. *Interference* means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

   a. Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

   b. Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

3. *Local Limit* is defined as a limit designed to prevent pass through and/or interference. And is developed in accordance with 40 CFR 403.5(c).

4. *Pass Through means* a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

5. *Publicly Owned Treatment Works* or *POTW* means a treatment works as defined by section 212 of the Act, which is owned by a State or municipality (as defined by section 502(4) of the Act). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the Act, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

6. *Significant industrial user (SIU)* is defined as an industrial user discharging to a POTW that satisfies any of the following:

   a. Has a process wastewater flow of 25,000 gallons or more per average work day;

   b. Has a flow greater than five percent of the flow carried by the municipal system receiving the waste;

   c. Is subject to Categorical Pretreatment Standards, or

d. Has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.

7. *User or Industrial User (IU)* means a source of Indirect Discharge

B. Pretreatment Reporting Requirements. Because the design capacity of this municipal wastewater treatment facility is less than 5 MGD, the permittee will not be required to develop a State-approved industrial pretreatment program at this time. However, in order to determine if development of an industrial pretreatment program is warranted, the permittee shall conduct an **industrial waste survey**, as described in *Part II.C.1*, and submit it to the Division of Water Quality within **sixty (60) calendar days** of the effective date of this permit.

C. Industrial Wastes.

1. The "Industrial Waste Survey" as required by *Part II.B.1*. consists of;

a. Identifying each industrial user (IU) and determining if the IU is a signification industrial user (SIU),

b. Determination of the qualitative and quantitative characteristics of each discharge, and

c. Appropriate production data.

2. The IWS must be maintained and updated with IU information as necessary, to ensure that all IUs are properly permitted and/or controlled at all times. Updates must be submitted to the Director sixty (60) days following a change to the IWS.

3. Evaluate all significant industrial users at least once every two years to determine if they need to develop a slug prevention plan. If a slug prevention plan is required, the permittee shall notify the Director.

4. Notify all significant industrial users of their obligation to comply with applicable requirements under *Subtitles C and D* of the *Resource* Conservation and Recovery Act (RCRA).

5. The permittee must notify the Director of any new introductions by new or existing SIUs or any substantial change in pollutants from any major industrial source. Such notice must contain the information described in 1. above, and be forwarded no later than sixty (60) days following the introduction or change.

D. General and Specific Prohibitions. The general prohibitions and the specific prohibitions apply to each User introducing pollutants into a POTW whether or not the User is subject to other Pretreatment Standards or any national, State or local Pretreatment Requirements.

1. General prohibition Standards. A User may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference.

2. Specific Prohibited Standards. Developed pursuant to *Section 307* of *The Water Quality Act of 1987* require that under no circumstances shall the permittee allow introduction of the following pollutants into the waste treatment system from any User (*40 CFR 403.5*):

a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, waste-streams with a closed cup flashpoint of less than 140˚F (60˚C);

b. Pollutants, which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0;

c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;

d. Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at such volume or strength as to cause interference in the POTW;

e. Heat in amounts, which will inhibit biological activity in the POTW, resulting in interference, but in no case, heat in such quantities that the influent to the sewage treatment works exceeds 104˚F (40˚C);

f. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

g. Pollutants which result in the presence of toxic gases, vapor, or fumes within the POTW in a quantity that may cause worker health or safety problems; or,

h. Any trucked or hauled pollutants, except at discharge points designated by the POTW.

i. Any pollutant that causes pass through or interference at the POTW.

3. In addition to the general and specific limitations expressed above, more specific pretreatment limitations have been and will be promulgated for specific industrial categories under *Section 307* of *the Water Quality Act of 1987 as amended (WQA). (See 40 CFR, Subchapter N, Parts 400* through *500,* for specific information).

E. Significant Industrial Users Discharging to the POTW. The permittee shall provide adequate notice to the Director and the Division of Water Quality Industrial Pretreatment Coordinator of;

1. Any new introduction of pollutants into the treatment works from an indirect discharger (i.e., industrial user) which would be subject to *Sections 301* or *306* of the *WQA* if it were directly discharging those pollutants;

2. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit; and

3. For the purposes of this section, adequate notice shall include information on:

a. The quality and quantity of effluent to be introduced into such treatment works; and,

b. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from such publicly owned treatment works.

4. Any SIU that must comply with applicable requirements under Subtitles C and D of the Resource Conservation and Recovery Act (RCRA).

F. Change of Conditions. At such time as a specific pretreatment limitation becomes applicable to an industrial user of the permittee, the Director may, as appropriate, do the following:

1. Amend the permittee's UPDES discharge permit to specify the additional pollutant(s) and corresponding effluent limitation(s) consistent with the applicable national pretreatment limitation;

2. Require the permittee to specify, by ordinance, contract, or other enforceable means, the type of pollutant(s) and the maximum amount which may be discharged to the permittee's facility for treatment. Such requirement shall be imposed in a manner consistent with the POTW program development requirements of the *General Pretreatment Regulations* at *40 CFR 403*; and/or,

3. Require the permittee to monitor its discharge for any pollutant, which may likely be discharged from the permittee's facility, should the industrial user fail to properly pretreat its waste.

4. Require the permittee to develop an approved pretreatment program.

G. Legal Action. The Director retains, at all times, the right to take legal action against the industrial user and/or the treatment works, in those cases where a permit violation has occurred because of the failure of an industrial user to discharge at an acceptable level. If the permittee has failed to properly delineate maximum acceptable industrial contributor levels, the Director will look primarily to the permittee as the responsible party.

H. Local Limits. If local limits are developed per R317-8-8.5(4)(b) to protect the POTW from pass-through or interference, then the POTW must submit limits to DWQ for review and public notice, as required by R317-8-8.5(4)(c).

III. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS

A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Samples of biosolids shall be collected at a location representative of the quality of biosolids immediately prior to the use-disposal practice.

B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under *Utah Administrative Code ("UAC") R317-2-10 and 40CFR Part 503*, unless other test procedures have been specified in this permit.

C. Penalties for Tampering. The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

D. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.

E. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10* and *40 CFR 503* or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or the Biosolids Report Form. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.

F. Records Contents. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements:
2. The individual(s) who performed the sampling or measurements;
3. The date(s) and time(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and,
6. The results of such analyses.

G. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location

H. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites which may seriously endanger health or environment, as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The

report shall be made to the Division of Water Quality, (801) 536-4300, or 24-hour answering service (801) 536-4123.

2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4300 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:

   a. Any noncompliance which may endanger health or the environment;

   b. Any unanticipated bypass, which exceeds any effluent limitation in the permit (See *Part IV.G, Bypass of Treatment Facilities.)*;

   c. Any upset which exceeds any effluent limitation in the permit (See *Part IV.H, Upset Conditions*.);

   d. Violation of a daily discharge limitation for any of the pollutants listed in the permit; or,

   e. Violation of any of the Table 3 metals limits, the pathogen limits, the vector attraction reduction limits or the management practices for biosolids that have been sold or given away.

3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:

   a. A description of the noncompliance and its cause;

   b. The period of noncompliance, including exact dates and times;

   c. The estimated time noncompliance is expected to continue if it has not been corrected;

   d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and,

   e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.

4. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 536-4300.

5. Reports shall be submitted to the addresses in *Part I.D, Reporting of Monitoring Results*.

I. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part I.D* are submitted. The reports shall contain the information listed in *Part III.H.3.*

J. Inspection and Entry The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, including but not limited to, biosolids treatment, collection, storage facilities or area, transport vehicles and containers, and land application sites;

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location, including, but not limited to, digested biosolids before dewatering, dewatered biosolids, biosolids transfer or staging areas, any ground or surface waters at the land application sites or biosolids, soils, or vegetation on the land application sites; and,

5. The permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, the Director, or authorized representative, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

IV. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

B. Penalties for Violations of Permit Conditions. The *Act* provides that any person who violates a permit condition implementing provisions of the *Act* is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates permit conditions or the Act is subject to a fine not exceeding $25,000 per day of violation. Any person convicted under *UCA 19-5-115(2)* a second time shall be punished by a fine not exceeding $50,000 per day. Except as provided at *Part IV.G, Bypass of Treatment Facilities* and *Part IV.H, Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment. The permittee shall also take all reasonable steps to minimize or prevent any land application in violation of this permit.

E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Removed Substances. Collected screening, grit, solids, sludge, or other pollutants removed in the course of treatment shall be disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not directly enter either the final effluent or waters of the state by any other direct route.

G. Bypass of Treatment Facilities.

1. Bypass Not Exceeding Limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to paragraph 2 and 3 of this section.

2. Prohibition of Bypass.

a. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;

(2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and

(3) The permittee submitted notices as required under *section IV.G.3*.

b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in *sections IV.G.2.a (1), (2) and (3).*

3. Notice.

a. *Anticipated bypass*. Except as provided above in *section IV.G.2* and below in *section IV.G.3.b*, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Director:

(1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages:

(2) A specific bypass plan describing the work to be performed including scheduled dates and times. The permittee must notify the Director in advance of any changes to the bypass schedule;

(3) Description of specific measures to be taken to minimize environmental and public health impacts;

(4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;

(5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and,

(6) Any additional information requested by the Director.

b. *Emergency Bypass*. Where ninety days advance notice is not possible, the permittee must notify the Director, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Director the information in *section IV.G.3.a.(1) through (6)* to the extent practicable.

c. *Unanticipated bypass*. The permittee shall submit notice of an unanticipated bypass to the Director as required under *Part IV.H*, Twenty Four Hour Reporting. The permittee shall also immediately notify the Director of the Department of Natural

Resources, the public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph 2 of this section are met. Director's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.

2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the permittee can identify the cause(s) of the upset;

   b. The permitted facility was at the time being properly operated;

   c. The permittee submitted notice of the upset as required under *Part III.H, Twenty-four Hour Notice of Noncompliance Reporting*; and,

   d. The permittee complied with any remedial measures required under *Part IV.D, Duty to Mitigate*.

3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

V. GENERAL REQUIREMENTS

A. Planned Changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of parameters discharged or pollutant sold or given away. This notification applies to pollutants, which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the Director of any planned changes at least 30 days prior to their implementation.

B. Anticipated Noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

C. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.

E. Duty to Provide Information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.

G. Signatory Requirements. All applications, reports or information submitted to the Director shall be signed and certified.

1. All permit applications shall be signed by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Director, and,

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position

having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

3. Changes to authorization. If an authorization under *paragraph V.G.2* is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of *paragraph V.G.2.* must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

H. Penalties for Falsification of Reports. The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than $10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

I. Availability of Reports. Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Director. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential.

J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the permittee of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the *Act*.

K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

L. Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

M. Transfers. This permit may be automatically transferred to a new permittee if:

1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;

2. The notice includes a written agreement between the existing and new permittee's containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,

3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph *2* above.

N. State or Federal Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by *UCA 19-5-117* and *Section 510* of the *Act* or any applicable Federal or State transportation regulations, such as but not limited to the Department of Transportation regulations.

O. Water Quality - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations and compliance schedule, if necessary, if one or more of the following events occurs:

1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.

2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.

3. Revisions to the current CWA § 208 areawide treatment management plans or promulgations/revisions to TMDLs (40 CFR 130.7) approved by the EPA and adopted by DWQ which calls for different effluent limitations than contained in this permit.

P. Biosolids – Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate biosolids limitations (and compliance schedule, if necessary), management practices, other appropriate requirements to protect public health and the environment, or if there have been substantial changes (or such changes are planned) in biosolids use or disposal practices; applicable management practices or numerical limitations for pollutants in biosolids have been promulgated which are more stringent than the requirements in this permit; and/or it has been determined that the permittees biosolids use or land application practices do not comply with existing applicable state of federal regulations.

Q. Toxicity Limitation - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include WET testing, a WET limitation, a compliance schedule, a compliance date, additional or modified numerical limitations, or any other conditions related to the control of toxicants if toxicity is suspected during the life of this permit.

R. Storm Water-Reopener Provision. At any time during the duration (life) of this permit, this permit may be reopened and modified (following proper administrative procedures) as per *UAC R317.8,* to include, any applicable storm water provisions and requirements, a storm

water pollution prevention plan, a compliance schedule, a compliance date, monitoring and/or reporting requirements, or any other conditions related to the control of storm water discharges to "waters-of-State".

VI. DEFINITIONS

A. Wastewater.

1. The "7-day (and weekly) average", other than for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week, which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains Saturday.

2. The "30-day (and monthly) average," other than for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.

3. "Act," means the *Utah Water Quality Act*.

4. "Acute toxicity" occurs when 50 percent or more mortality is observed for either test species at any effluent concentration (lethal concentration or "LC_{50}").

5. "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.

6. "Bypass," means the diversion of waste streams from any portion of a treatment facility.

7. "Chronic toxicity" occurs when the IC_{25}< 0.1% effluent. The 0.1% effluent is the concentration of the effluent in the receiving water, at the end of the mixing zone expressed as per cent effluent.

8. "IC_{25}" is the concentration of toxicant (given in % effluent) that would cause a 25% reduction in mean young per female, or a 25% reduction in overall growth for the test population.

9. "Composite Samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:

a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;

b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;

c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,

d. Continuous sample volume, with sample collection rate proportional to flow rate.

10. "CWA," means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.

11. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.

12. "EPA," means the United States Environmental Protection Agency.

13. "Director," means Director of the Division of Water Quality.

14. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

15. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.

16. "Severe Property Damage," means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

17. "Upset," means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

FACT SHEET AND STATEMENT OF BASIS
GREEN RIVER WASTEWATER TREATMENT PLANT
RENEWAL PERMIT: DISCHARGE
UPDES PERMIT NUMBER: UT0025771
MINOR MUNICIPAL

FACILITY CONTACTS

Person Name:	Travis Bacon
Position:	City of Green River Mayor
Phone Number:	(435) 564-3448
Person Name:	Bryan Meadows
Position:	Public Works Director
Phone Number:	(435) 491-0723
Facility Name:	Green River Wastewater Treatment Plant
Mailing and Facility Address:	Green River City Offices PO Box 620 Green River, Utah 84525
Telephone:	(435) 564-3448
Actual Address:	1285 South Sillimans Lane

DESCRIPTION OF FACILITY

The Green River Wastewater Treatment Facility (GRWTF) serves the town of Green River. The original facility was built to be a total containment system comprised of facultative lagoons, winter storage, and land application. However, the modifications needed to land apply the wastewater, and use it for the irrigation of crops, was never installed. Up until 1996 the GRWTF has not needed to discharge water from this system, but because of growth in the late nineties, the GRWTF was issued a Utah Pollutant Discharge Elimination System (UPDES) permit and discharged to waters of the State. After a series of upgrades were made to stop the infiltration and inflow (I and I), the City no longer needed to discharge, and let the permit lapse. However, due to the some failures of some of the upgrades for I and I prevention, and recent precipitation in the area, the City reapplied for a discharge permit. Some of the upgrades in the late 1990's besides the upgrades to reduce infiltration and inflow, included a discharge outlet, and a Biolac system (diffused air). This system helped with evaporation and introducing oxygen into the lagoons to help with odor problems. This facility has a grinder (at the fourth and final lift station), one primary cell, two secondary cells and a winter storage pond. The total surface area of the lagoons is 30 acres. The design flow is 0.56 MGD with projected average operating flow of 0.199 MGD. The facility is located in the City of Green River, approximately one mile south of the downtown city offices just off Airport Road, west of the Green River, and north of the I-70 Interstate Highway, in Emery County, Utah.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

GRWTF has not made any changes to its facility or operations.

TBPEL Rule:

Water Quality adopted UAC R317-1-3.3, Technology-Based Phosphorus Effluent Limit (TBPEL) Rule in 2014. No TBPEL will be instituted for discharging treatment lagoons. Instead, each discharging lagoon will be evaluated to determine the current annual average total phosphorus load measured in pounds per year based on monthly average flow rates and concentrations. Absent field data to determine these loads, and in case of intermittent discharging lagoons, the phosphorus load cap will be estimated by the Director. A cap of 125% of the current annual total phosphorus load will be established and referred to as phosphorus loading cap. Once the lagoon's phosphorus loading cap has been reached, the owner of the facility will have five years to construct treatment processes or implement treatment alternatives to prevent the total phosphorus loading cap from being exceeded. The load cap shall become effective July 1, 2018.

The TBPEL discharging treatment works are required to implement, at a minimum, monthly monitoring of the following 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);

In R317-1-3.3, E, 3 the rule states that all monitoring shall be based on 24-hour composite samples by use of an automatic sampler or a minimum of four grab samples collected a minimum of 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 reported monthly loading is calculated as shown here;

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

The annual total phosphorus loading

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

The resulting annual load for your facility is 0 lbs/yr. As a non-discharging lagoon, your loading cap is estimated as 1.0 mg/L total phosphorus times the facility daily design flow times 365 days.

Design Flow:	0.56 mgd
Current Annual Total Phosphorus Load:	0.0 lbs/yr
Proposed Annual Total Phosphorus Loading Cap:	**1,705 lbs/yr**

DISCHARGE

DESCRIPTION OF DISCHARGE

GRWTF currently treats domestic wastewater from the City of Green River. The discharge is through a 12" concrete pipe, directly into the Green River. GRWTF has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis, and has only discharged four times since the beginning of the current permit. GRWTF land applies a portion of water on their property. GRWTF 's Land Application reuse is currently covered under permit No. UTOP002## General Permit for Land Disposal of Treated Wastewater under coverage No. UTOP00207.

Outfall	Description of Discharge Point
001	Located at latitude 38° 58' 50" and longitude 110° 9' 8". The discharge flows right into Green River.

RECEIVING WATERS AND STREAM CLASSIFICATION

If a discharge were to occur, it would be pumped into the Green River, which is a Class 1C, 2A, 3B, 4 according to *Utah Administrative Code (UAC) R317-2-13*:

Class 1C -- Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water

Class 2A -- Protected for frequent primary contact recreation where there is a high likelihood of ingestion of water or a high degree of bodily contact with the water. Examples include, but are not limited to, swimming, rafting, kayaking, diving, and water skiing.

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 4 -- Protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on E-coli and pH are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD5) are based on UAC R317-1-3.G. (alternative permit limits for lagoon systems). The oil and grease (O&G) limit is based upon best professional judgement (BPJ). The dissolved oxygen (DO) limit is water quality based, and derived by Wasteload Analysis (see ADDENDUM). In the past the GRWTF has not needed to chlorinate for disinfection, however should the situation change, a total residual chlorine (TRC) limit has been included in this permit. The permit limit for TRC will allow for receiving water dilution.

Total dissolved solids (TDS) limitations are based upon Utah Water Quality Standards for concentration values and the Colorado River Basin Salinity Control Forum (CRBSCF) for mass loading values when

applicable as authorized in *UAC R317-2-4*. CRBSCF has established a policy for the reasonable increase of salinity for municipal discharges to any portion of the Colorado River stream system that has an impact on the lower main stem. The CRBSCF Policy entitled "NPDES Permit Program Policy for Implementation of Colorado River Salinity Standards" (Policy), with the most current version dated October 2017, states that the incremental increase in salinity shall be 400 mg/L or less, which is considered to be a reasonable incremental increase above the flow weighted average salinity of the intake water supply.

Reasonable Potential Analysis

Since January 1,2016, DWQ has conducted RP on all new and renewal applications received after that date. Following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance), RP for this permit renewal was not conducted because of lack of discharge data from this permit cycle.

The permit limitations are:

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Maximum	Daily Minimum	Daily Maximum
Flow, MGD	.56	--	--	--	--
BOD_5, mg/L	45	65	--	--	--
TSS, mg/L	45	65	--	--	--
Dissolved Oxygen, mg/L	--	--	--	5.0	--
TRC, mg/L	--	--	--	--	6.5
E. coli, No./100mL	126	157	--	--	--
Oil & Grease, mg/L	--	--	--	--	10.0
pH, Standard Units	--	--	--	6.5	9
TDS, mg/L *h	< 400 Increase	--	--	--	1 Ton/Day
Phosphorous, lbs	--	--	1,705	--	--

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are not the same as in the previous permit -- additional phosphorus monitoring is now required. The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD_5, Influent *d	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
TSS, Influent *d	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
E. coli	Monthly	Grab	No./100mL

pH	Monthly	Grab	SU
DO	Monthly	Grab	mg/L
TRC, mg/L	Monthly	Grab	mg/L
Oil & Grease *e	When Sheen Observed	Grab	mg/L
Orthophosphate, (as P) *g Effluent	Monthly	Composite	mg/L
Phosphorus, Total *g Influent Effluent	Monthly	Composite Composite	mg/L mg/L
Total Kjeldahl Nitrogen, TKN (as N) *g Influent Effluent	Monthly Monthly	Composite Composite	mg/L mg/L
Nitrate, NO3 *g	Monthly	Composite	mg/L
Nitrite, NO2 *g	Monthly	Composite	mg/L
TDS, mg/L *f	Monthly	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 In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.

*e Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.

*f The effluent shall not exceed the culinary source water intake by more than 400 mg/L of TDS .

*g These reflect changes required with the adoption of UCA R317-1-3.3, Technology-based Phosphorus Effluent Limits rule.

BIOSOLIDS

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

STORM WATER

STORMWATER REQUIREMENTS

The *Utah Administrative Code (UAC) R-317-8-3.*9 requires wastewater treatment facilities, including treatment lagoons, to comply with storm water permit requirements if they meet one or both of the following criteria:

1. The facility has an approved pretreatment program as described in 40 CFR Part 403.
2. The facility has a design flow of 1.0 MGD or greater.

GRWTF does not meet the above mentioned criteria; therefore this permit does not include storm water provisions. If conditions change at the facility the permit may be reopened to include storm water requirements.

PRETREATMENT REQUIREMENTS

The permittee has not been designated for pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than five (5) MGD, there are no known categorical industries discharging to the treatment facility, and there is no indication of pass through or interference with the operation of the treatment facility such as upsets or violations of the POTW's UPDES permit limits.

Although the permittee does not have to develop a State-approved pretreatment program, any wastewater discharges to the sanitary sewer are subject to Federal, State and local regulations. Pursuant to Section 307 of the Clean Water Act, the permittee 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.

An industrial waste survey (IWS) is required of the permittee as stated in Part II of the permit. The IWS is to assess the needs of the permittee regarding pretreatment assistance. The IWS is required to be submitted within sixty (60) days after the issuance of the permit. If an Industrial User begins to discharge or an existing Industrial User changes their discharge the permittee must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is required that the permittee submit for review any local limits that are developed to the Division of Water Quality for review. If local limits are developed it is required that the permittee 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. 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. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

PERMIT DURATION

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

Drafted by
Danielle Lenz, Discharge
Jennifer Robinson, Pretreatment
Lonnie Shull, Whole Effluent Toxicity/Biomonitoring
Lisa Stevens, Storm Water
Dave Wham, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: December 17, 2019
Ended: January 17, 2020

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 in The Emery County Progress.

No public comments were received during the public comment period.

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ATTACHMENT 1

Wasteload Analysis

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

Date: **October 10, 2019**

Prepared by: **Dave Wham**
Standards and Technical Services

Facility: **Green River Lagoons, UPDES Permit No. UT0020192**
Receiving water: **Green River (1C, 2A, 3B, 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 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 Lagoon Discharge 0.56 MGD (.87 cfs)

Receiving Water

Per UAC R317-2-13.1(b), the designated beneficial uses of the Green River and tributaries, from The confluence with Colorado River to state line, (with exceptions) are 1C, 2A, 3B, 4.

- *Class 1C - Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water.*
- *Class 2A - Protected for frequent primary contact recreation where there is a high likelihood of ingestion of water or a high degree of bodily contact with the water. Examples include, but are not limited to, swimming, rafting, kayaking, diving, and water skiing.*
- *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 4 - Protected for agricultural uses including irrigation of crops and stock watering.*

Flow

Typically, the critical flow for the wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). The 7Q10 flow was calculated using mean daily flow data from USGS monitoring station # USGS 09315000 GREEN RIVER AT GREEN RIVER, UT, for the period 1998-2018. The calculated 7Q10 is 881.4 cfs.

Ambient receiving water quality was characterized using data from DWQ monitoring station #4931410, GREEN R AT GREEN R ST PARK for the period 2006-2013.

TMDL

According to the Utah's 2016 303(d) Water Quality Assessment Report, the receiving water for the discharge, Green River from San Rafael confluence to Price River confluence (Assessment Unit UT14060008-001_00), has no listed impairments.

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, per UAC R317-2-5. Water quality standards must be met at the end of the mixing zone.

Based on the results of the mixing zone modeling, plume width was 70.7% of the river at 2500 feet. 70.7 % of the seasonal critical low flow was used to calculate chronic limits. Acute limits were calculated using 50% of the seasonal critical low flow.

Parameters of Concern

No additional potential parameters of concern were identified based on review of the impairment status of the receiving water and review of the previous permit.

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.

IC25 WET limits for Outfall 002 should be based on 0.14 % effluent.

Wasteload Allocation Methods

Effluent limits were determined for conservative constituents using a simple mass balance mixing analysis (UDWQ 2012). The mass balance analysis is summarized in the Wasteload Addendums.

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. The AMMTOX Model developed by University of Colorado and adapted by Utah DWQ and EPA Region VIII

was used to determine ammonia effluent limits (Lewis et al. 2002). The analysis is 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.

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 the existing permit is being requested.

Documents:

WLA Document: *GreenRiver_WLADoc_10-10-19.docx*
Wasteload Analysis and Addendums: *GreenRiver_WLA_10-10-19.xlsm*

References:

Utah Division of Water Quality. 2012. *Utah Wasteload Analysis Procedures Version 1.0.*

Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA] 10-Oct-19
Addendum: Statement of Basis

Facilities: **Green River Lagoons** **UPDES No: UT-0025771**
Discharging to: **Green River**
Design Flow: **0.56** **MGD**

THIS IS A DRAFT DOCUMENT

I. Introduction

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 [R317-2-8, UAC]. Projected concentrations are compared to numeric water quality standards to determine acceptability. The anti-degradation policy and procedures are also considered. The primary in-stream parameters of concern may include metals (as a function of hardness), total dissolved solids (TDS), total residual chlorine (TRC), un-ionized ammonia (as a function of pH and temperature, measured and evaluated interms of total ammonia), and dissolved oxygen.

Mathematical water quality modeling is employed to determine stream quality response to point source discharges. Models aid in the effort of anticipating stream quality at future effluent flows at critical environmental conditions (e.g., low stream flow, high temperature, high pH, etc).

The numeric criteria in this wasteload analysis may always be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

II. Receiving Water and Stream Classification

Green River:	1C, 2A, 3B, 4
Antidegradation Review:	Level I review completed. Level II review not required.

III. Numeric Stream Standards for Protection of Aquatic Wildlife

Total Ammonia (TNH3)	Varies as a function of Temperature and pH Rebound. See Water Quality Standards
Chronic Total Residual Chlorine (TRC)	0.011 mg/l (4 Day Average) 0.019 mg/l (1 Hour Average)
Chronic Dissolved Oxygen (DO)	5.50 mg/l (30 Day Average) 4.00 mg/l (7Day Average) 3.00 mg/l (1 Day Average
Maximum Total Dissolved Solids	1200.0 mg/l

Utah Division of Water Quality
Salt Lake City, Utah

Acute and Chronic Heavy Metals (Dissolved)

Parameter	4 Day Average (Chronic) Standard Concentration	Load*	1 Hour Average (Acute) Standard Concentration	Load*
Aluminum	87.00 ug/l**	0.407 lbs/day	750.00 ug/l	3.509 lbs/day
Arsenic	190.00 ug/l	0.889 lbs/day	340.00 ug/l	1.591 lbs/day
Cadmium	1.69 ug/l	0.008 lbs/day	4.83 ug/l	0.023 lbs/day
Chromium III	187.97 ug/l	0.879 lbs/day	3932.69 ug/l	18.399 lbs/day
ChromiumVI	11.00 ug/l	0.051 lbs/day	16.00 ug/l	0.075 lbs/day
Copper	21.05 ug/l	0.098 lbs/day	34.33 ug/l	0.161 lbs/day
Iron			1000.00 ug/l	4.679 lbs/day
Lead	10.69 ug/l	0.050 lbs/day	274.38 ug/l	1.284 lbs/day
Mercury	0.0120 ug/l	0.000 lbs/day	2.40 ug/l	0.011 lbs/day
Nickel	116.74 ug/l	0.546 lbs/day	1049.98 ug/l	4.912 lbs/day
Selenium	4.60 ug/l	0.022 lbs/day	20.00 ug/l	0.094 lbs/day
Silver	N/A ug/l	N/A lbs/day	19.47 ug/l	0.091 lbs/day
Zinc	268.48 ug/l	1.256 lbs/day	268.47 ug/l	1.256 lbs/day

* Allowed below discharge

**Chronic Aluminum standard applies only to waters with a pH < 7.0 and a Hardness < 50 mg/l as CaCO3

Metals Standards Based upon a Hardness of 259.14 mg/l as CaCO3

Organics [Pesticides]

Parameter	4 Day Average (Chronic) Standard Concentration	Load*	1 Hour Average (Acute) Standard Concentration	Load*
Aldrin			1.500 ug/l	0.007 lbs/day
Chlordane	0.004 ug/l	13.145 lbs/day	1.200 ug/l	0.006 lbs/day
DDT, DDE	0.001 ug/l	3.057 lbs/day	0.550 ug/l	0.003 lbs/day
Dieldrin	0.002 ug/l	5.808 lbs/day	1.250 ug/l	0.006 lbs/day
Endosulfan	0.056 ug/l	171.194 lbs/day	0.110 ug/l	0.001 lbs/day
Endrin	0.002 ug/l	7.031 lbs/day	0.090 ug/l	0.000 lbs/day
Guthion			0.010 ug/l	0.000 lbs/day
Heptachlor	0.004 ug/l	11.617 lbs/day	0.260 ug/l	0.001 lbs/day
Lindane	0.080 ug/l	244.563 lbs/day	1.000 ug/l	0.005 lbs/day
Methoxychlor			0.030 ug/l	0.000 lbs/day
Mirex			0.010 ug/l	0.000 lbs/day
Parathion			0.040 ug/l	0.000 lbs/day
PCB's	0.014 ug/l	42.799 lbs/day	2.000 ug/l	0.009 lbs/day
Pentachlorophenol	13.00 ug/l	39741.507 lbs/day	20.000 ug/l	0.094 lbs/day
Toxephene	0.0002 ug/l	0.611 lbs/day	0.7300 ug/l	0.003 lbs/day

IV. Numeric Stream Standards for Protection of Agriculture

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Arsenic			100.0 ug/l	lbs/day
Boron			750.0 ug/l	1.75 lbs/day
Cadmium			10.0 ug/l	0.02 lbs/day
Chromium			100.0 ug/l	lbs/day
Copper			200.0 ug/l	lbs/day
Lead			100.0 ug/l	lbs/day
Selenium			50.0 ug/l	lbs/day
TDS, Summer			1200.0 mg/l	2.81 tons/day

V. Numeric Stream Standards for Protection of Human Health (Class 1C Waters)

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
Metals	Concentration	Load*	Concentration	Load*
Arsenic			50.0 ug/l	152.852 lbs/day
Barium			1000.0 ug/l	3057.039 lbs/day
Cadmium			10.0 ug/l	30.570 lbs/day
Chromium			50.0 ug/l	152.852 lbs/day
Lead			50.0 ug/l	152.852 lbs/day
Mercury			2.0 ug/l	6.114 lbs/day
Selenium			10.0 ug/l	30.570 lbs/day
Silver			50.0 ug/l	152.852 lbs/day
Fluoride (3)			1.4 ug/l	4.280 lbs/day
to			2.4 ug/l	7.337 lbs/day
Nitrates as N			10.0 ug/l	30.570 lbs/day
Chlorophenoxy Herbicides				
2,4-D			100.0 ug/l	305.704 lbs/day
2,4,5-TP			10.0 ug/l	30.570 lbs/day
Endrin			0.2 ug/l	0.611 lbs/day
ocyclohexane (Lindane)			4.0 ug/l	12.228 lbs/day
Methoxychlor			100.0 ug/l	305.704 lbs/day
Toxaphene			5.0 ug/l	15.285 lbs/day

VI. Numeric Stream Standards the Protection of Human Health from Water & Fish Consumption [Toxics]

	Maximum Conc., ug/l - Acute Standards			
	Class 1C		Class 3A, 3B	
Toxic Organics	[2 Liters/Day for 70 Kg Person over 70 Yr.]		[6.5 g for 70 Kg Person over 70 Yr.]	
Acenaphthene	1200.00 ug/l	3668.45 lbs/day	2700.0 ug/l	8254.01 lbs/day
Acrolein	320.00 ug/l	978.25 lbs/day	780.0 ug/l	2384.49 lbs/day
Acrylonitrile	0.06 ug/l	0.18 lbs/day	0.7 ug/l	2.02 lbs/day
Benzene	1.20 ug/l	3.67 lbs/day	71.0 ug/l	217.05 lbs/day
Benzidine	0.00012 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Carbon tetrachloride	0.25 ug/l	0.76 lbs/day	4.4 ug/l	13.45 lbs/day
Chlorobenzene	680.00 ug/l	2078.79 lbs/day	21000.0 ug/l	64197.82 lbs/day
1,2,4-Trichlorobenzene				
Hexachlorobenzene	0.00075 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Dichloroethane	0.38 ug/l	1.16 lbs/day	99.0 ug/l	302.65 lbs/day

1,1,1-Trichloroethane				
Hexachloroethane	1.90 ug/l	5.81 lbs/day	8.9 ug/l	27.21 lbs/day
1,1-Dichloroethane				
1,1,2-Trichloroethane	0.61 ug/l	1.86 lbs/day	42.0 ug/l	128.40 lbs/day
1,1,2,2-Tetrachloroethar	0.17 ug/l	0.52 lbs/day	11.0 ug/l	33.63 lbs/day
Chloroethane			0.0 ug/l	0.00 lbs/day
Bis(2-chloroethyl) ether	0.03 ug/l	0.09 lbs/day	1.4 ug/l	4.28 lbs/day
2-Chloroethyl vinyl ether	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
2-Chloronaphthalene	1700.00 ug/l	5196.97 lbs/day	4300.0 ug/l	13145.27 lbs/day
2,4,6-Trichlorophenol	2.10 ug/l	6.42 lbs/day	6.5 ug/l	19.87 lbs/day
p-Chloro-m-cresol			0.0 ug/l	0.00 lbs/day
Chloroform (HM)	5.70 ug/l	17.43 lbs/day	470.0 ug/l	1436.81 lbs/day
2-Chlorophenol	120.00 ug/l	366.84 lbs/day	400.0 ug/l	1222.82 lbs/day
1,2-Dichlorobenzene	2700.00 ug/l	8254.01 lbs/day	17000.0 ug/l	51969.66 lbs/day
1,3-Dichlorobenzene	400.00 ug/l	1222.82 lbs/day	2600.0 ug/l	7948.30 lbs/day
1,4-Dichlorobenzene	400.00 ug/l	1222.82 lbs/day	2600.0 ug/l	7948.30 lbs/day
3,3'-Dichlorobenzidine	0.04 ug/l	0.12 lbs/day	0.1 ug/l	0.24 lbs/day
1,1-Dichloroethylene	0.06 ug/l	0.17 lbs/day	3.2 ug/l	9.78 lbs/day
1,2-trans-Dichloroethyle	700.00 ug/l	2139.93 lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dichlorophenol	93.00 ug/l	284.30 lbs/day	790.0 ug/l	2415.06 lbs/day
1,2-Dichloropropane	0.52 ug/l	1.59 lbs/day	39.0 ug/l	119.22 lbs/day
1,3-Dichloropropylene	10.00 ug/l	30.57 lbs/day	1700.0 ug/l	5196.97 lbs/day
2,4-Dimethylphenol	540.00 ug/l	1650.80 lbs/day	2300.0 ug/l	7031.19 lbs/day
2,4-Dinitrotoluene	0.11 ug/l	0.34 lbs/day	9.1 ug/l	27.82 lbs/day
2,6-Dinitrotoluene	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Diphenylhydrazine	0.04 ug/l	0.12 lbs/day	0.5 ug/l	1.65 lbs/day
Ethylbenzene	3100.00 ug/l	9476.82 lbs/day	29000.0 ug/l	88654.13 lbs/day
Fluoranthene	300.00 ug/l	917.11 lbs/day	370.0 ug/l	1131.10 lbs/day
4-Chlorophenyl phenyl ether				
4-Bromophenyl phenyl ether				
Bis(2-chloroisopropyl) e	1400.00 ug/l	4279.85 lbs/day	170000.0 ug/l	519696.64 lbs/day
Bis(2-chloroethoxy) met	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Methylene chloride (HM	4.70 ug/l	14.37 lbs/day	1600.0 ug/l	4891.26 lbs/day
Methyl chloride (HM)	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Methyl bromide (HM)	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Bromoform (HM)	4.30 ug/l	13.15 lbs/day	360.0 ug/l	1100.53 lbs/day
Dichlorobromomethane	0.27 ug/l	0.83 lbs/day	22.0 ug/l	67.25 lbs/day
Chlorodibromomethane	0.41 ug/l	1.25 lbs/day	34.0 ug/l	103.94 lbs/day
Hexachlorobutadiene(c)	0.44 ug/l	1.35 lbs/day	50.0 ug/l	152.85 lbs/day
Hexachlorocyclopentadi	240.00 ug/l	733.69 lbs/day	17000.0 ug/l	51969.66 lbs/day
Isophorone	8.40 ug/l	25.68 lbs/day	600.0 ug/l	1834.22 lbs/day
Naphthalene				
Nitrobenzene	17.00 ug/l	51.97 lbs/day	1900.0 ug/l	5808.37 lbs/day
2-Nitrophenol	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4-Nitrophenol	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dinitrophenol	70.00 ug/l	213.99 lbs/day	14000.0 ug/l	42798.55 lbs/day
4,6-Dinitro-o-cresol	13.00 ug/l	39.74 lbs/day	765.0 ug/l	2338.63 lbs/day
N-Nitrosodimethylamine	0.00069 ug/l	0.00 lbs/day	8.1 ug/l	24.76 lbs/day
N-Nitrosodiphenylamine	5.00 ug/l	15.29 lbs/day	16.0 ug/l	48.91 lbs/day
N-Nitrosodi-n-propylami	0.01 ug/l	0.02 lbs/day	1.4 ug/l	4.28 lbs/day
Pentachlorophenol	0.28 ug/l	0.86 lbs/day	8.2 ug/l	25.07 lbs/day

Phenol	2.10E+04	ug/l	6.42E+04	lbs/day	4.6E+06	ug/l	1.41E+07 lbs/day
Bis(2-ethylhexyl)phthala	1.80	ug/l	5.50	lbs/day	5.9	ug/l	18.04 lbs/day
Butyl benzyl phthalate	3000.00	ug/l	9171.12	lbs/day	5200.0	ug/l	15896.60 lbs/day
Di-n-butyl phthalate	2700.00	ug/l	8254.01	lbs/day	12000.0	ug/l	36684.47 lbs/day
Di-n-octyl phthlate							
Diethyl phthalate	23000.00	ug/l	70311.90	lbs/day	120000.0	ug/l	366844.68 lbs/day
Dimethyl phthlate	3.13E+05	ug/l	9.57E+05	lbs/day	2.9E+06	ug/l	8.87E+06 lbs/day
Benzo(a)anthracene (P/	0.0028	ug/l	0.01	lbs/day	0.0	ug/l	0.09 lbs/day
Benzo(a)pyrene (PAH)	0.0028	ug/l	0.01	lbs/day	0.0	ug/l	0.09 lbs/day
Benzo(b)fluoranthene (F	0.0028	ug/l	0.01	lbs/day	0.0	ug/l	0.09 lbs/day
Benzo(k)fluoranthene (F	0.0028	ug/l	0.01	lbs/day	0.0	ug/l	0.09 lbs/day
Chrysene (PAH)	0.0028	ug/l	0.01	lbs/day	0.0	ug/l	0.09 lbs/day
Acenaphthylene (PAH)							
Anthracene (PAH)	9600.00	ug/l	29347.57	lbs/day	0.0	ug/l	0.00 lbs/day
Dibenzo(a,h)anthracene	0.0028	ug/l	0.01	lbs/day	0.0	ug/l	0.09 lbs/day
Indeno(1,2,3-cd)pyrene	0.0028	ug/l	0.01	lbs/day	0.0	ug/l	0.09 lbs/day
Pyrene (PAH)	960.00	ug/l	2934.76	lbs/day	11000.0	ug/l	33627.43 lbs/day
Tetrachloroethylene	0.80	ug/l	2.45	lbs/day	8.9	ug/l	27.21 lbs/day
Toluene	6800.00	ug/l	20787.87	lbs/day	200000	ug/l	611407.81 lbs/day
Trichloroethylene	2.70	ug/l	8.25	lbs/day	81.0	ug/l	247.62 lbs/day
Vinyl chloride	2.00	ug/l	6.11	lbs/day	525.0	ug/l	1604.95 lbs/day
					0.0		0.00 lbs/day
Pesticides					0.0		0.00 lbs/day
Aldrin	0.0001	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
Dieldrin	0.0001	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
Chlordane	0.0006	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
4,4'-DDT	0.0006	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
4,4'-DDE	0.0006	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
4,4'-DDD	0.0008	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
alpha-Endosulfan	0.9300	ug/l	2.84	lbs/day	2.0	ug/l	6.11 lbs/day
beta-Endosulfan	0.9300	ug/l	2.84	lbs/day	2.0	ug/l	6.11 lbs/day
Endosulfan sulfate	0.9300	ug/l	2.84	lbs/day	2.0	ug/l	6.11 lbs/day
Endrin	0.7600	ug/l	2.32	lbs/day	0.8	ug/l	2.48 lbs/day
Endrin aldehyde	0.7600	ug/l	2.32	lbs/day	0.8	ug/l	2.48 lbs/day
Heptachlor	0.0002	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
Heptachlor epoxide							
PCB's							
PCB 1242 (Arochlor 12/	0.000044	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
PCB-1254 (Arochlor 12!	0.000044	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
PCB-1221 (Arochlor 12;	0.000044	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
PCB-1232 (Arochlor 12:	0.000044	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
PCB-1248 (Arochlor 12/	0.000044	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
PCB-1260 (Arochlor 12(	0.000044	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
PCB-1016 (Arochlor 10'	0.000044	ug/l	0.00	lbs/day	0.0	ug/l	0.00 lbs/day
Pesticide							
Toxaphene	0.000750	ug/l	0.00		0.0	ug/l	0.00 lbs/day
Dioxin							
Dioxin (2,3,7,8-TCDD)	1.30E-08	ug/l	0.00	lbs/day	1.40E-08		0.00

Metals				
Antimony	14.0 ug/l	42.80 lbs/day		
Arsenic	50.0 ug/l	152.85 lbs/day	4300.00 ug/l	13145.27 lbs/day
Asbestos	7.00E+06 ug/l	2.14E+07 lbs/day		
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	1.30E+03 ug/l	3974.15 lbs/day	2.2E+05 ug/l	672548.59 lbs/day
Lead	700.0 ug/l	2139.93 lbs/day		
Mercury			0.15 ug/l	0.46 lbs/day
Nickel			4600.00 ug/l	14062.38 lbs/day
Selenium	0.1 ug/l	0.43 lbs/day		
Silver	610.0 ug/l	1864.79 lbs/day		
Thallium			6.30 ug/l	19.26 lbs/day
Zinc				

There are additional standards that apply to this receiving water, but were not considered in this modeling/waste load allocation analysis.

VII. Mathematical Modeling of Stream Quality

Model configuration was accomplished utilizing standard modeling procedures. Data points were plotted and coefficients adjusted as required to match observed data as closely as possible.

The modeling approach used in this analysis included one or a combination of the following models.

(1) The Utah River Model, Utah Division of Water Quality, 1992. Based upon STREAMDO IV (Region VIII) and Supplemental Ammonia Toxicity Models; EPA Region VIII, Sept. 1990 and QUAL2E (EPA, Athens, GA).

(2) Utah Ammonia/Chlorine Model, Utah Division of Water Quality, 1992.

(3) AMMTOX Model, University of Colorado, Center of Limnology, and EPA Region 8

(4) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

Coefficients used in the model were based, in part, upon the following references:

(1) Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Athens Georgia. EPA/600/3-85/040 June 1985.

(2) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

VIII. Modeling Information

The required information for the model may include the following information for both the upstream conditions at low flow and the effluent conditions:

Flow, Q, (cfs or MGD)	D.O. mg/l
Temperature, Deg. C.	Total Residual Chlorine (TRC), mg/l
pH	Total NH3-N, mg/l
BOD5, mg/l	Total Dissolved Solids (TDS), mg/l
Metals, ug/l	Toxic Organics of Concern, ug/l

Other Conditions

In addition to the upstream and effluent conditions, the models require a variety of physical and biological coefficients and other technical information. In the process of actually establishing the permit limits for an effluent, values are used based upon the available data, model calibration, literature values, site visits and best professional judgement.

Model Inputs

The following is upstream and discharge information that was utilized as inputs for the analysis. Dry washes are considered to have an upstream flow equal to the flow of the discharge.

Current Upstream Information

	Stream Critical Low Flow cfs	Temp. Deg. C	pH	T-NH3 mg/l as N	BOD5 mg/l	DO mg/l	TRC mg/l	TDS mg/l
Summer (Irrig. Season)	881.40	23.4	8.4	0.10	1.00	6.58	0.00	492.9
Fall	881.40	6.7	8.4	0.10	1.00	---	0.00	529.3
Winter	881.40	6.6	8.3	0.10	1.00	---	0.00	467.0
Spring	881.40	16.2	8.4	0.10	1.00	---	0.00	316.0

Dissolved Metals	Al ug/l	As ug/l	Cd ug/l	CrIII ug/l	CrVI ug/l	Copper ug/l	Fe ug/l	Pb ug/l
All Seasons	73.26	2.07	0.50	2.98	3.975*	6.00	58.0	1.50

Dissolved Metals	Hg ug/l	Ni ug/l	Se ug/l	Ag ug/l	Zn ug/l	Boron ug/l	
All Seasons	0.0000	5.00	1.70	1.00	19.26	173.6	* ~80% MDL

Projected Discharge Information

Season	Flow, MGD	Temp.
Summer	0.56000	20.0
Fall	0.56000	12.0
Winter	0.56000	6.0
Spring	0.56000	12.0

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

IX. 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 coincide with the environmental conditions expected at low stream flows.

Effluent Limitation for Flow based upon Water Quality Standards

In-stream criteria of downstream segments will be met with an effluent flow maximum value as follows:

Season	Daily Average	
Summer	0.560 MGD	0.866 cfs
Fall	0.560 MGD	0.866 cfs
Winter	0.560 MGD	0.866 cfs
Spring	0.560 MGD	0.866 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.56 MGD. If the discharger is allowed to have a flow greater than 0.56 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.

Effluent Limitation for Whole Effluent Toxicity (WET) based upon WET Policy

Effluent Toxicity will not occur in downstream segements if the values below are met.

WET Requirements	LC50 >	100.0% Effluent	[Acute]
	IC25 >	0.1% Effluent	[Chronic]

Effluent Limitation for Biological Oxygen Demand (BOD) based upon Water Quality Standards or Regulations

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent BOD limitation as follows:

Season	Concentration	
Summer	25.0 mg/l as BOD5	116.7 lbs/day
Fall	25.0 mg/l as BOD5	116.7 lbs/day
Winter	25.0 mg/l as BOD5	116.7 lbs/day
Spring	25.0 mg/l as BOD5	116.7 lbs/day

Effluent Limitation for Dissolved Oxygen (DO) based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent D.O. limitation as follows:

Season	**Concentration**
Summer	5.00
Fall	5.00
Winter	5.00
Spring	5.00

Effluent Limitation for Total Ammonia based upon Water Quality Standards

In-stream criteria of downstream segments for Total Ammonia will be met with an effluent limitation (expressed as Total Ammonia as N) as follows:

Season		**Concentration**		**Load**	
Summer	4 Day Avg. - Chronic	700.02	mg/l as N	3,268.7	lbs/day
	1 Hour Avg. - Acute	1406.5	mg/l as N	6,567.5	lbs/day
Fall	4 Day Avg. - Chronic	1123.0	mg/l as N	5,244.0	lbs/day
	1 Hour Avg. - Acute	1345.7	mg/l as N	6,283.8	lbs/day
Winter	4 Day Avg. - Chronic	1400.2	mg/l as N	6,538.1	lbs/day
	1 Hour Avg. - Acute	1702.9	mg/l as N	7,951.4	lbs/day
Spring	4 Day Avg. - Chronic	1170.8	mg/l as N	5,467.1	lbs/day
	1 Hour Avg. - Acute	1396.0	mg/l as N	6,518.4	lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 50.%.

Effluent Limitation for Total Residual Chlorine based upon Water Quality Standards

In-stream criteria of downstream segments for Total Residual Chlorine will be met with an effluent limitation as follows:

Season		Concentration		Load	
Summer	4 Day Avg. - Chronic	6.535	mg/l	30.52	lbs/day
	1 Hour Avg. - Acute	9.158	mg/l	42.76	lbs/day
Fall	4 Day Avg. - Chronic	6.535	mg/l	30.52	lbs/day
	1 Hour Avg. - Acute	9.158	mg/l	42.76	lbs/day
Winter	4 Day Avg. - Chronic	6.535	mg/l	30.52	lbs/day
	1 Hour Avg. - Acute	9.158	mg/l	42.76	lbs/day
Spring	4 Day Avg. - Chronic	6.535	mg/l	30.52	lbs/day
	1 Hour Avg. - Acute	9.158	mg/l	42.76	lbs/day

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season		Concentration		Load	
Summer	Maximum, Acute	720608.5	mg/l	1,682.43	tons/day
Fall	Maximum, Acute	683574.8	mg/l	1,595.96	tons/day
Winter	Maximum, Acute	746959.3	mg/l	1,743.95	tons/day
Spring	Maximum, Acute	900587.8	mg/l	2,102.63	tons/day

Colorado Salinity Forum Limits — Determined by Permitting Section

Effluent Limitations for Total Recoverable Metals based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Metals will be met with an effluent limitation as follows (based upon a hardness of 259.14 mg/l):

	4 Day Average Concentration		Load	1 Hour Average Concentration		Load
Aluminum*	N/A		N/A	345,010.0	ug/l	1614.1 lbs/day
Arsenic*	135,409.07	ug/l	408.7 lbs/day	172,246.2	ug/l	805.9 lbs/day
Cadmium	857.17	ug/l	2.6 lbs/day	2,205.7	ug/l	10.3 lbs/day
Chromium III	133,292.05	ug/l	402.3 lbs/day	#########	ug/l	9371.0 lbs/day
Chromium VI*	5,065.62	ug/l	15.3 lbs/day	6,133.2	ug/l	28.7 lbs/day
Copper	10,847.85	ug/l	32.7 lbs/day	14,448.2	ug/l	67.6 lbs/day
Iron*	N/A		N/A	480,178.3	ug/l	2246.5 lbs/day
Lead	6,624.77	ug/l	20.0 lbs/day	139,091.2	ug/l	650.7 lbs/day
Mercury*	8.64	ug/l	0.0 lbs/day	1,223.3	ug/l	5.7 lbs/day
Nickel	80,514.45	ug/l	243.0 lbs/day	532,636.6	ug/l	2492.0 lbs/day
Selenium*	2,091.20	ug/l	6.3 lbs/day	9,329.3	ug/l	43.6 lbs/day
Silver	N/A	ug/l	N/A lbs/day	9,413.2	ug/l	44.0 lbs/day

Zinc	179,583.42	ug/l	542.1	lbs/day	127,044.6	ug/l	594.4 lbs/day
Cyanide*	3,746.70	ug/l	11.3	lbs/day	11,213.5	ug/l	52.5 lbs/day

*Limits for these metals are based on the dissolved standard.

Effluent Limitations for Heat/Temperature based upon Water Quality Standards

Summer	4,097.0 Deg. C.	7,406.6 Deg. F
Fall	4,080.3 Deg. C.	7,376.6 Deg. F
Winter	4,080.2 Deg. C.	7,376.3 Deg. F
Spring	4,089.8 Deg. C.	7,393.7 Deg. F

Effluent Limitations for Organics [Pesticides] Based upon Water Quality Standards

In-stream criteria of downstream segments for Organics [Pesticides] will be met with an effluent limit as follows:

	4 Day Average Concentration		Load		1 Hour Average Concentration		Load	
Aldrin					1.5E+00	ug/l	1.09E-02	lbs/day
Chlordane	4.30E-03	ug/l	2.01E-02	lbs/day	1.2E+00	ug/l	8.69E-03	lbs/day
DDT, DDE	1.00E-03	ug/l	4.67E-03	lbs/day	5.5E-01	ug/l	3.98E-03	lbs/day
Dieldrin	1.90E-03	ug/l	8.87E-03	lbs/day	1.3E+00	ug/l	9.05E-03	lbs/day
Endosulfan	5.60E-02	ug/l	2.61E-01	lbs/day	1.1E-01	ug/l	7.96E-04	lbs/day
Endrin	2.30E-03	ug/l	1.07E-02	lbs/day	9.0E-02	ug/l	6.51E-04	lbs/day
Guthion	0.00E+00	ug/l	0.00E+00	lbs/day	1.0E-02	ug/l	7.24E-05	lbs/day
Heptachlor	3.80E-03	ug/l	1.77E-02	lbs/day	2.6E-01	ug/l	1.88E-03	lbs/day
Lindane	8.00E-02	ug/l	3.74E-01	lbs/day	1.0E+00	ug/l	7.24E-03	lbs/day
Methoxychlor	0.00E+00	ug/l	0.00E+00	lbs/day	3.0E-02	ug/l	2.17E-04	lbs/day
Mirex	0.00E+00	ug/l	0.00E+00	lbs/day	1.0E-02	ug/l	7.24E-05	lbs/day
Parathion	0.00E+00	ug/l	0.00E+00	lbs/day	4.0E-02	ug/l	2.90E-04	lbs/day
PCB's	1.40E-02	ug/l	6.54E-02	lbs/day	2.0E+00	ug/l	1.45E-02	lbs/day
Pentachlorophenol	1.30E+01	ug/l	6.07E+01	lbs/day	2.0E+01	ug/l	1.45E-01	lbs/day
Toxephene	2.00E-04	ug/l	9.34E-04	lbs/day	7.3E-01	ug/l	5.28E-03	lbs/day

Effluent Targets for Pollution Indicators
Based upon Water Quality Standards

In-stream criteria of downstream segments for Pollution Indicators will be met with an effluent limit as follows:

	1 Hour Average	
	Concentration	Loading
Gross Beta (pCi/l)	50.0 pCi/L	
BOD (mg/l)	5.0 mg/l	23.4 lbs/day
Nitrates as N	4.0 mg/l	18.7 lbs/day
Total Phosphorus as P	0.05 mg/l	0.2 lbs/day
Total Suspended Solids	90.0 mg/l	421.1 lbs/day

Note: Pollution indicator targets are for information purposes only.

Effluent Limitations for Protection of Human Health [Toxics Rule]
Based upon Water Quality Standards (Most stringent of 1C or 3A & 3B as appropriate.)

In-stream criteria of downstream segments for Protection of Human Health [Toxics] will be met with an effluent limit as follows:

	Maximum Concentration	
	Concentration	**Load**
Toxic Organics		
Acenaphthene	1.22E+06 ug/l	5.71E+03 lbs/day
Acrolein	3.26E+05 ug/l	1.52E+03 lbs/day
Acrylonitrile	6.01E+01 ug/l	2.81E-01 lbs/day
Benzene	1.22E+03 ug/l	5.71E+00 lbs/day
Benzidine	ug/l	lbs/day
Carbon tetrachloride	2.55E+02 ug/l	1.19E+00 lbs/day
Chlorobenzene	6.93E+05 ug/l	3.23E+03 lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	7.64E-01 ug/l	3.57E-03 lbs/day
1,2-Dichloroethane	3.87E+02 ug/l	1.81E+00 lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	1.93E+03 ug/l	9.04E+00 lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	6.21E+02 ug/l	2.90E+00 lbs/day
1,1,2,2-Tetrachloroethane	1.73E+02 ug/l	8.08E-01 lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	3.16E+01 ug/l	1.47E-01 lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	1.73E+06 ug/l	8.08E+03 lbs/day
2,4,6-Trichlorophenol	2.14E+03 ug/l	9.99E+00 lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	5.80E+03 ug/l	2.71E+01 lbs/day
2-Chlorophenol	1.22E+05 ug/l	5.71E+02 lbs/day
1,2-Dichlorobenzene	2.75E+06 ug/l	1.28E+04 lbs/day
1,3-Dichlorobenzene	4.07E+05 ug/l	1.90E+03 lbs/day

1,4-Dichlorobenzene	4.07E+05 ug/l	1.90E+03 lbs/day
3,3'-Dichlorobenzidine	4.07E+01 ug/l	1.90E-01 lbs/day
1,1-Dichloroethylene	5.80E+01 ug/l	2.71E-01 lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	9.47E+04 ug/l	4.42E+02 lbs/day
1,2-Dichloropropane	5.30E+02 ug/l	2.47E+00 lbs/day
1,3-Dichloropropylene	1.02E+04 ug/l	4.76E+01 lbs/day
2,4-Dimethylphenol	5.50E+05 ug/l	2.57E+03 lbs/day
2,4-Dinitrotoluene	1.12E+02 ug/l	5.23E-01 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	4.07E+01 ug/l	1.90E-01 lbs/day
Ethylbenzene	3.16E+06 ug/l	1.47E+04 lbs/day
Fluoranthene	3.06E+05 ug/l	1.43E+03 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	1.43E+06 ug/l	6.66E+03 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	4.79E+03 ug/l	2.24E+01 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	4.38E+03 ug/l	2.04E+01 lbs/day
Dichlorobromomethane(HM)	2.75E+02 ug/l	1.28E+00 lbs/day
Chlorodibromomethane (HM)	4.18E+02 ug/l	1.95E+00 lbs/day
Hexachlorocyclopentadiene	2.44E+05 ug/l	1.14E+03 lbs/day
Isophorone	8.55E+03 ug/l	3.99E+01 lbs/day
Naphthalene		
Nitrobenzene	1.73E+04 ug/l	8.08E+01 lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	7.13E+04 ug/l	3.33E+02 lbs/day
4,6-Dinitro-o-cresol	1.32E+04 ug/l	6.18E+01 lbs/day
N-Nitrosodimethylamine	7.03E-01 ug/l	3.28E-03 lbs/day
N-Nitrosodiphenylamine	5.09E+03 ug/l	2.38E+01 lbs/day
N-Nitrosodi-n-propylamine	5.09E+00 ug/l	2.38E-02 lbs/day
Pentachlorophenol	2.85E+02 ug/l	1.33E+00 lbs/day
Phenol	2.14E+07 ug/l	9.99E+04 lbs/day
Bis(2-ethylhexyl)phthalate	1.83E+03 ug/l	8.56E+00 lbs/day
Butyl benzyl phthalate	3.06E+06 ug/l	1.43E+04 lbs/day
Di-n-butyl phthalate	2.75E+06 ug/l	1.28E+04 lbs/day
Di-n-octyl phthlate		
Diethyl phthalate	2.34E+07 ug/l	1.09E+05 lbs/day
Dimethyl phthlate	3.19E+08 ug/l	1.49E+06 lbs/day
Benzo(a)anthracene (PAH)	2.85E+00 ug/l	1.33E-02 lbs/day
Benzo(a)pyrene (PAH)	2.85E+00 ug/l	1.33E-02 lbs/day
Benzo(b)fluoranthene (PAH)	2.85E+00 ug/l	1.33E-02 lbs/day
Benzo(k)fluoranthene (PAH)	2.85E+00 ug/l	1.33E-02 lbs/day
Chrysene (PAH)	2.85E+00 ug/l	1.33E-02 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	2.85E+00 ug/l	1.33E-02 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	2.85E+00 ug/l	1.33E-02 lbs/day

Pyrene (PAH)	9.78E+05 ug/l	4.57E+03 lbs/day
Tetrachloroethylene	8.15E+02 ug/l	3.80E+00 lbs/day
Toluene	6.93E+06 ug/l	3.23E+04 lbs/day
Trichloroethylene	2.75E+03 ug/l	1.28E+01 lbs/day
Vinyl chloride	2.04E+03 ug/l	9.51E+00 lbs/day
Pesticides		
Aldrin	1.32E-01 ug/l	6.18E-04 lbs/day
Dieldrin	1.43E-01 ug/l	6.66E-04 lbs/day
Chlordane	5.80E-01 ug/l	2.71E-03 lbs/day
4,4'-DDT	6.01E-01 ug/l	2.81E-03 lbs/day
4,4'-DDE	6.01E-01 ug/l	2.81E-03 lbs/day
4,4'-DDD	8.45E-01 ug/l	3.95E-03 lbs/day
alpha-Endosulfan	9.47E+02 ug/l	4.42E+00 lbs/day
beta-Endosulfan	9.47E+02 ug/l	4.42E+00 lbs/day
Endosulfan sulfate	9.47E+02 ug/l	4.42E+00 lbs/day
Endrin	7.74E+02 ug/l	3.61E+00 lbs/day
Endrin aldehyde	7.74E+02 ug/l	3.61E+00 lbs/day
Heptachlor	2.14E-01 ug/l	9.99E-04 lbs/day
Heptachlor epoxide		
PCB's		
PCB 1242 (Arochlor 1242)	4.48E-02 ug/l	2.09E-04 lbs/day
PCB-1254 (Arochlor 1254)	4.48E-02 ug/l	2.09E-04 lbs/day
PCB-1221 (Arochlor 1221)	4.48E-02 ug/l	2.09E-04 lbs/day
PCB-1232 (Arochlor 1232)	4.48E-02 ug/l	2.09E-04 lbs/day
PCB-1248 (Arochlor 1248)	4.48E-02 ug/l	2.09E-04 lbs/day
PCB-1260 (Arochlor 1260)	4.48E-02 ug/l	2.09E-04 lbs/day
PCB-1016 (Arochlor 1016)	4.48E-02 ug/l	2.09E-04 lbs/day
Pesticide		
Toxaphene	7.43E-01 ug/l	3.47E-03 lbs/day
Metals		
Antimony	14257.70 ug/l	66.58 lbs/day
Arsenic	48814.32 ug/l	227.94 lbs/day
Asbestos	7.13E+09 ug/l	3.33E+07 lbs/day
Beryllium		
Cadmium		
Chromium (III)		
Chromium (VI)		
Copper	######## ug/l	6182.04 lbs/day
Cyanide	712884.87 ug/l	3328.79 lbs/day
Lead	0.00	0.00
Mercury	142.57 ug/l	0.67 lbs/day
Nickel	621228.25 ug/l	2900.80 lbs/day
Selenium	0.00	0.00
Silver	0.00	0.00
Thallium	1731.29 ug/l	8.08 lbs/day
Zinc		

Dioxin		
Dioxin (2,3,7,8-TCDD)	1.32E-05 ug/l	6.18E-08 lbs/day

Metals Effluent Limitations for Protection of All Beneficial Uses Based upon Water Quality Standards and Toxics Rule

	Class 4 Acute Agricultural ug/l	Class 3 Acute Aquatic Wildlife ug/l	Acute Toxics Drinking Water Source ug/l	Acute Toxics Wildlife ug/l	1C Acute Health Criteria ug/l	Acute Most Stringent ug/l	Class 3 Chronic Aquatic Wildlife ug/l
Aluminum		345010.0				345010.0	N/A
Antimony			14257.7	4379149.9		14257.7	
Arsenic	101840.7	172246.2	48814.3			48814.3	135409.1
Barium					1018407.0	1018407.0	
Beryllium						0.0	
Cadmium	9675.4	2205.7				2205.7	857.2
Chromium (III)		2002991.4				2002991.4	133292.0
Chromium (VI)	98808.8	6133.2				6133.16	5065.62
Copper	197577.0	14448.2	1323929.1			14448.2	10847.8
Cyanide		11213.5	##########			11213.5	3746.7
Iron		480178.3				480178.3	
Lead	100314.6	139091.2				100314.6	6624.8
Mercury		1223.28	142.6	152.76		142.57	8.639
Nickel		532636.6	621228.2	4684672.0		532636.6	80514.5
Selenium	49190.8	9329.3				9329.3	2091.2
Silver		9413.2				9413.2	
Thallium			1731.3	6416.0		1731.3	
Zinc		127044.6				127044.6	179583.4
Boron	587183.4					587183.4	
Sulfate	2036813.9					########	

Summary Effluent Limitations for Metals [Wasteload Allocation, TMDL]
[If Acute is more stringent than Chronic, then the Chronic takes on the Acute value.]

	WLA Acute ug/l	WLA Chronic ug/l	
Aluminum	345010.0	N/A	
Antimony	14257.70		
Arsenic	48814.3	135409.1	Acute Controls
Asbestos	7.13E+09		
Barium			
Beryllium			
Cadmium	2205.7	857.2	
Chromium (III)	2002991.4	133292	
Chromium (VI)	6133.2	5065.6	
Copper	14448.2	10847.8	

Cyanide	11213.5	3746.7	
Iron	480178.3		
Lead	100314.6	6624.8	
Mercury	142.567	8.639	
Nickel	532636.6	80514	
Selenium	9329.3	2091.2	
Silver	9413.2	N/A	
Thallium	1731.3		
Zinc	127044.6	179583.4	Acute Controls
Boron	587183.37		
Sulfate	########		N/A at this Waterbody

Other Effluent Limitations are based upon R317-1.

E. coli	126.0	organisms per 100 ml

X. Antidegradation Considerations

The Utah Antidegradation Policy allows for degradation of existing quality where it is determined that such lowering of water quality is necessary to accommodate important economic or social development in the area in which the waters are protected [R317-2-3]. It has been determined that certain chemical parameters introduced by this discharge will cause an increase of the concentration of said parameters in the receiving waters. Under no conditions will the increase in concentration be allowed to interfere with existing instream water uses.

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that an Antidegradation Level II Review is not required. The proposed permit is a simple renewal, with no increase in flow or concentration over that which was approved in the existing permit.

XI. Colorado River Salinity Forum Considerations

Discharges in the Colorado River Basin are required to have their discharge at a TDS loading of less than 1.00 tons/day unless certain exemptions apply. Refer to the Forum's Guidelines for additional information allowing for an exceedence of this value.

XII. Summary Comments

The mathematical modeling and best professional judgement indicate that violations of receiving water beneficial uses with their associated water quality standards, including important down-stream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.

ATTACHMENT 2

Effluent Monitoring Data

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Effluent Monitoring Data.

Outfall 001:

	Flow		pH		O & G	TRC	*E. coli*		BOD5		TSS	
Month	Ave	Max	Min	Max	Max	Max	Acute	Chronic	Ave	Max	Ave	Max
Feb-15	0.891	0.891	7.6	7.6	0	0.2	1	-	11.6	11.6	24	24
Jan-16	1.16	1.16	7.4	7.4	-	0.15	2120	-	16.4	16.4	7.4	7.4
Apr-17	0.626	0.65	7.4	7.4	-	0.065	42	-	23	23	45	45
Feb-19	0.742	0.742	7.4	7.4	0	2.5	1	-	12	12	24	24

ATTACHMENT 3

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

Since January 1,2016, DWQ has conducted RP on all new and renewal applications received after that date. Following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance), RP for this permit renewal was not conducted because of lack of discharge data from this permit cycle.