

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. **UT0023001**

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

NEOLA CITY WATER & SEWER DISTRICT

is hereby authorized to discharge from its wastewater treatment facility to receiving waters named **UINTAH NUMBER 1 CANAL (Tributary to Dry Gulch Creek, thence the Duchesne and Colorado Rivers)**,

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

This permit shall become effective on June 1, 2018.

This permit expires at midnight on May 31, 2023.

Signed this 30th day of January, 2018.



Kim Shelley
Acting Director

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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
001

Location of Discharge Outfall
A 10" concrete outfall pipe located at latitude 40°24'30" and longitude 110°01'30" on the southwest side of the lagoon system and discharging to the Uintah Number 1 Canal (also known as the Class E Irrigation Ditch).

- 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 the duration of this permit, there shall be no acute or chronic toxicity in Outfall 001 as defined in *Part VIII*, and determined by test procedures described in *Part VII.Q* of this permit.
 2. 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:

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Parameter	Effluent Limitations a/			
	Maximum Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
Flow, MGD b/ c/	0.88	NA	NA	NA
BOD ₅ , mg/L	25	35	NA	NA
BOD ₅ Min. % Removal	85	NA	NA	NA
TSS, mg/L	25	35	NA	NA
TSS Min. % Removal	85	NA	NA	NA
E. Coli, No./100mL	126	157	NA	NA
TDS, mg/L e/	NA	NA	NA	1200
pH, Standard Units	NA	NA	6.5	9

NA – Not Applicable, MGD – million gallons per day

Self-Monitoring and Reporting Requirements			
Parameter	Frequency	Sample Type	Units
Total Flow b/ c/	Continuous	Recorder	MGD
BOD ₅ , Influent d/ Effluent	Monthly	Composite	mg/L
	Monthly	Composite	mg/L
TSS, Influent d/ Effluent	Monthly	Composite	mg/L
	Monthly	Composite	mg/L
E. Coli, Effluent only	Monthly	Grab	No./100mL
TDS, Influent e/ Effluent	Monthly	Grab	mg/L
	Monthly	Grab	mg/L
Total Ammonia(as N), f/ Effluent	Monthly	Composite	mg/L
Orthophosphate (as P), f/ Effluent	Monthly	Composite	mg/L
Total Phosphorous, f/ Influent Effluent	Monthly	Composite	mg/L
	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N) f/ Influent Effluent	Monthly	Composite	mg/L
	Monthly	Composite	mg/L
Nitrate, NO ₃ f/ Effluent	Monthly	Composite	mg/L
Nitrite, NO ₂ f/ Effluent	Monthly	Composite	mg/L
pH, Effluent only	Monthly	Grab	SU

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/ TDS concentrations shall also be monitored from the influent during discharging months, and the net increase of TDS concentration when compared to the effluent TDS concentration shall not exceed 400 mg/L.

f/ Monitoring only for total phosphorous (TP), orthophosphate as P (OP), total ammonia, nitrate-nitrite, and total Kjeldahl nitrogen as N (TKN) have all been included to comply with Utah Secondary Treatment Standards and the Technology-based Phosphorous Effluent limit rule in *UAC R317-1-3.3*.

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 via NetDMR, or on a Discharge Monitoring Report Form (EPA No. 3320-1), post-marked or entered into NetDMR no later than the 28th day of the month following the completed reporting period. The first report is due on June 28, 2018. 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

II. INDUSTRIAL PRETREATMENT PROGRAM

A. Definitions.

For this section the following definitions shall apply:

1. Indirect Discharge means the introduction of pollutants into a POTW from any non-domestic source regulated under section 307 (b), (c) or (d) of the Act.
2. 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).
3. Significant industrial user (SIU) is defined as an industrial user discharging to a publicly-owned treatment works (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.
4. User or Industrial User 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 Waste Survey (IWS).

1. As required by *Part II.B.1*, the industrial waste survey consists of;
 - a. Identifying each industrial user (IU) and determining if the IU is a significant 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

1. **General Prohibitions.** No User shall introduce or cause to be introduced into the POTW any pollutant or wastewater which causes Pass Through or Interference. These general prohibitions apply to all Users of the POTW whether or not they are subject to categorical Pretreatment Standards or any other National, State, or local Pretreatment Standards or Requirements.
2. 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 source of non-domestic discharge:
 - a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams 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, nonbiodegradable 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.

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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. Signification 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*;
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; and/or,
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 passthrough 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. BIOSOLIDS REQUIREMENTS

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.

IV. STORM WATER REQUIREMENTS.

The *Utah Administrative Code (UAC) R-317-8-3.9* requires storm water permit provisions to include the development of a storm water pollution prevention plan for waste water treatment facilities if the facility meets one or both of the following criteria:

1. waste water treatment facilities with a design flow of 1.0 MGD or greater, and/or,
2. waste water treatment facilities with an approved pretreatment program as described in *40CFR Part 403*,

The Neola Wastewater Treatment Facility does not meet either one of the above criteria; therefore this permit does not include storm water provisions. The permit does however include a storm water re-opener provision.

V. 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.

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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 VI.G, Bypass of Treatment Facilities.*);
 - c. Any upset which exceeds any effluent limitation in the permit (See *Part VI.H, Upset Conditions.*);
 - d. Violation of a maximum 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 V.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;

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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.

VI. 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 VI.G, *Bypass of Treatment Facilities* and Part VI.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 VI.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 VI.G.2.a (1), (2) and (3)*.
3. Notice.
- a. *Anticipated bypass.* Except as provided above in *section VI.G.2* and below in *section VI.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 VI.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 V.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 V.H, Twenty-four Hour Notice of Noncompliance Reporting*; and,
 - d. The permittee complied with any remedial measures required under *Part VI.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.

VII. 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 VII.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 VII.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;

PART VII
UPDES PERMIT NO. UT0023001

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 Whole Effluent Toxicity (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 detected 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".

VIII. DEFINITIONS

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 "LC₅₀").
5. "Bypass," means the diversion of waste streams from any portion of a treatment facility.
6. "Chronic toxicity" occurs when the survival, growth, or reproduction for either test species exposed to a dilution of 25 percent effluent (or lower) is significantly less (at the 95 percent confidence level) than the survival, growth, or reproduction of the control specimens.
7. "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,

PART VIII
UPDES PERMIT NO. UT0023001

- d. Continuous sample volume, with sample collection rate proportional to flow rate.
8. "CWA," means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
 9. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.
 10. "EPA," means the United States Environmental Protection Agency.
 11. "Director," means Director of the Division of Water Quality.
 12. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
 13. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
 14. "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.
 15. "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.
 16. "TSS," means Total Suspended Solids.
 17. "TDS," means Total Dissolved Solids.
 18. "BOD₅," means Biological Oxygen Demand 5-day test.

DWQ-2017-011101

**FACT SHEET STATEMENT OF BASIS
NEOLA CITY WATER & SEWER DISTRICT
DISCHARGE RENEWAL PERMIT
UPDES PERMIT NUMBER NO. UT0023001
MINOR MUNICIPAL FACILITY**

FACILITY CONTACTS

Person Name: Brian Gines
Position: Wastewater Operator
Facility Name: Neola City Water & Sewer District
Facility Address: 8750 N SR 121
Neola, Utah 84053
Mailing Address: P.O. Box 207
Neola, Utah 84053
Telephone: (435) 722-1884

DESCRIPTION OF FACILITY

The Neola Wastewater Treatment Facility (NWTF) is located in Duchesne County near the south slope of the Uintah Mountains. The lagoons were originally constructed in 1963 as a total containment lagoon system with three cells utilizing 5.9 acres. As a result of high ground water infiltrating the lagoon and sewer system, the lagoons were expanded in 1971. The upgraded facility has five lagoons with a total of 15.5 acres. The system was intended to be a non-discharging facility but sees the need to discharge during times of high precipitation years when ground water infiltration into the system is high. When the need arises, NWTF has historically discharged during the spring months. The facility serves the Neola Improvement District (NID) with a current population of approximately 450. The average design flow is 0.88 MGD. The discharge outfall is located at latitude 40°24'30" and longitude 110°01'30".

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

There are two changes proposed in this renewal permit, including the addition of influent and effluent nutrient monitoring, as well as the addition of the Total Dissolved Solids incremental increase concentration limit, which has been included to comply with the Colorado River Basin Salinity Control Forum Policies. Based on the limited historical influent and effluent monitoring data and the capacity of the existing treatment facility, Neola is expected to be able to continue complying with all permit limitations.

Water Quality adopted UAC R317-1-3.3, Technology-Based Phosphorus Effluent Limit (TBPEL) Rule in 2014. The TBPEL rule as it relates to "lagoon" wastewater treatment plants establishes new

regulations for the discharge of phosphorus to surface waters and is self-implementing. The TBPEL rule includes the following requirements for lagoon wastewater treatment plants:

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 (as 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.

DISCHARGE

DESCRIPTION OF DISCHARGE

When necessary, the NWTF discharges into an irrigation ditch. Only once since 2011 has the NWTF observed, recorded and monitored an actual effluent discharge.

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	A 10" concrete outfall pipe located at latitude 40°24'30" and longitude 110°01'30" on the southwest side of the lagoon system and discharging to an irrigation conveyance known as the Uintah Number 1 Canal (also known as the Class E Irrigation Ditch).

RECEIVING WATERS AND STREAM CLASSIFICATION

The final discharge flows into the Uintah Number 1 Canal, which is part of the Dry Gulch Creek tributary system and has been classified as Class 2B, Class 3E, and Class 4 according to *Utah Administrative Code (UAC) R317-2-13*.

- Class 2B Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.
- Class 3E Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.
- Class 4 Protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD₅), E. Coli, pH and

percent removal for BOD₅ and TSS are based on current Utah Secondary Treatment Standards, *UAC R317-1-3.2*.

Monitoring only for total phosphorous (TP), orthophosphate as P (OP), total ammonia, nitrate-nitrite, and total Kjeldahl nitrogen as N (TKN) have all been included to comply with Utah Secondary Treatment Standards and the Technology-based Phosphorous Effluent limit rule in *UAC R317-1-3.3*, whereas a TP loading cap will be determined upon any future discharge data and included in a future permit renewal or modification as determined by the permitting authority.

Total dissolved solids (TDS) limitations are based upon the WLA for maximum concentration values and the Colorado River Basin Salinity Control Forum (CRBSCF) for loading values when applicable as authorized in *UAC R317-2-4*. CRBSCF has established a policy for the reasonable loading increase of salinity for municipal discharges to any portion of the Colorado River. 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.

During the development of this draft permit renewal, a Waste-load Analysis (WLA) and an Anti-degradation review (ADR) were performed for discharges from NWTF into the irrigation ditch and receiving waters. The ADR Level I determined that an ADR Level II was not required. Based upon the WLA, which is appended to this fact sheet, it has been determined by the permitting authority that this discharge will not cause a violation of water quality standards. NWTF is expected to be able to comply with their permit limitations as drafted.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (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 there has been a lack of historical discharge data, including all eight metals constituents. Only once since 2011 has the NWTF observed, recorded and monitored an actual effluent discharge, with values being reported within permit limits. Therefore an RP analysis could not be performed at this time.

The permit limitations are as follows:

Parameter	Effluent Limitations			
	Maximum Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
Flow, MGD b/ c/	0.88	NA	NA	NA
BOD ₅ , mg/L	25	35	NA	NA
BOD ₅ Min. % Removal	85	NA	NA	NA
TSS, mg/L	25	35	NA	NA
TSS Min. % Removal	85	NA	NA	NA
E. Coli, No./100mL	126	157	NA	NA
TDS, mg/L e/	NA	NA	NA	1200
pH, Standard Units	NA	NA	6.5	9

NA – Not Applicable,

MGD – million gallons per day

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring and reporting requirements are the included in the permit. The permit will require reports to be submitted monthly via NetDMR due on the 28th of each month.

Self-Monitoring and Reporting Requirements			
Parameter	Frequency	Sample Type	Units
Total Flow b/ c/	Continuous	Recorder	MGD
BOD ₅ , Influent d/ Effluent	Monthly	Composite	mg/L
	Monthly	Composite	mg/L
TSS, Influent d/ Effluent	Monthly	Composite	mg/L
	Monthly	Composite	mg/L
E. Coli, Effluent only	Monthly	Grab	No./100mL
TDS, Influent e/ Effluent	Monthly	Grab	mg/L
	Monthly	Grab	mg/L
Total Ammonia(as N), f/ Effluent	Monthly	Composite	mg/L
Orthophosphate (as P), f/ Effluent	Monthly	Composite	mg/L
Total Phosphorous, f/ Influent Effluent	Monthly	Composite	mg/L
	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N) f/ Influent Effluent	Monthly	Composite	mg/L
	Monthly	Composite	mg/L
Nitrate, NO ₃ f/ Effluent	Monthly	Composite	mg/L
Nitrite, NO ₂ f/ Effluent	Monthly	Composite	mg/L
pH, Effluent only	Monthly	Grab	SU

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/ TDS concentrations shall also be monitored from the influent during discharging months, and the net increase of TDS concentration when compared to the effluent TDS concentration shall not exceed 400 mg/L.

f/ Monitoring only for total phosphorous (TP), orthophosphate as P (OP), total ammonia, nitrate-nitrite, and total Kjeldahl nitrogen as N (TKN) have all been included to comply with Utah Secondary Treatment Standards and the Technology-based Phosphorous Effluent limit rule in *UAC R317-1-3.3*.

BIOSOLIDS

For clarification purposes, sewage sludge is considered solids, until treatment or testing shows that the solids are safe, and meet beneficial use standards. After the solids are tested or treated, the solids are then known as biosolids. Class A biosolids, may be used for high public contact sites, such as home lawns and gardens, parks, or playing fields, etc. Class B biosolids may be used for low public contact sites, such as farms, rangeland, or reclamation sites, etc.

As required by the 1987 amendments to the Federal *Clean Water Act*, EPA has established toxic contaminant criteria and other requirements for sewage sludge use and disposal by works treating domestic sewage. These regulations are found in *Title 40 of the Code of Federal Regulations, Part 503*. The biosolids (sludge) management program was delegated to the State of Utah on June 14, 1996. The 503 regulations are implemented by the issuance of permits, as needed and appropriate.

Because the permitted facility is a lagoon, there is no regular biosolids production. Therefore, the requirements of Part 503 do not apply unless or until sludge is removed from the bottom of the lagoon and used or disposed of in some way. When planning biosolids removal, the permittee should contact the DWQ for guidance.

STORM WATER

Wastewater treatment facilities, which include lagoon systems, are required 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.

The NWTF facility does not meet either of the criteria; therefore a storm water permit is not required at this time. A storm water re-opener provision is included in the permit should a storm water permit be needed in the future.

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 categorical industries discharging to the treatment facility, industrial discharges comprise less than 1 percent of the flow through 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

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the *State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (Biomonitoring)*. 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 potential for toxicity is not deemed sufficient to require biomonitoring or whole effluent toxicity (WET) limits for NWTf because there are neither any present or anticipated industrial dischargers on the system, nor are there any anticipated for the duration of this permit. The waste discharge is anticipated to continually be household waste only. Based on these considerations, and that the facility is not classified as a major or a significant minor facility, there is no reasonable potential for toxicity in NWTf'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
Jeff Studenka, Environmental Scientist
Utah Division of Water Quality
November 27, 2017

DWQ Draft Permit Reviews
Jennifer Robinson, Pretreatment
Dan Griffin, Biosolids
Mike George, Storm Water
Lonnie Shull, WET
Matt Garn, Colorado River Salinity Policy
Nate Nichols, RP Analysis
Dave Wham, Wasteload Analysis and Antidegradation Review

DWQ-2017-011102

PUBLIC NOTICE INFORMATION

Began: December 12, 2017
Ended: January 12, 2018

Public Noticed in: The Vernal Express

ADDENDUM TO FSSOB

The draft Fact Sheet Statement of Basis, Addendums, and draft UPDES permit were public noticed in The Vernal Express and also under "Public Participation" on the Division of Water Quality Web Site at www.waterquality.utah.gov, from December 12, 2017 through January 12, 2018. No comments were received. Staff recommends issuance of the permit as drafted.

ATTACHMENTS

1. Industrial Waste Survey
2. Waste-load Analysis

ATTACHMENT 1

Industrial Waste Survey

Industrial Pretreatment Wastewater Survey

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

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



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

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

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

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

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

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

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

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

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

1. A discharge which creates a fire or explosion hazard in the collection system.
2. A discharge which creates toxic gases, vapor or fumes in the collection system.
3. A discharge of solids or thick liquids which creates flow obstructions in the collection system.
4. An acidic discharge (low pH) which causes corrosive damage to the collection system.
5. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause problems in the collection system or at the waste treatment facility.
6. Waste haulers are prohibited from discharging without permission. (No midnight dumping!)

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

An Industrial Waste Survey consists of:

Step 1: Identify Industrial Users

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

Sources for the list:

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

Split the list into two groups:

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

Step 2: Preliminary Inspection

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

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

Step 3: Informing the State

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

Jennifer Robinson

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

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

PRELIMINARY INSPECTION FORM

INSPECTION DATE ___ / ___ /

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

Description of Business _____

Principal product or service: _____

Raw Materials used: _____

Production process is: Batch Continuous Both

Is production subject to seasonal variation? yes no

If yes, briefly describe seasonal production cycle.

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

- | | |
|--|--|
| 1. <input type="checkbox"/> Domestic wastes | (Restrooms, employee showers, etc.) |
| 2. <input type="checkbox"/> Cooling water, non-contact | 3. <input type="checkbox"/> Boiler/Tower blowdown |
| 4. <input type="checkbox"/> Cooling water, contact | 5. <input type="checkbox"/> Process |
| 6. <input type="checkbox"/> Equipment/Facility wash-down | 7. <input type="checkbox"/> Air Pollution Control Unit |
| 8. <input type="checkbox"/> Storm water runoff to sewer | 9. <input type="checkbox"/> Other describe |

Wastes are discharged to (check all that apply):

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> Sanitary sewer | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Surface water | <input type="checkbox"/> Ground water |
| <input type="checkbox"/> Waste haulers | <input type="checkbox"/> Evaporation |
| <input type="checkbox"/> Other (describe) | |

Name of waste hauler(s), if used

Is a grease trap installed? Yes No

Is it operational? Yes No

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following:

- Adhesives
- Car Wash
- Aluminum Forming
- Carpet Cleaner
- Battery Manufacturing
- Dairy
- Copper Forming
- Food Processor
- Electric & Electronic Components
- Hospital
- Explosives Manufacturing
- Laundries
- Foundries
- Photo Lab
- Inorganic Chemicals Mfg. or Packaging
- Restaurant & Food Service
- Industrial Porcelain Ceramic Manufacturing
- Septage Hauler
- Iron & Steel
- Slaughter House
- Metal Finishing, Coating or Cleaning
- Mining
- Nonferrous Metals Manufacturing
- Organic Chemicals Manufacturing or Packaging
- Paint & Ink Manufacturing
- Pesticides Formulating or Packaging
- Petroleum Refining
- Pharmaceuticals Manufacturing or Packaging
- Plastics Manufacturing
- Rubber Manufacturing
- Soaps & Detergents Manufacturing
- Steam Electric Generation
- Tanning Animal Skins
- Textile Mills

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

Inspector

Waste Treatment Facility

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

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

Phone: (801) 536-4383

Fax: (801) 536-4301

E-Mail:

jenrobinson@utah.gov

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

ATTACHMENT 2

Waste-load Analysis

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

Date: October 20, 2017

Prepared by: Dave Wham 
Standards and Technical Services

Facility: Neola Lagoons
UPDES No. UT-0023001

Receiving water: Irrigation Ditch (2B, 3E, 4)

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

Discharge

Outfall 001: Uintah Number 1 Canal → Roosevelt Lateral → Dry Creek

The mean monthly design discharge is 0.88 MGD (cfs) for the facility.

Receiving Water

The receiving water for Outfall 001 is the Uintah Number 1 Irrigation Canal. The canal flows through a series of irrigation ditches (approximately 10 miles) to the Roosevelt Lateral and then to Dry Gulch Creek, a tributary of the Uintah River.

Per R317-2-13.9, all irrigation canals and ditches statewide, except as otherwise designated, are classified 2B, 3E, 4.

- *Class 2B - Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.*
- *Class 3E - Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife..*

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

Uinta River and tributaries, from confluence with Duchesne River to Highway US-40 crossing is classified as 2B, 3B, 4.

- *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.*

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). Because the receiving water is an irrigation canal, the 7Q10 is assumed to be zero.

TMDL

DWQ's 2016 Integrated Report lists Dry Gulch Creek and tributaries from Duchesne River confluence to headwaters (Assessment Unit UT14060003-009) as impaired for Total Dissolved Solids (Class 4) and E. coli (Class 2B). A TMDL for TDS was completed (*Uinta River, Deep Creek and Dry Gulch Creek TMDLs for Total Dissolved Solids; Uinta River Watershed, Utah*) in October 9, 2002. Due to the limited and intermittent discharge of the lagoons, no load allocation was given to the facility in the TMDL.

Effluents limits for E.coli and TDS equal to the water quality criteria will ensure that in-stream criteria will not be exceeded at the point of discharge as well as not causing or contributing to the existing impairment downstream in Dry Gulch Creek.

Mixing Zone

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

Since the receiving water low flow is considered zero, no mixing zone analysis was considered. Effluent limits revert to end of pipe standards.

Parameters of Concern

The potential parameters of concern identified for the discharge/receiving water were total dissolved solids and E.coli as a result of the downstream receiving water having been impaired for these pollutants.

WET Limits

The percent of effluent in the receiving water in a fully mixed condition, and acute and chronic dilution in a not fully mixed condition are calculated in the WLA in order to generate WET limits. The LC₅₀ (lethal concentration, 50%) percent effluent for acute toxicity and the IC₂₅ (inhibition concentration, 25%) percent effluent for chronic toxicity, as determined by the WET test, needs to be below the WET limits, as determined by the WLA. The WET limit for LC₅₀ is typically 100% effluent and does not need to be determined by the WLA.

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Table 3: WET Limits for IC₂₅

Outfall	Percent Effluent
Outfall 001	100%

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 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 as the UPDES permit is being renewed and there is no increase in load or concentration over that which was approved in the previous permit.

Documents:

WLA Document: *Neola_WLADoc_10-20-17.docx*
Wasteload Analysis and Addendum: *Neola_WLA_10-20-17.xlsm*

References:

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

Utah Division of Water Quality. 2002. Uinta River, Deep Creek and Dry Gulch Creek TMDLs for Total Dissolved Solids; Uinta River Watershed, Utah. Prepared by Tetra Tech, Inc.

Lewis, B., J. Saunders, and M. Murphy. 2002. *Ammonia Toxicity Model (AMMTOX, Version2): A Tool for Determining Effluent Ammonia Limits*. University of Colorado, Center for Limnology.

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WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis
SUMMARY

Discharging Facility: Neola Lagoons
UPDES No: UT-0023001
Design Flow 0.88 MGD

Receiving Water: Irrigation Ditch
Stream Classification: 2B, 3E, 4
Stream Flows [cfs]:
0.00 Summer (July-Sept) 20th Percentile
0.00 Fall (Oct-Dec) 20th Percentile
0.00 Winter (Jan-Mar) 20th Percentile
0.00 Spring (Apr-June) 20th Percentile
2.5 Average
Stream TDS Values:
500.0 Summer (July-Sept) Average
500.0 Fall (Oct-Dec) Average
500.0 Winter (Jan-Mar) Average
500.0 Spring (Apr-June) Average

Effluent Limits:		WQ Standard:	
Flow, MGD:	0.88 MGD	Design Flow	
BOD, mg/l:	25.0 Summer	5.0	Indicator
Dissolved Oxygen, mg/l	NA Summer	5.0	30 Day Average
TNH3, Chronic, mg/l:	NA Summer	Varies Function of pH and Temperature	
TDS, mg/l:	1200.5 Summer	1200.0	

Modeling Parameters:
Acute River Width: 50.0%
Chronic River Width: 100.0%

Level 1 Antidegradation Level Completed: Level II Review NOT required.

Date: 10/18/2017

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WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis

18-Oct-17
4:00 PM

Facilities: Neola Lagoons
Discharging to: Irrigation Ditch

UPDES No: UT-0023001

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 in terms 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

Irrigation Ditch:	2B, 3E, 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)	5.00 mg/l (30 Day Average) N/A mg/l (7Day Average) 3.00 mg/l (1 Day Average)
Maximum Total Dissolved Solids	1200.0 mg/l

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Acute and Chronic Heavy Metals (Dissolved)

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration		Load*
Aluminum	87.00 ug/l**	0.640 lbs/day	750.00	ug/l	5.514 lbs/day
Arsenic	190.00 ug/l	1.397 lbs/day	340.00	ug/l	2.500 lbs/day
Cadmium	0.76 ug/l	0.006 lbs/day	8.73	ug/l	0.064 lbs/day
Chromium III	268.18 ug/l	1.972 lbs/day	5610.83	ug/l	41.251 lbs/day
ChromiumVI	11.00 ug/l	0.081 lbs/day	16.00	ug/l	0.118 lbs/day
Copper	30.49 ug/l	0.224 lbs/day	51.68	ug/l	0.380 lbs/day
Iron			1000.00	ug/l	7.352 lbs/day
Lead	18.58 ug/l	0.137 lbs/day	476.70	ug/l	3.505 lbs/day
Mercury	0.0120 ug/l	0.000 lbs/day	2.40	ug/l	0.018 lbs/day
Nickel	168.51 ug/l	1.239 lbs/day	1515.68	ug/l	11.143 lbs/day
Selenium	4.60 ug/l	0.034 lbs/day	20.00	ug/l	0.147 lbs/day
Silver	N/A ug/l	N/A lbs/day	41.06	ug/l	0.302 lbs/day
Zinc	387.77 ug/l	2.851 lbs/day	387.77	ug/l	2.851 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 399.93 mg/l as CaCO3

Organics [Pesticides]

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration		Load*
Aldrin			1.500	ug/l	0.011 lbs/day
Chlordane	0.004 ug/l	0.032 lbs/day	1.200	ug/l	0.009 lbs/day
DDT, DDE	0.001 ug/l	0.007 lbs/day	0.550	ug/l	0.004 lbs/day
Dieldrin	0.002 ug/l	0.014 lbs/day	1.250	ug/l	0.009 lbs/day
Endosulfan	0.056 ug/l	0.411 lbs/day	0.110	ug/l	0.001 lbs/day
Endrin	0.002 ug/l	0.017 lbs/day	0.090	ug/l	0.001 lbs/day
Guthion			0.010	ug/l	0.000 lbs/day
Heptachlor	0.004 ug/l	0.028 lbs/day	0.260	ug/l	0.002 lbs/day
Lindane	0.080 ug/l	0.587 lbs/day	1.000	ug/l	0.007 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	0.103 lbs/day	2.000	ug/l	0.015 lbs/day
Pentachlorophenol	13.00 ug/l	95.461 lbs/day	20.000	ug/l	0.147 lbs/day
Toxephene	0.0002 ug/l	0.001 lbs/day	0.7300	ug/l	0.005 lbs/day

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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	lbs/day
Cadmium			10.0 ug/l	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	4.41 tons/day

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

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Metals				
Arsenic			ug/l	lbs/day
Barium			ug/l	lbs/day
Cadmium			ug/l	lbs/day
Chromium			ug/l	lbs/day
Lead			ug/l	lbs/day
Mercury			ug/l	lbs/day
Selenium			ug/l	lbs/day
Silver			ug/l	lbs/day
Fluoride (3)			ug/l	lbs/day
to			ug/l	lbs/day
Nitrates as N			ug/l	lbs/day
Chlorophenoxy Herbicides				
2,4-D			ug/l	lbs/day
2,4,5-TP			ug/l	lbs/day
Endrin			ug/l	lbs/day
ocyclohexane (Lindane)			ug/l	lbs/day
Methoxychlor			ug/l	lbs/day
Toxaphene			ug/l	lbs/day

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

	Maximum Conc., ug/l - Acute Standards			
	Class 1C [2 Liters/Day for 70 Kg Person over 70 Yr.]		Class 3A, 3B [6.5 g for 70 Kg Person over 70 Yr.]	
Toxic Organics				
Acenaphthene	ug/l	lbs/day	ug/l	lbs/day
Acrolein	ug/l	lbs/day	ug/l	lbs/day
Acrylonitrile	ug/l	lbs/day	ug/l	lbs/day
Benzene	ug/l	lbs/day	ug/l	lbs/day
Benzidine	ug/l	lbs/day	ug/l	lbs/day
Carbon tetrachloride	ug/l	lbs/day	ug/l	lbs/day
Chlorobenzene	ug/l	lbs/day	ug/l	lbs/day
1,2,4-Trichlorobenzene				
Hexachlorobenzene	ug/l	lbs/day	ug/l	lbs/day
1,2-Dichloroethane	ug/l	lbs/day	ug/l	lbs/day

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1,1,1-Trichloroethane				
Hexachloroethane	ug/l	lbs/day	ug/l	lbs/day
1,1-Dichloroethane				
1,1,2-Trichloroethane	ug/l	lbs/day	ug/l	lbs/day
1,1,2,2-Tetrachloroethane	ug/l	lbs/day	ug/l	lbs/day
Chloroethane			ug/l	lbs/day
Bis(2-chloroethyl) ether	ug/l	lbs/day	ug/l	lbs/day
2-Chloroethyl vinyl ether	ug/l	lbs/day	ug/l	lbs/day
2-Chloronaphthalene	ug/l	lbs/day	ug/l	lbs/day
2,4,6-Trichlorophenol	ug/l	lbs/day	ug/l	lbs/day
p-Chloro-m-cresol			ug/l	lbs/day
Chloroform (HM)	ug/l	lbs/day	ug/l	lbs/day
2-Chlorophenol	ug/l	lbs/day	ug/l	lbs/day
1,2-Dichlorobenzene	ug/l	lbs/day	ug/l	lbs/day
1,3-Dichlorobenzene	ug/l	lbs/day	ug/l	lbs/day
1,4-Dichlorobenzene	ug/l	lbs/day	ug/l	lbs/day
3,3'-Dichlorobenzidine	ug/l	lbs/day	ug/l	lbs/day
1,1-Dichloroethylene	ug/l	lbs/day	ug/l	lbs/day
1,2-trans-Dichloroethylene	ug/l	lbs/day	ug/l	lbs/day
2,4-Dichlorophenol	ug/l	lbs/day	ug/l	lbs/day
1,2-Dichloropropane	ug/l	lbs/day	ug/l	lbs/day
1,3-Dichloropropylene	ug/l	lbs/day	ug/l	lbs/day
2,4-Dimethylphenol	ug/l	lbs/day	ug/l	lbs/day
2,4-Dinitrotoluene	ug/l	lbs/day	ug/l	lbs/day
2,6-Dinitrotoluene	ug/l	lbs/day	ug/l	lbs/day
1,2-Diphenylhydrazine	ug/l	lbs/day	ug/l	lbs/day
Ethylbenzene	ug/l	lbs/day	ug/l	lbs/day
Fluoranthene	ug/l	lbs/day	ug/l	lbs/day
4-Chlorophenyl phenyl ether				
4-Bromophenyl phenyl ether				
Bis(2-chloroisopropyl) e	ug/l	lbs/day	ug/l	lbs/day
Bis(2-chloroethoxy) met	ug/l	lbs/day	ug/l	lbs/day
Methylene chloride (HM)	ug/l	lbs/day	ug/l	lbs/day
Methyl chloride (HM)	ug/l	lbs/day	ug/l	lbs/day
Methyl bromide (HM)	ug/l	lbs/day	ug/l	lbs/day
Bromoform (HM)	ug/l	lbs/day	ug/l	lbs/day
Dichlorobromomethane	ug/l	lbs/day	ug/l	lbs/day
Chlorodibromomethane	ug/l	lbs/day	ug/l	lbs/day
Hexachlorobutadiene(c)	ug/l	lbs/day	ug/l	lbs/day
Hexachlorocyclopentadi	ug/l	lbs/day	ug/l	lbs/day
Isophorone	ug/l	lbs/day	ug/l	lbs/day
Naphthalene				
Nitrobenzene	ug/l	lbs/day	ug/l	lbs/day
2-Nitrophenol	ug/l	lbs/day	ug/l	lbs/day
4-Nitrophenol	ug/l	lbs/day	ug/l	lbs/day
2,4-Dinitrophenol	ug/l	lbs/day	ug/l	lbs/day
4,6-Dinitro-o-cresol	ug/l	lbs/day	ug/l	lbs/day
N-Nitrosodimethylamine	ug/l	lbs/day	ug/l	lbs/day
N-Nitrosodiphenylamine	ug/l	lbs/day	ug/l	lbs/day
N-Nitrosodi-n-propylami	ug/l	lbs/day	ug/l	lbs/day
Pentachlorophenol	ug/l	lbs/day	ug/l	lbs/day

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Phenol	ug/l	lbs/day	ug/l	lbs/day
Bis(2-ethylhexyl)phthala	ug/l	lbs/day	ug/l	lbs/day
Butyl benzyl phthalate	ug/l	lbs/day	ug/l	lbs/day
Di-n-butyl phthalate	ug/l	lbs/day	ug/l	lbs/day
Di-n-octyl phthlate				
Diethyl phthalate	ug/l	lbs/day	ug/l	lbs/day
Dimethyl phthlate	ug/l	lbs/day	ug/l	lbs/day
Benzo(a)anthracene (P/	ug/l	lbs/day	ug/l	lbs/day
Benzo(a)pyrene (PAH)	ug/l	lbs/day	ug/l	lbs/day
Benzo(b)fluoranthene (F	ug/l	lbs/day	ug/l	lbs/day
Benzo(k)fluoranthene (F	ug/l	lbs/day	ug/l	lbs/day
Chrysene (PAH)	ug/l	lbs/day	ug/l	lbs/day
Acenaphthylene (PAH)				
Anthracene (PAH)	ug/l	lbs/day	ug/l	lbs/day
Dibenzo(a,h)anthracene	ug/l	lbs/day	ug/l	lbs/day
Indeno(1,2,3-cd)pyrene	ug/l	lbs/day	ug/l	lbs/day
Pyrene (PAH)	ug/l	lbs/day	ug/l	lbs/day
Tetrachloroethylene	ug/l	lbs/day	ug/l	lbs/day
Toluene	ug/l	lbs/day	ug/l	lbs/day
Trichloroethylene	ug/l	lbs/day	ug/l	lbs/day
Vinyl chloride	ug/l	lbs/day	ug/l	lbs/day
Pesticides				
Aldrin	ug/l	lbs/day	ug/l	lbs/day
Dieldrin	ug/l	lbs/day	ug/l	lbs/day
Chlordane	ug/l	lbs/day	ug/l	lbs/day
4,4'-DDT	ug/l	lbs/day	ug/l	lbs/day
4,4'-DDE	ug/l	lbs/day	ug/l	lbs/day
4,4'-DDD	ug/l	lbs/day	ug/l	lbs/day
alpha-Endosulfan	ug/l	lbs/day	ug/l	lbs/day
beta-Endosulfan	ug/l	lbs/day	ug/l	lbs/day
Endosulfan sulfate	ug/l	lbs/day	ug/l	lbs/day
Endrin	ug/l	lbs/day	ug/l	lbs/day
Endrin aldehyde	ug/l	lbs/day	ug/l	lbs/day
Heptachlor	ug/l	lbs/day	ug/l	lbs/day
Heptachlor epoxide				
PCB's				
PCB 1242 (Arochlor 124	ug/l	lbs/day	ug/l	lbs/day
PCB-1254 (Arochlor 125	ug/l	lbs/day	ug/l	lbs/day
PCB-1221 (Arochlor 122	ug/l	lbs/day	ug/l	lbs/day
PCB-1232 (Arochlor 123	ug/l	lbs/day	ug/l	lbs/day
PCB-1248 (Arochlor 124	ug/l	lbs/day	ug/l	lbs/day
PCB-1260 (Arochlor 126	ug/l	lbs/day	ug/l	lbs/day
PCB-1016 (Arochlor 101	ug/l	lbs/day	ug/l	lbs/day
Pesticide				
Toxaphene	ug/l		ug/l	lbs/day
Dioxin				
Dioxin (2,3,7,8-TCDD)	ug/l	lbs/day		

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Metals

Antimony	ug/l	lbs/day		
Arsenic	ug/l	lbs/day	ug/l	lbs/day
Asbestos	ug/l	lbs/day		
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	ug/l	lbs/day	ug/l	lbs/day
Lead	ug/l	lbs/day		
Mercury			ug/l	lbs/day
Nickel			ug/l	lbs/day
Selenium	ug/l	lbs/day		
Silver	ug/l	lbs/day		
Thallium			ug/l	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.

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(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	Temp.	pH	T-NH3	BOD5	DO	TRC	TDS
	cfs	Deg. C		mg/l as N	mg/l	mg/l	mg/l	mg/l
Summer (Irrig. Season)	0.00	15.0	8.0	0.03	0.10	10.65	0.00	500.0
Fall	0.00	8.0	8.0	0.03	0.10	---	0.00	500.0
Winter	0.00	5.0	8.0	0.03	0.10	---	0.00	500.0
Spring	0.00	10.0	8.0	0.03	0.10	---	0.00	500.0
Dissolved Metals	Al	As	Cd	CrIII	CrVI	Copper	Fe	Pb
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
All Seasons	2.385*	0.795*	0.0795*	0.795*	3.975*	0.8*	1.25*	0.795*
Dissolved Metals	Hg	Ni	Se	Ag	Zn	Boron		
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		
All Seasons	0.159*	0.795*	1.59*	0.15*	0.0795*	1.59*		

* ~80% MDL

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Projected Discharge Information

Season	Flow, MGD	Temp.
Summer	0.88000	15.0
Fall	0.88000	8.0
Winter	0.88000	5.0
Spring	0.88000	10.0

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	0.880 MGD	1.361 cfs
Fall	0.880 MGD	1.361 cfs
Winter	0.880 MGD	1.361 cfs
Spring	0.880 MGD	1.361 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.88 MGD. If the discharger is allowed to have a flow greater than 0.88 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occurring, the permit writers must include the discharge flow limitation 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 segments if the values below are met.

WET Requirements	LC50 >	100.0% Effluent	[Acute]
	IC25 >	99.9% Effluent	[Chronic]

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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	183.4 lbs/day
Fall	25.0 mg/l as BOD5	183.4 lbs/day
Winter	25.0 mg/l as BOD5	183.4 lbs/day
Spring	25.0 mg/l as BOD5	183.4 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	NA
Fall	NA
Winter	NA
Spring	NA

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	NA mg/l as N	NA lbs/day
	1 Hour Avg. - Acute	NA mg/l as N	NA lbs/day
Fall	4 Day Avg. - Chronic	NA mg/l as N	NA lbs/day
	1 Hour Avg. - Acute	NA mg/l as N	NA lbs/day
Winter	4 Day Avg. - Chronic	NA mg/l as N	NA lbs/day
	1 Hour Avg. - Acute	NA mg/l as N	NA lbs/day
Spring	4 Day Avg. - Chronic	NA mg/l as N	NA lbs/day
	1 Hour Avg. - Acute	NA mg/l as N	NA lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 100.%.

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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	NA mg/l
	1 Hour Avg. - Acute	NA mg/l
Fall	4 Day Avg. - Chronic	NA mg/l
	1 Hour Avg. - Acute	NA mg/l
Winter	4 Day Avg. - Chronic	NA mg/l
	1 Hour Avg. - Acute	NA mg/l
Spring	4 Day Avg. - Chronic	NA mg/l
	1 Hour Avg. - Acute	NA mg/l

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season	Concentration	Load
Summer	Maximum, Acute	1200.5 mg/l
Fall	Maximum, Acute	1200.5 mg/l
Winter	Maximum, Acute	1200.5 mg/l
Spring	4 Day Avg. - Chronic	1200.5 mg/l

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 399.93 mg/l):

	4 Day Average		1 Hour Average		Load
	Concentration	Load	Concentration	Load	
Aluminum*	N/A	N/A	750.5	ug/l	5.5 lbs/day
Arsenic*	190.14 ug/l	0.9 lbs/day	340.2	ug/l	2.5 lbs/day
Cadmium	0.76 ug/l	0.0 lbs/day	8.7	ug/l	0.1 lbs/day
Chromium III	268.38 ug/l	1.3 lbs/day	5,614.9	ug/l	41.3 lbs/day
Chromium VI*	11.01 ug/l	0.1 lbs/day	16.0	ug/l	0.1 lbs/day
Copper	30.52 ug/l	0.1 lbs/day	51.7	ug/l	0.4 lbs/day
Iron*	N/A	N/A	1,362.4	ug/l	10.0 lbs/day
Lead	18.59 ug/l	0.1 lbs/day	477.1	ug/l	3.5 lbs/day
Mercury*	0.01 ug/l	0.0 lbs/day	2.4	ug/l	0.0 lbs/day
Nickel	168.64 ug/l	0.8 lbs/day	1,516.8	ug/l	11.2 lbs/day
Selenium*	4.60 ug/l	0.0 lbs/day	20.0	ug/l	0.1 lbs/day
Silver	N/A ug/l	N/A lbs/day	41.1	ug/l	0.3 lbs/day

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Zinc	388.05 ug/l	1.8 lbs/day	388.1	ug/l	2.9 lbs/day
Cyanide*	5.20 ug/l	0.0 lbs/day	22.0	ug/l	0.2 lbs/day

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

**Effluent Limitations for Heat/Temperature based upon
Water Quality Standards**

Summer	19.0 Deg. C.	66.2 Deg. F
Fall	12.0 Deg. C.	53.6 Deg. F
Winter	9.0 Deg. C.	48.2 Deg. F
Spring	14.0 Deg. C.	57.2 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		1 Hour Average		
	Concentration	Load	Concentration	Load	
Aldrin			1.5E+00	ug/l	1.71E-02 lbs/day
Chlordane	4.30E-03 ug/l	3.16E-02 lbs/day	1.2E+00	ug/l	1.36E-02 lbs/day
DDT, DDE	1.00E-03 ug/l	7.34E-03 lbs/day	5.5E-01	ug/l	6.26E-03 lbs/day
Dieldrin	1.90E-03 ug/l	1.39E-02 lbs/day	1.3E+00	ug/l	1.42E-02 lbs/day
Endosulfan	5.60E-02 ug/l	4.11E-01 lbs/day	1.1E-01	ug/l	1.25E-03 lbs/day
Endrin	2.30E-03 ug/l	1.69E-02 lbs/day	9.0E-02	ug/l	1.02E-03 lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	1.14E-04 lbs/day
Heptachlor	3.80E-03 ug/l	2.79E-02 lbs/day	2.6E-01	ug/l	2.96E-03 lbs/day
Lindane	8.00E-02 ug/l	5.87E-01 lbs/day	1.0E+00	ug/l	1.14E-02 lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02	ug/l	3.41E-04 lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	1.14E-04 lbs/day
Parathion	0.00E+00 ug/l	0.00E+00 lbs/day	4.0E-02	ug/l	4.55E-04 lbs/day
PCB's	1.40E-02 ug/l	1.03E-01 lbs/day	2.0E+00	ug/l	2.27E-02 lbs/day
Pentachlorophenol	1.30E+01 ug/l	9.54E+01 lbs/day	2.0E+01	ug/l	2.27E-01 lbs/day
Toxephene	2.00E-04 ug/l	1.47E-03 lbs/day	7.3E-01	ug/l	8.30E-03 lbs/day

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**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	36.8 lbs/day
Nitrates as N	4.0 mg/l	29.4 lbs/day
Total Phosphorus as P	0.05 mg/l	0.4 lbs/day
Total Suspended Solids	90.0 mg/l	661.7 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	ug/l	lbs/day
Acrolein	ug/l	lbs/day
Acrylonitrile	ug/l	lbs/day
Benzene	ug/l	lbs/day
Benzidine	ug/l	lbs/day
Carbon tetrachloride	ug/l	lbs/day
Chlorobenzene	ug/l	lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	ug/l	lbs/day
1,2-Dichloroethane	ug/l	lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	ug/l	lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	ug/l	lbs/day
1,1,2,2-Tetrachloroethane	ug/l	lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	ug/l	lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	ug/l	lbs/day
2,4,6-Trichlorophenol	ug/l	lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	ug/l	lbs/day
2-Chlorophenol	ug/l	lbs/day
1,2-Dichlorobenzene	ug/l	lbs/day
1,3-Dichlorobenzene	ug/l	lbs/day

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1,4-Dichlorobenzene	ug/l	lbs/day
3,3'-Dichlorobenzidine	ug/l	lbs/day
1,1-Dichloroethylene	ug/l	lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	ug/l	lbs/day
1,2-Dichloropropane	ug/l	lbs/day
1,3-Dichloropropylene	ug/l	lbs/day
2,4-Dimethylphenol	ug/l	lbs/day
2,4-Dinitrotoluene	ug/l	lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	ug/l	lbs/day
Ethylbenzene	ug/l	lbs/day
Fluoranthene	ug/l	lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	ug/l	lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	ug/l	lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	ug/l	lbs/day
Dichlorobromomethane(HM)	ug/l	lbs/day
Chlorodibromomethane (HM)	ug/l	lbs/day
Hexachlorocyclopentadiene	ug/l	lbs/day
Isophorone	ug/l	lbs/day
Naphthalene		
Nitrobenzene	ug/l	lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	ug/l	lbs/day
4,6-Dinitro-o-cresol	ug/l	lbs/day
N-Nitrosodimethylamine	ug/l	lbs/day
N-Nitrosodiphenylamine	ug/l	lbs/day
N-Nitrosodi-n-propylamine	ug/l	lbs/day
Pentachlorophenol	ug/l	lbs/day
Phenol	ug/l	lbs/day
Bis(2-ethylhexyl)phthalate	ug/l	lbs/day
Butyl benzyl phthalate	ug/l	lbs/day
Di-n-butyl phthalate	ug/l	lbs/day
Di-n-octyl phthlate		
Diethyl phthalate	ug/l	lbs/day
Dimethyl phthlate	ug/l	lbs/day
Benzo(a)anthracene (PAH)	ug/l	lbs/day
Benzo(a)pyrene (PAH)	ug/l	lbs/day
Benzo(b)fluoranthene (PAH)	ug/l	lbs/day
Benzo(k)fluoranthene (PAH)	ug/l	lbs/day
Chrysene (PAH)	ug/l	lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	ug/l	lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	ug/l	lbs/day

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Pyrene (PAH)	ug/l	lbs/day
Tetrachloroethylene	ug/l	lbs/day
Toluene	ug/l	lbs/day
Trichloroethylene	ug/l	lbs/day
Vinyl chloride	ug/l	lbs/day
Pesticides		
Aldrin	ug/l	lbs/day
Dieldrin	ug/l	lbs/day
Chlordane	ug/l	lbs/day
4,4'-DDT	ug/l	lbs/day
4,4'-DDE	ug/l	lbs/day
4,4'-DDD	ug/l	lbs/day
alpha-Endosulfan	ug/l	lbs/day
beta-Endosulfan	ug/l	lbs/day
Endosulfan sulfate	ug/l	lbs/day
Endrin	ug/l	lbs/day
Endrin aldehyde	ug/l	lbs/day
Heptachlor	ug/l	lbs/day
Heptachlor epoxide		
PCB's		
PCB 1242 (Arochlor 1242)	ug/l	lbs/day
PCB-1254 (Arochlor 1254)	ug/l	lbs/day
PCB-1221 (Arochlor 1221)	ug/l	lbs/day
PCB-1232 (Arochlor 1232)	ug/l	lbs/day
PCB-1248 (Arochlor 1248)	ug/l	lbs/day
PCB-1260 (Arochlor 1260)	ug/l	lbs/day
PCB-1016 (Arochlor 1016)	ug/l	lbs/day
Pesticide		
Toxaphene	ug/l	lbs/day
Metals		
Antimony	ug/l	lbs/day
Arsenic	ug/l	lbs/day
Asbestos	ug/l	lbs/day
Beryllium		
Cadmium		
Chromium (III)		
Chromium (VI)		
Copper	ug/l	lbs/day
Cyanide	ug/l	lbs/day
Lead		
Mercury	ug/l	lbs/day
Nickel	ug/l	lbs/day
Selenium		
Silver		
Thallium	ug/l	lbs/day
Zinc		

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Dioxin
Dioxin (2,3,7,8-TCDD) #N/A ug/l #N/A 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						0.0	N/A
Antimony				4303.2		4303.2	
Arsenic	100.1				0.0	100.1	
Barium						0.0	
Beryllium						0.0	
Cadmium	10.0				0.0	10.0	
Chromium (III)					0.0	0.0	
Chromium (VI)	100.1				0.0	100.07	
Copper	200.1					200.1	
Cyanide		22.0	220161.6			220161.6	5.2
Iron						0.0	
Lead	100.1				0.0	100.1	
Mercury				0.15	0.0	0.15	
Nickel				4603.4		4603.4	
Selenium	50.0				0.0	50.0	
Silver					0.0	0.0	
Thallium				6.3		6.3	
Zinc						0.0	
Boron	750.6					750.6	
Sulfate	2001.5					2001.5	

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	0.0	N/A	
Antimony	4303.16		
Arsenic	100.1		Acute Controls
Asbestos	0.00E+00		
Barium			
Beryllium			
Cadmium	10.0		Acute Controls
Chromium (III)	0.0		Acute Controls
Chromium (VI)	100.1		Acute Controls
Copper	200.1		Acute Controls

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Cyanide	220161.6	5.2	
Iron	0.0		
Lead	100.1		Acute Controls
Mercury	0.150		Acute Controls
Nickel	4603.4		Acute Controls
Selenium	50.0		Acute Controls
Silver	0.0	N/A	
Thallium	6.3		
Zinc	0.0		Acute Controls
Boron	750.55		
Sulfate	2001.5		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 required because the receiving water for the discharge is a Class 1C Drinking Water Source.

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 downstream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.