

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. **UT0025569**

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

LITTLE MOUNTAIN SERVICE AREA

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

WEST WARREN WASTE DITCH,

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

This permit shall become effective on December 1, 2019

This permit expires at midnight on November 30, 2024.

Signed this 1st day of December, 2019.



Erica Brown Gaddis, PhD
Director

DWQ-2019-009722

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I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS

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

Outfall Number
001

Location of Discharge Outfall
The discharge is to the West Warren Ditch (canal) that combines with the Weber River, which goes into the Great Salt Lake. Located at latitude 41° 14' 19" and longitude 112° 12' 58".

B. Narrative Standard. It shall be unlawful, and a violation of this permit, for the permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum, or other nuisances such as color, odor or taste, or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by a bioassay or other tests performed in accordance with standard procedures.

C. Specific Limitations and Self-Monitoring Requirements.

1. Effective immediately, and lasting through the life of this permit, there shall be no chronic toxicity in Outfall 001 as defined in *Part VI*, and determined by test procedures described in *Part I. C.3* of this permit.
2.
 - a. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

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Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Maximum	Daily Minimum	Daily Maximum
Total Flow	0.245	--	--	--	--
BOD ₅ , mg/L	25	35	--	--	--
BOD ₅ Min. % Removal	85	--	--	--	--
TSS, mg/L	25	35	--	--	--
TSS Min. % Removal	85	--	--	--	--
<i>E. coli</i> , No./100mL	126	158	--	--	--
WET, Acute Biomonitoring	--	--	--	--	LC ₅₀ > 100% effluent
Bis(2-ethylhexyl) phthalate, ug/L	--	--	--	--	5.9
Oil & Grease, mg/L	--	--	--	--	10.0
pH, Standard Units	--	--	--	6.5	9.0
Dissolved Oxygen, mg/L	--	--	--	5.0	--
Phosphorus, lbs	--	--	746	--	--

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD ₅ , Influent *d	2 X Monthly	Composite	mg/L
Effluent	2 X Monthly	Composite	mg/L
TSS, Influent *d	2 X Monthly	Composite	mg/L
Effluent	2 X Monthly	Composite	mg/L
<i>E. coli</i>	2 X Monthly	Grab	No./100mL
WET – Biomonitoring *e Ceriodaphnia - Acute	Quarterly 2 nd & 4 th Quarter	Composite	Pass/Fail
Fathead Minnows - Acute	1 st & 3 rd Quarter	Composite	Pass/Fail
WET – Biomonitoring *e Ceriodaphnia - Chronic	Quarterly 2 nd & 4 th Quarter	Composite	Pass/Fail
Fathead Minnows - Chronic	1 st & 3 rd Quarter	Composite	Pass/Fail
Bis(2-ethylhexyl) phthalate	2 X Monthly	Grab	ug/L
Oil & Grease *f	When Sheen Observed	Grab	mg/L
pH	2 X Monthly	Grab	SU
DO	2 X Monthly	Grab	mg/L
Orthophosphate, (as P) Effluent *g	Monthly	Composite	mg/L
Phosphorus, Total Influent	Monthly	Composite	mg/L
Effluent *g	Monthly	Composite	mg/L

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Total Kjeldahl Nitrogen, TKN (as N)			
Influent	Monthly	Composite	mg/L
Effluent *g	Monthly	Composite	mg/L
Nitrate, NO3 *g	Monthly	Composite	mg/L
Nitrite, NO2 *g	Monthly	Composite	mg/L
Metals, Influent	2 X Yearly	Composite/Grab	mg/L
Effluent	2 X Yearly	Composite/Grab	mg/L
Organic Toxics, Influent	Yearly	Grab	mg/L
Effluent	Yearly	Grab	mg/L

- *a See Definitions, *Part VI*, 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 The chronic Ceriodaphnia will be tested during the 2nd and 4th quarters and the chronic fathead minnows will be tested during the 1st and 3rd quarters.
- *f Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
- *g These reflect changes required with the adoption of UCA R317-1-3.3, Technology-based Phosphorus Effluent Limits (TBPEL) rule. No TBPEL will be instituted for discharging treatment lagoons. Instead, each discharging lagoon will be evaluated to determine the current annual average total phosphorus load measured in pounds per year based on monthly average flow rates and concentrations.

3. Acute Whole Effluent Toxicity (WET) Testing.

a. *Whole Effluent Testing – Acute Toxicity.*

Starting immediately the permittee shall quarterly conduct acute static renewal toxicity tests on a composite sample of the final effluent at Outfall 001. The sample shall be collected at the point of compliance before mixing with the receiving water.

The monitoring frequency for acute tests shall be quarterly unless a sample is found to be acutely toxic during a routine test. If that occurs, the monitoring frequency shall become weekly (See Part I.C.3.c, Accelerated Testing). Unless otherwise approved by the Director, samples shall be collected on a two day progression; i.e., if the first sample is on a Monday, during the next sampling period, the sampling shall begin on a Wednesday, etc.

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The static renewal acute toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002, EPA-821-R-02-012 as per 40 CFR 136.3(a) TABLE IA-LIST OF APPROVED BIOLOGICAL METHODS. The permittee shall conduct the 48-hour static renewal toxicity test using *Ceriodaphnia dubia* (solution renewal every 24) hours and the acute 96-hour static renewal toxicity test using *Pimephales Promelas* both tests using 24 hour solution renewal. Based on the Test Acceptability Criteria included in Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity March 2017, the Director may require acceptable variations in the test, i.e. temperature, carbon dioxide atmosphere, or any other acceptable variations in the testing procedure as documented in the Fact Sheet Statement of Basis. If possible dilution water should be taken from the receiving stream. A valid replacement test is required within the specified sampling period to remain in compliance.

Acute toxicity occurs when 50 percent or more mortality is observed for either species at any effluent concentration. Mortality in the control must simultaneously be 10 percent or less for the results to be considered valid. If more than 10 percent control mortality occurs, the test shall be repeated until satisfactory control survival is achieved. The permittee shall meet all QA/QC requirements of the acute WET testing method listed in this Section of the permit.

If the permit contains a total residual chlorine limitation such that it may interfere with WET testing (usually greater than 0.20 mg/L), the permittee may dechlorinate the sample in accordance with approved USEPA methods for WET testing the sample. If dechlorination is affecting the test, the permittee may collect the sample just before chlorination with Director approval.

Quarterly test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the required reporting period (month, quarter or semi-annual) e.g., biomonitoring results for the calendar quarter ending March 31 shall be reported with the DMR due April 28, with the remaining biomonitoring reports submitted with DMRs due each July 28, October 28, and January 28. Monthly test results shall be reported along with the DMR submitted for that month. The format for the report shall be consistent with Appendix C of "Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity (Biomonitoring), Utah Division of Water Quality, March, 2017.

If the results for ten consecutive tests indicate no acute toxicity, the permittee may request a reduction in acute toxicity testing by a reduction in monitoring frequency, alternating species, or using only the most sensitive species. The Director may approve or deny the request. If the request is approved, the test procedures are to be the same as specified above for the test species. Under no circumstances shall monitoring for WET at major facilities be reduced less than quarterly. Minor facilities may be less than quarterly at the discretion of the Director.

b. Whole Effluent Toxicity Testing - Chronic Toxicity

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Chronic WET tests are considered an indicator for Class 5 waters (Great Salt Lake) because of uncertainties regarding the representativeness of the standard test species for Great Salt Lake. If a separate acute test is not conducted, the results of the acute duration portion of a chronic test are reported as specified in Part a. Whole Effluent Testing – Acute Toxicity. As an indicator, the chronic test results can demonstrate compliance with portions of the Narrative Standards (R317-2-7.2). However, the chronic WET test results alone do not demonstrate noncompliance with the Narrative Standards. As indicators, the chronic WET test results alone are not used for determining reasonable potential for toxicity or noncompliance with the permit.

Starting immediately, the permittee shall (monthly, quarterly, semi-annually), conduct chronic static renewal toxicity tests on a grab or composite sample of the final effluent at Outfall 001. The sample shall be collected at the point of compliance before mixing with the receiving water.

Three samples are required and samples shall be collected on Monday, Wednesday and Friday of each sampling period or collected on a two day progression for each sampling period. This may be changed with Director approval.

The chronic toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of (Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition, October 2002, EPA—821-R-02-013 [or] Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms, Third Edition, October 2002 EPA-821-R-02-014 [select one]) as per 40 CFR 136.3(a) TABLE IA-LIST OF APPROVED BIOLOGICAL METHODS. Test species shall consist of *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow)

A multi dilution test consisting of at least five concentrations and a control is required at two dilutions below and two above the RWC, if possible. If test acceptability criteria are not met for control survival, growth, or reproduction, the test shall be considered invalid. A valid replacement test is required within the specified sampling period to remain in compliance with this permit. Chronic toxicity occurs when, during a chronic toxicity test, the 25% inhibition concentration (IC25) calculated on the basis of test organism survival and growth or survival and reproduction, is less than or equal to effluent concentration (equivalent to the RWC). If a sample is found to be chronically toxic during a routine test, the monitoring frequency shall become biweekly (see Part 3.c, Accelerated Testing). The Director may enter acceptable variations in the test procedure here as documented in the Fact Sheet Statement of Basis and based on the test acceptability criteria as contained in Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control February, 2018). If possible, dilution water should be obtained from the receiving stream.

If the permit contains a total residual chlorine limitation such that it may interfere with WET testing (0.20 mg/L), the permittee may dechlorinate the sample in accordance with the standard method. If dechlorination is negatively affecting the test, the permittee may collect the sample just before chlorination with Director approval.

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Quarterly test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the required reporting period (e.g., biomonitoring results for the calendar quarter ending March 31 shall be reported with the DMR due April 28, with the remaining biomonitoring reports submitted with DMRs due each July 28, October 28, and January 28). Monthly test results (TUc) shall be reported along with the DMR submitted for that month. The format for the report shall be consistent with Appendix C of "Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity", Utah Division of Water Quality, March, 2017.

If the results for ten consecutive tests indicate no chronic toxicity, the permittee may submit a request to the Director to allow a reduction in chronic toxicity testing by alternating species, or using only the most sensitive species. The permit issuing authority may approve or deny the request based on the results and other available information without public notice. If the request is approved, the test procedures are to be the same as specified above for the test species. The Director may modify the frequency of chronic WET testing requirements including the cessation of chronic WET testing without a public notice, as warranted and appropriate. The Director will maintain the documentation that explains the bases for the changes.

- c. *Accelerated Testing.* When whole effluent toxicity is indicated during routine WET testing as specified in this permit, the permittee shall notify the Director in writing within 5 days after becoming aware of the test result. The permittee shall perform an accelerated schedule of WET testing to establish whether a pattern of toxicity exists unless the permittee notifies the Director and commences a PTI, TIE, or a TRE. Accelerated testing or the PTI, TIE, or TRE will begin within fourteen days after the permittee becomes aware of the test result. Accelerated testing shall be conducted as specified under Part I. Pattern of Toxicity. If the accelerated testing demonstrates no pattern of toxicity, routine monitoring shall be resumed.
- d. *Pattern of Toxicity.* A pattern of toxicity is defined by the results of a series of up to five biomonitoring tests pursuant to the accelerated testing requirements using a full set of dilutions for acute (five plus the control) and five effluent dilutions for chronic (five plus the control), on the species found to be more sensitive, once every week for up to five consecutive weeks for acute and once every two weeks up to ten consecutive weeks for chronic.

If two (2) consecutive tests (not including the scheduled test which triggered the search for a pattern of toxicity) do not result in an exceedance of the acute or chronic toxicity criteria, no further accelerated testing will be required and no pattern of toxicity will be found to exist. The permittee will provide written verification to the Director within 5 days of determining no pattern of toxicity exists, and resume routine monitoring.

A pattern of toxicity may or may not be established based on the following:

WET tests should be run at least weekly (acute) or every two weeks (chronic) (note that only one test should be run at a time), for up to 5 tests, until either:

- 1) 2 consecutive tests fail, or 3 out of 5 tests fail, at which point a pattern of toxicity will have been identified, or

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2) 2 consecutive tests pass, or 3 out of 5 tests pass, in which case no pattern of toxicity is identified.

e. *Preliminary Toxicity Investigation.*

- (1) When a pattern of toxicity is detected the permittee will notify the Director in writing within 5 days and begin an evaluation of the possible causes of the toxicity. The permittee will have 15 working days from demonstration of the pattern of toxicity to complete an optional Preliminary Toxicity Investigation (PTI) and submit a written report of the results to the Director. The PTI may include, but is not limited to: additional chemical and biological monitoring, examination of pretreatment program records, examination of discharge monitoring reports, a thorough review of the testing protocol, evaluation of treatment processes and chemical use, inspection of material storage and transfer areas to determine if any spill may have occurred.
- (2) If the PTI identifies a probable toxicant and/or a probable source of toxicity, the permittee shall submit, as part of its final results, written notification of that effect to the Director. Within thirty days of completing the PTI the permittee shall submit to the Director for approval a control program to control effluent toxicity and shall proceed to implement such plan in accordance with the Director's approval. The control program, as submitted to or revised by the Director, will be incorporated into the permit. After final implementation, the permittee must demonstrate successful removal of toxicity by passing a two species WET test as outlined in this permit. With adequate justification, the Director may extend these deadlines.
- (3) If no probable explanation for toxicity is identified in the PTI, the permittee shall notify the Director as part of its final report, along with a schedule for conducting a Phase I Toxicity Reduction Evaluation (TRE) (see Part I.C.3.e., Toxicity Reduction Evaluation).
- (4) If toxicity spontaneously disappears during the PTI, the permittee shall submit written notification to that effect to the Director, with supporting testing evidence.

f. *Toxicity Reduction Evaluation (TRE).* If a pattern of toxicity is detected the permittee shall initiate a TIE/TRE within 7 days unless the Director has accepted the decision to complete a PTI. With adequate justification, the Director may extend the 7-day deadline. The purpose of the TIE portion of a TRE will be to establish the cause of the toxicity, locate the source(s) of the toxicity, and the TRE will control or provide treatment for the toxicity.

A TRE may include but is not limited to one, all, or a combination of the following:

- (1) Phase I – Toxicity Characterization
- (2) Phase II – Toxicity Identification Procedures
- (3) Phase III – Toxicity Control Procedures

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- (4) Any other appropriate procedures for toxicity source elimination and control.

If the TRE establishes that the toxicity cannot be immediately eliminated, the permittee shall submit a proposed compliance plan to the Director. The plan shall include the proposed approach to control toxicity and a proposed compliance schedule for achieving control. If the approach and schedule are acceptable to the Director, this permit may be reopened and modified.

If toxicity spontaneously disappears during the TIE/TRE, the permittee shall submit written notification to that effect to the Director.

If the TRE shows that the toxicity is caused by a toxicant(s) that may be controlled with specific numerical limitations, the permittee shall submit the following:

- (a) An alternative control program for compliance with the numerical requirements.
- (b) If necessary, as determined by the Director, provide a modified biomonitoring protocol which compensates for the pollutant(s) being controlled numerically.

This permit may be reopened and modified to incorporate any additional numerical limitations, a modified compliance schedule if judged necessary by the Director, and/or modified WET testing requirements without public notice.

Failure to conduct an adequate TIE/TRE plan or program as described above, or the submittal of a plan or program judged inadequate by the Director, shall be considered a violation of this permit. After implementation of TIE/TRE plan, the permittee must demonstrate successful removal of toxicity by passing a two species WET test as outlined in this permit.

D. Reporting of Monitoring Results.

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

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

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

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II. INDUSTRIAL PRETREATMENT PROGRAM

While the design capacity of this municipal wastewater treatment facility is less than 5 MGD, there is at least one significant industrial user (SIU) discharging to the permittee. Industrial users discharging process wastewater shall not violate UAC 317-8-8.5 or discharge categorical industrial waste to the permittee unless the permittee develops an industrial pretreatment program.

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

1. *Indirect Discharge* means the introduction of pollutants into a publicly-owned treatment works (POTW) from any non-domestic source regulated under section 307 (b), (c) or (d) of the Act.
2. *Interference* means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:
 - a. Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
 - b. Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.
3. *Local Limit* is defined as a limit designed to prevent pass through and/or interference. And is developed in accordance with 40 CFR 403.5(c).
4. *Pass Through means* a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).
5. *Publicly Owned Treatment Works* or *POTW* means a treatment works as defined by section 212 of the Act, which is owned by a State or municipality (as defined by section 502(4) of the Act). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the Act, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

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6. *Significant industrial user (SIU)* is defined as an industrial user discharging to a POTW that satisfies any of the following:
- a. Has a process wastewater flow of 25,000 gallons or more per average work day;
 - b. Has a flow greater than five percent of the flow carried by the municipal system receiving the waste;
 - c. Is subject to Categorical Pretreatment Standards, or
 - d. Has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.
7. *User or Industrial User (IU)* means a source of Indirect Discharge

B. Self-Monitoring and Reporting Requirements.

1. 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 and shall sample and analyze both the influent and effluent annually, for the following parameters.

Monitoring for Pretreatment Program				
Parameter	MDL a*	Sample Type	Frequency	Units
Total Arsenic	2.4	Composite	2 X Yearly	mg/L
Total Cadmium	0.009			
Total Chromium	0.089			
Total Copper	0.360			
Total Lead	0.234			
Total Molybdenum	NA			
Total Nickel	2.20			
Total Selenium	0.0411			
Total Silver	0.290			
Total Zinc	2.74			
Total Cyanide	0.0683	Composite/Grab		
Total Mercury	0.000160			
TTOs, b*	NA	Grab	Yearly	

a* The minimum detection limit (MDL) of the test method used for analysis must be below this limit, if a test method is not available the permittee must submit documentation to the Director regarding the method that will be used.

b* In addition, the permittee shall analyze the treatment facility influent and effluent for the presence of the toxic pollutants listed in 40 CFR 122 Appendix D Table II (Organic Toxic Pollutants). The

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pesticides fraction of Appendix D, Table II is suspended unless pesticides are expected to be present.

C. Industrial Wastes.

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

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

1. General prohibition Standards A User may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference.
2. Specific Prohibited Standards (*40 CFR 403.5*) developed pursuant to *Section 307* of *The Water Quality Act of 1987* require that under no circumstances shall the permittee allow introduction of the following pollutants into the waste treatment system from any User:
 - a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, waste streams with a closed cup flashpoint of less than 140°F (60°C);

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- b. Pollutants, which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0;
 - c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;
 - d. Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at such volume or strength as to cause interference in the POTW;
 - e. Heat in amounts, which will inhibit biological activity in the POTW, resulting in interference, but in no case, heat in such quantities that the influent to the sewage treatment works exceeds 104°F (40°C);
 - f. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
 - g. Pollutants which result in the presence of toxic gases, vapor, or fumes within the POTW in a quantity that may cause worker health or safety problems; or,
 - h. Any trucked or hauled pollutants, except at discharge points designated by the POTW.
 - i. Any pollutant that causes pass through or interference at the POTW.
3. In addition to the general and specific limitations expressed above, more specific pretreatment limitations have been and will be promulgated for specific industrial categories under *Section 307 of the Water Quality Act of 1987 as amended (WQA)*. (See *40 CFR, Subchapter N, Parts 400 through 500*, for specific information).
- E. Significant Industrial Users Discharging to the POTW.
The permittee shall provide adequate notice to the Director and the Division of Water Quality Industrial Pretreatment Coordinator of;
1. Any new introduction of pollutants into the treatment works from an indirect discharger (i.e., industrial user) which would be subject to *Sections 301 or 306* of the *WQA* if it were directly discharging those pollutants;
 2. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit; and
 3. For the purposes of this section, adequate notice shall include information on:
 - a. The quality and quantity of effluent to be introduced into such treatment works; and,
 - b. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from such publicly owned treatment works.

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PRETREATMENT

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

F. Change of Conditions.

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

1. Amend the permittee's UPDES discharge permit to specify the additional pollutant(s) and corresponding effluent limitation(s) consistent with the applicable national pretreatment limitation;
2. Require the permittee to specify, by ordinance, contract, or other enforceable means, the type of pollutant(s) and the maximum amount which may be discharged to the permittee's facility for treatment. Such requirement shall be imposed in a manner consistent with the POTW program development requirements of the *General Pretreatment Regulations* at *40 CFR 403*; and/or,
3. Require the permittee to monitor its discharge for any pollutant, which may likely be discharged from the permittee's facility, should the industrial user fail to properly pretreat its waste.
4. Require the permittee to develop an approved pretreatment program.

G. Legal Action.

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

H. Local Limits.

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

III. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS

- A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Samples of biosolids shall be collected at a location representative of the quality of biosolids immediately prior to the use-disposal practice.
- B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under *Utah Administrative Code ("UAC") R317-2-10 and 40CFR Part 503*, unless other test procedures have been specified in this permit.
- C. Penalties for Tampering. The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
- D. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.
- E. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10 and 40 CFR 503* or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or the Biosolids Report Form. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.
- F. Records Contents. Records of monitoring information shall include:
1. The date, exact place, and time of sampling or measurements;
 2. The individual(s) who performed the sampling or measurements;
 3. The date(s) and time(s) analyses were performed;
 4. The individual(s) who performed the analyses;
 5. The analytical techniques or methods used; and,
 6. The results of such analyses.
- G. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location
- H. Twenty-four Hour Notice of Noncompliance Reporting.
1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites which may seriously endanger health or environment, as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The

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

2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4300 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:
 - a. Any noncompliance which may endanger health or the environment;
 - b. Any unanticipated bypass, which exceeds any effluent limitation in the permit (See *Part IV.G, Bypass of Treatment Facilities.*);
 - c. Any upset which exceeds any effluent limitation in the permit (See *Part IV.H, Upset Conditions.*);
 - d. Violation of a daily discharge limitation for any of the pollutants listed in the permit; or,
 - e. Violation of any of the Table 3 metals limits, the pathogen limits, the vector attraction reduction limits or the management practices for biosolids that have been sold or given away.
3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected;
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and,
 - e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.
4. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 536-4300.
5. Reports shall be submitted to the addresses in *Part I.D, Reporting of Monitoring Results.*
- I. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part I.D* are submitted. The reports shall contain the information listed in *Part III.H.3*
- J. Inspection and Entry The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

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1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, including but not limited to, biosolids treatment, collection, storage facilities or area, transport vehicles and containers, and land application sites;
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location, including, but not limited to, digested biosolids before dewatering, dewatered biosolids, biosolids transfer or staging areas, any ground or surface waters at the land application sites or biosolids, soils, or vegetation on the land application sites; and,
5. The permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, the Director, or authorized representative, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

IV. COMPLIANCE RESPONSIBILITIES

- A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.
- B. Penalties for Violations of Permit Conditions. The Act provides that any person who violates a permit condition implementing provisions of the Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions or the Act is subject to a fine not exceeding \$25,000 per day of violation. Any person convicted under UCA 19-5-115(2) a second time shall be punished by a fine not exceeding \$50,000 per day. Except as provided at Part 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.

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- 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 judgment 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 V.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 V.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 V.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

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soon as it becomes aware of the need to bypass and provide to the Director the information in *section IV.G.3.a.(1) through (6)* to the extent practicable.

- c. *Unanticipated bypass.* The permittee shall submit notice of an unanticipated bypass to the Director as required under *Part III.H, Twenty Four Hour Reporting*. The permittee shall also immediately notify the Director of the Department of Natural Resources, the public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph 2 of this section are met. Director's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.
2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required under *Part III.H, Twenty-four Hour Notice of Noncompliance Reporting*; and,
 - d. The permittee complied with any remedial measures required under *Part IV.D, Duty to Mitigate*.
3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

V. GENERAL REQUIREMENTS

- A. Planned Changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of parameters discharged or pollutant sold or given away. This notification applies to pollutants, which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the Director of any planned changes at least 30 days prior to their implementation.
- B. Anticipated Noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.
- C. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.
- E. Duty to Provide Information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.
- F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.
- G. Signatory Requirements. All applications, reports or information submitted to the Director shall be signed and certified.
 - 1. All permit applications shall be signed by either a principal executive officer or ranking elected official.
 - 2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Director, and,

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- 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 VI.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 VI.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.

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- M. Transfers. This permit may be automatically transferred to a new permittee if:
1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;
 2. The notice includes a written agreement between the existing and new permittee's containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,
 3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.
- N. State or Federal Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by *UCA 19-5-117* and *Section 510* of the *Act* or any applicable Federal or State transportation regulations, such as but not limited to the Department of Transportation regulations.
- O. Water Quality - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations and compliance schedule, if necessary, if one or more of the following events occurs:
1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.
 2. A final waste-load allocation is developed and approved by the State and/or EPA for incorporation in this permit.
 3. Revisions to the current CWA § 208 area wide 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) limitations, a compliance date, a compliance schedule, a change in the whole effluent toxicity

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(biomonitoring) protocol, additional or modified numerical limitations, or any other conditions related to the control of toxicants if one or more of the following events occur;

1. Toxicity is detected, as per *Part I.C.4.a* of this permit, during the duration of this permit.
 2. The TRE results indicate that the toxicant(s) represent pollutant(s) or pollutant parameter(s) that may be controlled with specific numerical limits, and the Director concludes that numerical controls are appropriate.
 3. Following the implementation of numerical control(s) of toxicant(s), the Director agrees that a modified biomonitoring protocol is necessary to compensate for those toxicants that are controlled numerically.
 4. The TRE reveals other unique conditions or characteristics, which in the opinion of the permit issuing authority justify the incorporation of unanticipated special conditions in the permit.
- R. Storm Water-Reopener Provision. At any time during the duration (life) of this permit, this permit may be reopened and modified (following proper administrative procedures) as per *UAC R317.8*, to include, any applicable storm water provisions and requirements, a storm water pollution prevention plan, a compliance schedule, a compliance date, monitoring and/or reporting requirements, or any other conditions related to the control of storm water discharges to "waters-of-State".

VI. DEFINITIONS

A. Wastewater.

1. The “7-day (and weekly) average”, other than for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week, which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains Saturday.
2. The "30-day (and monthly) average," other than for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
3. “Act,” means the *Utah Water Quality Act*.
4. “Acute toxicity” occurs when 50 percent or more mortality is observed for either test species at any effluent concentration (lethal concentration or “LC₅₀”).
5. "Annual Loading Cap" is the highest allowable phosphorus loading discharged over a calendar year, calculated as the sum of all the monthly loading discharges measured during a calendar year divided by the number of monthly discharges measured during that year.
6. “Bypass,” means the diversion of waste streams from any portion of a treatment facility.
7. “Chronic toxicity” occurs when the IC₂₅ < 7.6% effluent. The 7.6% effluent is the concentration of the effluent in the receiving water, at the end of the mixing zone expressed as per cent effluent.
8. "IC₂₅" is the concentration of toxicant (given in % effluent) that would cause a 25% reduction in mean young per female, or a 25% reduction in overall growth for the test population.
9. “Composite Samples” shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:

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- a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;
 - b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;
 - c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,
 - d. Continuous sample volume, with sample collection rate proportional to flow rate.
10. "CWA," means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
 11. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.
 12. "EPA," means the United States Environmental Protection Agency.
 13. "Director," means Director of the Division of Water Quality.
 14. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
 15. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
 16. "Severe Property Damage," means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
 17. "Upset," means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

**FACT SHEET AND STATEMENT OF BASIS
LITTLE MOUNTAIN SERVICE AREA
RENEWAL PERMIT: DISCHARGE
UPDES PERMIT NUMBER: UT0025569
MINOR MUNICIPAL**

FACILITY CONTACTS

Person Name: Bryan Moss
Position: Little Mountain Service Area Board Member
Phone Number: (801) 732-2233

Facility Name: Little Mountain Service Area
Mailing and Facility Address: 9800 West 900 South
Ogden, Utah 84404
Telephone: (801) 732-2233
Actual Address: Same as facility address

DESCRIPTION OF FACILITY

The Little Mountain Service Area owns and operates a Publicly Owned Treatment Work (POTW) system located at 9800 West 900 South in Ogden, Utah. The facility is located near the shoreline of the Great Salt Lake. This facility had a UPDES discharge permit which was issued on December 1, 2013. Currently the POTW is treating domestic wastewater from three local businesses and one residence. The three local businesses are Silver Linings, MJK Custom Fabrication, and Western Zirconium.

The POTW treatment process includes three biological stabilization ponds, slow sand filtration, and UV disinfection. The design flow of this facility is 0.245 MGD. The discharge is to the West Warren Canal that combines with the Weber River, thence to the Great Salt Lake.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

TBPEL Rule:

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

The TBPEL discharging treatment works are required to implement, at a minimum, monthly monitoring of the following beginning July 1, 2015:

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

The phosphorus annual loading cap is defined as

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

The reported monthly loading is calculated as shown here;

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

The annual total phosphorus loading

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

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

Design Flow:	0.25 mgd
Current Annual Total Phosphorus Load:	0.0 tons/yr
Proposed Annual Total Phosphorus Loading Cap:	746 lbs/yr

DISCHARGE

DESCRIPTION OF DISCHARGE

Little Mountain Service Area has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis. There have been no discharges since the previous permit came into effect.

<u>Outfall</u>	<u>Description of Discharge Point</u>
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001	Located at latitude 41° 14' 19" and longitude 112° 12' 58". The discharge is to the West Warren Waste Ditch (canal) that flows to the North Fork of the Weber River, which goes into the Great Salt Lake.
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RECEIVING WATERS AND STREAM CLASSIFICATION

If a discharge were to occur, it would flow into the West Warren Waste Ditch (canal) which enters the North Fork Weber River. The point where the West Warren Waste Ditch (canal) meets the delta of the North fork of the Weber River is within the zone of the Great Salt Lake transitional wetlands. The West Warren Waste Ditch (canal) is Class 2B, 3E, and the Great Salt Lake is Class 5E, according to Utah Administrative Code (UAC) R317-2-13, as follows:

- 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 5E Transitional Waters along the Shoreline of the Great Salt Lake Geographical Boundary – Geographical Boundary -- All waters below approximately 4,208-foot elevation to the current lake elevation of the open water of the Great Salt Lake receiving their source water from naturally occurring springs and streams, impounded wetlands, or facilities requiring a UPDES permit. The geographical areas of these transitional waters change corresponding to the fluctuation of open water elevation.
Beneficial Uses -- Protected for infrequent primary and secondary contact recreation, waterfowl, shore birds and other water-oriented wildlife including their necessary food chain.

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. The oil and grease is based on best professional judgment (BPJ). The BPJ is based on the fact that there is the reasonable potential of oil and grease coming from Western Zirconium and potential from the other manufacturing facilities that may discharge to the POTW. Bis(2-ethylhexyl) phthalate will remain the same as the previous permit limits. DO is based on the waste load analysis in order to meet water quality standards. WET limits are based on 2018 Utah WET policy.

Attached is a Wasteload Analysis for this discharge West Warren Waste Ditch. It has been determined that this discharge will not cause a violation of water quality standards. An Antidegradation Level II review is not required since the Level I review shows that water quality impacts are minimal.

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. Therefore an RP analysis could not be performed at this time.

The permit limitations are:

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Maximum	Daily Minimum	Daily Maximum
Total Flow	0.245	--	--	--	--
BOD ₅ , mg/L	25	35	--	--	--
BOD ₅ Min. % Removal	85	--	--	--	--
TSS, mg/L	25	35	--	--	--
TSS Min. % Removal	85	--	--	--	--
<i>E. coli</i> , No./100mL	126	158	--	--	--
WET, Acute Biomonitoring	--	--	--	--	LC50> 100% effluent
Bis(2-ethylhexyl) phthalate, ug/L	--	--	--	--	5.9
Oil & Grease, mg/L	--	--	--	--	10.0
pH, Standard Units	--	--	--	6.5	9.0
Dissolved Oxygen, mg/L	--	--	--	5.0	NA
Phosphorus, lbs	--	--	746	--	--

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are not the same as in the previous permit. The permit now requires Acute and Chronic biomonitoring as well as requires additional parameters. The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Lab sheets for biomonitoring must be attached to the biomonitoring DMR. Lab sheets for metals and toxic organics must be attached to the DMRs.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD ₅ , Influent *d	2 X Monthly	Composite	mg/L
Effluent	2 X Monthly	Composite	mg/L
TSS, Influent *d	2 X Monthly	Composite	mg/L
Effluent	2 X Monthly	Composite	mg/L
<i>E. coli</i>	2 X Monthly	Grab	No./100mL
WET – Biomonitoring *e	Quarterly	Composite	Pass/Fail
Ceriodaphnia - Acute	2 nd & 4 th Quarter	Composite	Pass/Fail
Fathead Minnows - Acute	1 st & 3 rd Quarter	Composite	Pass/Fail
WET – Biomonitoring *e	Quarterly	Composite	Pass/Fail
Ceriodaphnia - Chronic	2 nd & 4 th Quarter	Composite	Pass/Fail
Fathead Minnows - Chronic	1 st & 3 rd Quarter	Composite	Pass/Fail
Bis(2-ethylhexyl) phthalate	2 X Monthly	Grab	ug/L

Oil & Grease *f	When Sheen Observed	Grab	mg/L
pH	2 X Monthly	Grab	SU
DO	2 X Monthly	Grab	mg/L
Orthophosphate, (as P) Effluent *g	Monthly	Composite	mg/L
Phosphorus, Total Influent	Monthly	Composite	mg/L
Effluent *g	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N) Influent	Monthly	Composite	mg/L
Effluent *g	Monthly	Composite	mg/L
Nitrate, NO3 *g	Monthly	Composite	mg/L
Nitrite, NO2 *g	Monthly	Composite	mg/L
Metals, Influent	2 X Yearly	Composite/Grab	mg/L
Effluent	2 X Yearly	Composite/Grab	mg/L
Organic Toxics, Influent	Yearly	Grab	mg/L
Effluent	Yearly	Grab	mg/L

- *a See Definitions, *Part VIII*, for definition of terms.
- *b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- *c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- *d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.
- *e The chronic Ceriodaphnia will be tested during the 2nd and 4th quarters and the chronic fathead minnows will be tested during the 1st and 3rd quarters.
- *f Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
- *g These reflect changes required with the adoption of UCA R317-1-3.3, Technology-based Phosphorus Effluent Limits (TBPEL) rule. No TBPEL will be instituted for discharging treatment lagoons. Instead, each discharging lagoon will be evaluated to determine the current annual average total phosphorus load measured in pounds per year based on monthly average flow rates and concentrations.

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 *40 CFR Part 403*,

The POTW does not fit one of these criteria therefore the UPDES Storm Water Permit requirements will not be included in the UPDES permit. If conditions change at the facility the permit may be reopened to include storm water requirements.

PRETREATMENT REQUIREMENTS

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

Although the permittee does not have to develop a State-approved pretreatment program, any wastewater discharges to the sanitary sewer are subject to Federal, State and local regulations. Pursuant to Section 307 of the Clean Water Act, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in 40 CFR 403 and the State Pretreatment Requirements found in UAC R317-8-8.

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

It is required that the permittee submit for review any local limits that are developed to the Division of Water Quality for review. If local limits are developed it is required that the permittee perform an annual evaluation of the need to revise or develop technically based local limits for pollutants of concern, to implement the general and specific prohibitions *40 CFR, Part 403.5(a)* and *Part 403.5(b)*. This evaluation may indicate that present local limits are sufficiently protective, need to be revised or should be developed.

BIOMONITORING REQUIREMENTS

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

Since the facility is a Great Salt Lake discharger and because of the nature of water to be treated, there is reasonable potential for toxics to be present. Therefore the permit will require both Acute and Chronic WET testing for both species *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow). However, there will only be limits for Acute WET testing. The LC_{50} for acute testing will be greater than 100% effluent. The permit will contain the standard requirements for accelerated testing upon failure of a WET test, and a PTI (Preliminary Toxicity Investigation) and TRE (Toxicity Reduction Evaluation) as necessary.

BIOSOLIDS

Because the permitted facility is a lagoon, there is no regular sludge production. Therefore, the requirements of 40 CFR 503 do not apply unless the biosolids are removed from the bottom of the lagoon and used or disposed in some way. If this is done the permittee must notify the DWQ required the removal of the sludge 90 day prior to the removal. At this time there will be no biosolids permit issued.

PERMIT DURATION

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

Drafted by
Danielle Lenz, Discharge
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Lisa Stevens, Storm Water
Dave Wham, Waste-load Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: October 18, 2019
Ended: November 18, 2019

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

The Public Notice of the draft permit was published in The Deseret News and the Salt Lake Tribune.

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

ADDENDUM TO FSSOB

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes they were not considered Major and the permit is not required to be re Public Noticed.

Responsiveness Summary

No public comments were received during the public comment period.

DWQ-2019-009724

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ATTACHMENT 1

Industrial Waste Survey

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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, bluing 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, non-biodegradable 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
PO 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 blow down |
| 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:

- | | |
|---|--|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Car Wash |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Carpet Cleaner |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Dairy |
| <input type="checkbox"/> Copper Forming | <input type="checkbox"/> Food Processor |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Hospital |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Laundries |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Septage Hauler |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |
| <input type="checkbox"/> Nonferrous Metals Manufacturing | |
| <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging | |
| <input type="checkbox"/> Paint & Ink Manufacturing | |
| <input type="checkbox"/> Pesticides Formulating or Packaging | |
| <input type="checkbox"/> Petroleum Refining | |
| <input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging | |
| <input type="checkbox"/> Plastics Manufacturing | |
| <input type="checkbox"/> Rubber Manufacturing | |
| <input type="checkbox"/> Soaps & Detergents Manufacturing | |
| <input type="checkbox"/> Steam Electric Generation | |
| <input type="checkbox"/> Tanning Animal Skins | |
| <input type="checkbox"/> 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
PO Box 144870
Salt Lake City, Utah 84114-4870

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

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

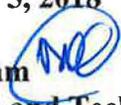
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ATTACHMENT 2

Wasteload Analysis

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

Date: December 5, 2018
Prepared by: Dave Wham 
Standards and Technical Services
Facility: Little Mountain Service Area
UPDES No. UT- 0025569

Receiving water: West Warren Waste Ditch (Canal) => N. Fork Weber

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: West Warren Waste Ditch (canal) => N. Fork Weber/ Great Salt Lake Transitional Wetlands

The mean monthly design discharge is 0.25 MGD (0.38 cfs) for the facility.

Receiving Water

The receiving water for Outfall 001 is the West Warren Waste Ditch. As per R317-1-13.10 All drainage canals and ditches statewide, except as otherwise designated: 2B, 3E:

- *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.*

The West Warren Canal flows to North Fork of the Weber River. The point where the Warren Canal meets the delta of the N. Fork of the Weber River is within the zone of Great Salt Lake transitional wetlands at an elevation between 4200 and 4205 feet. As per UAC R317-2-6.5, Transitional waters along the shoreline of the Great Salt Lake geographical boundary - All

waters below approximately 4,208-foot elevation to the current lake elevation of the open water of the Great Salt Lake receiving their source water from naturally occurring springs and streams, impounded wetlands, or facilities requiring a UPDES permit are classed 5E. The geographical areas of these transitional waters change corresponding to the fluctuation of open water elevation.

- *Class 5E -- Protected for infrequent primary and secondary contact recreation, waterfowl, shore birds and other water-oriented wildlife including their necessary 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). Available flow data consisted of daily average flow values from USGS Station #411316112132201, N FK WEBER RIV NR WEST WARREN, UT for the period 2004 – 2008. In this case, since the period of record was less than the required return period, the 7Q10 was estimated by calculating the 10th percentile of the annual 7-day average low flow values. The estimated 7Q10 value was 4.6 cfs.

No receiving water data was available within a reasonable proximity to the discharge location. The closest DWQ monitoring station is WEBER R S OF PLAIN CITY (#4920050). This station is approximately 14 mile upstream on the Weber River and likely not representative of the receiving water near the facility. Over the course of those 14 miles, the river transitions from flowing through an urban land use to rural agricultural land and then to a transitional saline wetland environment influenced by the level of the Great Salt Lake. Model inputs were determined using best professional judgement.

TMDL

According to DWQ's 2016 303(d) Assessment, the receiving water is not listed as impaired for any constituents, nor has a TMDL been completed for the waterbody.

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. Mixing zone calculations indicate total mixing within these constraints. Acute limits were calculated using 50% of the seasonal critical low flow.

Parameters of Concern

Due to the lack of discharge and receiving water data, no potential parameters of concern were identified. Addition parameters of concern may become apparent as a result of technology based standards or other factors as determined by the UPDES Permit Writer.

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.

Table 1: WET Limits for IC₂₅

Outfall	Percent Effluent
Outfall 001	7.6%

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.

The water quality standard for chronic ammonia toxicity is dependent on temperature and pH, and the water quality standard for acute ammonia toxicity is dependent on pH. The AMMTOX Model developed by University of Colorado and adapted by Utah DWQ and EPA Region VIII was used to determine ammonia effluent limits (Lewis et al. 2002). The analysis is summarized in the Wasteload Addendum.

Models and supporting documentation are available for review upon request.

Antidegradation Level I Review

The objective of the Level I ADR is to ensure the protection of existing uses, defined as the beneficial uses attained in the receiving water on or after November 28, 1975. No evidence is known that the existing uses deviate from the designated beneficial uses for the receiving water. Therefore, the beneficial uses will be protected if the discharge remains below the WQBELs presented in this wasteload.

A Level II Antidegradation Review (ADR) is not required for this facility. The proposed permit is a simple renewal, with no increase in flow or concentration over that which was approved in the existing permit.

Documents:

WLA Document: *LittleMountainServiceArea_WLADoc_12-5-18.docx*

Wasteload Analysis and Addendum: *LittleMountainServiceArea_WLA_12-5-18.docx*

References:

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

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.

**Utah Division of Water Quality
Wasteload Analysis
Little Mountain Service Area
UPDES No. UT- 0025569**

**WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis
SUMMARY**

Discharging Facility: Little Mountain
 UPDES No: UT-0025569
 Design Flow 0.25 MGD

Receiving Water: LittleMountainServiceArea_WLA_11-19-18.xls
 Stream Classification: 2B, 3D
 Stream Flows [cfs]:
 4.60 Summer (July-Sept) 20th Percentile
 4.60 Fall (Oct-Dec) 20th Percentile
 4.60 Winter (Jan-Mar) 20th Percentile
 4.60 Spring (Apr-June) 20th Percentile
 0.0 Average
 Stream TDS Values:
 600.0 Summer (July-Sept) Average
 600.0 Fall (Oct-Dec) Average
 600.0 Winter (Jan-Mar) Average
 600.0 Spring (Apr-June) Average

Effluent Limits:		WQ Standard:	
Flow, MGD:	0.25 MGD	Design Flow	
BOD, mg/l:	25.0 Summer	5.0	Indicator
Dissolved Oxygen, mg/l	5.0 Summer	5.0	30 Day Average
TNH3, Chronic, mg/l:	22.4 Summer	Varies Function of pH and Temperature	
TDS, mg/l:	N/A	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: 12/5/2018

Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis

5-Dec-18
4:00 PM

Facilities: Little Mountain
Discharging to: LittleMountainServiceArea_WLA_11-19-18.xls

UPDES No: UT-0025569

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

West Warren Waste Ditch=>N.Fork We 2B, 3D
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	N/A mg/l	3background

**Utah Division of Water Quality
Salt Lake City, Utah**

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**	0.178 lbs/day	750.00	ug/l	1.535 lbs/day
Arsenic	190.00 ug/l	0.389 lbs/day	340.00	ug/l	0.696 lbs/day
Cadmium	0.76 ug/l	0.002 lbs/day	8.73	ug/l	0.018 lbs/day
Chromium III	268.22 ug/l	0.549 lbs/day	5611.67	ug/l	11.486 lbs/day
ChromiumVI	11.00 ug/l	0.023 lbs/day	16.00	ug/l	0.033 lbs/day
Copper	30.50 ug/l	0.062 lbs/day	51.68	ug/l	0.106 lbs/day
Iron			1000.00	ug/l	2.047 lbs/day
Lead	18.58 ug/l	0.038 lbs/day	476.82	ug/l	0.976 lbs/day
Mercury	0.0120 ug/l	0.000 lbs/day	2.40	ug/l	0.005 lbs/day
Nickel	168.54 ug/l	0.345 lbs/day	1515.91	ug/l	3.103 lbs/day
Selenium	4.60 ug/l	0.009 lbs/day	20.00	ug/l	0.041 lbs/day
Silver	N/A ug/l	N/A lbs/day	41.07	ug/l	0.084 lbs/day
Zinc	387.83 ug/l	0.794 lbs/day	387.83	ug/l	0.794 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 400 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	0.003 lbs/day
Chlordane	0.004 ug/l	0.115 lbs/day	1.200	ug/l	0.002 lbs/day
DDT, DDE	0.001 ug/l	0.027 lbs/day	0.550	ug/l	0.001 lbs/day
Dieldrin	0.002 ug/l	0.051 lbs/day	1.250	ug/l	0.003 lbs/day
Endosulfan	0.056 ug/l	1.503 lbs/day	0.110	ug/l	0.000 lbs/day
Endrin	0.002 ug/l	0.062 lbs/day	0.090	ug/l	0.000 lbs/day
Guthion			0.010	ug/l	0.000 lbs/day
Heptachlor	0.004 ug/l	0.102 lbs/day	0.260	ug/l	0.001 lbs/day
Lindane	0.080 ug/l	2.147 lbs/day	1.000	ug/l	0.002 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	0.376 lbs/day	2.000	ug/l	0.004 lbs/day
Pentachlorophenol	13.00 ug/l	348.880 lbs/day	20.000	ug/l	0.041 lbs/day
Toxephene	0.0002 ug/l	0.005 lbs/day	0.7300	ug/l	0.001 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			ug/l	lbs/day
Boron			ug/l	lbs/day
Cadmium			ug/l	#VALUE!
Chromium			ug/l	lbs/day
Copper			ug/l	lbs/day
Lead			ug/l	lbs/day
Selenium			ug/l	lbs/day
TDS, Summer			mg/l	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	2700.0 ug/l	72.46 lbs/day
Acrolein	ug/l	lbs/day	780.0 ug/l	20.93 lbs/day
Acrylonitrile	ug/l	lbs/day	0.7 ug/l	0.02 lbs/day
Benzene	ug/l	lbs/day	71.0 ug/l	1.91 lbs/day
Benidine	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Carbon tetrachloride	ug/l	lbs/day	4.4 ug/l	0.12 lbs/day
Chlorobenzene	ug/l	lbs/day	21000.0 ug/l	563.57 lbs/day
1,2,4-Trichlorobenzene				
Hexachlorobenzene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Dichloroethane	ug/l	lbs/day	99.0 ug/l	2.66 lbs/day

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1,1,1-Trichloroethane				
Hexachloroethane	ug/l	lbs/day	8.9 ug/l	0.24 lbs/day
1,1-Dichloroethane				
1,1,2-Trichloroethane	ug/l	lbs/day	42.0 ug/l	1.13 lbs/day
1,1,2,2-Tetrachloroethane	ug/l	lbs/day	11.0 ug/l	0.30 lbs/day
Chloroethane			0.0 ug/l	0.00 lbs/day
Bis(2-chloroethyl) ether	ug/l	lbs/day	1.4 ug/l	0.04 lbs/day
2-Chloroethyl vinyl ether	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2-Chloronaphthalene	ug/l	lbs/day	4300.0 ug/l	115.40 lbs/day
2,4,6-Trichlorophenol	ug/l	lbs/day	6.5 ug/l	0.17 lbs/day
p-Chloro-m-cresol			0.0 ug/l	0.00 lbs/day
Chloroform (HM)	ug/l	lbs/day	470.0 ug/l	12.61 lbs/day
2-Chlorophenol	ug/l	lbs/day	400.0 ug/l	10.73 lbs/day
1,2-Dichlorobenzene	ug/l	lbs/day	17000.0 ug/l	456.23 lbs/day
1,3-Dichlorobenzene	ug/l	lbs/day	2600.0 ug/l	69.78 lbs/day
1,4-Dichlorobenzene	ug/l	lbs/day	2600.0 ug/l	69.78 lbs/day
3,3'-Dichlorobenzidine	ug/l	lbs/day	0.1 ug/l	0.00 lbs/day
1,1-Dichloroethylene	ug/l	lbs/day	3.2 ug/l	0.09 lbs/day
1,2-trans-Dichloroethylene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dichlorophenol	ug/l	lbs/day	790.0 ug/l	21.20 lbs/day
1,2-Dichloropropane	ug/l	lbs/day	39.0 ug/l	1.05 lbs/day
1,3-Dichloropropylene	ug/l	lbs/day	1700.0 ug/l	45.62 lbs/day
2,4-Dimethylphenol	ug/l	lbs/day	2300.0 ug/l	61.72 lbs/day
2,4-Dinitrotoluene	ug/l	lbs/day	9.1 ug/l	0.24 lbs/day
2,6-Dinitrotoluene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Diphenylhydrazine	ug/l	lbs/day	0.5 ug/l	0.01 lbs/day
Ethylbenzene	ug/l	lbs/day	29000.0 ug/l	778.27 lbs/day
Fluoranthene	ug/l	lbs/day	370.0 ug/l	9.93 lbs/day
4-Chlorophenyl phenyl ether				
4-Bromophenyl phenyl ether				
Bis(2-chloroisopropyl) ether	ug/l	lbs/day	170000.0 ug/l	4562.27 lbs/day
Bis(2-chloroethoxy) methane	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Methylene chloride (HM)	ug/l	lbs/day	1600.0 ug/l	42.94 lbs/day
Methyl chloride (HM)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Methyl bromide (HM)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Bromoform (HM)	ug/l	lbs/day	360.0 ug/l	9.66 lbs/day
Dichlorobromomethane	ug/l	lbs/day	22.0 ug/l	0.59 lbs/day
Chlorodibromomethane	ug/l	lbs/day	34.0 ug/l	0.91 lbs/day
Hexachlorobutadiene(c)	ug/l	lbs/day	50.0 ug/l	1.34 lbs/day
Hexachlorocyclopentadiene	ug/l	lbs/day	17000.0 ug/l	456.23 lbs/day
Isophorone	ug/l	lbs/day	600.0 ug/l	16.10 lbs/day
Naphthalene				
Nitrobenzene	ug/l	lbs/day	1900.0 ug/l	50.99 lbs/day
2-Nitrophenol	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4-Nitrophenol	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dinitrophenol	ug/l	lbs/day	14000.0 ug/l	375.72 lbs/day
4,6-Dinitro-o-cresol	ug/l	lbs/day	765.0 ug/l	20.53 lbs/day
N-Nitrosodimethylamine	ug/l	lbs/day	8.1 ug/l	0.22 lbs/day
N-Nitrosodiphenylamine	ug/l	lbs/day	16.0 ug/l	0.43 lbs/day
N-Nitrosodi-n-propylamine	ug/l	lbs/day	1.4 ug/l	0.04 lbs/day
Pentachlorophenol	ug/l	lbs/day	8.2 ug/l	0.22 lbs/day

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Phenol	ug/l	lbs/day	4.6E+06 ug/l	1.23E+05 lbs/day
Bis(2-ethylhexyl)phthala	ug/l	lbs/day	5.9 ug/l	0.16 lbs/day
Butyl benzyl phthalate	ug/l	lbs/day	5200.0 ug/l	139.55 lbs/day
Di-n-butyl phthalate	ug/l	lbs/day	12000.0 ug/l	322.04 lbs/day
Di-n-octyl phthlate				
Diethyl phthalate	ug/l	lbs/day	120000.0 ug/l	3220.43 lbs/day
Dimethyl phthlate	ug/l	lbs/day	2.9E+06 ug/l	7.78E+04 lbs/day
Benzo(a)anthracene (P/	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(a)pyrene (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(b)fluoranthene (F	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(k)fluoranthene (F	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Chrysene (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Acenaphthylene (PAH)				
Anthracene (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Dibenzo(a,h)anthracene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Indeno(1;2,3-cd)pyrene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Pyrene (PAH)	ug/l	lbs/day	11000.0 ug/l	295.21 lbs/day
Tetrachloroethylene	ug/l	lbs/day	8.9 ug/l	0.24 lbs/day
Toluene	ug/l	lbs/day	200000 ug/l	5367.38 lbs/day
Trichloroethylene	ug/l	lbs/day	81.0 ug/l	2.17 lbs/day
Vinyl chloride	ug/l	lbs/day	525.0 ug/l	14.09 lbs/day
				lbs/day
Pesticides				lbs/day
Aldrin	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Dieldrin	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Chlordane	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDT	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDE	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDD	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
alpha-Endosulfan	ug/l	lbs/day	2.0 ug/l	0.05 lbs/day
beta-Endosulfan	ug/l	lbs/day	2.0 ug/l	0.05 lbs/day
Endosulfan sulfate	ug/l	lbs/day	2.0 ug/l	0.05 lbs/day
Endrin	ug/l	lbs/day	0.8 ug/l	0.02 lbs/day
Endrin aldehyde	ug/l	lbs/day	0.8 ug/l	0.02 lbs/day
Heptachlor	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Heptachlor epoxide				
PCB's				
PCB 1242 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1254 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1221 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1232 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1248 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1260 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1016 (Arochlor 10	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Pesticide				
Toxaphene	ug/l		0.0 ug/l	0.00 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	4300.00 ug/l	115.40 lbs/day
Asbestos	ug/l	lbs/day		
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	ug/l	lbs/day	2.2E+05 ug/l	5904.12 lbs/day
Lead	ug/l	lbs/day		
Mercury			0.15 ug/l	0.00 lbs/day
Nickel			4600.00 ug/l	123.45 lbs/day
Selenium	ug/l	lbs/day		
Silver	ug/l	lbs/day		
Thallium			6.30 ug/l	0.17 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)	4.60	20.0	8.0	0.10	1.00	7.00	0.00	600.0	
Fall	4.60	12.0	8.0	0.10	1.00	---	0.00	600.0	
Winter	4.60	8.0	8.0	0.10	1.00	---	0.00	600.0	
Spring	4.60	12.0	8.0	0.10	1.00	---	0.00	600.0	
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	0.0000	0.795*	1.59*	0.15*	0.0795*	1.59*			* ~80% MDL

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Projected Discharge Information

Season	Flow, MGD	Temp.
Summer	0.24500	20.0
Fall	0.24500	12.0
Winter	0.24500	8.0
Spring	0.24500	12.0

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

IX. Effluent Limitations

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

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

Effluent Limitation for Flow based upon Water Quality Standards

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

Season	Daily Average	
Summer	0.245 MGD	0.379 cfs
Fall	0.245 MGD	0.379 cfs
Winter	0.245 MGD	0.379 cfs
Spring	0.245 MGD	0.379 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.245 MGD. If the discharger is allowed to have a flow greater than 0.245 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 >	7.6% 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	51.1 lbs/day
Fall	25.0 mg/l as BOD5	51.1 lbs/day
Winter	25.0 mg/l as BOD5	51.1 lbs/day
Spring	25.0 mg/l as BOD5	51.1 lbs/day

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

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

Season	Concentration
Summer	5.00
Fall	5.00
Winter	5.00
Spring	5.00

Effluent Limitation for Total Ammonia based upon Water Quality Standards

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

Season		Concentration	Load
Summer	4 Day Avg. - Chronic	22.36 mg/l as N	45.7 lbs/day
	1 Hour Avg. - Acute	79.1 mg/l as N	161.7 lbs/day
Fall	4 Day Avg. - Chronic	31.6 mg/l as N	64.5 lbs/day
	1 Hour Avg. - Acute	77.5 mg/l as N	158.3 lbs/day
Winter	4 Day Avg. - Chronic	31.4 mg/l as N	64.1 lbs/day
	1 Hour Avg. - Acute	77.0 mg/l as N	157.2 lbs/day
Spring	4 Day Avg. - Chronic	31.6 mg/l as N	64.5 lbs/day
	1 Hour Avg. - Acute	77.5 mg/l as N	158.3 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	0.132 mg/l	0.27 lbs/day
	1 Hour Avg. - Acute	0.237 mg/l	0.48 lbs/day
Fall	4 Day Avg. - Chronic	0.132 mg/l	0.27 lbs/day
	1 Hour Avg. - Acute	0.237 mg/l	0.48 lbs/day
Winter	4 Day Avg. - Chronic	0.132 mg/l	0.27 lbs/day
	1 Hour Avg. - Acute	0.237 mg/l	0.48 lbs/day
Spring	4 Day Avg. - Chronic	0.132 mg/l	0.27 lbs/day
	1 Hour Avg. - Acute	0.237 mg/l	0.48 lbs/day

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season		Concentration	Load
Summer	Maximum, Acute	N/A mg/l	N/A tons/day
Fall	Maximum, Acute	N/A mg/l	N/A tons/day
Winter	Maximum, Acute	N/A mg/l	N/A tons/day
Spring	Maximum, Acute	N/A mg/l	N/A tons/day

Colorado Salinity Forum Limits

Determined by Permitting Section

Effluent Limitations for Total Recoverable Metals based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Metals will be met with an effluent limitation as follows (based upon a hardness of 400 mg/l):

	4 Day Average		1 Hour Average	
	Concentration	Load	Concentration	Load
Aluminum*	N/A	N/A	5,286.8 ug/l	10.8 lbs/day
Arsenic*	2,486.33 ug/l	3.3 lbs/day	2,398.4 ug/l	4.9 lbs/day
Cadmium	8.96 ug/l	0.0 lbs/day	61.2 ug/l	0.1 lbs/day
Chromium III	3,513.88 ug/l	4.6 lbs/day	39,660.5 ug/l	81.2 lbs/day
Chromium VI*	96.26 ug/l	0.1 lbs/day	89.0 ug/l	0.2 lbs/day
Copper	391.01 ug/l	0.5 lbs/day	360.5 ug/l	0.7 lbs/day
Iron*	N/A	N/A	2,676.1 ug/l	5.5 lbs/day
Lead	234.44 ug/l	0.3 lbs/day	3,365.5 ug/l	6.9 lbs/day
Mercury*	0.16 ug/l	0.0 lbs/day	17.0 ug/l	0.0 lbs/day
Nickel	2,204.42 ug/l	2.9 lbs/day	10,710.2 ug/l	21.9 lbs/day
Selenium*	41.13 ug/l	0.1 lbs/day	131.7 ug/l	0.3 lbs/day
Silver	N/A ug/l	N/A lbs/day	290.3 ug/l	0.6 lbs/day

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Zinc	5,093.83 ug/l	6.7 lbs/day	2,740.8	ug/l	5.6 lbs/day
Cyanide*	68.31 ug/l	0.1 lbs/day	155.5	ug/l	0.3 lbs/day

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

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

Summer	72.5 Deg. C.	162.6 Deg. F
Fall	64.5 Deg. C.	148.2 Deg. F
Winter	60.5 Deg. C.	141.0 Deg. F
Spring	64.5 Deg. C.	148.2 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	4.75E-03 lbs/day
Chlordane	4.30E-03 ug/l	8.78E-03 lbs/day	1.2E+00	ug/l	3.80E-03 lbs/day
DDT, DDE	1.00E-03 ug/l	2.04E-03 lbs/day	5.5E-01	ug/l	1.74E-03 lbs/day
Dieldrin	1.90E-03 ug/l	3.88E-03 lbs/day	1.3E+00	ug/l	3.96E-03 lbs/day
Endosulfan	5.60E-02 ug/l	1.14E-01 lbs/day	1.1E-01	ug/l	3.48E-04 lbs/day
Endrin	2.30E-03 ug/l	4.70E-03 lbs/day	9.0E-02	ug/l	2.85E-04 lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	3.17E-05 lbs/day
Heptachlor	3.80E-03 ug/l	7.76E-03 lbs/day	2.6E-01	ug/l	8.23E-04 lbs/day
Lindane	8.00E-02 ug/l	1.63E-01 lbs/day	1.0E+00	ug/l	3.17E-03 lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02	ug/l	9.50E-05 lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	3.17E-05 lbs/day
Parathion	0.00E+00 ug/l	0.00E+00 lbs/day	4.0E-02	ug/l	1.27E-04 lbs/day
PCB's	1.40E-02 ug/l	2.86E-02 lbs/day	2.0E+00	ug/l	6.33E-03 lbs/day
Pentachlorophenol	1.30E+01 ug/l	2.66E+01 lbs/day	2.0E+01	ug/l	6.33E-02 lbs/day
Toxephene	2.00E-04 ug/l	4.09E-04 lbs/day	7.3E-01	ug/l	2.31E-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	10.2 lbs/day
Nitrates as N	4.0 mg/l	8.2 lbs/day
Total Phosphorus as P	0.05 mg/l	0.1 lbs/day
Total Suspended Solids	90.0 mg/l	184.2 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	3.55E+04 ug/l	7.25E+01 lbs/day
Acrolein	1.02E+04 ug/l	2.09E+01 lbs/day
Acrylonitrile	8.67E+00 ug/l	1.77E-02 lbs/day
Benzene	9.33E+02 ug/l	1.91E+00 lbs/day
Benzidine	ug/l	lbs/day
Carbon tetrachloride	5.78E+01 ug/l	1.18E-01 lbs/day
Chlorobenzene	2.76E+05 ug/l	5.64E+02 lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	1.01E-02 ug/l	2.07E-05 lbs/day
1,2-Dichloroethane	1.30E+03 ug/l	2.66E+00 lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	1.17E+02 ug/l	2.39E-01 lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	5.52E+02 ug/l	1.13E+00 lbs/day
1,1,2,2-Tetrachloroethane	1.45E+02 ug/l	2.95E-01 lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	1.84E+01 ug/l	3.76E-02 lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	5.65E+04 ug/l	1.15E+02 lbs/day
2,4,6-Trichlorophenol	8.54E+01 ug/l	1.74E-01 lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	6.17E+03 ug/l	1.26E+01 lbs/day
2-Chlorophenol	5.25E+03 ug/l	1.07E+01 lbs/day
1,2-Dichlorobenzene	2.23E+05 ug/l	4.56E+02 lbs/day
1,3-Dichlorobenzene	3.42E+04 ug/l	6.98E+01 lbs/day

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1,4-Dichlorobenzene	3.42E+04 ug/l	6.98E+01 lbs/day
3,3'-Dichlorobenzidine	1.01E+00 ug/l	2.07E-03 lbs/day
1,1-Dichloroethylene	4.20E+01 ug/l	8.59E-02 lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	1.04E+04 ug/l	2.12E+01 lbs/day
1,2-Dichloropropane	5.12E+02 ug/l	1.05E+00 lbs/day
1,3-Dichloropropylene	2.23E+04 ug/l	4.56E+01 lbs/day
2,4-Dimethylphenol	3.02E+04 ug/l	6.17E+01 lbs/day
2,4-Dinitrotoluene	1.20E+02 ug/l	2.44E-01 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	7.09E+00 ug/l	1.45E-02 lbs/day
Ethylbenzene	3.81E+05 ug/l	7.78E+02 lbs/day
Fluoranthene	4.86E+03 ug/l	9.93E+00 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	2.23E+06 ug/l	4.56E+03 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	2.10E+04 ug/l	4.29E+01 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	4.73E+03 ug/l	9.66E+00 lbs/day
Dichlorobromomethane(HM)	2.89E+02 ug/l	5.90E-01 lbs/day
Chlorodibromomethane (HM)	4.47E+02 ug/l	9.12E-01 lbs/day
Hexachlorocyclopentadiene	2.23E+05 ug/l	4.56E+02 lbs/day
Isophorone	7.88E+03 ug/l	1.61E+01 lbs/day
Naphthalene		
Nitrobenzene	2.50E+04 ug/l	5.10E+01 lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	1.84E+05 ug/l	3.76E+02 lbs/day
4,6-Dinitro-o-cresol	1.00E+04 ug/l	2.05E+01 lbs/day
N-Nitrosodimethylamine	1.06E+02 ug/l	2.17E-01 lbs/day
N-Nitrosodiphenylamine	2.10E+02 ug/l	4.29E-01 lbs/day
N-Nitrosodi-n-propylamine	1.84E+01 ug/l	3.76E-02 lbs/day
Pentachlorophenol	1.08E+02 ug/l	2.20E-01 lbs/day
Phenol	6.04E+07 ug/l	1.23E+05 lbs/day
Bis(2-ethylhexyl)phthalate	7.75E+01 ug/l	1.58E-01 lbs/day
Butyl benzyl phthalate	6.83E+04 ug/l	1.40E+02 lbs/day
Di-n-butyl phthalate	1.58E+05 ug/l	3.22E+02 lbs/day
Di-n-octyl phthlate		
Diethyl phthalate	1.58E+06 ug/l	3.22E+03 lbs/day
Dimethyl phthlate	3.81E+07 ug/l	7.78E+04 lbs/day
Benzo(a)anthracene (PAH)	4.07E-01 ug/l	8.32E-04 lbs/day
Benzo(a)pyrene (PAH)	4.07E-01 ug/l	8.32E-04 lbs/day
Benzo(b)fluoranthene (PAH)	4.07E-01 ug/l	8.32E-04 lbs/day
Benzo(k)fluoranthene (PAH)	4.07E-01 ug/l	8.32E-04 lbs/day
Chrysene (PAH)	4.07E-01 ug/l	8.32E-04 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	4.07E-01 ug/l	8.32E-04 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	4.07E-01 ug/l	8.32E-04 lbs/day

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Pyrene (PAH)	1.45E+05 ug/l	2.95E+02 lbs/day
Tetrachloroethylene	1.17E+02 ug/l	2.39E-01 lbs/day
Toluene	2.63E+06 ug/l	5.37E+03 lbs/day
Trichloroethylene	1.06E+03 ug/l	2.17E+00 lbs/day
Vinyl chloride	6.90E+03 ug/l	1.41E+01 lbs/day

Pesticides

Aldrin	1.84E-03 ug/l	3.76E-06 lbs/day
Dieldrin	1.84E-03 ug/l	3.76E-06 lbs/day
Chlordane	7.75E-03 ug/l	1.58E-05 lbs/day
4,4'-DDT	7.75E-03 ug/l	1.58E-05 lbs/day
4,4'-DDE	7.75E-03 ug/l	1.58E-05 lbs/day
4,4'-DDD	1.10E-02 ug/l	2.25E-05 lbs/day
alpha-Endosulfan	2.63E+01 ug/l	5.37E-02 lbs/day
beta-Endosulfan	2.63E+01 ug/l	5.37E-02 lbs/day
Endosulfan sulfate	2.63E+01 ug/l	5.37E-02 lbs/day
Endrin	1.06E+01 ug/l	2.17E-02 lbs/day
Endrin aldehyde	1.06E+01 ug/l	2.17E-02 lbs/day
Heptachlor	2.76E-03 ug/l	5.64E-06 lbs/day
Heptachlor epoxide		

PCB's

PCB 1242 (Arochlor 1242)	5.91E-04 ug/l	1.21E-06 lbs/day
PCB-1254 (Arochlor 1254)	5.91E-04 ug/l	1.21E-06 lbs/day
PCB-1221 (Arochlor 1221)	5.91E-04 ug/l	1.21E-06 lbs/day
PCB-1232 (Arochlor 1232)	5.91E-04 ug/l	1.21E-06 lbs/day
PCB-1248 (Arochlor 1248)	5.91E-04 ug/l	1.21E-06 lbs/day
PCB-1260 (Arochlor 1260)	5.91E-04 ug/l	1.21E-06 lbs/day
PCB-1016 (Arochlor 1016)	5.91E-04 ug/l	1.21E-06 lbs/day

Pesticide

Toxaphene	9.85E-03 ug/l	2.01E-05 lbs/day
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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) 1.84E-07 ug/l 3.76E-10 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		5286.8				5286.8	N/A
Antimony				56487.9		56487.9	
Arsenic		2398.4				2398.4	2486.3
Barium							
Beryllium						0.0	
Cadmium		61.2				61.2	9.0
Chromium (III)		39660.5				39660.5	3513.9
Chromium (VI)		89.0				88.97	96.26
Copper		360.5				360.5	391.0
Cyanide		155.5	2890079.0			155.5	68.3
Iron		2676.1				2676.1	
Lead		3365.5				3365.5	234.4
Mercury		16.96		1.97		1.97	0.158
Nickel		10710.2		60428.9		10710.2	2204.4
Selenium		131.7				131.7	41.1
Silver		290.3				290.3	
Thallium				82.8		82.8	
Zinc		2740.8				2740.8	5093.8
Boron	N/A					0.0	
Sulfate	N/A					N/A	

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	5286.8	N/A	
Antimony	56487.91		
Arsenic	2398.4	2486.3	Acute Controls
Asbestos			
Barium			
Beryllium			
Cadmium	61.2	9.0	
Chromium (III)	39660.5	3514	
Chromium (VI)	89.0	96.3	Acute Controls
Copper	360.5	391.0	Acute Controls

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Cyanide	155.5	68.3	
Iron	2676.1		
Lead	3365.5	234.4	
Mercury	1.971	0.158	
Nickel	10710.2	2204	
Selenium	131.7	41.1	
Silver	290.3	N/A	
Thallium	82.8		
Zinc	2740.8	5093.8	Acute Controls
Boron	0.00		
Sulfate	N/A		N/A at this Waterbody

Other Effluent Limitations are based upon R317-1.

E. coli 126.0 organisms per 100 ml

X. Antidegradation Considerations

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

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

XI. Colorado River Salinity Forum Considerations

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

XII. Summary Comments

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

ATTACHMENT 3

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

Since January 1, 2016, DWQ has conducted RP on all new and renewal applications received after that date. Following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance), RP for this permit renewal was not conducted because there has been a lack of historical discharge data. Therefore an RP analysis could not be performed at this time.