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

AUTHORIZATION TO DISCHARGE UNDER THE
UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM
(UPDES)

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

SBIOMED

is hereby authorized to discharge from its facility located in Provo, Utah, with the outfall(s) located at latitude 40°12'40" and longitude 111°39'00" to receiving waters named

MILL RACE STREAM

in accordance with discharge points (s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on Oct 01, 2006.

This permit and the authorization to discharge shall expire at midnight on September 30, 2011.

Signed this 12th day of October, 2006

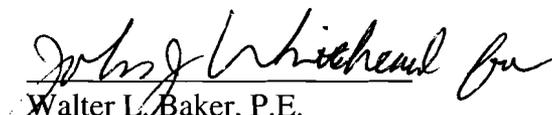

Walter L. Baker, P.E.
Executive Secretary
Utah Water Quality Board

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I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Definitions

1. The "7-day and weekly average" is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week whichever is applicable. 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, beginning on Sunday and ending 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 the Saturday.
2. The "30-day and monthly average" is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month whichever is applicable. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
3. "10-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable reoccurrence interval of once in 10 years. This information is available in *Weather Bureau Technical Paper No. 40*, May 1961 and *NOAA Atlas 2*, 1973 for the 11 Western States, and may be obtained from the National Climatic Center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.
4. "Act" means the "*Utah Water Quality Act*".
5. "Acute toxicity" occurs when 50 percent or more mortality is observed for either test species at any effluent concentration.
6. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
7. "Chronic toxicity" occurs when the survival, growth, or reproduction for either test species exposed to a dilution of percent effluent (or lower) is significantly less (at the 95 percent confidence level) than the survival, growth or reproduction of the control specimens.

8. "CWA" means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
9. "Daily Maximum" ("Daily Max.") is the maximum value allowable in any single sample or instantaneous measurement.
10. "EPA" means the United States Environmental Protection Agency.
11. "Executive Secretary" means Executive Secretary of the Utah Water Quality Board.
12. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
13. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
14. "Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agriculture storm water runoff.
15. "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.
16. "Storm water" means storm water runoff, snowmelt runoff, and surface runoff and drainage.
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 preventive maintenance, or careless or improper operation.

18. Acronym List

CFR	Code of Federal Regulations
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
TSS	Total Suspended Solids
TDS	Total Dissolved Solids
UAC	Utah Administrative Code
UCA	Utah Code Annotated
UPDES	Utah Pollutant Discharge Elimination System
WET	Whole Effluent Toxicity

19. Unit List

MGD	million gallons per day
mg/L	milligrams per liter
SU	standard units
µg/L	micrograms per liter

B. Description of Discharge Point.

The authorization to discharge provided under this permit is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit are in violation 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 Point(s)

Discharge pipe located across Eastbay Blvd.
Directly east of the facility discharging into the
Mill Race Stream at Latitude: 40°12'40"
Longitude: 111°39'00"

C. 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 bioassay or other tests performed in accordance with standard procedures.

- D. Specific Limitations and Self-monitoring Requirements.
1. 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.

Parameter	Effluent Limitations <i>a/</i>			
	30 - Day Average	Maximum 7 - Day Average	Daily Minimum	Daily Maximum
Total Residual Chlorine, mg/L	NA	NA	NA	.028
Total Dissolved Solids, mg/L	NA	NA	NA	1200
pH, Standard Units	NA	NA	6.5	9.0
Dissolved Oxygen, mg/L	NA	NA	4.0	NA

NA – Not Applicable

Parameter	Frequency	Sample Type	Units
Total Flow <i>b/ c/</i>	Continuous	Recorder	gpd
Total Residual Chlorine <i>e/</i>	Daily	Grab	mg/L
Total Dissolved Solids	2 x Month	Grab	mg/L
pH	2 x Month	Grab	SU
Dissolved Oxygen	2 x Month	Grab	mg/L

- a/* See Definitions, *Part I.A.*, 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.

2. There shall be no visible sheen or floating solids or visible foam in other than trace amounts.
3. Samples taken in compliance with the monitoring requirements specified above shall be taken at Outfall 001: 40°12'40" N, 111°39'00" W.

II. STORM WATER DISCHARGE REQUIREMENTS

A. Coverage of This Section.

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to storm water discharges from the industrial facility.

a. Site Coverage. This section covers discharges of storm water associated with industrial activity to waters of the State from the confines of the facility listed on the cover page. Specific monitoring requirements have been included and are based on the requirements of the UPDES Multi Sector General Permit for Storm Water Discharges Associated with Industrial Activity, Permit No. UTR000000, Sector C., Storm Water Discharges Associated With Chemical and Allied Products Manufacturing Facilities.

B. Prohibition of Non-Storm Water Discharges.

1. The following non-storm water discharges may be authorized under this permit provided the non-storm water component of the discharge is in compliance with this section; discharges from fire fighting activities; fire hydrant flushing; potable water sources including waterline flushing; drinking fountain water; irrigation drainage and lawn watering; routine external building wash down water where detergents or other compounds have not been used in the process; pavement wash waters where spills or leaks of toxic or hazardous materials (including oils and fuels) have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated compressor condensate; uncontaminated springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents.

C. Storm Water Pollution Prevention Plan Requirements.

1. Contents of the Plan. The plan shall include, at a minimum, the following items:

a. Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the

storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

- b. Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials, which may be reasonably expected to have the potential as a significant pollutant source. Each plan shall include, at a minimum:
- (1) Drainage. A site map indicating drainage areas and storm water outfalls. For each area of the facility that generates storm water discharges associated with the waste water treatment related activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow and an identification of the types of pollutants that are likely to be present in storm water discharges associated with the activity. Factors to consider include the toxicity of the pollutant; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified. The site map shall include but not be limited to:
- (a) Drainage direction and discharge points from all wastewater associated discharges.
- (b) Location of any erosion and sediment control structure or other control measures utilized for reducing pollutants in storm water runoff.
- (c) Location of any handling, loading, unloading or storage of chemicals or potential pollutants such as caustics,

hydraulic fluids, lubricants, solvents or other petroleum products, or hazardous wastes and where these may be exposed to precipitation.

- (d) Locations where any major spills or leaks of toxic or hazardous materials have occurred
 - (e) Location of any sand or salt piles.
 - (f) Location of fueling stations or vehicle and equipment maintenance and cleaning areas that are exposed to precipitation.
 - (g) Location of receiving streams or other surface water bodies.
 - (h) Locations of outfalls and the types of discharges contained in the drainage areas of the outfalls.
- (2) Inventory of Exposed Materials. An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the effective date of this permit; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the effective date of this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.
- (3) Spills and Leaks. A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the effective date of this permit. Such

list shall be updated as appropriate during the term of the permit.

- (4) Sampling Data. A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.
 - (5) Summary of Potential Pollutant Sources and Risk Assessment. A narrative description of the potential pollutant sources from the following activities associated with treatment works: access roads/rail lines; loading and unloading operations; outdoor storage activities; material handling sites; outdoor vehicle storage or maintenance sites; significant dust or particulate generating processes; and onsite waste disposal practices. Specific potential pollutants shall be identified where known.
- c. Measures and Controls. The facility shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:
- (1) Nonstructural Controls
 - (a) Good Housekeeping. All areas that may contribute pollutants to storm waters discharges shall be maintained in a clean, orderly manner. These are practices that would minimize the generation of pollutants at the source or before it would be necessary to employ sediment ponds or other control measures at the discharge outlets. Areas where good housekeeping practices should be implemented are storage areas for raw materials, waste materials and finished products; loading/unloading areas and waste disposal areas for hazardous and non-hazardous wastes. Examples of good housekeeping measures include; sweeping;

labeling drums containing hazardous materials; and preventive monitoring practices or equivalent measures.

- (b) Preventive Maintenance. A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.
- (c) Spill Prevention and Response Procedures. Areas where potential spills that can contribute pollutants to storm water discharges can occur, and their accompanying drainage points, shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures and equipment for cleaning up spills shall be identified in the plan and made available to the appropriate personnel.
- (d) Inspections. In addition to the comprehensive site evaluation required under paragraph D. of this part, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on a periodic basis. The following areas shall be included in all inspections: loading and unloading areas for all significant materials; storage areas, including associated containment areas; waste management units; and vents and stacks from industrial activities. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections.

Records of inspections shall be maintained. The use of a checklist developed by the facility is encouraged.

(e) Employee Training. Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify how often training will take place, but training should be held at least annually (once per calendar year). Employee training must, at a minimum, address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and control; fueling procedures; general good housekeeping practices; proper procedures for using fertilizers, herbicides and pesticides.

(f) Record Keeping and Internal Reporting Procedures. A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(2) Non-storm Water Discharges.

(a) Certification. The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the

site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part V.G. of this permit

- (b) Exceptions. Except for flows from fire fighting activities, sources of non-storm water listed in paragraph B. (Prohibition of Non-storm Water Discharges) of this section that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.
 - (c) Failure to Certify. Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the *Executive Secretary* within 180 days of the effective date of this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the State which are not authorized by a *UPDES* permit are unlawful, and must be terminated.
- (3) Sediment and Erosion Control. The plan shall identify areas, which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative,

and/or stabilization measures to be used to limit erosion.

- (4) Management of Runoff. The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity {see (Description of Potential Pollutant Sources)} shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, wet detention/retention devices and discharging storm water through the waste water facility for treatment.

d. Comprehensive Site Compliance Evaluation.

Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

- (1) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures,

and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

- (2) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph C.1.b. (Description of Potential Pollutant Sources) of this section and pollution prevention measures and controls identified in the plan in accordance with paragraph C.7. (Measures and Controls) of this section shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.
- (3) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph *i.* (above) shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part V.G (Signatory Requirements) of this permit.
- (4) Deadlines for Plan Preparation and Compliance. The facility shall prepare and implement a plan in compliance with the provisions of this section within 270 days of the effective date of this permit.
- (5) Keeping Plans Current. The facility shall amend the plan whenever there is a change in design, construction, operation, or maintenance, that has a significant effect on the potential for the discharge

of pollutants to the waters of the state or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified by the plan, or in otherwise achieving the general objective of controlling pollutants in storm water discharges associated with the activities at the facility.

D. Monitoring and Reporting Requirements

1. Quarterly Visual Examination of Storm Water Quality. The facility shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each of the following designated periods during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event: January through March; April through June; July through September; and October through December.
 - a. Sample and Data Collection. Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.
 - b. Visual Storm Water Discharge Examination Reports. Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious

indicators of storm water pollution), and probable sources of any observed storm water contamination.

- c. Representative Discharge. Based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the observation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.
- d. Adverse Conditions. When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the results of the visual examination. Adverse weather conditions, which may prohibit the collection of samples, include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).
- e. Inactive and Unstaffed Site. When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.
- f. Analytical Monitoring Requirements. During the second

and fourth year of the permit the facility must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) except as provided in paragraphs of this section titled (Sampling Waiver), (Representative Discharge), and (Alternative Certification). The facility is required to monitor their storm water discharges for the pollutants of concern listed in the table below. Facilities must report in accordance with the (Reporting) section. In addition to the parameters listed in the table, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

**Monitoring Requirements for
Industrial Inorganic Chemicals**

Pollutant of Concern	Cut-Off Concentration
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Iron	1.0 mg/L
Nitrate plus Nitrite Nitrogen	0.68 mg/L

- g. Monitoring Periods. The facility shall monitor samples collected during the sampling periods of: January to March, April to June, July to September, and October to December for the years specified in paragraph above.
- h. Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first

30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or non-process water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

i. Sampling Waiver.

- (1) Adverse Conditions. When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).
- (2) Low Concentration Waiver. When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the second year monitoring period is less than the corresponding value for that pollutant listed in the above Table under the column Monitoring Cut-Off Concentration, a facility may waive monitoring and reporting requirements in the fourth year monitoring period. The facility must submit to the *Executive Secretary*, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility which drains to the outfall for which sampling was waived.
- (3) Inactive and Unstaffed Site. When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the

monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the *Executive Secretary*, in lieu of monitoring data, a certification statement on the *SWDMR* stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

E. EPCRA Section 313 Requirements.

1. In areas where Section 313 water priority chemicals are stored, processed or otherwise handled, appropriate containment, drainage control and/or diversionary structures shall be provided. At a minimum, one of the following preventive systems or its equivalent shall be used:

- a. Curbing, culverts, gutters, sewers, or other forms of drainage control to prevent or minimize the potential for storm water run-on to come into contact with significant sources of pollutants; or
- b. Roofs, covers or other forms of appropriate protection to prevent storage piles from exposure to storm water and wind.

2. No tank or container shall be used for the storage of a Section 313 water priority chemical unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature, etc.

Liquid storage areas for Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 chemicals. Appropriate measures to minimize discharges of Section 313 chemicals may include secondary containment provided for at least the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation, a strong spill contingency and integrity testing plan, and/or other equivalent measures.

3. Material storage areas for Section 313 water priority chemicals other than liquids that are subject to runoff, leaching, or wind shall incorporate drainage or other control features that will minimize the discharge of Section 313 water priority chemicals by reducing storm water contact with Section 313 water priority chemicals.

4. Truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 water priority chemicals. Protection

such as overhangs or door skirts to enclose trailer ends at truck loading/unloading docks shall be provided as appropriate. Appropriate measures to minimize discharges of Section 313 chemicals may include: the placement and maintenance of drip pans (including the proper disposal of materials collected in the drip pans) where spillage may occur (such as hose connections, hose reels and filler nozzles) for use when making and breaking hose connections; a strong spill contingency and integrity testing plan; and/or other equivalent measures.

5. Processing equipment and materials handling equipment shall be operated so as to minimize discharges of Section 313 water priority chemicals. Materials used in piping and equipment shall be compatible with the substances handled. Drainage from process and materials handling areas shall minimize storm water contact with Section 313 water priority chemicals. Additional protection such as covers or guards to prevent exposure to wind, spraying or releases from pressure relief vents from causing a discharge of Section 313 water priority chemicals to the drainage system shall be provided as appropriate. Visual inspections or leak tests shall be provided for overhead piping conveying Section 313 water priority chemicals without secondary containment.
6. Drainage from areas covered by paragraphs (1), (2), (3), or (4) of this part (above) should be restrained by valves or other positive means to prevent the discharge of a spill or other excessive leakage of Section 313 water priority chemicals. Where containment units are employed, such units may be emptied by pumps or ejectors; however, these shall be manually activated.

Flapper-type drain valves shall not be used to drain containment areas. Valves used for the drainage of containment areas should, as far as is practical, be of manual, open-and-closed design.

If facility drainage is not engineered as above, the final discharge of all in-facility storm sewers shall be equipped to be equivalent with a diversion system that could, in the event of an uncontrolled spill of Section 313 water priority chemicals, return the spilled material to the facility.

Records shall be kept of the frequency and estimated volume (in gallons) of discharges from containment areas.

7. Other areas of the facility (those not addressed in paragraphs (1), (2), (3), or (4)), from which runoff that may contain Section 313 water priority chemicals or spills of Section 313 water priority

chemicals could cause a discharge shall incorporate the necessary drainage or other control features to prevent discharge of spilled or improperly disposed material and ensure the mitigation of pollutants in runoff or leachate.

8. All areas of the facility shall be inspected at specific intervals identified in the plan for leaks or conditions that could lead to discharges of Section 313 water priority chemicals or direct contact of storm water with raw materials, intermediate materials, waste materials or products. In particular, facility piping, pumps, storage tanks and bins, pressure vessels, process and material handling equipment, and material bulk storage areas shall be examined for any conditions or failures that could cause a discharge. Inspection shall include examination for leaks, wind blowing, corrosion, support or foundation failure, or other forms of deterioration or noncontainment. Inspection intervals shall be specified in the plan and shall be based on design and operational experience. Different areas may require different inspection intervals. Where a leak or other condition is discovered that may result in significant releases of Section 313 water priority chemicals to waters of the State, action to stop the leak or otherwise prevent the significant release of Section 313 water priority chemicals to waters of the State shall be immediately taken or the unit or process shut down until such action can be taken. When a leak or noncontainment of a Section 313 water priority chemical has occurred, contaminated soil, debris, or other material must be promptly removed and disposed in accordance with Federal, State, and local requirements and as described in the plan.
9. Facilities shall have the necessary security systems to prevent accidental or intentional entry that could cause a discharge. Security systems described in the plan shall address fencing, lighting, vehicular traffic control, and securing of equipment and buildings.
10. Facility employees and contractor personnel that work in areas where Section 313 water priority chemicals are used or stored shall be trained in and informed of preventive measures at the facility. Employee training shall be conducted at intervals specified in the plan, but not less than once per year. Training shall address: pollution control laws and regulations, the storm water pollution prevention plan and the particular features of the facility and its operation that are designed to minimize discharges of Section 313 water priority chemicals. The plan shall designate a person who is accountable for spill prevention at the facility and who will set up the necessary spill emergency procedures and reporting

requirements so that spills and emergency releases of Section 313 water priority chemicals can be isolated and contained before a discharge of a Section 313 water priority chemical can occur. Contractor or temporary personnel shall be informed of facility operation and design features in order to prevent discharges or spills from occurring.

III. MONITORING, RECORDING AND 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. Sludge samples shall be collected at a location representative of the quality of sludge 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*, 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. Reporting of Monitoring Results.

Monitoring results obtained during the previous month (quarter) shall be summarized for each month (quarter) and reported on a Discharge Monitoring Report (DMR) Form (EPA No. 3320-1), post-marked no later than the 28th day of the month following the completed reporting period. The first report is due on November 28, 2006. 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 IV.G)*, and submitted to the Director, Division of Water Quality at the following address:

original to: Department of Environmental Quality
Division of Water Quality
288 North 1460 West
PO Box 144870
Salt Lake City, Utah 84114-4870

E. 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.

F. 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* or as otherwise specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.

G. 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.

H. 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 three years from the date of the sample, measurement, report or application. This period may be extended by request of the Executive Secretary at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location.

I. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance which may seriously endanger health or environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 538-6146, or 24 hour answering service (801) 536-4123, and the Director of the Department of Natural Resources.
2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4123 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.*); or,
 - d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.
 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; and,
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
 - e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.
 4. The Executive Secretary 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) 538-6146.
 5. Reports shall be submitted to the addresses in *Part III.D, Reporting of Monitoring Results.*
- J. 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 III.D* are submitted. The reports shall contain the information listed in *Part III.I.3.*

K. Inspection and Entry.

The permittee shall allow the Executive Secretary, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,
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.

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 re-issuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Executive Secretary 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 of the Act is subject to a fine not exceeding \$25,000 per day of violation; Any person convicted under UCA 19-5-115(2) a second time shall be punished by a fine not exceeding \$50,000 per day. Except as provided at Part IV.G, *Bypass of Treatment Facilities* and Part IV.H, *Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.
- C. Need to Halt or Reduce Activity not a Defense.
It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- D. Duty to Mitigate.
The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- 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, sludges, or other pollutants removed in the course of treatment shall be buried or 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 *Part IV.G.2.* and 3.
2. Prohibition of Bypass.
 - a. Bypass is prohibited, and the Executive Secretary 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 *IV.G.3.*
 - b. The executive Secretary may approve an anticipated bypass, after considering its adverse effects, if the Executive Secretary determines that it will meet the three conditions listed in section *IV.G.2a. (1), (2) and (3).*
3. Notice.
 - a. Anticipated bypass. Except as provided above in section *IV.G.2.* and below in section *IV. G. 3.b,* if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass.

The prior notice shall include the following unless otherwise waived by the Executive Secretary:

- (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 Executive Secretary 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 Executive Secretary.
- b. Emergency Bypass. Where ninety days advance notice is not possible, the permittee must notify the Executive Secretary, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Executive Secretary 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 Executive Secretary as required under *Part III.I., Twenty Four Hour Notice of Noncompliance 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 *IV.H.2.* are met. Executive Secretary'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.I, 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.

I. Toxic Pollutants.

The permittee shall comply with effluent standards or prohibitions established under *Section 307(a) of The Water Quality Act of 1987* for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

J. Changes in Discharge of Toxic Substances.

Notification shall be provided to the Executive Secretary as soon as the permittee knows of, or has reason to believe:

1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant

which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- a. One hundred micrograms per liter (100 $\mu\text{g/L}$);
 - b. Two hundred micrograms per liter (200 $\mu\text{g/L}$) for acrolein and acrylonitrile; five hundred micrograms per liter (500 $\mu\text{g/L}$) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with *UAC R317-8-3.4(7)* or (10); or,
 - d. The level established by the Executive Secretary in accordance with *UAC R317-8-4.2(6)*.
2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- a. Five hundred micrograms per liter (500 $\mu\text{g/L}$);
 - b. One milligram per liter (1 mg/L) for antimony;
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with *UAC R317-8-3.4(9)*; or,
 - d. The level established by the Executive Secretary in accordance with *UAC R317-8-4.2(6)*.

K. Industrial Pretreatment.

Any wastewaters discharged to the sanitary sewer, either as a direct discharge or as a hauled waste, are subject to Federal, State and local pretreatment regulations. Pursuant to *Section 307 of The Water Quality Act of 1987*, the permittee shall comply with all applicable federal General Pretreatment Regulations promulgated at *40 CFR 403*, the State Pretreatment Requirements at *UAC R317-8-8*, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the wastewaters.

In addition, in accordance with *40 CFR 403.12(p)(1)*, the permittee must notify the POTW, the EPA Regional Waste Management Director, and the

State hazardous waste authorities, in writing, if they discharge any substance into a POTW which if otherwise disposed of would be considered a hazardous waste under *40 CFR 261*. This notification must include the name of the hazardous waste, the EPA hazardous waste number, and the type of discharge (continuous or batch).

V. GENERAL REQUIREMENTS

- A. Planned Changes.
The permittee shall give notice to the Executive Secretary 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 pollutants discharged. 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 Executive Secretary of any planned changes at least 30 days prior to their implementation.
- B. Anticipated Noncompliance.
The permittee shall give advance notice to the Executive Secretary 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 re-issuance, 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 Executive Secretary, within a reasonable time, any information which the Executive Secretary may request to determine whether cause exists for modifying, revoking and re-issuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Executive Secretary, 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 Executive Secretary, it shall promptly submit such facts or information.

G. Signatory Requirements.

All applications, reports or information submitted to the Executive Secretary 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 Executive Secretary 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 Executive Secretary, and,
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
3. Changes to authorization. If an authorization under paragraph V.G.2 (of this section) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph V.G.2 (of this section) must be submitted to the Executive Secretary 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 Executive Secretary. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential

J. Oil and Hazardous Substance Liability.

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

K. Property Rights.

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

L. Severability.

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

M. Transfers.

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

1. The current permittee notifies the Executive Secretary at least 20 days in advance of the proposed transfer date;
2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,

3. The Executive Secretary 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 (*Part V.M.2*).

N. State 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*.

O. Water Quality Re-opener Provision.

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

1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.
2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.
3. A revision to the current Water Quality Management Plan is approved and adopted which calls for different effluent limitations than contained in this permit.

P. Toxicity Limitation Re-opener Provision.

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

Q. Storm Water Re-opener Provision.

At any time during the duration 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 the State."

**STATEMENT OF BASIS
SBIOMED
UPDES PERMIT NUMBER: UT0025682
MINOR INDUSTRIAL**

FILE COPY

FACILITY CONTACTS

Person Name: Brook Snarr
Chief Financial Officer

Facility Name: sBioMed, LLC
Mailing Address: 1272 South 1380 West
Orem, UT 84058
Telephone: (801) 922-1111

Physical Address: 1775 South East Bay Blvd.
Provo, UT 84606

Standard Industrial
Classification (SIC)
codes: 2842: Specialty Cleaning, Polishing, and Sanitation
Preparation/Disinfectants, Household and Industrial plant

DESCRIPTION OF FACILITY

The property located at 1775 South East Bay Blvd, Provo, Utah will be leased to a tenant who will be manufacturing purified water through a reverse osmosis process. The residual water from this process will be disposed into Millrace Stream, directly across the street from the property. The raw ingredient is culinary water taken directly from the Provo City water system. This culinary water is run through a reverse osmosis water purification machine. For every ten gallons of water received from the culinary system, the machine removes chemicals, minerals, etc. that are present in the culinary water from one of the ten gallons of water, and adds these removed components to the remaining nine gallons of culinary water. The end product is one gallon of purified water which has been cleaned of all the minerals and chemicals originally present in the culinary water. The remaining nine gallons of culinary water, which now carry the additional chemicals and minerals from the one gallon of purified water, is disposed of into the Millrace Stream. No additional contaminants are added to the discharged water beyond what has been described above.

DISCHARGE

DESCRIPTION OF DISCHARGE

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	Located at latitude 40°12'40" and longitude 111°39'00". Discharge is from a gravity flow pipe leading from the facility to the Mill Race Stream, which discharges to Utah Lake.

RECEIVING WATERS AND STREAM CLASSIFICATION

The Mill Race Stream is classified as 2B, 3B, and 4.

- Class 2B -Protected for secondary contact recreation such as boating, wading, or similar uses.
- Class 3B -Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 4 -Protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

In accordance with regulations promulgated in *40 Code of Federal Regulations (CFR) Part 122.44* and in *UAC R317-8-4.2*, effluent limitations are derived from technology-based effluent limitations guidelines, Utah Secondary Treatment Standards (*UAC R317-1-3.2*) or Utah Water Quality Standards (*UAC R317-2*). In cases where multiple limits have been developed, those that are more stringent apply. In cases where no limits have been developed, Best Professional Judgment (BPJ) may be used where applicable.

Effluent limitations are also derived using a wasteload analysis (WLA) (Addendum I). The WLA incorporates Secondary Treatment Standards, Water Quality Standards, and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet Utah Water Quality Standards in the receiving waters. The effluent limitations are described below.

Parameter	Effluent Limitations			
	30 – Day Average	Maximum 7 - Day Average	Daily Minimum	Daily Maximum
Total Residual Chlorine, mg/L	NA	NA	NA	0.028
Total Dissolved Solids, mg/L	NA	NA	NA	1200
pH, Standard Units	NA	NA	6.5	9.0
Dissolved Oxygen, mg/L	NA	NA	4.0	NA

NA – Not Applicable.

The effluent limitations for pH are based on Utah Secondary Treatment Standards. Limitations on total residual chlorine, dissolved oxygen, and total dissolved solids are based on the WLA.

SELF-MONITORING AND REPORTING REQUIREMENTS

The permit will require self-monitoring reports to be submitted monthly on Discharge Monitoring Report (DMR) forms, which will be due 28 days after the end of the monitoring period.

Parameter	Frequency	Sample Type	Units
Total Flow <i>a/ b/</i>	Continuous	Recorder	MGD
Total Residual Chlorine	Daily	Grab	mg/L
Total Dissolved Solids	2 x Month	Grab	mg/L
pH	2 x Month	Grab	SU
Dissolved Oxygen	2 x Month	Grab	mg/L

a/ 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.

b/ If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

STORM WATER REQUIREMENTS

The facility’s SIC code is 2842 for specialty cleaning, polishing, and sanitation preparation/ household and industrial plant disinfectants: Storm water requirements are included in the permit. sBIOMED is required to develop a storm water pollution prevention plan in compliance with the permit conditions.

PRETREATMENT REQUIREMENTS

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*.

BIOMONITORING REQUIREMENTS

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the *State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (Biomonitoring (2/1991))*. Authority to require effluent biomonitoring is provided in *Utah Pollutant Discharge Elimination System UAC R317-8*, and, *Water Quality Standards UAC R317-2*.

SBioMed is a minor facility and its discharges are not likely to be toxic since the facility will be essentially discharging culinary water. Therefore, no whole effluent toxicity testing is required. However, the permit will contain a toxicity limitation-reopener provision if toxicity is believed to be present during the life of the permit.

PERMIT DURATION

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

Drafted by
Matthew Garn
July 10, 2006
Utah Division of Water Quality

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

17-May-06
2:00 PM

Addendum: Statement of Basis

Facilities: sBIOMED
Discharging to: Mill Race

UPDES No: UT- Pending

THIS IS A DRAFT DOCUMENT

I. Introduction

Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses [R317-2-8, UAC]. Projected concentrations are compared to numeric water quality standards to determine acceptability. The anti-degradation policy and procedures are also considered. The primary in-stream parameters of concern may include metals (as a function of hardness), total dissolved solids (TDS), total residual chlorine (TRC), un-ionized ammonia (as a function of pH and temperature, measured and evaluated 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

Mill Race:	2B, 3B, 4
Antidegradation Review:	Antidegradation Level II Review is Required

III. Numeric Stream Standards for Protection of Aquatic Wildlife

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

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**	1.016 lbs/day	750.00	ug/l	8.755 lbs/day
Arsenic	190.00 ug/l	2.218 lbs/day	340.00	ug/l	3.969 lbs/day

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Cadmium	0.60 ug/l	0.007 lbs/day	6.41	ug/l	0.075 lbs/day
Chromium III	209.12 ug/l	2.441 lbs/day	4375.16	ug/l	51.074 lbs/day
ChromiumVI	11.00 ug/l	0.128 lbs/day	16.00	ug/l	0.187 lbs/day
Copper	23.52 ug/l	0.275 lbs/day	38.82	ug/l	0.453 lbs/day
Iron			1000.00	ug/l	11.674 lbs/day
Lead	12.62 ug/l	0.147 lbs/day	323.84	ug/l	3.780 lbs/day
Mercury	0.0120 ug/l	0.000 lbs/day	2.40	ug/l	0.028 lbs/day
Nickel	130.33 ug/l	1.521 lbs/day	1172.23	ug/l	13.684 lbs/day
Selenium	4.60 ug/l	0.054 lbs/day	20.00	ug/l	0.233 lbs/day
Silver	N/A ug/l	N/A lbs/day	24.35	ug/l	0.284 lbs/day
Zinc	299.78 ug/l	3.500 lbs/day	299.78	ug/l	3.500 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 Baseu upon a Hardness of 295.17 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	0.018 lbs/day
Chlordane	0.004 ug/l	0.127 lbs/day	1.200	ug/l	0.014 lbs/day
DDT, DDE	0.001 ug/l	0.029 lbs/day	0.550	ug/l	0.006 lbs/day
Dieldrin	0.002 ug/l	0.056 lbs/day	1.250	ug/l	0.015 lbs/day
Endosulfan	0.056 ug/l	1.650 lbs/day	0.110	ug/l	0.001 lbs/day
Endrin	0.002 ug/l	0.068 lbs/day	0.090	ug/l	0.001 lbs/day
Guthion			0.010	ug/l	0.000 lbs/day
Heptachlor	0.004 ug/l	0.112 lbs/day	0.260	ug/l	0.003 lbs/day
Lindane	0.080 ug/l	2.357 lbs/day	1.000	ug/l	0.012 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	0.412 lbs/day	2.000	ug/l	0.023 lbs/day
Pentachlorophenol	13.00 ug/l	382.989 lbs/day	20.000	ug/l	0.233 lbs/day
Toxephene	0.0002 ug/l	0.006 lbs/day	0.7300	ug/l	0.009 lbs/day

IV. Numeric Stream Standards for Protection of Agriculture

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Arsenic			100.0 ug/l	lbs/day
Boron			750.0 ug/l	lbs/day
Cadmium			10.0 ug/l	0.06 lbs/day
Chromium			100.0 ug/l	lbs/day
Copper			200.0 ug/l	lbs/day
Lead			100.0 ug/l	lbs/day
Selenium			50.0 ug/l	lbs/day
TDS			1200.0 mg/l	7.00 tons/day

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

4 Day Average (Chronic) Standard	1 Hour Average (Acute) Standard
----------------------------------	---------------------------------

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Metals	Concentration	Load*	Concentration	Load*
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
chlorocyclohexane (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

Toxic Organics	Class 1C		Class 3A, 3B	
	[2 Liters/Day for 70 Kg Person over 70 Yr.]		[6.5 g for 70 Kg Person over 70 Yr.]	
Acenaphthene	ug/l	lbs/day	2700.0 ug/l	79.54 lbs/day
Acrolein	ug/l	lbs/day	780.0 ug/l	22.98 lbs/day
Acrylonitrile	ug/l	lbs/day	0.7 ug/l	0.02 lbs/day
Benzene	ug/l	lbs/day	71.0 ug/l	2.09 lbs/day
Benzidine	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Carbon tetrachloride	ug/l	lbs/day	4.4 ug/l	0.13 lbs/day
Chlorobenzene	ug/l	lbs/day	21000.0 ug/l	618.67 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	2.92 lbs/day
1,1,1-Trichloroethane				
Hexachloroethane	ug/l	lbs/day	8.9 ug/l	0.26 lbs/day
1,1-Dichloroethane				
1,1,2-Trichloroethane	ug/l	lbs/day	42.0 ug/l	1.24 lbs/day
1,1,2,2-Tetrachloroethane	ug/l	lbs/day	11.0 ug/l	0.32 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	126.68 lbs/day
2,4,6-Trichlorophenol	ug/l	lbs/day	6.5 ug/l	0.19 lbs/day
p-Chloro-m-cresol			0.0 ug/l	0.00 lbs/day
Chloroform (HM)	ug/l	lbs/day	470.0 ug/l	13.85 lbs/day
2-Chlorophenol	ug/l	lbs/day	400.0 ug/l	11.78 lbs/day
1,2-Dichlorobenzene	ug/l	lbs/day	17000.0 ug/l	500.83 lbs/day

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1,3-Dichlorobenzene	ug/l	lbs/day	2600.0 ug/l	76.60 lbs/day
1,4-Dichlorobenzene	ug/l	lbs/day	2600.0 ug/l	76.60 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-Dichloroethylene1	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dichlorophenol	ug/l	lbs/day	790.0 ug/l	23.27 lbs/day
1,2-Dichloropropane	ug/l	lbs/day	39.0 ug/l	1.15 lbs/day
1,3-Dichloropropylene	ug/l	lbs/day	1700.0 ug/l	50.08 lbs/day
2,4-Dimethylphenol	ug/l	lbs/day	2300.0 ug/l	67.76 lbs/day
2,4-Dinitrotoluene	ug/l	lbs/day	9.1 ug/l	0.27 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	0.02 lbs/day
Ethylbenzene	ug/l	lbs/day	29000.0 ug/l	854.36 lbs/day
Fluoranthene	ug/l	lbs/day	370.0 ug/l	10.90 lbs/day
4-Chlorophenyl phenyl ether				
4-Bromophenyl phenyl ether				
Bis(2-chloroisopropyl) ether	ug/l	lbs/day	170000.0 ug/l	5008.31 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	47.14 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	10.61 lbs/day
Dichlorobromomethane(HM)	ug/l	lbs/day	22.0 ug/l	0.65 lbs/day
Chlorodibromomethane (HM)	ug/l	lbs/day	34.0 ug/l	1.00 lbs/day
Hexachlorobutadiene(c)	ug/l	lbs/day	50.0 ug/l	1.47 lbs/day
Hexachlorocyclopentadiene	ug/l	lbs/day	17000.0 ug/l	500.83 lbs/day
Isophorone	ug/l	lbs/day	600.0 ug/l	17.68 lbs/day
Naphthalene				
Nitrobenzene	ug/l	lbs/day	1900.0 ug/l	55.98 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	412.45 lbs/day
4,6-Dinitro-o-cresol	ug/l	lbs/day	765.0 ug/l	22.54 lbs/day
N-Nitrosodimethylamine	ug/l	lbs/day	8.1 ug/l	0.24 lbs/day
N-Nitrosodiphenylamine	ug/l	lbs/day	16.0 ug/l	0.47 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	0.24 lbs/day
Phenol	ug/l	lbs/day	4.6E+06 ug/l	1.36E+05 lbs/day
Bis(2-ethylhexyl)phthalate	ug/l	lbs/day	5.9 ug/l	0.17 lbs/day
Butyl benzyl phthalate	ug/l	lbs/day	5200.0 ug/l	153.20 lbs/day
Di-n-butyl phthalate	ug/l	lbs/day	12000.0 ug/l	353.53 lbs/day
Di-n-octyl phthlate				
Diethyl phthalate	ug/l	lbs/day	120000.0 ug/l	3535.28 lbs/day
Dimethyl phthlate	ug/l	lbs/day	2.9E+06 ug/l	8.54E+04 lbs/day
Benzo(a)anthracene (PAH)	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 (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(k)fluoranthene (PAH)	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

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Dibenzo(a,h)anthracene (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Pyrene (PAH)	ug/l	lbs/day	11000.0 ug/l	324.07 lbs/day
Tetrachloroethylene	ug/l	lbs/day	8.9 ug/l	0.26 lbs/day
Toluene	ug/l	lbs/day	200000.0 ug/l	5892.13 lbs/day
Trichloroethylene	ug/l	lbs/day	81.0 ug/l	2.39 lbs/day
Vinyl chloride	ug/l	lbs/day	525.0 ug/l	15.47 lbs/day
				lbs/day
Pesticides				
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	0.06 lbs/day
beta-Endosulfan	ug/l	lbs/day	2.0 ug/l	0.06 lbs/day
Endosulfan sulfate	ug/l	lbs/day	2.0 ug/l	0.06 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				
				lbs/day
PCB's				
PCB 1242 (Arochlor 1242)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1254 (Arochlor 1254)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1221 (Arochlor 1221)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1232 (Arochlor 1232)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1248 (Arochlor 1248)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1260 (Arochlor 1260)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1016 (Arochlor 1016)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
				lbs/day
Pesticide				
Toxaphene	ug/l		0.0 ug/l	0.00 lbs/day
				lbs/day
Dioxin				
Dioxin (2,3,7,8-TCDD)	ug/l	lbs/day		
				lbs/day
Metals				
Antimony	ug/l	lbs/day		
Arsenic	ug/l	lbs/day	4300.00 ug/l	126.68 lbs/day
Asbestos	ug/l	lbs/day		
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	ug/l	lbs/day	2.2E+05 ug/l	6481.35 lbs/day
Lead	ug/l	lbs/day		
Mercury			0.15 ug/l	0.00 lbs/day

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Nickel			4600.00 ug/l	135.52 lbs/day
Selenium	ug/l	lbs/day		
Silver	ug/l	lbs/day		
Thallium			6.30 ug/l	0.19 lbs/day
Zinc				

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

VII. Mathematical Modeling of Stream Quality

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

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

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

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

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

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

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

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

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

VIII. Modeling Information

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

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

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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		pH	T-NH3	BOD5	DO	TRC	TDS
	Flow	Temp.						
	cfs	Deg. C		mg/l as N	mg/l	mg/l	mg/l	mg/l
Summer (Irrig. Season)	3.3	21.2	8.2	0.10	0.50	6.75	0.00	500.0
Fall	3.3	12.0	8.1	0.10	0.50	---	0.00	500.0
Winter	3.3	4.9	8.0	0.10	0.50	---	0.00	500.0
Spring	3.3	12.0	8.1	0.10	0.50	---	0.00	500.0
Dissolved Metals	Al	As	Cd	CrIII	CrVI	Copper	Fe	Pb
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
All Seasons	1.59*	0.53*	0.053*	0.53*	2.65*	0.53*	0.83*	0.53*
Dissolved Metals	Hg	Ni	Se	Ag	Zn	Boron		
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		
All Seasons	0.0001	0.53*	1.06*	0.1*	0.053*	10.0		* 1/2 MDL

Projected Discharge Information

Season	Flow, MGD	Temp.	TDS mg/l	TDS tons/day
Summer	1.40000	17.0	500.00	2.91842
Fall	1.40000	12.0		
Winter	1.40000	8.0		
Spring	1.40000	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

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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	1.400 MGD	2.166 cfs
Fall	1.400 MGD	2.166 cfs
Winter	1.400 MGD	2.166 cfs
Spring	1.400 MGD	2.166 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 1.4 MGD. If the discharger is allowed to have a flow greater than 1.4 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 >	EOP Effluent	[Acute]
	IC25 >	39.6% Effluent	[Chronic]

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

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

Season	Concentration	
Summer	25.0 mg/l as BOD5	291.8 lbs/day
Fall	25.0 mg/l as BOD5	291.8 lbs/day
Winter	25.0 mg/l as BOD5	291.8 lbs/day
Spring	25.0 mg/l as BOD6	291.8 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	4.00

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Fall	4.00
Winter	4.00
Spring	4.00

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	3.3 mg/l as N	38.1 lbs/day
	1 Hour Avg. - Acute	14.8 mg/l as N	173.1 lbs/day
Fall	4 Day Avg. - Chronic	5.1 mg/l as N	59.9 lbs/day
	1 Hour Avg. - Acute	17.2 mg/l as N	200.3 lbs/day
Winter	4 Day Avg. - Chronic	5.7 mg/l as N	66.0 lbs/day
	1 Hour Avg. - Acute	19.4 mg/l as N	226.8 lbs/day
Spring	4 Day Avg. - Chronic	5.1 mg/l as N	0.0 lbs/day
	1 Hour Avg. - Acute	17.2 mg/l as N	0.0 lbs/day

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

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	0.028 mg/l	0.32 lbs/day
	1 Hour Avg. - Acute	0.048 mg/l	0.56 lbs/day
Fall	4 Day Avg. - Chronic	0.028 mg/l	0.32 lbs/day
	1 Hour Avg. - Acute	0.048 mg/l	0.56 lbs/day
Winter	4 Day Avg. - Chronic	0.028 mg/l	0.32 lbs/day
	1 Hour Avg. - Acute	0.048 mg/l	0.56 lbs/day
Spring	4 Day Avg. - Chronic	0.028 mg/l	0.00 lbs/day
	1 Hour Avg. - Acute	0.048 mg/l	0.00 lbs/day

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 295.17 mg/l):

4 Day Average		1 Hour Average	
Concentration	Load	Concentration	Load

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Aluminum	N/A	N/A	1,319.6	ug/l	15.4 lbs/day
Arsenic	478.29 ug/l	3.6 lbs/day	598.4	ug/l	7.0 lbs/day
Cadmium	1.40 ug/l	0.0 lbs/day	11.2	ug/l	0.1 lbs/day
Chromium III	526.54 ug/l	4.0 lbs/day	7,707.7	ug/l	90.0 lbs/day
Chromium VI	21.70 ug/l	0.2 lbs/day	25.2	ug/l	0.3 lbs/day
Copper	58.16 ug/l	0.4 lbs/day	67.8	ug/l	0.8 lbs/day
Iron	N/A	N/A	1,760.9	ug/l	20.6 lbs/day
Lead	30.64 ug/l	0.2 lbs/day	569.9	ug/l	6.7 lbs/day
Mercury	0.03 ug/l	0.0 lbs/day	4.2	ug/l	0.0 lbs/day
Nickel	327.70 ug/l	2.5 lbs/day	2,064.7	ug/l	24.1 lbs/day
Selenium	9.19 ug/l	0.1 lbs/day	34.0	ug/l	0.4 lbs/day
Silver	N/A ug/l	N/A lbs/day	42.9	ug/l	0.5 lbs/day
Zinc	756.44 ug/l	5.7 lbs/day	528.1	ug/l	6.2 lbs/day
Cyanide	13.12 ug/l	0.1 lbs/day	38.8	ug/l	0.5 lbs/day
TDS		Irrigation Season	2,266.6	mg/l	8.6 tons/day
		Non-Irrigation Season	4,285.5	mg/l	16.2 tons/day
		Salinity Forum Limitation (If Applicable):	171.3	mg/l	1.0 ton/day

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

Summer	31.3 Deg. C.	88.3 Deg. F
Fall	22.1 Deg. C.	71.8 Deg. F
Winter	15.0 Deg. C.	59.0 Deg. F
Spring	22.1 Deg. C.	71.8 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	2.71E-02 lbs/day
Chlordane	4.30E-03 ug/l	5.02E-02 lbs/day	1.2E+00	ug/l	2.17E-02 lbs/day
DDT, DDE	1.00E-03 ug/l	1.17E-02 lbs/day	5.5E-01	ug/l	9.93E-03 lbs/day
Dieldrin	1.90E-03 ug/l	2.22E-02 lbs/day	1.3E+00	ug/l	2.26E-02 lbs/day
Endosulfan	5.60E-02 ug/l	6.54E-01 lbs/day	1.1E-01	ug/l	1.99E-03 lbs/day
Endrin	2.30E-03 ug/l	2.68E-02 lbs/day	9.0E-02	ug/l	1.63E-03 lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	1.81E-04 lbs/day
Heptachlor	3.80E-03 ug/l	4.44E-02 lbs/day	2.6E-01	ug/l	4.70E-03 lbs/day
Lindane	8.00E-02 ug/l	9.34E-01 lbs/day	1.0E+00	ug/l	1.81E-02 lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02	ug/l	5.42E-04 lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	1.81E-04 lbs/day
Parathion	0.00E+00 ug/l	0.00E+00 lbs/day	4.0E-02	ug/l	7.22E-04 lbs/day

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PCB's	1.40E-02 ug/l	1.63E-01 lbs/day	2.0E+00	ug/l	3.61E-02 lbs/day
Pentachlorophenol	1.30E+01 ug/l	1.52E+02 lbs/day	2.0E+01	ug/l	3.61E-01 lbs/day
Toxephene	2.00E-04 ug/l	2.33E-03 lbs/day	7.3E-01	ug/l	1.32E-02 lbs/day

**Effluent Targets for Pollution Indicators
Based upon Water Quality Standards**

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

	1 Hour Average	
	Concentration	Loading
Gross Beta (pCi/l)	50.0 pCi/L	
BOD (mg/l)	5.0 mg/l	58.4 lbs/day
Nitrates as N	4.0 mg/l	46.7 lbs/day
Total Phosphorus as P	0.05 mg/l	0.6 lbs/day
Total Suspended Solids	90.0 mg/l	1050.6 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	6.81E+03 ug/l	7.95E+01 lbs/day
Acrolein	1.97E+03 ug/l	2.30E+01 lbs/day
Acrylonitrile	1.67E+00 ug/l	1.94E-02 lbs/day
Benzene	1.79E+02 ug/l	2.09E+00 lbs/day
Benzidine	ug/l	lbs/day
Carbon tetrachloride	1.11E+01 ug/l	1.30E-01 lbs/day
Chlorobenzene	5.30E+04 ug/l	6.19E+02 lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	1.94E-03 ug/l	2.27E-05 lbs/day
1,2-Dichloroethane	2.50E+02 ug/l	2.92E+00 lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	2.25E+01 ug/l	2.62E-01 lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	1.06E+02 ug/l	1.24E+00 lbs/day
1,1,2,2-Tetrachloroethane	2.78E+01 ug/l	3.24E-01 lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	3.53E+00 ug/l	4.12E-02 lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	1.09E+04 ug/l	1.27E+02 lbs/day
2,4,6-Trichlorophenol	1.64E+01 ug/l	1.91E-01 lbs/day

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p-Chloro-m-cresol		
Chloroform (HM)	1.19E+03 ug/l	1.38E+01 lbs/day
2-Chlorophenol	1.01E+03 ug/l	1.18E+01 lbs/day
1,2-Dichlorobenzene	4.29E+04 ug/l	5.01E+02 lbs/day
1,3-Dichlorobenzene	6.56E+03 ug/l	7.66E+01 lbs/day
1,4-Dichlorobenzene	6.56E+03 ug/l	7.66E+01 lbs/day
3,3'-Dichlorobenzidine	1.94E-01 ug/l	2.27E-03 lbs/day
1,1-Dichloroethylene	8.08E+00 ug/l	9.43E-02 lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	1.99E+03 ug/l	2.33E+01 lbs/day
1,2-Dichloropropane	9.84E+01 ug/l	1.15E+00 lbs/day
1,3-Dichloropropylene	4.29E+03 ug/l	5.01E+01 lbs/day
2,4-Dimethylphenol	5.80E+03 ug/l	6.78E+01 lbs/day
2,4-Dinitrotoluene	2.30E+01 ug/l	2.68E-01 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	1.36E+00 ug/l	1.59E-02 lbs/day
Ethylbenzene	7.32E+04 ug/l	8.54E+02 lbs/day
Fluoranthene	9.34E+02 ug/l	1.09E+01 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	4.29E+05 ug/l	5.01E+03 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	4.04E+03 ug/l	4.71E+01 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	9.09E+02 ug/l	1.06E+01 lbs/day
Dichlorobromomethane(HM)	5.55E+01 ug/l	6.48E-01 lbs/day
Chlorodibromomethane (HM)	8.58E+01 ug/l	1.00E+00 lbs/day
Hexachlorocyclopentadiene	4.29E+04 ug/l	5.01E+02 lbs/day
Isophorone	1.51E+03 ug/l	1.77E+01 lbs/day
Naphthalene		
Nitrobenzene	4.80E+03 ug/l	5.60E+01 lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	3.53E+04 ug/l	4.12E+02 lbs/day
4,6-Dinitro-o-cresol	1.93E+03 ug/l	2.25E+01 lbs/day
N-Nitrosodimethylamine	2.04E+01 ug/l	2.39E-01 lbs/day
N-Nitrosodiphenylamine	4.04E+01 ug/l	4.71E-01 lbs/day
N-Nitrosodi-n-propylamine	3.53E+00 ug/l	4.12E-02 lbs/day
Pentachlorophenol	2.07E+01 ug/l	2.42E-01 lbs/day
Phenol	1.16E+07 ug/l	1.36E+05 lbs/day
Bis(2-ethylhexyl)phthalate	1.49E+01 ug/l	1.74E-01 lbs/day
Butyl benzyl phthalate	1.31E+04 ug/l	1.53E+02 lbs/day
Di-n-butyl phthalate	3.03E+04 ug/l	3.54E+02 lbs/day
Di-n-octyl phthlate		
Diethyl phthalate	3.03E+05 ug/l	3.54E+03 lbs/day
Dimethyl phthlate	7.32E+06 ug/l	8.54E+04 lbs/day
Benzo(a)anthracene (PAH)	7.82E-02 ug/l	9.13E-04 lbs/day
Benzo(a)pyrene (PAH)	7.82E-02 ug/l	9.13E-04 lbs/day
Benzo(b)fluoranthene (PAH)	7.82E-02 ug/l	9.13E-04 lbs/day
Benzo(k)fluoranthene (PAH)	7.82E-02 ug/l	9.13E-04 lbs/day

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Chrysene (PAH)	7.82E-02 ug/l	9.13E-04 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	7.82E-02 ug/l	9.13E-04 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	7.82E-02 ug/l	9.13E-04 lbs/day
Pyrene (PAH)	2.78E+04 ug/l	3.24E+02 lbs/day
Tetrachloroethylene	2.25E+01 ug/l	2.62E-01 lbs/day
Toluene	5.05E+05 ug/l	5.89E+03 lbs/day
Trichloroethylene	2.04E+02 ug/l	2.39E+00 lbs/day
Vinyl chloride	1.32E+03 ug/l	1.55E+01 lbs/day

Pesticides

Aldrin	3.53E-04 ug/l	4.12E-06 lbs/day
Dieldrin	3.53E-04 ug/l	4.12E-06 lbs/day
Chlordane	1.49E-03 ug/l	1.74E-05 lbs/day
4,4'-DDT	1.49E-03 ug/l	1.74E-05 lbs/day
4,4'-DDE	1.49E-03 ug/l	1.74E-05 lbs/day
4,4'-DDD	2.12E-03 ug/l	2.47E-05 lbs/day
alpha-Endosulfan	5.89E+00 ug/l	5.89E-02 lbs/day
beta-Endosulfan	5.89E+00 ug/l	5.89E-02 lbs/day
Endosulfan sulfate	5.89E+00 ug/l	5.89E-02 lbs/day
Endosulfan	2.04E+00 ug/l	2.39E-02 lbs/day
Endrin aldehyde	2.04E+00 ug/l	2.39E-02 lbs/day
Heptachlor	5.30E-04 ug/l	6.19E-06 lbs/day
Heptachlor epoxide		

PCB's

PCB 1242 (Arochlor 1242)	1.14E-04 ug/l	1.33E-06 lbs/day
PCB-1254 (Arochlor 1254)	1.14E-04 ug/l	1.33E-06 lbs/day
PCB-1221 (Arochlor 1221)	1.14E-04 ug/l	1.33E-06 lbs/day
PCB-1232 (Arochlor 1232)	1.14E-04 ug/l	1.33E-06 lbs/day
PCB-1248 (Arochlor 1248)	1.14E-04 ug/l	1.33E-06 lbs/day
PCB-1260 (Arochlor 1260)	1.14E-04 ug/l	1.33E-06 lbs/day
PCB-1016 (Arochlor 1016)	1.14E-04 ug/l	1.33E-06 lbs/day

Pesticide

Toxaphene	1.89E-03 ug/l	2.21E-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

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Selenium		
Silver		
Thallium	ug/l	lbs/day
Zinc		
Dioxin		
Dioxin (2,3,7,8-TCDD)	3.53E-08 ug/l	4.12E-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		1319.6				1319.6	N/A
Antimony				10851.9		10851.9	
Arsenic	252.4	598.4			0.0	252.4	478.3
Barium						0.0	
Beryllium						0.0	
Cadmium	25.1	11.2			0.0	11.2	1.4
Chromium (III)		7707.7			0.0	7707.7	526.5
Chromium (VI)	251.2	25.2			0.0	25.16	21.70
Copper	503.5	67.8				67.8	58.2
Cyanide		38.8	555211.0			38.8	13.1
Iron		1760.9				1760.9	
Lead	251.2	569.9			0.0	251.2	30.6
Mercury		4.23		0.38	0.0	0.38	0.030
Nickel		2064.7		11609.0		2064.7	327.7
Selenium	123.8	34.0			0.0	34.0	9.2
Silver		42.9			0.0	42.9	
Thallium				15.9		15.9	
Zinc		528.1				528.1	756.4
Boron	1892.8					1892.8	

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	1319.6	N/A	
Antimony	10851.85		
Arsenic	252.4	478.3	Acute Controls
Asbestos	0.00E+00		
Barium			

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Beryllium			
Cadmium	11.2	1.4	
Chromium (III)	7707.7	527	
Chromium (VI)	25.2	21.7	
Copper	67.8	58.2	
Cyanide	38.8	13.1	
Iron	1760.9		
Lead	251.2	30.6	
Mercury	0.379	0.030	
Nickel	2064.7	328	
Selenium	34.0	9.2	
Silver	42.9	N/A	
Thallium	15.9		
Zinc	528.1	756.4	Acute Controls
Boron	1892.76		

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.

The antidegradation rules and procedures allow for modification of effluent limits less than those based strictly upon mass balance equations utilizing 100% of the assimilative capacity of the receiving water. Additional factors include considerations for "Blue-ribbon" fisheries, special recreational areas, threatened and endangered species, and drinking water sources.

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that an

Antidegradation Level II Review is Required

XI. Colorado River Salinity Forum Considerations

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

XII. Summary Comments

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

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XIII. Notice of UPDES Requirement

This Addendum to the Statement of Basis does not authorize any entity or party to discharge to the waters of the State of Utah. That authority is granted through a UPDES permit issued by the Utah Division of Water Quality. The numbers presented here may be changed as a function of other factors. Dischargers are strongly urged to contact the Permits Section for further information. Permit writers may utilize other information to adjust these limits and/or to determine other limits based upon best available technology and other considerations provided that the values in this wasteload analysis (TMDL) are not compromised. See special provisions in Utah Water Quality Standards for adjustments in the Total Dissolved Solids values based upon background concentration.

XIV. Special Considerations

TMDL Issues and Calculations may adjust these values as appropriate. See TMDL Section of DWQ.

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Utah Division of Water Quality
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File Name: sBIOMED 17 May 2006

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APPENDIX - Coefficients and Other Model Information

Used in Calc.				Used in Calc.					
CBOD	CBOD	CBOD	REAER.	REAER.	REAER.	NBOD	NBOD		
Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.		
(Kd)20	FORCED	(Ka)T	(Ka)20	FORCED	(Ka)T	(Kn)20	(Kn)T		
1/day	(Kd)/day	1/day	(Ka)/day	1/day	1/day	1/day	1/day		
2.000	0.000	2.113	42.076	0.000	43.291	0.400	0.439		
Open	Open	NH3	NH3	NO2+NO3	NO2+NO3	TRC	TRC		
Coeff.	Coeff.	LOSS	LOSS	LOSS	LOSS	Decay	Decay		
(K4)20	(K4)T	(K5)20	(K5)T	(K6)20	(K6)T	K(Cl)20	K(Cl)(T)		
1/day	1/day	1/day	1/day	1/day	1/day	1/day	1/day		
0.000	0.000	4.000	4.227	0.000	0.000	32.000	34.318		
BENTHIC	BENTHIC								
DEMAND	DEMAND								
(SOD)20	(SOD)T								
gm/m2/day	gm/m2/day								
1.000	1.078								
K1	K2	K3	K4	K5	K6	K(Cl)	S		
CBOD	Reaer.	NH3	Open	NH3 Loss	NO2+3	TRC	Benthic		
{theta}	{theta}	{theta}	{theta}	{theta}	{theta}	{theta}	{theta}		
1.0	1.0	1.1	1.0	1.0	1.0	1.1	1.1		

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Level I Antidegradation Review for: sBIOMED

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Major Parameter of concern:	TDS	
WQ Standard	1200.0	mg/l
Current Stream Conditions Above Discharge		
Flow, Average	8.4	cfs
Concentration	500.0	mg/l
Loading	4116.7	tons/year
Flow, 7Q10	3.3	cfs
Concentration	500.0	mg/l
Loading	1623.1	
Remaining Assimilative Conc. Capacity @ 7Q10		
Concentration	700.0	mg/l
Loading	2272.3	tons/year
Percentage	58.3%	
Current Discharge Conditions		
Flow	0.0	MGD
Concentration	500.0	mg/l
Loading	0.1	tons/year
Projected Discharge Conditions		
Flow	1.4	MGD
Concentration	500.0	mg/l
Loading	1065.2	tons/year
Current Stream Conditions Below Discharge		
Flow @ 7Q10	3.3	cfs
Concentration	500.0	mg/l
Loading	1623.1	tons/year
Projected Stream Conditions Below Discharge		
Flow @ 7Q10	5.5	cfs
Concentration	500.0	mg/l
Loading	2688.3	tons/year
Proposed Discharge Conc. <= Current.	No	
Discharge limits are from a TMDL.	No	
Impacts to stream are temporary.	No	See 317-2-3.4(a-e)
Impacts are related to sediments only.	No	
Fish spawning will be impaired.	No	
Current asimilative capacity @ 100%	No	
Classification excludes 3A or 3B	No	
Considered as "poor quality" [DNR]	No	
Water body listed on 303(d) list	No	
Existing stream WQ > standard	No	
Water Quality Impacts are minor		
Increase in project loading < 20%	No	1399900.0%
Increase in Pollutant loading		
is < 20% over [avg] background	No	25.9%
Small Discharge Volume		

