State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF WATER QUALITY
Erica Brown Gaddis, PhD
Director

April 16, 2019

Mr. Ken Fleck, Manager
Geology and Environmental Affairs
PacifiCorp - Interwest Mining Company
PO Box 310
15 North Main Street
Huntington, UT 84528
VIA EMAIL

Subject: Re-issuance of UPDES Permit No. **UT0022896**
Cottonwood/Wilberg Mine

Dear Mr. Fleck:

Enclosed for your records is a signed copy of the UPDES Renewal Permit No. UT0022896, as well as the updated Fact Sheet Statement of Basis and Waste Load Analysis, for the facility referenced above. There were no comments received during the 30-day public comment period, which ended on April 4, 2019. Therefore the permit has be re-issued as drafted and is effective starting May 1, 2019 subject to the right to appeal in accordance with the provisions of *Utah Administrative Code, Section R317-9.*

Thank you for your continued efforts regarding your permit renewal and in helping to protect Utah's Water Quality. If you have any questions with regards to this matter, please contact Jeff Studenka at jstudenka@utah.gov or at (801) 536-4395.

Sincerely,

Matthew Garn, P.E., Manager
UPDES Surface Water Section

MG/JAS/blj

Enclosures (3):

1. Signed Renewal Permit (DWQ-2018-013496)
2. Fact Sheet Statement of Basis (DWQ-2018-013495)
3. Waste Load Analysis (DWQ-2019-001562)

Cc: Via Email w/Enclosures

Amy Clark, U.S. EPA Region VIII
Orion Rogers, Southeast Utah Health Department
Scott Hacking, DEQ District Engineer
Steve Christensen, DOGM
Chris Cline, U.S. Fish & Wildlife Services

Via Email w/out Enclosures

Mike Fowlks, Utah Division of Wildlife Resources
Jason Gipson, Chief, Utah Regulatory Office, U.S. Corps of Engineers

DWQ-2019-003564

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

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMITS

Minor Industrial Permit No. **UT0022896**

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

PACIFICORP INTERWEST MINING COMPANY - COTTONWOOD/WILBERG MINE

is hereby authorized to discharge from its facility to receiving waters named **Cottonwood Canyon Creek** (tributary to Cottonwood Creek within the Colorado River Basin),

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

This permit shall become effective on May 1, 2019

This permit expires at midnight on April 30, 2024.

Signed this 16th day of April, 2019.

Erica Brown Gaddis, PhD
Director

DWQ-2018-013496

Table of Contents

Outline — Page Number

I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS 1
A. Description of Discharge Points 1
B. Narrative Standard 1
C. Specific Limitations and Self-Monitoring Requirements 1
D. Reporting of Monitoring Results 2
IV. STORM WATER REQUIREMENTS 3
A. Coverage of This Section 3
B. Prohibition of Non-Storm Water Discharges 3
C. Storm Water Pollution Prevention Plan Requirements 3
V. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS 13
A. Representative Sampling 13
B. Monitoring Procedures 13
C. Penalties for Tampering 13
D. Compliance Schedules 13
E. Additional Monitoring by the Permittee 13
F. Records Contents 13
G. Retention of Records 13
H. Twenty-four Hour Notice of Noncompliance Reporting 13
I. Other Noncompliance Reporting 14
J. Inspection and Entry 14
VI. COMPLIANCE RESPONSIBILITIES 16
A. Duty to Comply 16
B. Penalties for Violations of Permit Conditions 16
C. Need to Halt or Reduce Activity not a Defense 16
D. Duty to Mitigate 16
E. Proper Operation and Maintenance 16
F. Removed Substances 16
G. Bypass of Treatment Facilities 16
H. Upset Conditions 18
I. Toxic Pollutants 18
J. Changes in Discharge of Toxic Substances 18
K. Industrial Pretreatment 19
VII. GENERAL REQUIREMENTS 20
A. Planned Changes 20
B. Anticipated Noncompliance 20
C. Permit Actions 20
D. Duty to Reapply 20
E. Duty to Provide Information 20
F. Other Information 20
G. Signatory Requirements 20
H. Penalties for Falsification of Reports 21
I. Availability of Reports 21
J. Oil and Hazardous Substance Liability 21
K. Property Rights 21
L. Severability 21
M. Transfers 21
N. State or Federal Laws 22
O. Water Quality - Reopener Provision 22
Q. Toxicity Limitation - Reopener Provision 22

R. Storm Water-Reopener Provision 22
VIII. DEFINITIONS 23
A. Wastewater 23
C. Storm Water 24

I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS

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

Outfall Number	Location of Discharge Outfall
001	Located at latitude 39°19'03" and longitude 111°11'22". Continuous groundwater discharge from reclaimed mine site to culvert in Cottonwood Canyon Creek drainage.

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

C. Specific Limitations and Self-Monitoring Requirements.

1. Effective immediately and lasting the duration of this permit, 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 *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow, MGD	0.54	--	--	--	--
TSS, mg/L	20	30	--	--	--
Total Iron, mg/L	--	--	--	--	1.0
TDS, mg/L	1136	--	--	--	Report
TDS, lbs/day *b	--	--	--	--	2000
pH, Standard Units	--	--	--	6.5	9
Oil & Grease, mg/L *c	--	--	--	--	10.0

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow	Monthly	Measured	MGD
TSS	Monthly	Grab	mg/L
Total Iron	Monthly	Grab	mg/L
TDS	Monthly	Grab	mg/L
TDS *b	Monthly	Grab	lbs/day
pH	Monthly	Grab	SU
Oil & Grease *c	Monthly	Visual/Grab	mg/L

*a See Definitions, *Part VI*, for definition of terms.

*b No lbs/tons per day loading limit will be applied at a specific Outfall if the concentration of TDS in the discharge is equal to or less than 500 mg/L as a thirty-day average. However, if the thirty-day average TDS concentration exceeds 500 mg/L at any Outfall, then the permittee cannot discharge more than 1 ton per day (or 366 tons per year) as a sum from all discharge points exceeding 500 mg/L as a thirty-day average. If the permittee cannot achieve one ton per day (or 366 tons per year) as a sum from all applicable Outfalls, the permittee will be required to account for the excess salinity/TDS tonnage by developing a treatment process, participating in a salinity off-set program, or other type of mechanism to remove or offset the excess salinity/TDS. The selection of a salinity control program, or other type of treatment process, must be approved by the Director of the Division of Water Quality.

*c Oil & Grease shall be sampled when sheen is present or observed. If no sheen is present or visible, then report NA. In addition to monthly monitoring for oil and grease, a visual inspection for floating solids and visible foam shall be performed monthly at all Outfalls. There shall be no sheen, floating solids, or visible foam in other than trace amounts.

2. Samples collected in compliance with the monitoring requirements specified above shall be collected at outfall 001 prior to mixing with the receiving water.

D. Reporting of Monitoring Results.

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

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

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

II. STORM WATER REQUIREMENTS.

A. Coverage of This Section. The requirements listed under this section shall apply to storm water discharges from the industrial facility.

1. 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.Storm water discharges from the following portions of coal mines may be eligible: haul roads (nonpublic roads on which coal or coal refuse is conveyed), access roads (nonpublic roads providing light vehicular traffic within the facility property and to public roadways), railroad spurs, siding, and internal haulage lines (rail lines used for hauling coal within the facility property and to offsite commercial railroad lines or loading areas), conveyor belts, chutes, and aerial tramway haulage areas (areas under and around coal or refuse conveyor areas, including transfer stations, equipment storage and maintenance yards, coal handling buildings and structures, and inactive coal mines and related areas (abandoned and other inactive mines, refuse disposal sites and other mining-related areas on private land).

B. Prohibition of Non-Storm Water Discharges. Except for discharges identified in *Part I.*, and discharges described below in this paragraph, non-storm water discharges are prohibited. 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 firefighting 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. The permittee must have (on site) and implement a storm water pollution prevention plan as a condition of this permit.

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, such as a drainage map required for *Surface Mining Control and Reclamation* Act (SMCRA) permit applications, which indicate drainage areas and storm water outfalls. These shall include but not be limited to the following:

(a) Drainage direction and discharge points from all areas applicable mining related areas as described in II.A.1 (Site Coverage) above, including culvert and sump discharges from roads and rail beds and also from equipment and maintenance areas subject to storm water runoff of fuel, lubricants and other potentially harmful liquids.

(b) Location of any erosion and sediment control structure or other control measures utilized for reducing pollutants in storm water runoff.

(c) Receiving streams or other surface bodies.

(d) Locations exposed to precipitation that contain acidic spoil, refuse or unreclaimed disturbed areas.

(e) Locations where any major spills or leaks of toxic or hazardous materials have occurred.

(f) Locations where liquid storage tanks containing potential pollutants, such as caustics, hydraulic fluids and lubricants, are exposed to precipitation

(g) Location of fueling stations or vehicle and equipment maintenance and cleaning areas that are exposed to precipitation.

(h) Locations of outfalls and the types of discharges contained in the drainage areas of the outfalls.

(i) For each area of the facility that generates storm water discharges associated with mining-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.

(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 and the present; 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: truck and traffic on haul roads and resulting generation of sediment subject to runoff and dust generation; fuel or other liquid storage pressure lines containing slurry, hydraulic fluid or other potential harmful liquids; and loading or temporary storage of acidic refuse or spoil. Specific potential pollutants shall be identified where known.

c. *Measures and Controls.* The permittee 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) *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. Where applicable, such measures or other equivalent measures would include the following: sweepers and covered storage to minimize dust generation and storm runoff; conservation of vegetation where possible to minimize erosion; watering of haul roads to minimize dust generation; collection, removal, and proper disposal of waste oils and other fluids resulting from vehicle and equipment maintenance; or other equivalent measures to address identified potential sources of pollution.

(2) *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. Where applicable, such measures would include the following: removal and proper disposal of settled solids in catch basins to allow sufficient retention capacity; periodic replacement of siltation control measures subject to deterioration such as straw bales; inspection of storage tanks and pressure lines for fuels, lubricants, hydraulic fluid or slurry to prevent leaks due to deterioration or faulty connections; or equivalent measures.

(3) *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.

(4) *Inspections*. In addition to the comprehensive site evaluation required under paragraph (*Part II.C.1.c.(10)*) of this section, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. The following shall be included in the plan:

(a) *Active Mining-Related Areas and Those Inactive Areas Under SMCRA Bond Authority*. The plan shall require quarterly inspections by the facility personnel for areas of the facility covered by pollution prevention plan requirements. This inspection interval corresponds with the quarterly inspections for the entire facility required to be provided by *SMCRA* authority inspectors for all mining-related areas under *SMCRA* authority, including sediment and erosion control measures. Inspections by the facility representative may be done at the same time as the mandatory inspections performed by *SMCRA* inspectors. Records of inspections of the *SMCRA* authority facility representative shall be maintained.

(b) *Inactive Mining-Related Areas Not Under SMCRA Bond*. The plan shall require annual inspections by the facility representative except in situations referred to in paragraph II.C.1.c.(10), below.

(5) *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 periodic dates for such training.

(6) *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.

(7) *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 VII.G* of this permit.

(b) *Exceptions*. Except for flows from fire fighting activities, sources of non-storm water listed in *Part II.B.* (Prohibition of Non-storm Water

Discharges) of this permit 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 *Director* within 180 days after 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.

(8) *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. SMCRA requirements regarding sediment and erosion control measures are primary requirements of the pollution prevention plan for mining-related areas subject to SMCRA authority. The following sediment and erosion control measures or other equivalent measures, should be included in the plan where reasonable and appropriate for all areas subject to storm water runoff:

(a) Stabilization Measures. Interim and permanent stabilization measures to minimize erosion and lessen amount of structural sediment control measures needed, including: mature vegetation preservation; temporary seeding; permanent seeding and planting; temporary mulching, matting, and netting; sod stabilization; vegetative buffer strips; temporary chemical mulch, soil binders, and soil palliatives; non-acidic road surfacing material; and protective trees.

(b) Structural Measures. Structural measures to lessen erosion and reduce sediment discharges, including: silt fences; earth dikes; straw dikes; gradient terraces; drainage swales; sediment traps; pipe slope drains; porous rock check dams; sedimentation ponds; riprap channel protection; capping of contaminated sources; and physical/chemical treatment of storm water.

(9) *Management of Runoff.* The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (other than those as sediment and erosion control measures listed above) used to manage storm water runoff in a manner that reduces pollutants in storm water runoff from the site. The plan shall provide that the measures, which the permittee determines to be reasonable and appropriate, shall be implemented and maintained. Appropriate measures may include: discharge diversions; drainage/storm water conveyances; runoff dispersion; sediment control and collection; vegetation/soil stabilization; capping of contaminated sources; treatment; or other equivalent measures.

(10) *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:

(a) 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.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with *Part II.C.1.b* (Description of Potential Pollutant Sources) of this section and pollution prevention measures and controls identified in the plan in accordance with *Part II.C.1.c.* (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.

(c) 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 *(b)* (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 VII.G* (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under *Part II.C.1.c.(4)*, the compliance evaluation may be conducted in place of one such inspection. Where annual site compliance evaluations are shown in the plan to be impractical for inactive mining sites due to the remote location and inaccessibility of the site, site inspections required under this part shall be conducted at appropriate intervals specified in the plan, but, in no case less than once in 3 years.

(11) *Deadlines for Plan Preparation and Compliance.* The permittee shall prepare and implement a plan in compliance with the provisions of this section within 270 days of the effective date of this permit. If the permittee already has a plan, it shall be revised according to *Part II.C.1.c.(10)*, Comprehensive Site Evaluation.

(12) *Keeping Plans Current.* The permittee 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. Coal mining-related facilities shall perform and document a visual examination of a representative storm water discharge at the following frequencies: quarterly for active areas under *SMCRA* bond located in areas with average annual precipitation over 20 inches; semi-annually for inactive areas under *SMCRA* bond, and active areas under *SMCRA* bond located in areas with average annual precipitation of 20 inches or less; visual examinations are not required at inactive areas not under *SMCRA* bond.

   a. Visual Monitoring Periods. Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water runoff or snow melt: Quarterly-January through March; April through June; July through September; and October through December. Semi-annually—January through June and July through December.

   b. 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.

   c. 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.

   d. Representative Discharge. If the permittee reasonably believes multiple outfalls discharge substantially identical effluents, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by an outfall, the permittee may collect a sample of effluent from one such outfall 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.

e. 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.).

f. 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 un-staffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and un-staffed so that performing visual examinations during a qualifying event is not feasible.

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, culverting, 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 *Parts II.E. 1*, *2*, *3*, or *4* 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 *Parts II.E. 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 non-containment. 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 non-containment 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 & GENERAL REPORTING REQUIREMENTS

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

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

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

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

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

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

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

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

H. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites which may seriously endanger health or environment, as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 536-4300, or 24-hour answering service (801) 536-4123.

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

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

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

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

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

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

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

   a. A description of the noncompliance and its cause;

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

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

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

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

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

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

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

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

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

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

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

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

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

IV. COMPLIANCE RESPONSIBILITIES

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

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

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

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

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

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

G. Bypass of Treatment Facilities.

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

2. Prohibition of Bypass.

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

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

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

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

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

3. Notice.

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

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

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

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

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

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

(6) Any additional information requested by the Director.

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

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

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

H. Upset Conditions.

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

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

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

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

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

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

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

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 Director 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 ug/L);

   b. Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/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 Director 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 ug/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 Director 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 Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of parameters discharged or pollutant sold or given away. This notification applies to pollutants, which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the Director of any planned changes at least 30 days prior to their implementation.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Q. Storm Water-Reopener Provision. At any time during the duration (life) of this permit, this permit may be reopened and modified (following proper administrative procedures) as per *UAC R317.8*, to include, any applicable storm water provisions and requirements, a storm water pollution prevention plan, a compliance schedule, a compliance date, monitoring and/or reporting requirements, or any other conditions related to the control of storm water discharges to "waters-of-State".

VI. DEFINITIONS

A. Wastewater.

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

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

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

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

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

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

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

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

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

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

11. "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.

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

B. Storm Water.

1. "Best Management Practices" ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

2. "Coal pile runoff" means the rainfall runoff from or through any coal storage pile.

3. "NOI" means "notice of intent", it is an application form that is used to obtain coverage under the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity.

4. "NOT" means "notice of termination", it is a form used to terminate coverage under the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity.

5. "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 agricultural storm water runoff.

6. "Section 313 water priority chemical" means a chemical or chemical categories that:

   a. Are listed at *40 CFR 372.65* pursuant to *Section 313* of the *Emergency Planning and Community Right-to-Know Act* (*EPCRA*) (also known as *Title III of the Superfund Amendments and Reauthorization Act* (*SARA*) of 1986);

   b. Are present at or above threshold levels at a facility subject to *EPCRA Section 313* reporting requirements; and

   c. Meet at least one of the following criteria:

      (1) Are listed in *Appendix D* of *40 CFR Part 122* on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances);

      (2) Are listed as a hazardous substance pursuant to *Section 311(b)(2)(A)* of the *CWA* at *40 CFR 116.4*; or

(3) Are pollutants for which EPA has published acute or chronic water quality criteria. See *Appendix III* of this permit. This appendix was revised based on final rulemaking EPA published in the *Federal Register* November 30, 1994.

7. "Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under *Section 101(14)* of *CERCLA*; any chemical the facility is required to report pursuant to *EPCRA Section 313*; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

8. "Significant spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under *Section 311 of the Clean Water Act* (see *40 CFR 110.10* and *CFR 117.21*) or *Section 102* of *CERCLA* (see *40 CFR 302.4*).

9. "Storm water" means storm water runoff, snowmelt runoff, and surface runoff and drainage.

10. "SWDMR" means "storm water discharge monitoring report", a report of the results of storm water monitoring required by the permit. The Division of Water Quality provides the storm water discharge monitoring report form.

11. "Storm water associated with industrial activity" (*UAC R317-8-3.8(6)(c) & (d)*) means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the *UPDES* program. For the categories of industries identified in paragraphs *(a)* through *(j)* of this definition, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined in *40 CFR Part 401*); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in paragraph *(k)* of this definition, the term includes only storm water discharges from all areas (except access roads and rail lines) listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs *(a)* to *(k)* of this definition) include those facilities designated under *UAC R317-8-3.8(1)(a)5*. The

following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

a. Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under *40 CFR Subchapter N* (except facilities with toxic pollutant effluent standards that are exempted under category (k) of this definition);

b. Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3441, 373;

c. Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under *40 CFR 434.11(l)* because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations that have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; inactive mining operations are mining sites that are not being actively mined, but that have an identifiable owner/operator;

d. Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;

e. Landfills, land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under *Subtitle D* of *RCRA*;

f. Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

g. Steam electric power generating facilities, including coal handling sites;

h. Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45 and 5171 that have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or that are otherwise identified under paragraphs (a) to (g) or (I) to (k) of this subsection are associated with industrial activity;

i. Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage

sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under *40 CFR Part 403*. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and that are not physically located in the confines of the facility, or areas that are in compliance with *40 CFR Part 503*;

j. Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than 5 acres of total land area that are not part of a larger common plan of development or sale;

k. Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25, (and that are not otherwise included within categories (a) to (j))

12. "Waste pile" means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

FACT SHEET AND STATEMENT OF BASIS
PACIFICORP INTERWEST MINING COTTONWOOD/WILBERG MINE
DISCHARGE RENEWAL PERMIT
UPDES PERMIT NUMBER: UT0022896
UPDES MULTI-SECTOR STORM WATER GENERAL PERMIT PROVISIONS
MINOR INDUSTRIAL FACILITY

FACILITY CONTACTS

Person Name:	Ken Fleck
Position:	Manager of Geology & Environmental Affairs
Phone Number:	435-687-4712
Facility Name:	Interwest Mining Co., Cottonwood/Wilberg Mine
Mailing Address:	PO Box 310 15 North Main Street Huntington, Utah 84528
Facility Location:	~10 miles northwest of Orangeville, Utah

DESCRIPTION OF FACILITY

Interwest Mining Company's (a subsidiary of PacifiCorp) Cottonwood/Wilberg Mine (mine) is a former underground coal mine, which ceased operations in 2001, with standard industrial classification code 1222 for bituminous coal underground mining. The mine portals have since been sealed and there has been no mining activity since that time other than reclamation of the former mining areas. There is one remaining active discharge point as a result of a continuous low-flow discharge of groundwater (Outfall 001) located in Emery County, Utah at latitude 39°19'03" and longitude 111°11'22". All of the other discharge points have been previously removed from service upon final reclamation. This renewal permit will once again authorize the discharge of groundwater at Outfall 001 during the next five years.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

The only change from the previous permit is the removal of Outfall 003 and the applicable permit provisions as appropriate. Outfall 003, which was the discharge point from the former sedimentation pond structures, was taken out of service as part of final reclamation work completed in March 2018. All other permit conditions remain unchanged.

DISCHARGE

DESCRIPTION OF DISCHARGE

Even though the mine site is inactive and has been reclaimed, there is a continuous low-flow of groundwater through Outfall 001, which discharges to Cottonwood Canyon Creek, a tributary of Cottonwood Creek in Emery County, Utah. The mine has been reporting self-monitoring results on Discharge Monitoring Reports through NetDMR on a monthly basis as appropriate. There have been no permit effluent violations during the previous 5 year permit cycle as all monitoring results have been consistently below effluent limitations.

Outfall	Description of Discharge Point
001	Located at latitude 39°19'03" and longitude 111°11'22". Continuous groundwater discharge from reclaimed mine site to culvert in Cottonwood Canyon Creek drainage.

RECEIVING WATERS AND STREAM CLASSIFICATION

Discharge through Outfall 001 is to a culvert in Cottonwood Canyon Creek Drainage, which then flows into Cottonwood Creek, which is classified as follows according to *Utah Administrative Code (UAC) R317-2-13*:

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

Class 2B -- Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.

Class 3A -- Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.

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

BASIS FOR EFFLUENT LIMITATIONS

Limitations on pH are based on current Utah Secondary Treatment Standards, found in Utah Administrative Code (UAC) R317-1-3.2. Limitations on total suspended solids (TSS) are typically based on Utah Secondary Treatment Standards, found in UAC R317-1-3.2 as well, but in this case the TSS limitations are carried over from the previous permit requirements based upon a Level II Antidegradation Review (ADR) that was completed and approved by DWQ on November 19, 2013. Although a Level II ADR is not required for this permit renewal, the more stringent TSS limitations as a result of the previous ADR will apply once again to avoid Anti-backsliding as per U.S. EPA policy.

Permit limits can also be derived from the Wasteload Analysis (WLA) such as the flow limitation in this case. Attached are the WLA and ADR for this permit renewal. It has been determined by the permitting authority that this proposed continuing discharge will not cause a violation of water quality standards and will be protective of the downstream beneficial uses as designated. An ADR Level II review is not required this time since the ADR Level I review indicates that this is a simple permit renewal with no proposed increases in flow or concentrations from the previous permit. The permittee is expected to be able to continually comply with these limitations.

The oil and grease limitation is based on best professional judgment (BPJ) of the permitting authority and is consistent with other industrial facilities statewide. The iron limitation is based upon the State Water Quality Standard of 1.0 mg/L for dissolved iron (UAC R317-2 Table 2.14.2) and will once again be included in this renewal permit as 1.0 mg/L for total iron. Total iron includes the dissolved iron component and is therefore considered a more protective permit provision.

Total dissolved solids (TDS) limitations are based upon an existing Total Maximum Daily Load (TMDL) for concentration values and the Colorado River Basin Salinity Control Forum (CRBSCF) for mass loading values as authorized in UAC R317-2-4. The 2004 West Colorado River Watershed TMDL limits

TDS at the adjacent Trail Mountain Mine facility to 1136 mg/L. Outfall 001 for the Cottonwood /Wilberg facility discharges into the same segment of stream as the Trail Mountain Mine facility. Therefore, Outfall 001 at Cottonwood/Wilberg shall include a target TDS concentration of 1136 mg/l as described in the WLA. Regarding TDS loading, the CRBSCF Policy entitled "NPDES Permit Program Policy for Implementation of Colorado River Salinity Standards" (Policy), with the most current version dated October 2017, requires the TDS loading limitation of one-ton per day (or 366 tons per year) as a sum from all discharge points, unless the average concentration of TDS is 500 mg/L or less. If the concentration of TDS at any Outfall is less than or equal to 500 mg/L as a thirty day average, then no loading limit applies for that Outfall. The one-ton per day (or 366 tons per year) loading limit applies only to those Outfalls exceeding 500 mg/L as a thirty day average. Those Outfalls exceeding 500 mg/L as a thirty day average, collectively, need to meet the one-ton per day (or 366 tons per year) limit. If one-ton per day (or 366 tons per year) TDS cannot be achieved, then the permittee will be required to remove salinity/TDS in excess of one-ton per day (or 366 tons per year) by developing a treatment process, participating in a salinity off-set program, or developing some type of mechanism to remove the salinity/TDS. The selection of a salinity control program must be approved by the Director of the Division of Water Quality.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit renewal was conducted following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance). There are four outcomes defined in the RP Guidance: Outcome A, B, C, or D. These Outcomes provide a frame work for what routine monitoring or effluent limitations are required

A qualitative RP analysis was performed on the applicable metals constituents from mine discharge data over the past ten years. Initial screening for metals values that were submitted through both the discharge monitoring reports and the permit renewal application information showed that a closer look at any of the metals is not needed since all of the metals results were either below the appropriate method detection limits and/or below the applicable water quality standards, or simply believed to be absent based upon historical use and existing data. Therefore, no RP currently exists at the mine and a quantitative RP analysis was not necessary at this time. The results of the RP analysis was; Outcome D: No limitation or routine monitoring requirements are in the permit. A copy of the RP analysis summary is included as an addendum to this Fact Sheet.

The permit limitations are as follows:

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow, MGD	0.54	--	--	--	--
TSS, mg/L	20	30	--	--	--
Total Iron, mg/L	--	--	--	--	1.0
TDS, mg/L	1136	--	--	--	Report
TDS, lbs/day *b	--	--	--	--	2000
pH, Standard Units	--	--	--	6.5	9
Oil & Grease, mg/L *c	--	--	--	--	10.0

SELF-MONITORING AND REPORTING REQUIREMENTS
The following self-monitoring requirements are the same as in the previous permit for Outfall 001. The permit will require reports to be submitted monthly on Discharge Monitoring Report (DMR) forms via NetDMR due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow	Monthly	Measured	MGD
TSS	Monthly	Grab	mg/L
Total Iron	Monthly	Grab	mg/L
TDS	Monthly	Grab	mg/L
TDS *b	Monthly	Grab	lbs/day
pH	Monthly	Grab	SU
Oil & Grease *c	Monthly	Visual/Grab	mg/L

*a See Definitions, *Part VI*, for definition of terms.

*b No lbs/tons per day loading limit will be applied at a specific Outfall if the concentration of TDS in the discharge is equal to or less than 500 mg/L as a thirty-day average. However, if the thirty-day average TDS concentration exceeds 500 mg/L at any Outfall, then the permittee cannot discharge more than 1 ton per day (or 366 tons per year) as a sum from all discharge points exceeding 500 mg/L as a thirty-day average. If the permittee cannot achieve one ton per day (or 366 tons per year) as a sum from all applicable Outfalls, the permittee will be required to account for the excess salinity/TDS tonnage by developing a treatment process, participating in a salinity off-set program, or other type of mechanism to remove or offset the excess salinity/TDS. The selection of a salinity control program, or other type of treatment process, must be approved by the Director of the Division of Water Quality.

*c Oil & Grease shall be sampled when sheen is present or observed. If no sheen is present or visible, then report NA. In addition to monthly monitoring for oil and grease, a visual inspection for floating solids and visible foam shall be performed monthly at all Outfalls. There shall be no sheen, floating solids, or visible foam in other than trace amounts.

STORM WATER

STORMWATER REQUIREMENTS
Storm water provisions are included in this combined UPDES permit.

The storm water requirements are based on the UPDES Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity, General Permit No. UTR000000 (MSGP). All sections of the MSGP that pertain to discharges from coal mines and coal mining-related facilities, including inactive or abandoned mines, have been included and sections which are redundant or do not pertain have been deleted. The site is inactive and unstaffed, eliminating the requirements to collect storm water samples for

analytical sampling.

The permit requires the preparation and implementation of a storm water pollution prevention plan for all areas within the confines of the site. Elements of this plan are required to include:

1. The development of a pollution prevention team,
2. Development of drainage maps and materials stockpiles,
3. An inventory of exposed materials,
4. Spill reporting and response procedures,
5. A preventative maintenance program,
6. Employee training,
7. Certification that storm water discharges are not mixed with non-storm water discharges,
8. Compliance site evaluations and potential pollutant source identification, and
9. Visual examinations of storm water discharges.

PRETREATMENT REQUIREMENTS

This facility does not discharge process wastewater to a sanitary sewer system. Any process wastewater that the facility may discharge to the sanitary sewer, either as a direct discharge or as a hauled waste, is subject to federal, state, and local pretreatment 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, the state's pretreatment requirements found in UAC R317-8-8, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the waste. 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).

BIOMONITORING REQUIREMENTS

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

The permittee is categorized as a minor industrial facility that discharges a low-flow amount of effluent, in which toxicity is neither an existing concern, nor likely to be present based on past monitoring data. Based on these considerations and following the WET policy, there is no reasonable potential for toxicity in the permittee's discharge. As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit at any time in the future should additional information indicate the presence of toxicity in the discharge.

PERMIT DURATION

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

Drafted by
Jeff Studenka, Discharge
Lonnie Shull, Biomonitoring
Lisa Stevens, Storm Water
Jen Robinson, Pretreatment
Amy Dickey, TMDL
Matt Garn, Colorado River Basin Salinity Control
Dave Wham, Wasteload Analysis & ADR

Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE INFORMATION (updated April 5, 2019)

Began: March 5, 2019
Ended: April 4, 2019

The Public Notice of the draft permit was published in the Emery County Progress.

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

No comments were received during the public notice period. Staff recommends re-issuance of the permit as drafted.

ADDENDUM TO FSSOB

ATTACHMENTS (2): I. Wasteload Analysis and Antidegradation Review
II. Reasonable Potential Analysis Summary

DWQ-2018-013495

This Page Intentionally Left Blank

ATTACHMENT 1

Wasteload Analysis and Antidegradation Review

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

Date:	**October 22, 2018**
Prepared by:	**Dave Wham** **Standards and Technical Services Section**
Facility:	**Cottonwood–Wilberg Mine** **UPDES No. UT0022896**
Receiving water:	**Cottonwood Canyon Creek (1C, 3A, 2B, 4)**

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

Discharge

Outfall 001: continuous mine water discharge 0.54 MGD

Receiving Water
The receiving water for Outfalls 001 is Cottonwood Canyon Creek, an intermittent tributary of Cottonwood Creek.

Per UAC R317-2-13.1(b), the designated beneficial uses for Cottonwood Creek and tributaries from Highway U-57 crossing to headwaters are:

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

- *Class 2B - Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.*

- *Class 3A -- Protected for cold water species of game fish and other cold 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.*

Typically, the critical flow for the wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). Cottonwood Canyon Creek is an intermittent stream that has no flow for large parts of the year. As a result, the annual critical low flow was determined to be zero. As a result, water quality based effluent limits revert to end-of-pipe water quality standards.

Cottonwood Canyon Creek water quality inputs were estimated due to a lack of available data.

TMDL

According to DWQ's 2016 303(d) Assessment, upper Cottonwood Creek and tributaries (UT14060009-007_00) is listed as impaired for pH (1C, 2B and 3A use classes), temperature (3A), and total dissolved solids (4).

A Total Maximum Daily Load (TMDL) addressing the TDS impairment for the Price River and tributaries was completed as part of the West Colorado River Watershed TMDL in August of 2004. As part of the TMDL, site specific standards were developed for a number of stream segments in the watershed. A site specific standard of 3,500 mg/l TDS was developed for Cottonwood Creek (and has since been incorporated into the Utah Water Quality Standards) from the confluence with Huntington Creek to Highway 57.

The Trail Mountain Mine as well as Wilburg-Cottonwood 001 discharge to Cottonwood Creek approximately 8 miles above this stream segment. The TMDL indicated a TDS permit limit of 1136 mg/l for the Trail Mountain Mine in order to be protective of downstream uses. The Approved TMDL is silent on the Wilburg-Cottonwood 001 discharge, but because mine discharges to the same segment as the Trail Mountain Mine, a 1,136 mg/l TDS permit limit is also recommended for this discharge to protect downstream water uses.

Mixing Zone

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

Because the critical low flow for the receiving water is zero, no mixing zone was considered.

Parameters of Concern

The potential parameters of concern identified for the discharge/receiving water were TDS, pH, and iron based on review of the past permit and the impairment status of the receiving water. Addition parameters of concern may become apparent as a result of reasonable potential analysis, technology based standards, or other factors as determined by the UPDES Permit Writer.

WET Limits

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

Because the critical low flow of the receiving water was determined to be zero, WET limits for Outfall 001 for IC_{25} should be based on 100% effluent.

Wasteload Allocation Methods

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

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

Models and supporting documentation are available for review upon request.

Antidegradation Level I Review

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

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

Documents:

WLA Document: *Wilberg_WLADoc10-19-18.docx*
Wasteload Analysis: *Wilberg_WLADoc10-19-18.xlsm*

References:

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

Utah Division of Water Quality. 2004. Price River, San Rafael River, and Muddy Creek TMDLs for Total Dissolved Solids, West Colorado Management Unit.

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

Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA] **15-Oct-18**
Addendum: Statement of Basis

Facilities:	**Cottonwood-Wilberg Mine**	**UPDES No: UT-0022896**
Discharging to:	**Cottonwood Canyon Creek**	
Design Flow:	**0.54 MGD**	

I. Introduction

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

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

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

II. Receiving Water and Stream Classification

Cottonwood Canyon Creek:	1C, 2B, 3A, 4
Antidegradation Review:	Level I review completed. Level II review not required.

III. Numeric Stream Standards for Protection of Aquatic Wildlife

Total Ammonia (TNH3)	Varies as a function of Temperature and pH Rebound. See Water Quality Standards
Chronic Total Residual Chlorine (TRC)	0.011 mg/l (4 Day Average) 0.019 mg/l (1 Hour Average)
Chronic Dissolved Oxygen (DO)	6.50 mg/l (30 Day Average) 5.00 mg/l (7Day Average) 4.00 mg/l (1 Day Average
Maximum Total Dissolved Solids	1200.0 mg/l

Utah Division of Water Quality
Salt Lake City, Utah

Acute and Chronic Heavy Metals (Dissolved)

Parameter	4 Day Average (Chronic) Standard Concentration		Load*	1 Hour Average (Acute) Standard Concentration		Load*
Aluminum	87.00	ug/l**	0.392 lbs/day	750.00	ug/l	3.384 lbs/day
Arsenic	190.00	ug/l	0.857 lbs/day	340.00	ug/l	1.534 lbs/day
Cadmium	0.97	ug/l	0.004 lbs/day	12.27	ug/l	0.055 lbs/day
Chromium III	352.71	ug/l	1.591 lbs/day	7379.28	ug/l	33.291 lbs/day
ChromiumVI	11.00	ug/l	0.050 lbs/day	16.00	ug/l	0.072 lbs/day
Copper	40.59	ug/l	0.183 lbs/day	70.82	ug/l	0.320 lbs/day
Iron				1000.00	ug/l	4.511 lbs/day
Lead	28.44	ug/l	0.128 lbs/day	729.79	ug/l	3.292 lbs/day
Mercury	0.0120	ug/l	0.000 lbs/day	2.40	ug/l	0.011 lbs/day
Nickel	223.64	ug/l	1.009 lbs/day	2011.49	ug/l	9.075 lbs/day
Selenium	4.60	ug/l	0.021 lbs/day	20.00	ug/l	0.090 lbs/day
Silver	N/A	ug/l	N/A lbs/day	72.99	ug/l	0.329 lbs/day
Zinc	514.84	ug/l	2.323 lbs/day	514.84	ug/l	2.323 lbs/day

* Allowed below discharge

**Chronic Aluminum standard applies only to waters with a pH < 7.0 and a Hardness < 50 mg/l as $CaCO_3$

Metals Standards Based upon a Hardness of 558.81 mg/l as $CaCO_3$

Organics [Pesticides]

Parameter	4 Day Average (Chronic) Standard Concentration		Load*	1 Hour Average (Acute) Standard Concentration		Load*
Aldrin				1.500	ug/l	0.007 lbs/day
Chlordane	0.004	ug/l	0.019 lbs/day	1.200	ug/l	0.005 lbs/day
DDT, DDE	0.001	ug/l	0.005 lbs/day	0.550	ug/l	0.002 lbs/day
Dieldrin	0.002	ug/l	0.009 lbs/day	1.250	ug/l	0.006 lbs/day
Endosulfan	0.056	ug/l	0.252 lbs/day	0.110	ug/l	0.000 lbs/day
Endrin	0.002	ug/l	0.010 lbs/day	0.090	ug/l	0.000 lbs/day
Guthion				0.010	ug/l	0.000 lbs/day
Heptachlor	0.004	ug/l	0.017 lbs/day	0.260	ug/l	0.001 lbs/day
Lindane	0.080	ug/l	0.361 lbs/day	1.000	ug/l	0.005 lbs/day
Methoxychlor				0.030	ug/l	0.000 lbs/day
Mirex				0.010	ug/l	0.000 lbs/day
Parathion				0.040	ug/l	0.000 lbs/day
PCB's	0.014	ug/l	0.063 lbs/day	2.000	ug/l	0.009 lbs/day
Pentachlorophenol	13.00	ug/l	58.605 lbs/day	20.000	ug/l	0.090 lbs/day
Toxephene	0.0002	ug/l	0.001 lbs/day	0.7300	ug/l	0.003 lbs/day

Utah Division of Water Quality
Salt Lake City, Utah

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	0.02 lbs/day
Chromium			100.0 ug/l	lbs/day
Copper			200.0 ug/l	lbs/day
Lead			100.0 ug/l	lbs/day
Selenium			50.0 ug/l	lbs/day
TDS, Summer			1200.0 mg/l	2.71 tons/day

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

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

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

	Maximum Conc., ug/l - Acute Standards			
	Class 1C		Class 3A, 3B	
Toxic Organics	[2 Liters/Day for 70 Kg Person over 70 Yr.]		[6.5 g for 70 Kg Person over 70 Yr.]	
Acenaphthene	ug/l	lbs/day	2700.0 ug/l	12.17 lbs/day
Acrolein	ug/l	lbs/day	780.0 ug/l	3.52 lbs/day
Acrylonitrile	ug/l	lbs/day	0.7 ug/l	0.00 lbs/day
Benzene	ug/l	lbs/day	71.0 ug/l	0.32 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	0.02 lbs/day
Chlorobenzene	ug/l	lbs/day	21000.0 ug/l	94.67 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	0.45 lbs/day

1,1,1-Trichloroethane					
Hexachloroethane	ug/l	lbs/day	8.9	ug/l	0.04 lbs/day
1,1-Dichloroethane					
1,1,2-Trichloroethane	ug/l	lbs/day	42.0	ug/l	0.19 lbs/day
1,1,2,2-Tetrachloroethai	ug/l	lbs/day	11.0	ug/l	0.05 lbs/day
Chloroethane			0.0	ug/l	0.00 lbs/day
Bis(2-chloroethyl) ether	ug/l	lbs/day	1.4	ug/l	0.01 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	19.38 lbs/day
2,4,6-Trichlorophenol	ug/l	lbs/day	6.5	ug/l	0.03 lbs/day
p-Chloro-m-cresol			0.0	ug/l	0.00 lbs/day
Chloroform (HM)	ug/l	lbs/day	470.0	ug/l	2.12 lbs/day
2-Chlorophenol	ug/l	lbs/day	400.0	ug/l	1.80 lbs/day
1,2-Dichlorobenzene	ug/l	lbs/day	17000.0	ug/l	76.64 lbs/day
1,3-Dichlorobenzene	ug/l	lbs/day	2600.0	ug/l	11.72 lbs/day
1,4-Dichlorobenzene	ug/l	lbs/day	2600.0	ug/l	11.72 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	0.01 lbs/day
1,2-trans-Dichloroethyle	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
2,4-Dichlorophenol	ug/l	lbs/day	790.0	ug/l	3.56 lbs/day
1,2-Dichloropropane	ug/l	lbs/day	39.0	ug/l	0.18 lbs/day
1,3-Dichloropropylene	ug/l	lbs/day	1700.0	ug/l	7.66 lbs/day
2,4-Dimethylphenol	ug/l	lbs/day	2300.0	ug/l	10.37 lbs/day
2,4-Dinitrotoluene	ug/l	lbs/day	9.1	ug/l	0.04 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	0.00 lbs/day
Ethylbenzene	ug/l	lbs/day	29000.0	ug/l	130.73 lbs/day
Fluoranthene	ug/l	lbs/day	370.0	ug/l	1.67 lbs/day
4-Chlorophenyl phenyl ether					
4-Bromophenyl phenyl ether					
Bis(2-chloroisopropyl) e	ug/l	lbs/day	170000.0	ug/l	766.37 lbs/day
Bis(2-chloroethoxy) met	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
Methylene chloride (HM	ug/l	lbs/day	1600.0	ug/l	7.21 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	1.62 lbs/day
Dichlorobromomethane	ug/l	lbs/day	22.0	ug/l	0.10 lbs/day
Chlorodibromomethane	ug/l	lbs/day	34.0	ug/l	0.15 lbs/day
Hexachlorobutadiene(c)	ug/l	lbs/day	50.0	ug/l	0.23 lbs/day
Hexachlorocyclopentadi	ug/l	lbs/day	17000.0	ug/l	76.64 lbs/day
Isophorone	ug/l	lbs/day	600.0	ug/l	2.70 lbs/day
Naphthalene					
Nitrobenzene	ug/l	lbs/day	1900.0	ug/l	8.57 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	63.11 lbs/day
4,6-Dinitro-o-cresol	ug/l	lbs/day	765.0	ug/l	3.45 lbs/day
N-Nitrosodimethylamine	ug/l	lbs/day	8.1	ug/l	0.04 lbs/day
N-Nitrosodiphenylamine	ug/l	lbs/day	16.0	ug/l	0.07 lbs/day
N-Nitrosodi-n-propylami	ug/l	lbs/day	1.4	ug/l	0.01 lbs/day
Pentachlorophenol	ug/l	lbs/day	8.2	ug/l	0.04 lbs/day

Phenol	ug/l	lbs/day	4.6E+06	ug/l	2.07E+04	lbs/day
Bis(2-ethylhexyl)phthala	ug/l	lbs/day	5.9	ug/l	0.03	lbs/day
Butyl benzyl phthalate	ug/l	lbs/day	5200.0	ug/l	23.44	lbs/day
Di-n-butyl phthalate	ug/l	lbs/day	12000.0	ug/l	54.10	lbs/day
Di-n-octyl phthlate						
Diethyl phthalate	ug/l	lbs/day	120000.0	ug/l	540.97	lbs/day
Dimethyl phthlate	ug/l	lbs/day	2.9E+06	ug/l	1.31E+04	lbs/day
Benzo(a)anthracene (P/	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
Benzo(a)pyrene (PAH)	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
Benzo(b)fluoranthene (F	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
Benzo(k)fluoranthene (F	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
Chrysene (PAH)	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
Acenaphthylene (PAH)						
Anthracene (PAH)	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
Dibenzo(a,h)anthracene	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
Indeno(1,2,3-cd)pyrene	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
Pyrene (PAH)	ug/l	lbs/day	11000.0	ug/l	49.59	lbs/day
Tetrachloroethylene	ug/l	lbs/day	8.9	ug/l	0.04	lbs/day
Toluene	ug/l	lbs/day	200000	ug/l	901.62	lbs/day
Trichloroethylene	ug/l	lbs/day	81.0	ug/l	0.37	lbs/day
Vinyl chloride	ug/l	lbs/day	525.0	ug/l	2.37	lbs/day
						lbs/day
Pesticides						lbs/day
Aldrin	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
Dieldrin	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
Chlordane	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
4,4'-DDT	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
4,4'-DDE	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
4,4'-DDD	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
alpha-Endosulfan	ug/l	lbs/day	2.0	ug/l	0.01	lbs/day
beta-Endosulfan	ug/l	lbs/day	2.0	ug/l	0.01	lbs/day
Endosulfan sulfate	ug/l	lbs/day	2.0	ug/l	0.01	lbs/day
Endrin	ug/l	lbs/day	0.8	ug/l	0.00	lbs/day
Endrin aldehyde	ug/l	lbs/day	0.8	ug/l	0.00	lbs/day
Heptachlor	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
Heptachlor epoxide						
PCB's						
PCB 1242 (Arochlor 12	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
PCB-1254 (Arochlor 12	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
PCB-1221 (Arochlor 12	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
PCB-1232 (Arochlor 12	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
PCB-1248 (Arochlor 12	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
PCB-1260 (Arochlor 12	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
PCB-1016 (Arochlor 10	ug/l	lbs/day	0.0	ug/l	0.00	lbs/day
Pesticide						
Toxaphene	ug/l		0.0	ug/l	0.00	lbs/day
Dioxin						
Dioxin (2,3,7,8-TCDD)	ug/l	lbs/day				

Metals				
Antimony	ug/l	lbs/day		
Arsenic	ug/l	lbs/day	4300.00 ug/l	19.38 lbs/day
Asbestos	ug/l	lbs/day		
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	ug/l	lbs/day	2.2E+05 ug/l	991.78 lbs/day
Lead	ug/l	lbs/day		
Mercury			0.15 ug/l	0.00 lbs/day
Nickel			4600.00 ug/l	20.74 lbs/day
Selenium	ug/l	lbs/day		
Silver	ug/l	lbs/day		
Thallium			6.30 ug/l	0.03 lbs/day
Zinc				

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

VII. Mathematical Modeling of Stream Quality

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

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

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

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

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

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

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

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

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

VIII. Modeling Information

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

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

Other Conditions

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

Model Inputs

The following is upstream and discharge information that was utilized as inputs for the analysis.

Utah Division of Water Quality
Salt Lake City, Utah

Current Upstream Information

	Stream Critical Low Flow cfs	Temp. Deg. C	pH	T-NH3 mg/l as N	BOD5 mg/l	DO mg/l	TRC mg/l	TDS mg/l
Summer (Irrig. Season)	0.00	0.0	0.0	0.10	1.00	9.93	0.00	0.0
Fall	0.00	0.0	0.0	0.10	1.00	---	0.00	0.0
Winter	0.00	0.0	0.0	0.10	1.00	---	0.00	0.0
Spring	0.00	0.0	0.0	0.10	1.00	---	0.00	0.0

Dissolved	Al	As	Cd	CrIII	CrVI	Copper	Fe	Pb
Metals	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
All Seasons	2.385*	0.795*	0.0795*	0.795*	3.975*	0.8*	1.25*	0.795*

Dissolved	Hg	Ni	Se	Ag	Zn	Boron
Metals	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
All Seasons	0.0000	0.795*	1.59*	0.15*	0.0795*	1.59*

* ~80% MDL

Projected Discharge Information

Season	Flow, MGD	Temp.
Summer	0.54000	11.6
Fall	0.54000	11.6
Winter	0.54000	11.6
Spring	0.54000	11.6

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

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

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

Effluent Limitation for Flow based upon Water Quality Standards

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

Season	Daily Average	
Summer	0.540 MGD	0.835 cfs
Fall	0.540 MGD	0.835 cfs
Winter	0.540 MGD	0.835 cfs
Spring	0.540 MGD	0.835 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.54 MGD. If the discharger is allowed to have a flow greater than 0.54 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occuring, the permit writers must include the discharge flow limititation as indicated above; or, include loading effluent limits in the permit.

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

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

WET Requirements	LC50 >	100.0% Effluent	[Acute]
	IC25 >	99.9% 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	112.6 lbs/day
Fall	25.0 mg/l as BOD5	112.6 lbs/day
Winter	25.0 mg/l as BOD5	112.6 lbs/day
Spring	25.0 mg/l as BOD5	112.6 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

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

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	2.99	mg/l as N	13.4	lbs/day
	1 Hour Avg. - Acute	9.6	mg/l as N	43.3	lbs/day
Fall	4 Day Avg. - Chronic	4.4	mg/l as N	19.9	lbs/day
	1 Hour Avg. - Acute	10.8	mg/l as N	48.4	lbs/day
Winter	4 Day Avg. - Chronic	6.0	mg/l as N	26.8	lbs/day
	1 Hour Avg. - Acute	12.7	mg/l as N	57.3	lbs/day
Spring	4 Day Avg. - Chronic	4.4	mg/l as N	19.8	lbs/day
	1 Hour Avg. - Acute	10.6	mg/l as N	47.8	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	0.011	mg/l	0.05	lbs/day
	1 Hour Avg. - Acute	0.019	mg/l	0.09	lbs/day
Fall	4 Day Avg. - Chronic	0.011	mg/l	0.05	lbs/day
	1 Hour Avg. - Acute	0.019	mg/l	0.09	lbs/day
Winter	4 Day Avg. - Chronic	0.011	mg/l	0.05	lbs/day
	1 Hour Avg. - Acute	0.019	mg/l	0.09	lbs/day
Spring	4 Day Avg. - Chronic	0.011	mg/l	0.05	lbs/day
	1 Hour Avg. - Acute	0.019	mg/l	0.09	lbs/day

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season		Concentration		Load	
Summer	Maximum, Acute	1201.4	mg/l	2.70	tons/day
Fall	Maximum, Acute	1201.4	mg/l	2.70	tons/day
Winter	Maximum, Acute	1201.4	mg/l	2.70	tons/day
Spring	Maximum, Acute	1201.4	mg/l	2.70	tons/day

Colorado Salinity Forum Limits — Determined by Permitting Section

Effluent Limitations for Total Recoverable Metals based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Metals will be met with an effluent limitation as follows (based upon a hardness of 558.81 mg/l):

	4 Day Average			1 Hour Average		
	Concentration		Load	Concentration		Load
Aluminum*	N/A		N/A	750.9	ug/l	3.4 lbs/day
Arsenic*	190.23	ug/l	0.6 lbs/day	340.4	ug/l	1.5 lbs/day
Cadmium	0.97	ug/l	0.0 lbs/day	12.3	ug/l	0.1 lbs/day
Chromium III	353.13	ug/l	1.0 lbs/day	7,388.1	ug/l	33.3 lbs/day
Chromium VI*	11.01	ug/l	0.0 lbs/day	16.0	ug/l	0.1 lbs/day
Copper	40.63	ug/l	0.1 lbs/day	70.9	ug/l	0.3 lbs/day
Iron*	N/A		N/A	836.4	ug/l	3.8 lbs/day
Lead	28.47	ug/l	0.1 lbs/day	730.7	ug/l	3.3 lbs/day
Mercury*	0.01	ug/l	0.0 lbs/day	2.4	ug/l	0.0 lbs/day
Nickel	223.91	ug/l	0.7 lbs/day	2,013.9	ug/l	9.1 lbs/day
Selenium*	4.60	ug/l	0.0 lbs/day	20.0	ug/l	0.1 lbs/day
Silver	N/A	ug/l	N/A lbs/day	73.1	ug/l	0.3 lbs/day

Zinc	515.46 ug/l	1.5 lbs/day	515.5	ug/l	2.3 lbs/day
Cyanide*	5.21 ug/l	0.0 lbs/day	22.0	ug/l	0.1 lbs/day

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

Effluent Limitations for Heat/Temperature based upon Water Quality Standards

Summer	2.0 Deg. C.	35.6 Deg. F
Fall	2.0 Deg. C.	35.6 Deg. F
Winter	2.0 Deg. C.	35.6 Deg. F
Spring	2.0 Deg. C.	35.6 Deg. F

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

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

	4 Day Average		1 Hour Average		
	Concentration	Load	Concentration		Load
Aldrin			1.5E+00	ug/l	1.05E-02 lbs/day
Chlordane	4.30E-03 ug/l	1.94E-02 lbs/day	1.2E+00	ug/l	8.38E-03 lbs/day
DDT, DDE	1.00E-03 ug/l	4.50E-03 lbs/day	5.5E-01	ug/l	3.84E-03 lbs/day
Dieldrin	1.90E-03 ug/l	8.56E-03 lbs/day	1.3E+00	ug/l	8.72E-03 lbs/day
Endosulfan	5.60E-02 ug/l	2.52E-01 lbs/day	1.1E-01	ug/l	7.68E-04 lbs/day
Endrin	2.30E-03 ug/l	1.04E-02 lbs/day	9.0E-02	ug/l	6.28E-04 lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	6.98E-05 lbs/day
Heptachlor	3.80E-03 ug/l	1.71E-02 lbs/day	2.6E-01	ug/l	1.81E-03 lbs/day
Lindane	8.00E-02 ug/l	3.60E-01 lbs/day	1.0E+00	ug/l	6.98E-03 lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02	ug/l	2.09E-04 lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	6.98E-05 lbs/day
Parathion	0.00E+00 ug/l	0.00E+00 lbs/day	4.0E-02	ug/l	2.79E-04 lbs/day
PCB's	1.40E-02 ug/l	6.30E-02 lbs/day	2.0E+00	ug/l	1.40E-02 lbs/day
Pentachlorophenol	1.30E+01 ug/l	5.85E+01 lbs/day	2.0E+01	ug/l	1.40E-01 lbs/day
Toxephene	2.00E-04 ug/l	9.01E-04 lbs/day	7.3E-01	ug/l	5.09E-03 lbs/day

Effluent Targets for Pollution Indicators
Based upon Water Quality Standards

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

	1 Hour Average	
	Concentration	Loading
Gross Beta (pCi/l)	50.0 pCi/L	
BOD (mg/l)	5.0 mg/l	22.6 lbs/day
Nitrates as N	4.0 mg/l	18.0 lbs/day
Total Phosphorus as P	0.05 mg/l	0.2 lbs/day
Total Suspended Solids	90.0 mg/l	406.0 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	2.70E+03 ug/l	1.22E+01 lbs/day
Acrolein	7.81E+02 ug/l	3.52E+00 lbs/day
Acrylonitrile	6.61E-01 ug/l	2.98E-03 lbs/day
Benzene	7.11E+01 ug/l	3.20E-01 lbs/day
Benzidine	ug/l	lbs/day
Carbon tetrachloride	4.41E+00 ug/l	1.98E-02 lbs/day
Chlorobenzene	2.10E+04 ug/l	9.47E+01 lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	7.71E-04 ug/l	3.47E-06 lbs/day
1,2-Dichloroethane	9.91E+01 ug/l	4.46E-01 lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	8.91E+00 ug/l	4.01E-02 lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	4.21E+01 ug/l	1.89E-01 lbs/day
1,1,2,2-Tetrachloroethane	1.10E+01 ug/l	4.96E-02 lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	1.40E+00 ug/l	6.31E-03 lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	4.31E+03 ug/l	1.94E+01 lbs/day
2,4,6-Trichlorophenol	6.51E+00 ug/l	2.93E-02 lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	4.71E+02 ug/l	2.12E+00 lbs/day
2-Chlorophenol	4.00E+02 ug/l	1.80E+00 lbs/day
1,2-Dichlorobenzene	1.70E+04 ug/l	7.66E+01 lbs/day
1,3-Dichlorobenzene	2.60E+03 ug/l	1.17E+01 lbs/day

1,4-Dichlorobenzene	2.60E+03 ug/l	1.17E+01 lbs/day
3,3'-Dichlorobenzidine	7.71E-02 ug/l	3.47E-04 lbs/day
1,1-Dichloroethylene	3.20E+00 ug/l	1.44E-02 lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	7.91E+02 ug/l	3.56E+00 lbs/day
1,2-Dichloropropane	3.90E+01 ug/l	1.76E-01 lbs/day
1,3-Dichloropropylene	1.70E+03 ug/l	7.66E+00 lbs/day
2,4-Dimethylphenol	2.30E+03 ug/l	1.04E+01 lbs/day
2,4-Dinitrotoluene	9.11E+00 ug/l	4.10E-02 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	5.41E-01 ug/l	2.43E-03 lbs/day
Ethylbenzene	2.90E+04 ug/l	1.31E+02 lbs/day
Fluoranthene	3.70E+02 ug/l	1.67E+00 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	1.70E+05 ug/l	7.66E+02 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	1.60E+03 ug/l	7.21E+00 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	3.60E+02 ug/l	1.62E+00 lbs/day
Dichlorobromomethane(HM)	2.20E+01 ug/l	9.92E-02 lbs/day
Chlorodibromomethane (HM)	3.40E+01 ug/l	1.53E-01 lbs/day
Hexachlorocyclopentadiene	1.70E+04 ug/l	7.66E+01 lbs/day
Isophorone	6.01E+02 ug/l	2.70E+00 lbs/day
Naphthalene		
Nitrobenzene	1.90E+03 ug/l	8.57E+00 lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	1.40E+04 ug/l	6.31E+01 lbs/day
4,6-Dinitro-o-cresol	7.66E+02 ug/l	3.45E+00 lbs/day
N-Nitrosodimethylamine	8.11E+00 ug/l	3.65E-02 lbs/day
N-Nitrosodiphenylamine	1.60E+01 ug/l	7.21E-02 lbs/day
N-Nitrosodi-n-propylamine	1.40E+00 ug/l	6.31E-03 lbs/day
Pentachlorophenol	8.21E+00 ug/l	3.70E-02 lbs/day
Phenol	4.61E+06 ug/l	2.07E+04 lbs/day
Bis(2-ethylhexyl)phthalate	5.91E+00 ug/l	2.66E-02 lbs/day
Butyl benzyl phthalate	5.21E+03 ug/l	2.34E+01 lbs/day
Di-n-butyl phthalate	1.20E+04 ug/l	5.41E+01 lbs/day
Di-n-octyl phthlate		
Diethyl phthalate	1.20E+05 ug/l	5.41E+02 lbs/day
Dimethyl phthlate	2.90E+06 ug/l	1.31E+04 lbs/day
Benzo(a)anthracene (PAH)	3.10E-02 ug/l	1.40E-04 lbs/day
Benzo(a)pyrene (PAH)	3.10E-02 ug/l	1.40E-04 lbs/day
Benzo(b)fluoranthene (PAH)	3.10E-02 ug/l	1.40E-04 lbs/day
Benzo(k)fluoranthene (PAH)	3.10E-02 ug/l	1.40E-04 lbs/day
Chrysene (PAH)	3.10E-02 ug/l	1.40E-04 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	3.10E-02 ug/l	1.40E-04 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	3.10E-02 ug/l	1.40E-04 lbs/day

Pyrene (PAH)	1.10E+04 ug/l	4.96E+01 lbs/day
Tetrachloroethylene	8.91E+00 ug/l	4.01E-02 lbs/day
Toluene	2.00E+05 ug/l	9.02E+02 lbs/day
Trichloroethylene	8.11E+01 ug/l	3.65E-01 lbs/day
Vinyl chloride	5.26E+02 ug/l	2.37E+00 lbs/day
Pesticides		
Aldrin	1.40E-04 ug/l	6.31E-07 lbs/day
Dieldrin	1.40E-04 ug/l	6.31E-07 lbs/day
Chlordane	5.91E-04 ug/l	2.66E-06 lbs/day
4,4'-DDT	5.91E-04 ug/l	2.66E-06 lbs/day
4,4'-DDE	5.91E-04 ug/l	2.66E-06 lbs/day
4,4'-DDD	8.41E-04 ug/l	3.79E-06 lbs/day
alpha-Endosulfan	2.00E+00 ug/l	9.02E-03 lbs/day
beta-Endosulfan	2.00E+00 ug/l	9.02E-03 lbs/day
Endosulfan sulfate	2.00E+00 ug/l	9.02E-03 lbs/day
Endrin	8.11E-01 ug/l	3.65E-03 lbs/day
Endrin aldehyde	8.11E-01 ug/l	3.65E-03 lbs/day
Heptachlor	2.10E-04 ug/l	9.47E-07 lbs/day
Heptachlor epoxide		
PCB's		
PCB 1242 (Arochlor 1242)	4.51E-05 ug/l	2.03E-07 lbs/day
PCB-1254 (Arochlor 1254)	4.51E-05 ug/l	2.03E-07 lbs/day
PCB-1221 (Arochlor 1221)	4.51E-05 ug/l	2.03E-07 lbs/day
PCB-1232 (Arochlor 1232)	4.51E-05 ug/l	2.03E-07 lbs/day
PCB-1248 (Arochlor 1248)	4.51E-05 ug/l	2.03E-07 lbs/day
PCB-1260 (Arochlor 1260)	4.51E-05 ug/l	2.03E-07 lbs/day
PCB-1016 (Arochlor 1016)	4.51E-05 ug/l	2.03E-07 lbs/day
Pesticide		
Toxaphene	7.51E-04 ug/l	3.38E-06 lbs/day
Metals		
Antimony	ug/l	lbs/day
Arsenic	ug/l	lbs/day
Asbestos	ug/l	lbs/day
Beryllium		
Cadmium		
Chromium (III)		
Chromium (VI)		
Copper	ug/l	lbs/day
Cyanide	ug/l	lbs/day
Lead		
Mercury	ug/l	lbs/day
Nickel	ug/l	lbs/day
Selenium		
Silver		
Thallium	ug/l	lbs/day
Zinc		

Dioxin

Dioxin (2,3,7,8-TCDD)	1.40E-08 ug/l	6.31E-11 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		750.9				750.9	N/A
Antimony				4305.1		4305.1	
Arsenic	100.1	340.4				100.1	190.2
Barium							
Beryllium						0.0	
Cadmium	10.0	12.3				10.0	1.0
Chromium (III)		7388.1				7388.1	353.1
Chromium (VI)	100.1	16.0				16.01	11.01
Copper	200.2	70.9				70.9	40.6
Cyanide		22.0	220263.4			22.0	5.2
Iron		836.4				836.4	
Lead	100.1	730.7				100.1	28.5
Mercury		2.40		0.15		0.15	0.012
Nickel		2013.9		4605.5		2013.9	223.9
Selenium	50.1	20.0				20.0	4.6
Silver		73.1				73.1	
Thallium				6.3		6.3	
Zinc		515.5				515.5	515.5
Boron	750.9					750.9	
Sulfate	2002.4					2002.4	

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	750.9	N/A	
Antimony	4305.15		
Arsenic	100.1	190.2	Acute Controls
Asbestos			
Barium			
Beryllium			
Cadmium	10.0	1.0	
Chromium (III)	7388.1	353	
Chromium (VI)	16.0	11.0	
Copper	70.9	40.6	

Cyanide	22.0	5.2	
Iron	836.4		
Lead	100.1	28.5	
Mercury	0.150	0.012	
Nickel	2013.9	224	
Selenium	20.0	4.6	
Silver	73.1	N/A	
Thallium	6.3		
Zinc	515.5	515.5	
Boron	750.90		
Sulfate	2002.4		N/A at this Waterbody

Other Effluent Limitations are based upon R317-1.

E. coli	126.0	organisms per 100 ml

X. Antidegradation Considerations

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

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

XI. Colorado River Salinity Forum Considerations

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

XII. Summary Comments

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

This Page Intentionally Left Blank

ATTACHMENT 2

Reasonable Potential Analysis

This Page Intentionally Left Blank

2018 Summary Results of Reasonable Potential (RP) Analysis for Wilberg Mine (UT0022896)

Parameters of Concern	Outfall	No. of Samples	MEC* mg/L	Water Quality Standard MAC**		Outcome/Result
				Acute mg/L	Chronic mg/L	
Total Aluminum	001	12	0.1	0.751	NA	MEC < MAC***
Total Arsenic	001	12	ND	0.1	0.1	MEC < MAC***
Total Cadmium	001	12	ND	0.001	0.001	MEC < MAC***
Total Copper	001	12	ND	0.071	0.041	MEC < MAC***
Total Iron	001	129	0.4	0.836	1.0	MEC < MAC***
Total Lead	001	12	ND	0.1	0.0285	MEC < MAC***
Total Manganese	001	122	0.02	NA	NA	NA
Total Zinc	001	12	0.027	0.5154	0.5154	MEC < MAC***

NA – not applicable, no current Water Quality Standard (WQS).

ND – Non-detect, or believed absent from all past use and monitoring.

*MEC – Maximum expected effluent concentration as determined from existing data set and initial metals screening.

**MAC – Maximum allowable concentration, applicable effluent limits derived from WQS and/or the Wasteload Allocation (WLA) analysis.

***MEC less than MAC. No Acute or Chronic limits required. Based upon the policy "Reasonable Potential Analysis Guidance", developed by the Utah Division of Water Quality on September 10, 2015 and subsequently implemented beginning January 1, 2016 for all new and renewal permits, it was determined not to include any additional total metal effluent monitoring or limits in this 2019 renewal permit primarily because of all the data points reviewed for parameters of concern that are believed to be present, none exceeded the applicable Water Quality Standards or the permit effluent limits derived from the WLA. Therefore, no RP currently exists at the mine and a more quantitative RP analysis was not necessary at this time.

The results of the RP analysis was; Outcome D: No limitation or routine monitoring requirements are in the permit.