

**Permit No. UT0023540
Major Industrial**

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

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

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

CANYON FUEL COMPANY, LLC – SKYLINE MINE

is hereby authorized to discharge from its facility located near Scofield, Utah, with the outfalls located as indicated in this permit, to receiving waters named

Eccles Creek, UP Canyon Creek and Winter Quarters Canyon Creek (all tributaries to the Price and Colorado River systems)

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

This permit shall become effective May 1, 2015.

This permit and the authorization to discharge shall expire at midnight, April 30, 2020.

Signed this 28 day of April, 2015.



Walter L. Baker, P.E.
Director

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I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Definitions.

1. The "30-day (and monthly) average" is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
2. The "7-day (and weekly) average" is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week 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 the Saturday.
3. "Daily Maximum" ("Daily Max.") is the maximum value allowable in any single sample or instantaneous measurement.
4. "Daily Minimum" ("Daily Min.") is the minimum value allowable in any single sample or instantaneous measurement.
5. "Composite samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the composite sample period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:
 - a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;
 - b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;
 - c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,
 - d. Continuous collection of sample, with sample collection rate proportional to flow rate.
6. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
7. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.

8. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
9. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
10. "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.
11. "Director" means Director of the Utah Division of Water Quality.
12. "EPA" means the United States Environmental Protection Agency.
13. "Act" means the "*Utah Water Quality Act*".
14. "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 plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
15. "Chronic toxicity" occurs when the survival, growth, or reproduction for either test species exposed to a dilution of 99 percent effluent (or lower) is significantly less (at the 95 percent confidence level) than the survival, growth or reproduction of the control specimens.
16. "IC₂₅" is the concentration of toxicant (given in % effluent) that would cause a 25% reduction in mean young per female or a 25% reduction in overall growth for the test population.
17. "Coal pile runoff" means the rainfall runoff from or through any coal storage pile.
18. "*CWA*" means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
19. "Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a *UPDES* permit (other than the *UPDES* permit for discharges from the municipal separate storm sewer) and discharges from fire fighting activities, fire hydrant flushings, potable water sources including waterline flushings, uncontaminated ground water (including dewatering ground water infiltration), foundation or footing

drains where flows are not contaminated with process materials such as solvents, springs, riparian habitats, wetlands, irrigation water, exterior building washdown where there are no chemical or abrasive additives, pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred and where detergents are not used, and air conditioning condensate.

20. "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 discharges. This term does not include return flows from irrigated agriculture or agriculture storm water runoff.
21. "Runoff coefficient" means the fraction of total rainfall that will appear at a conveyance as runoff.
22. "Section 313 water priority chemical" means a chemical or chemical categories which:
 - a. are listed at *40 CFR 372.65* pursuant to *Section 313* of *Title III* 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 122* on either *Table II* (organic priority pollutants), *Table III* (certain metals, cyanides, and phenols) or *Table IV* (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 toxicity criteria.
23. "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.
24. "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 *40 CFR 117.21*) or *Section 102* of *CERCLA*

(see 40 CFR 302.4).

- 25. "Storm water" means storm water runoff, snow melt runoff, and surface runoff and drainage.
- 26. "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.
- 27. "Waste pile" means any noncontainerized accumulation of solid, nonflowing waste that is used for treatment or storage.
- 28. "10-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable reoccurrence interval of once in 10 years. This information is available in *Weather Bureau Technical Paper No. 40*, May 1961 and *NOAA Atlas 2*, 1973 for the 11 Western States, and may be obtained from the National Climatic Center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

B. Description of Discharge Points.

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

<u>Outfall Number</u>	<u>Location of Discharge Point(s)</u>
001	Outfall from sedimentation pond and mine water discharges to Eccles Creek. Latitude 39°41'05", Longitude 111°13'58".
002	Outfall from sedimentation pond at the load-out facility discharging to Eccles Creek. Latitude 39°41'05", Longitude 111°09'07".
003	Outfall from sedimentation pond associated with the waste rock disposal site discharging to UP Canyon Creek. Latitude 39°43'10", Longitude 111°09'15".
004	Outfall from sedimentation pond and mine water discharges to Winter Quarters Canyon Creek. Latitude 39° 36' 40", Longitude 110° 36' 43".

C. Narrative Standard.

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

D. Specific Limitations and Self-monitoring Requirements.

1. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfalls 001, 002, 003, and 004. Such discharges shall be limited and monitored by the permittee as specified below:

Parameter, Units	Effluent Limitations <u>a/</u>			
	Maximum Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
Total Effluent Flow, MGD, <u>b/</u>	Report			Report
Total Iron, mg/L				1.0
Total Suspended Solids (TSS), mg/L	25	35		70
Total Dissolved Solids (TDS), mg/L, <u>c/</u>	Report			1,200
Dissolved Oxygen, mg/L			5.0	
pH, Standard Units(SU)			6.5	9.0
Oil & Grease, mg/L, <u>d/</u>				10
Whole Effluent Toxicity (WET), Chronic Biomonitoring				Pass, IC ₂₅ > 99% effluent

NA – Not Applicable; mg/L – milligrams per liter; MGD – million gallons per day

Self-Monitoring and Reporting Requirements <u>a/</u>			
Parameter	Frequency	Sample Type	Units
Total Flow, <u>b/</u>	Continuous	Recorder	MGD
Total Iron	Twice Monthly	Grab	mg/L
TSS	Weekly	Grab	mg/L
TDS, <u>c/</u>	Twice Monthly	Grab	mg/L & tons/day
pH	Weekly	Grab	SU
Oil & Grease, <u>d/</u>	Weekly, Twice Monthly	Grab, Visual	mg/L, Yes/No
Dissolved Oxygen	Monthly	Grab	mg/L
Chronic WET Biomonitoring	Quarterly	Composite	Pass/Fail

There shall be no visible sheen or floating solids or visible foam in other than trace amounts upon any discharges and there shall be no discharge of any sanitary wastes at any time.

a/ See Definitions, *Part I.A*, for definition of terms.

b/ If the rate of discharge is controlled, such as from intermittent discharging outfalls, the rate and duration of discharge shall be reported. Flow measurements of effluent volumes from all outfalls shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.

c/ The TDS concentration from each of the outfalls shall not exceed 1,200 mg/L as a daily maximum limit. No tons per day loading limit will be applied 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 30-day average concentration exceeds 500 mg/L, then the permittee cannot discharge more than 7.1 ton per day as a sum from all discharge points. Upon previous determinations by the Director that the permittee is not able to meet the 500 mg/L 30-day average or the 7.1 tons per day loading limit, the permittee is required to continue to participate in and/or fund a salinity offset project to include the TDS offset credits as appropriate.

The salinity-offset project shall include TDS credits on a ton-for-ton basis for which the permittee is over the 7.1 tons per day loading limit. The tonnage reduction from the offset project must be calculated by a method similar to one used by the NRCS, Colorado River Basin Salinity Control Forum, or other applicable agency.

If the permittee will be participating in the construction and implementation of a new salinity-offset project, then a project description and implementation schedule shall be submitted to the Director at least six (6) months prior to the implementation date of the project, which will then be reviewed for approval. The salinity offset project description and implementation schedule must be approved by the Director and shall be appended to this permit.

If the permittee will be funding any additional salinity-offset projects through third parties, the permittee shall provide satisfactory evidence to the Director that the required funds have been deposited to the third party within six (6) months of project approval by the Director. A monitoring and adjustment plan to track the TDS credits shall continue to be submitted to the Director for each monthly monitoring period during the life of this permit. Any changes to the monitoring and adjustment plan must be approved by the Director and upon approval shall be appended to this permit.

d/ Weekly oil & grease sample analyses shall be conducted at outfall 001. At outfalls 002, 003 and 004, oil & grease monitoring shall initially be a visual test conducted at least twice per month. If any oil and/or grease sheens are observed visually, or there is any other reason to believe that oil and/or grease may be present in the discharge, then a grab sample of the effluent must be immediately taken and this sample shall not exceed 10 mg/L.

2. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: at all outfalls prior to mixing with the receiving water.
3. Any overflow, increase in volume of a discharge or discharge from a bypass system caused by precipitation within a 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snow-melt of equivalent volume) at surface water runoff pond outfalls only may comply with the following limitation instead of the otherwise applicable limitations (for TSS) contained in Part I.D.1:

Effluent Characteristic

Daily Maximum

Settleable Solids

0.5 mL/L

In addition to the monitoring requirements specified under Part I.D.1, all effluent samples collected during storm water discharge events may also be analyzed for settleable solids. Such analyses shall be conducted by grab samples.

4. The operator shall have the burden of proof that the discharge or increase in discharge was caused by the applicable precipitation event described in Part I.D.3. The alternate limitations in Parts I.D.3 shall not apply to treatment systems that treat underground mine water only.
5. *Whole Effluent Testing – Chronic Toxicity.* Starting on the effective date of this permit, the permittee shall quarterly, conduct chronic short-term toxicity tests on a composite sample of the final effluent. The sample shall be from mine water collected at outfall 001.

The monitoring frequency shall be quarterly. Samples shall be collected on a two-day progression. If chronic toxicity is detected, the test shall be repeated in less than four weeks from the date the initial sample was taken. The need for any additional samples, and/or a Toxicity Reduction Evaluation (TRE), shall be determined by the Director. If the second test shows no chronic toxicity, routine monitoring shall be resumed.

The chronic toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, 4th Edition, (EPA 821/R-02-13), October 2002* as per 40 CFR 136.3(a) *TABLE 1A-LIST OF APPROVED BIOLOGICAL METHODS*. Test species, alternating quarterly, shall consist of *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow). A CO₂ atmosphere may be used (in conjunction with an unmodified test) in order to account for artificial pH drift, as authorized by the Director.

Chronic toxicity occurs when the IC₂₅ is less than an effluent concentration of 99%. If any of the acceptable control performance criteria are not met, the test shall be considered invalid. IC₂₅ is the concentration of toxicant (in % effluent) that would cause a 25% reduction in mean young per female or a 25% reduction in overall growth for the test population

Quarterly test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the reporting calendar quarter (e.g., biomonitoring results for the calendar quarter ending March 31 shall be reported with the DMR due April 28, with the remaining biomonitoring reports submitted with DMRs due each July 28, October 28, and January 28). All test results shall be reported along with the DMR submitted for that reporting period. The format for the report shall be consistent with the latest revision of the *Region VIII Guidance for Chronic Whole Effluent Reporting* and shall include all the physical testing as specified.

If the results for a minimum of ten consecutive tests indicate no chronic toxicity, the permittee may request a reduction in testing frequency and/or reduction in test species. The Director may approve, partially approve, or deny the request based on results and other available information. If approval is given, the modification will take place without a public notice.

The current Utah whole effluent toxicity (WET) policy is in the process of being updated and revised to assure its consistency with the Environmental Protection Agency's national and regional WET policy. When said revised WET policy has been finalized and officially adopted, this permit will be reopened and modified to incorporate satisfactory follow-up chronic toxicity language (chronic pattern of toxicity, PTI and/or TIE/TRE, etc.) without a public notice, as warranted and appropriate.

Toxicity Reduction Evaluation (TRE). If toxicity is detected during the life of this permit and it is determined by the Director that a TRE is necessary, the permittee shall be so notified and shall initiate a TRE immediately thereafter. The purpose of the TRE will be to establish the cause of toxicity, locate the source(s) of the toxicity, and control or provide treatment for the toxicity.

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

- (1) Phase I – Toxicity Characterization
- (2) Phase II – Toxicity Identification Procedures
- (3) Phase III – Toxicity Control Procedures
- (4) Any other appropriate procedures for toxicity source elimination and control.

If the TRE establishes that the toxicity cannot be immediately eliminated, the permittee shall submit a proposed compliance plan to the Director. The plan shall include the proposed approach to control toxicity and a proposed compliance

schedule for achieving control. If the approach and schedule are acceptable to the Director, this permit may be reopened and modified.

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

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

If acceptable to the Director, this permit may be reopened and modified to incorporate any additional numerical limitations, a modified compliance schedule if judged necessary by the Director, and/or a modified biomonitoring protocol.

Failure to conduct an adequate TRE, or failure to submit a plan or program as described above, or the submittal of a plan or program judged inadequate by the Director, shall be considered a violation of this permit.

E. Storm Water Requirements.

It has been determined that Skyline Mine has a regulated storm water discharge as per UAC R317-8-3.9., therefore, the following permit conditions governing storm water discharges apply.

1. Coverage of This Section.

- a. Discharges Covered Under This Section. The requirements listed under this section shall apply to storm water discharges from Skyline Mine, subject to effluent limitations listed in Part I.D. of this permit.

- 1) **Site Coverage.** Storm water discharges from the following portions of Skyline may be eligible for this permit: 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, sidings, 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 lands).

2. Prohibition of Non-storm Water Discharges.

- a. The following non-storm water discharges may be authorized by this permit provided the non-storm water component of the discharge is in

compliance with this section; fire fighting activities; fire hydrant flushings; potable water sources including waterline flushings; drinking fountain water; irrigation drainage, lawn watering; routine external building washdown water where detergents or other compounds have not been used in the process; pavement washwaters 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.

3. Storm Water Pollution Prevention Plan Requirements. Most of the active coal mining-related areas, described in paragraph 1 above, are subject to sediment and erosion control regulations of the U.S. Office of Surface Mining (OSM) that enforces the Surface Mining Control and Reclamation Act (SMCRA). OSM has granted authority to the Utah Division of Oil Gas and Mining (DOGM) to implement SMCRA through State SMCRA regulations. All SMCRA requirements regarding control of erosion, siltation and other pollutants resulting from storm water runoff, including road dust resulting from erosion, shall be primary requirements of the pollution prevention plan and shall be included in the contents of the plan directly, or by reference. Where determined to be appropriate for protection of water quality, additional sedimentation and erosion controls may be warranted.
 - a. Contents of Plan. The plan shall include at a minimum, the following items:
 - 1) 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 that are responsible for developing the storm water pollution prevention plan and assisting the facility 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.
 - 2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources that may reasonably be expected to add significant amounts of pollutants to storm water discharges or that 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 that may potentially be significant pollutant sources. Each plan shall include, at a minimum:
 - a) Deadlines for Plan Preparation and Compliance
Skyline Mine shall prepare and implement a plan in compliance with the provisions of this section within 270 days of the effective date of this permit.

b) Keeping Plans Current

Skyline Mine 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 objectives of controlling pollutants in storm water discharges associated with the activities at the mine.

c) Drainage.

- (1) A site map, such as a drainage map required for SMCRA permit applications, that indicates drainage areas and storm water outfalls. These shall include but not be limited to the following:
 - (a) Drainage direction and discharge points from all applicable mining-related areas described in paragraph 1.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 runoff of fuel, lubricants and other potentially harmful liquids.
 - (b) Location of each existing erosion and sedimentation control structure or other control measures for reducing pollutants in storm water runoff.
 - (c) Receiving streams or other surface water bodies.
 - (d) Locations exposed to precipitation that contain acidic spoil, refuse or unreclaimed disturbed areas.
 - (e) Locations where major spills or leaks of toxic or hazardous pollutants have occurred.
 - (f) Locations where liquid storage tanks containing potential pollutants, such as caustics, hydraulic fluids and lubricants, are exposed to precipitation.

- (g) Locations where fueling stations, vehicle and equipment maintenance areas are exposed to precipitation.
 - (h) Locations of outfalls and the types of discharges contained in the drainage areas of the outfalls.
- (2) For each area of the facility that generates storm water discharges associated with the 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.
- d) 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 method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff 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.
 - e) Spills and Leaks. A list of significant spills and 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 beginning 3 years prior to the effective date of this permit. Such list shall be updated as appropriate during the term of the permit.
 - f) Sampling Data. A summary of any existing discharge sampling data describing pollutants in storm water discharges from the portions of Skyline covered by this permit, including a summary of any sampling data collected during the term of this permit.

- g) Risk Identification and Summary of Potential Pollutant Sources. A narrative description of the potential pollutant sources from the following activities: truck 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.
- 3) Measures and Controls. Skyline Mine 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 Skyline Mine. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls.
- a) Good Housekeeping. Good housekeeping requires the maintenance of areas that may contribute pollutants to storm water discharges 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.
- b) Preventive Maintenance. A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices 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; inspections of storage tanks and pressure lines for fuels, lubricants, hydraulic fluid or slurry to prevent leaks due to deterioration or faulty connections; or other equivalent measures.

- c) Spill Prevention and Response Procedures. Areas where potential spills that can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up shall be available to personnel.

- d) Inspections. In addition to or as part of the comprehensive site evaluation required under paragraph 3.a.(4) of this section, qualified facility personnel shall be identified to inspect designated areas of the facility at appropriate intervals specified in the plan. The following shall be included in the plan:
 - (1) 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.

 - (2) 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 3.a.(4)(d) below.

 - (3) Inspection Records. The plan shall require that inspection records of the facility representative and those of the SMCRA authority inspector shall be maintained. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections.

- e) Employee Training. Employee training programs shall

inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify periodic dates for such training.

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

- g) Non-storm Water Discharges.
 - (1) Certification. The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges such as drainage from underground portions of inactive mines or floor drains from maintenance or coal handling buildings. The certification shall include the identification of potential significant sources of non-storm water discharges at the site, a description of the results of any test and/or evaluation, a description of 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 IV.G.4. of this permit.

 - (2) Exceptions. Except for flows from fire fighting activities, authorized sources of non-storm water listed in Part I.E.2.a. 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.

 - (3) Failure to Certify. If Skyline Mine is unable to provide the certification required (testing or other evaluation for non-storm water discharges), the Director must be notified 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 to the storm discharge lines; and why adequate tests for such storm discharge lines were not feasible. Non-storm water discharges to waters of the State that are not authorized by a UPDES permit are unlawful, and must be terminated.

- h) Sediment and Erosion Control. The plan shall identify areas that, 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 and reduce sediment concentrations in storm water discharges. As indicated in paragraph I.E.3. above, 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:
- (1) 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; nonacidic road surfacing material; and protective trees.
 - (2) 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.
- i) Management of Flow. 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.

- 4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at 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 coal mining-related areas shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. These areas include haul and access roads; railroad spurs, sidings, and internal haulage lines; conveyor belts, chutes and aerial tramways; equipment storage and maintenance yards; coal handling buildings and structures; and inactive mines and related areas. 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, as indicated in paragraphs 3.a.(3)(h) and 3.a.(3)(i) above and where identified in the plan, shall be observed to ensure that they are operating correctly. A visual evaluation of any 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 paragraph 3.a.(2) of this section, and pollution prevention measures and controls identified in the plan, in accordance with paragraph 3.a.(3) 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. For inactive mines, such revisions may be extended to a maximum of 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 3.a.(4)(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 IV.G.4. (Signatory Requirements) of this permit.

- d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), 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.
4. Numeric Effluent Limitations. There are no additional numeric effluent limitations beyond those described in Part I.E. of this permit.

5. Monitoring and Reporting Requirements.

- a. Benchmark Analytical Monitoring Requirements. Skyline Mine must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 of the permit cycle except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). Skyline Mine is required to monitor their storm water discharges for the pollutants of concern listed in Table E. below. Reports must be made in accordance with 5.b. (Reporting). In addition to the parameters listed in Table E. below, Skyline Mine must provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

The results of benchmark monitoring are primarily for Skyline Mine's use to determine the overall effectiveness of the SWPPP in controlling the discharge of pollutants to receiving waters. Benchmark values are not viewed as permit limitations. An exceedence of a benchmark value does not, in and of itself, constitute a violation of this permit. While exceedence of a benchmark value does not automatically indicate a violation of a water quality standard has occurred, it does signal that modifications to the SWPPP or more specific pollution prevention controls may be necessary.

Table E.
Monitoring Requirements for Coal Mining Facilities

Pollutants of Concern	Cut-Off Concentration
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Iron	1.0 mg/L
Total Suspended Solids	100 mg/L

- 1) Monitoring Periods. Skyline Mine shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December during the second and fourth years of this permit cycle.
- 2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where Skyline Mine documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.
- 3) Sampling Waiver.
 - a) Adverse Conditions. If Skyline Mine is unable to collect samples within a specified sampling period due to adverse climatic conditions, thus a substitute sample shall be collected from a separate qualifying event in the next monitoring period and the data submitted along with the data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).
 - b) Low Concentration Waiver. When the average concentration for a pollutant calculated from all

monitoring data collected from an outfall during the second year monitoring is less than the corresponding value for that pollutant listed in Table E. under the column Monitoring Cut-Off Concentration, Skyline Mine may waive monitoring and reporting requirements for the fourth year monitoring period. Skyline Mine must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility that drains to the outfall for which sampling was waived.

- c) Inactive and Unstaffed Site. If Skyline Mine is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. Skyline Mine must submit to the Director, in lieu of monitoring data, a certification statement on the Storm Water Discharge Monitoring Report (SWDMR) stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

- 4) Representative Discharge. If the facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, discharge substantially identical effluents, Skyline Mine may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that Skyline Mine 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 Skyline Mine 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. Skyline Mine shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the SWDMR.

- 5) Alternative Certification. Skyline Mine is not subject to the monitoring requirements of this section provided that certification is made for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph b. below, under penalty of law, signed in accordance with Part IV.G.4. (Signatory Requirements). The Certification shall state that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-

products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to DWQ in accordance with Part II.D. of this permit. In the case of certifying that a pollutant is not present, Skyline Mine must submit the certification along with the monitoring reports required under paragraph b. below. If Skyline Mine cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

- b. Reporting. Skyline Mine shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the second year reporting period, on Storm Water Discharge Monitoring Report (SWDMR) form(s) postmarked no later than the 31st day of the following March. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the fourth year reporting period shall be submitted on SWDMR form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed SWDMR form must be submitted to the Director per storm event sampled. Signed copies of SWDMRs, or said certifications, shall be submitted to the Director at the address listed in Part II.D. of the permit.
- c. Visual Examination of Storm Water Quality. Skyline 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.
- 1) 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.
 - 2) Sample and Data Collection. Examinations shall be made of samples collected within the first 60 minutes (or as soon thereafter as practical, but not to exceed two hours) 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 will carry out the collection and examination of discharges for the life of the permit.

- 3) 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.

II. MONITORING, RECORDING AND REPORTING REQUIREMENTS

- A. Representative Sampling Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Sludge samples shall be collected at a location representative of the quality of sludge immediately prior to the use-disposal practice.
- B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under *Utah Administrative Code ("UAC") R317-2-10*, unless other test procedures have been specified in this permit.
- C. Penalties for Tampering. The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
- D. Reporting of Monitoring Results. Monitoring results obtained during the previous month shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), post-marked no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports including whole effluent toxicity (WET) test reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part IV.G)*, and submitted to the Director, Division of Water Quality at the following address:
- original to: Department of Environmental Quality
Division of Water Quality
195 North 1950 West
PO Box 144870
Salt Lake City, Utah 84114-4870
- E. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.
- F. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10* or as otherwise specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.
- G. Records Contents. Records of monitoring information shall include:
1. The date, exact place, and time of sampling or measurements;
 2. The individual(s) who performed the sampling or measurements;

3. The date(s) and time(s) analyses were performed;
 4. The individual(s) who performed the analyses;
 5. The analytical techniques or methods used; and,
 6. The results of such analyses.
- H. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location.
- I. Twenty-four Hour Notice of Noncompliance Reporting.
1. The permittee shall (orally) report any noncompliance which may seriously endanger health or environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 536-4300, or 24 hour answering service (801) 536-4123.
 2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4123 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:
 - a. Any noncompliance which may endanger health or the environment;
 - b. Any unanticipated bypass which exceeds any effluent limitation in the permit (See *Part III.G, Bypass of Treatment Facilities.*);
 - c. Any upset which exceeds any effluent limitation in the permit (See *Part III.H, Upset Conditions.*); or,
 - d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.
 3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected; and,
 - d. Steps taken or planned to reduce, eliminate, and prevent

reoccurrence of the noncompliance.

- e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.
- 4. The 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 II.D, Reporting of Monitoring Results*.
- J. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part II.D* are submitted. The reports shall contain the information listed in *Part II.I.3*.
- K. 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; and,
 - 4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location.

III. 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 of the Act is subject to a fine not exceeding \$25,000 per day of violation; Any person convicted under *UCA 19-5-115(2)* a second time shall be punished by a fine not exceeding \$50,000 per day. Except as provided at *Part III.G, Bypass of Treatment Facilities* and *Part III.H, Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.
- C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- F. Removed Substances. Collected screening, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not directly enter either the final effluent or waters of the state by any other direct route.
- G. Bypass of Treatment Facilities.
1. Bypass Not Exceeding Limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to 2. and 3. of this section.

2. Prohibition of Bypass.

- a. Bypass is prohibited, and the Director may taken 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 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 G.2a. (1), (2) and (3).

3. Notice.

- a. Anticipated bypass. Except as provided above in section G.2. and below in section 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 G.3.a.(1) through (6i) to the extent practicable.
- c. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass to the Director as required under Part II.I., 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 II.I, Twenty-four Hour Notice of Noncompliance Reporting; and,
 - d. The permittee complied with any remedial measures required under Part III.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.

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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).

IV. 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 pollutants discharged. This notification applies to pollutants which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the 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 IV.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 IV.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 permittees 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 Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by *UCA 19-5-117*.
- O. Water Quality-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. A revision to the current Water Quality Management Plan is approved and adopted which calls for different effluent limitations than contained in this permit.
- P. Toxicity Limitation-Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include whole effluent toxicity (WET) testing, a WET limitation, a compliance schedule, a compliance date, additional or modified numerical limitations, or any other conditions related to the control of toxicants if toxicity is detected during the life of this permit.

**FACT SHEET/STATEMENT OF BASIS
CANYON FUEL COMPANY, LLC
SKYLINE MINE
MAJOR INDUSTRIAL RENEWAL PERMIT
UPDES PERMIT No. UT0023540**

CONTACT: Gregg Galecki, Environmental Engineer
Canyon Fuel Company, LLC
HCR 35, Box 380
Helper, Utah 84526
Phone: (435) 448-2636

DESCRIPTION OF FACILITY AND DISCHARGE

The Canyon Fuel Company's Skyline Mine (Skyline) is an active underground coal mine operation with *Standard Industrial Classification 1222, for bituminous underground coal mining operations*. The facility is located approximately 8 miles southwest of Scofield, Utah along State Route 264 in Carbon County. It currently has four permitted discharge points (Outfalls 001, 002, 003, & 004). Outfall 001, which discharges to Eccles Creek, is comprised of both the continuous mine water discharges, as well as any surface water runoff directed to the sedimentation pond from the main facility. Outfall 002 is from a sedimentation pond, which collects surface water runoff from the separate coal load out facility located at the intersection of State Routes 264 & 96 and discharges intermittently to Eccles Creek during pond maintenance, precipitation and/or snow melting events. Outfall 003 is from a sedimentation pond located at the off site waste rock disposal area near Scofield and has not discharged to date and is not expected to discharge due to its size. If discharge were to occur it would go to UP Canyon Creek, tributary to Mud Creek and Scofield Reservoir. Outfall 004 is from a sediment pond that can contain both surface water runoff from the Winter Quarters Canyon ventilation shaft facility, as well as potentially some of the mine water normally discharged via Outfall 001. Outfall 004 discharges to Winter Quarters Canyon streambed, also tributary to Mud Creek and Scofield Reservoir.

RECEIVING WATERS AND STREAM CLASSIFICATIONS

As taken from *Utah Administrative Code (UAC) R317-2-13.1.b*, the receiving waters of Eccles Creek, UP Canyon Creek and Winter Quarters Canyon are classified as follows:

- 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 secondary contact recreation such as boating, wading or similar uses.
- 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.

DISCHARGE MONITORING RESULTS

The discharge monitoring results (DMRs) for the past 5 years were reviewed. One effluent limitation exceedance occurred since the last permit renewal. The concentration of oil and grease was measured at 12 mg/L at Discharge 001 during May of 2013.

BASIS FOR EFFLUENT LIMITATIONS

In accordance with regulations promulgated in *40 Code of Federal Regulations (CFR) Part 122.44* and in *Utah Administrative Code (UAC) R317-8-4.2*, effluent limitations are derived from technology-based effluent limitations guidelines, Utah Secondary Treatment Standards (*UAC R317-1-3.2*) or Utah Water Quality Standards (*UAC R317-2*). In cases where multiple limits have been developed, those that are more stringent apply. In cases where no limits have been developed, Best Professional Judgment (BPJ) may be used where applicable. "Best Professional Judgment" refers to a discretionary, best professional decision made by the permit writer based upon precedent, prevailing regulatory standards or other relevant information.

The following is a list of the basis for effluent limitations:

- 1) Since the Skyline discharge meets the EPA definition of "alkaline mine drainage," the permittee is subject to the technology based effluent limitations in *40 CFR Part 434.45*. Applicable technology based limits included in the permit are as follows:
 - a. Total suspended solids (TSS) daily maximum limit of 70 mg/L.
 - b. For discharges composed of surface water or mine water commingled with surface water, *40 CFR Part 434.63* allows alternate effluent limits to be applied when discharges result from specific runoff events, detailed below and in the permit. Skyline has the burden of proof that the described runoff event occurred as described in the permit.
 - i. For runoff events (rainfall or snowmelt) less than or equal to a 10-year 24-hour precipitation event, settleable solids may be substituted for TSS and shall be limited to 0.5 milliliters per liter (ml/L). All other effluent limitations must be achieved concurrently, as described in the permit.
- 2) TSS 30-day and 7-day averages are based on Utah Secondary Treatment Standards.
- 3) Daily minimum and daily maximum limitations on pH are derived from Utah Secondary Treatment Standards and Water Quality Standards.
- 4) The dissolved oxygen daily minimum limitation is based upon the State Water Quality Standard of 5.0 mg/L for dissolved oxygen (*UAC R317-2 Table 2.14.2*) and the WLA limitation of 5.0 mg/L for dissolved oxygen.
- 5) Total dissolved solids (TDS) are limited by both mass loading and concentration requirements as described below:
 - a. Since discharges from Skyline eventually reach the Colorado River, TDS mass loading is limited according to policies established by the Colorado River Basin Salinity Control Forum (Forum), as authorized in *UAC R317-2-4* to further control salinity in the Utah portion of the Colorado River Basin. On February 28, 1977 the Forum produced the "*Policy For Implementation of Colorado River Salinity Standards Through the NPDES Permit Program*" (Policy), with the most current subsequent triennial revision dated October 2008. Based on Forum Policy, provisions have previously been made for salinity-offset projects to account for any TDS loading in excess of the permit requirement. Salinity-offset provisions have once again been included in Skyline's permit as the facility remains current on the requirements included therein to account for all excess TDS loading. These provisions and

requirements, as described further in both the permit and in a latter section of this fact sheet statement of basis, will remain in Skyline's renewal permit as appropriate.

- b. Previous Skyline permit provisions included TDS concentrations that were limited by the resulting Waste Load Analysis (WLA), which is described further in the following section. The previous limit had been 1,200 mg/L. Based on the current WLA, each outfall shall have a TDS concentration limitation not to exceed 1,203 mg/L. The State Water Quality Standard for TDS is 1,200 mg/L and in the permitting authorities BPJ, this more stringent limitation has been included in the permit renewal. A review of the past 5 years of discharge data indicates that Skyline should be able to comply with this more stringent limitation.
- 6) 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 the WLA limitation of 1.0 mg/L for total recoverable iron. Total recoverable iron is a more stringent limit than dissolved iron. Therefore, the existing permit limit of 1.0 mg/L for total recoverable iron will remain in the renewal permit and shall apply to each of the discharge points.
- 7) Oil and Grease concentrations are limited to 10 mg/L by BPJ to be consistent with other industrial facilities statewide.

WASTE LOAD ANALYSIS AND ANTIDegradation REVIEW

Effluent limitations may also be derived using a Waste Load Analysis (WLA), which is appended to this statement of basis as ADDENDUM. The WLA incorporates Secondary Treatment Standards, Water Quality Standards, Antidegradation Reviews (ADR), as appropriate and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During this UPDES renewal permit development, a WLA and ADR were performed. An ADR Level I review was performed and concluded that an ADR Level II review was required because the receiving stream is Class 1C. The Level II ADR evaluated the historic maximum flow of 16.848 mgd and concluded Skyline Mine should continue participation in the Colorado Salinity Offset program. In addition, the WLA indicates that the effluent limitations should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. The discharge was evaluated and determined not to cause a violation of State Water Quality Standards in downstream receiving waters.

EFFLUENT LIMITS & SELF-MONITORING & REPORTING REQUIREMENTS

Skyline is expected to be able to continue complying with the following effluent limitations and self-monitoring and reporting requirements included in the permit and as described below.

Parameter, Units	Effluent Limitations <i>a/</i>			
	Maximum Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
Total Effluent Flow, MGD, <i>b/</i>	Report			Report
Total Iron, mg/L				1.0
Total Suspended Solids (TSS), mg/L	25	35		70
Total Dissolved Solids (TDS), mg/L, <i>c/</i>	Report			1,200
Dissolved Oxygen, mg/L			5.0	
pH, Standard Units(SU)			6.5	9.0
Oil & Grease, mg/L, <i>d/</i>				10
Whole Effluent Toxicity (WET), Chronic Biomonitoring				Pass, IC ₂₅ > 99% effluent

NA – Not Applicable; mg/L – milligrams per liter; MGD – million gallons per day

Discharge monitoring report (DMR) forms shall be submitted on a monthly basis and are due on or before the 28th day of the month after each monitoring period. For example, the DMR form for February would be due by March 28th. A review of the past 5 years of DMR data demonstrates Skyline should be able to continue complying with the permit provisions herein.

Listed below are the permit parameters and the associated sampling frequency, type of sample and required units, followed by the applicable permit footnotes as appropriate.

Self-Monitoring and Reporting Requirements <i>a/</i>			
Parameter	Frequency	Sample Type	Units
Total Flow, <i>b/</i>	Continuous	Recorder	MGD
Total Iron	Twice Monthly	Grab	mg/L
TSS	Weekly	Grab	mg/L
TDS, <i>c/</i>	Twice Monthly	Grab	mg/L & tons/day
pH	Weekly	Grab	SU
Oil & Grease, <i>d/</i>	Weekly, Twice Monthly	Grab, Visual	mg/L, Yes/No
Dissolved Oxygen	Monthly	Grab	mg/L
Chronic WET Biomonitoring	Quarterly	Composite	Pass/Fail

Permit Footnote Conditions:

There shall be no visible sheen or floating solids or visible foam in other than trace amounts upon any discharges and there shall be no discharge of any sanitary wastes at any time.

- a/ See Definitions, *Part I.A* of the permit, for definition of terms.
- b/ If the rate of discharge is controlled, such as from intermittent discharging outfalls, the rate and duration of discharge shall be reported. Flow measurements of effluent volumes from all outfalls shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- c/ The TDS concentration from each of the outfalls shall not exceed 1,200 mg/L as a daily maximum limit. No tons per day loading limit will be applied 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 30-day average concentration exceeds 500 mg/L, then the permittee cannot discharge more than 7.1 tons per day as a sum from all discharge points. Upon previous determinations by the Director that the permittee is not able to meet the 500 mg/L 30-day average or the 7.1 tons per day loading limit, the permittee is required to continue to participate in and/or fund a salinity offset project to include the TDS offset credits as appropriate.

The salinity-offset project shall include TDS credits on a ton-for-ton basis for which the permittee is over the TDS loading limit. The tonnage reduction from the offset project must be calculated by a method similar to one used by the NRCS, Colorado River Basin Salinity Control Forum, or other applicable agency.

If the permittee will be participating in the construction and implementation of a new salinity-offset project, then a project description and implementation schedule shall be submitted to the Director at least six (6) months prior to the implementation date of the project, which will then be reviewed for approval. The salinity offset project description and implementation schedule must be approved by the Director and shall be appended to this permit.

If the permittee will be funding any additional salinity-offset projects through third parties, the permittee shall provide satisfactory evidence to the Executive Secretary that the required funds have been deposited to the third party within six (6) months of project approval by the Director. A monitoring and adjustment plan to track the TDS credits shall continue to be submitted to the Director for each monthly monitoring period during the life of this permit. Any changes to the monitoring and adjustment plan must be approved by the Director and upon approval shall be appended to this permit.

- d/ Weekly oil & grease samples shall be conducted at outfall 001. At outfalls 002, 003 and 004, oil & grease monitoring shall initially be a visual test conducted at least twice per month. If any oil and/or grease sheens are observed visually, or there is any other reason to believe that oil and/or grease may be present in the

discharge, then a grab sample of the effluent must be immediately taken and this sample shall not exceed 10 mg/L.

SIGNIFICANT CHANGES

Three significant changes were made during renewal. Dissolved oxygen monitoring was increased to monthly with the inclusion of a 5.0 mg/L daily minimum effluent limitation and total phosphorous monitoring was removed. All other permit limitations remain unchanged. Last, Skyline Mine's permit was changed from a minor to a major due to evaluation of historic flows.

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.

BIOMONITORING REQUIREMENTS

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the State of Utah's "*UPDES Permitting and Enforcement Guidance Document for Whole Effluent Toxicity (WET) Control (Biomonitoring)*, Division of Water Quality, March 1999." Authority to require effluent biomonitoring is provided in UAC R317-8, *Utah Pollutant Discharge Elimination System and UAC R317-2, Water Quality Standards*.

During the past five years, Skyline has been conducting quarterly chronic WET testing of their mine water discharge via Outfall 001 utilizing the test species, *Ceriodaphnia dubia* (water flea) and *Pimephales promelas* (fathead minnow) as appropriate. A review of the WET testing reports reveals that Skyline has had no chronic WET failures during the previous 26 testing events. Due to discharging to a category Class 1C water and based upon these facts, Skyline shall continue quarterly chronic WET testing, alternating the test species as appropriate. Chronic WET testing provisions are included in the permit as well as the toxicity limitation re-opener provision, which allows for the modification of the permit at any time to include WET limitations and/or increased WET monitoring, should additional information indicate the presence of toxicity in the discharge.

STORMWATER REQUIREMENTS

Storm water on mining sites is regulated under 40 CFR 434 and under State and Federal storm water regulations (UAC R317-8-3.9 and 40 CFR 122.26, respectively). Regulations under 40 CFR 434 are for active mining areas, and temporarily inactive mining areas. Skyline is an active mine site and therefore, required to be covered under a storm water permit. Skyline has previously received coverage under the General Multi-Sector Storm Water Permit No. UTR000000 and has developed a storm water pollution prevention plan pursuant to the permit as required. This plan is required to be on-site and made available for review upon request. Accordingly, similar storm water permit provisions have been included in this individual permit to replace the provisions of the general permit in an on-going effort to stream line the UPDES permitting program. Therefore, coverage under the general storm water permit may be terminated by Skyline upon the effective date of this individual permit.

PERMIT DURATION

As stated in *UAC R317-8-5.1(1)*, UPDES permits shall be effective for a fixed term not to exceed five (5) years.

Drafted by:

Permit Writer	Ken Hoffman, P.E. 801-536-4313 (kenhoffman@utah.gov)
WET	Mike Herkimer
Stormwater	Mike George
TMDL	Amy Dickey
WLA	Dave Wham

PUBLIC COMMENT

Began: March 13, 2015

Ended: April 13, 2015

Public Noticed in the Sun-Advocate

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, therefore the permit is the same as the public notice draft.

Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis
SUMMARY

Discharging Facility: Canyon Fuel Skyline Mine
UPDES No: UT-UT0023540
Current Flow: 16.85 MGD Design Flow
Design Flow 16.85 MGD

Receiving Water: Eccles Creek => Mud Creek => Scofield Reservoir
Stream Classification: 1C, 2B, 3A, 4
Stream Flows [cfs]:
0.06 Summer (July-Sept) 20th Percentile
0.06 Fall (Oct-Dec) 20th Percentile
0.06 Winter (Jan-Mar) 20th Percentile
0.06 Spring (Apr-June) 20th Percentile
0.43 Average
Stream TDS Values:
360.0 Summer (July-Sept) 80th Percentile
360.0 Fall (Oct-Dec) 80th Percentile
360.0 Winter (Jan-Mar) 80th Percentile
360.0 Spring (Apr-June) 80th Percentile

Effluent Limits:	WQ Standard:		
Flow, MGD:	16.85 MGD	Design Flow	
BOD, mg/l:	25.0 Summer	5.0 Indicator	
Dissolved Oxygen, mg/l	5.0 Summer	6.5 30 Day Average	
TNH3, Chronic, mg/l:	3.4 Summer	Varies Function of pH and Temperature	
TDS, mg/l:	1201.9 Summer	1200.0	

Modeling Parameters:
Acute River Width: 0.0% Plume Model Used
Chronic River Width: 100.0%

Level II Antidegradation Review required. Receiving water is a Class 1C drinking water source.

Date: 9/29/2014

Permit Writer: _____
WLA by: *David M. Johnson* 3/3/15
WQM Sec. Approval: _____
TMDL Sec. Approval: _____

Utah Division of Water Quality
Salt Lake City, Utah

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

29-Sep-14
4:00 PM

Facilities: Canyon Fuel Skyline Mine
Discharging to: Eccles Creek => Mud Creek => Scofield Reservoir

UPDES No: UT-UT0023540

I. Introduction

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

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

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

II. Receiving Water and Stream Classification

Eccles Creek => Mud Creek => Scofield 1C, 2B, 3A, 4
Antidegradation Review: Level II Antidegradation Review required. Receiving water is a Class 1C drinking water source.

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		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration	ug/l	Load*
Aluminum	87.00 ug/l**	12.222 lbs/day	750.00	ug/l	105.363 lbs/day
Arsenic	190.00 ug/l	26.692 lbs/day	340.00	ug/l	47.765 lbs/day
Cadmium	0.76 ug/l	0.106 lbs/day	8.73	ug/l	1.226 lbs/day
Chromium III	268.09 ug/l	37.663 lbs/day	5609.03	ug/l	787.980 lbs/day
ChromiumVI	11.00 ug/l	1.545 lbs/day	16.00	ug/l	2.248 lbs/day
Copper	30.48 ug/l	4.283 lbs/day	51.66	ug/l	7.257 lbs/day
Iron			1000.00	ug/l	140.484 lbs/day
Lead	18.57 ug/l	2.608 lbs/day	476.47	ug/l	66.936 lbs/day
Mercury	0.0120 ug/l	0.002 lbs/day	2.40	ug/l	0.337 lbs/day
Nickel	168.46 ug/l	23.666 lbs/day	1515.18	ug/l	212.859 lbs/day
Selenium	4.60 ug/l	0.646 lbs/day	20.00	ug/l	2.810 lbs/day
Silver	N/A ug/l	N/A lbs/day	41.03	ug/l	5.764 lbs/day
Zinc	387.64 ug/l	54.457 lbs/day	387.64	ug/l	54.457 lbs/day

* Allowed below discharge

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

Metals Standards Based upon a Hardness of 399.77 mg/l as CaCO₃

Organics [Pesticides]

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration	ug/l	Load*
Aldrin			1.500	ug/l	0.211 lbs/day
Chlordane	0.004 ug/l	0.605 lbs/day	1.200	ug/l	0.169 lbs/day
DDT, DDE	0.001 ug/l	0.141 lbs/day	0.550	ug/l	0.077 lbs/day
Dieldrin	0.002 ug/l	0.268 lbs/day	1.250	ug/l	0.176 lbs/day
Endosulfan	0.056 ug/l	7.885 lbs/day	0.110	ug/l	0.015 lbs/day
Endrin	0.002 ug/l	0.324 lbs/day	0.090	ug/l	0.013 lbs/day
Guthion			0.010	ug/l	0.001 lbs/day
Heptachlor	0.004 ug/l	0.535 lbs/day	0.260	ug/l	0.037 lbs/day
Lindane	0.080 ug/l	11.265 lbs/day	1.000	ug/l	0.140 lbs/day
Methoxychlor			0.030	ug/l	0.004 lbs/day
Mirex			0.010	ug/l	0.001 lbs/day
Parathion			0.040	ug/l	0.006 lbs/day
PCB's	0.014 ug/l	1.971 lbs/day	2.000	ug/l	0.281 lbs/day
Pentachlorophenol	13.00 ug/l	1830.499 lbs/day	20.000	ug/l	2.810 lbs/day
Toxephene	0.0002 ug/l	0.028 lbs/day	0.7300	ug/l	0.103 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	52.68 lbs/day
Cadmium			10.0 ug/l	0.70 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	84.29 tons/day

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

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Metals				
Arsenic			50.0 ug/l	7.040 lbs/day
Barium			1000.0 ug/l	140.808 lbs/day
Cadmium			10.0 ug/l	1.408 lbs/day
Chromium			50.0 ug/l	7.040 lbs/day
Lead			50.0 ug/l	7.040 lbs/day
Mercury			2.0 ug/l	0.282 lbs/day
Selenium			10.0 ug/l	1.408 lbs/day
Silver			50.0 ug/l	7.040 lbs/day
Fluoride (3) to			1.4 ug/l 2.4 ug/l	0.197 lbs/day 0.338 lbs/day
Nitrates as N			10.0 ug/l	1.408 lbs/day

Chlorophenoxy Herbicides

2,4-D	100.0 ug/l	14.081 lbs/day
2,4,5-TP	10.0 ug/l	1.408 lbs/day
Endrin	0.2 ug/l	0.028 lbs/day
cyclohexane (Lindane)	4.0 ug/l	0.563 lbs/day
Methoxychlor	100.0 ug/l	14.081 lbs/day
Toxaphene	5.0 ug/l	0.704 lbs/day

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

Toxic Organics	Maximum Conc., ug/l - Acute Standards			
	Class 1C [2 Liters/Day for 70 Kg Person over 70 Yr.]		Class 3A, 3B [6.5 g for 70 Kg Person over 70 Yr.]	
Acenaphthene	1200.00 ug/l	168.97 lbs/day	2700.0 ug/l	380.18 lbs/day
Acrolein	320.00 ug/l	45.06 lbs/day	780.0 ug/l	109.83 lbs/day
Acrylonitrile	0.06 ug/l	0.01 lbs/day	0.7 ug/l	0.09 lbs/day
Benzene	1.20 ug/l	0.17 lbs/day	71.0 ug/l	10.00 lbs/day
Benzidine	0.00012 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Carbon tetrachloride	0.25 ug/l	0.04 lbs/day	4.4 ug/l	0.62 lbs/day
Chlorobenzene	680.00 ug/l	95.75 lbs/day	21000.0 ug/l	2956.96 lbs/day
1,2,4-Trichlorobenzene				
Hexachlorobenzene	0.00075 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Dichloroethane	0.38 ug/l	0.05 lbs/day	99.0 ug/l	13.94 lbs/day

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1,1,1-Trichloroethane				
Hexachloroethane	1.90 ug/l	0.27 lbs/day	8.9 ug/l	1.25 lbs/day
1,1-Dichloroethane				
1,1,2-Trichloroethane	0.61 ug/l	0.09 lbs/day	42.0 ug/l	5.91 lbs/day
1,1,2,2-Tetrachloroethane	0.17 ug/l	0.02 lbs/day	11.0 ug/l	1.55 lbs/day
Chloroethane			0.0 ug/l	0.00 lbs/day
Bis(2-chloroethyl) ether	0.03 ug/l	0.00 lbs/day	1.4 ug/l	0.20 lbs/day
2-Chloroethyl vinyl ether	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
2-Chloronaphthalene	1700.00 ug/l	239.37 lbs/day	4300.0 ug/l	605.47 lbs/day
2,4,6-Trichlorophenol	2.10 ug/l	0.30 lbs/day	6.5 ug/l	0.92 lbs/day
p-Chloro-m-cresol			0.0 ug/l	0.00 lbs/day
Chloroform (HM)	5.70 ug/l	0.80 lbs/day	470.0 ug/l	66.18 lbs/day
2-Chlorophenol	120.00 ug/l	16.90 lbs/day	400.0 ug/l	56.32 lbs/day
1,2-Dichlorobenzene	2700.00 ug/l	380.18 lbs/day	17000.0 ug/l	2393.73 lbs/day
1,3-Dichlorobenzene	400.00 ug/l	56.32 lbs/day	2600.0 ug/l	366.10 lbs/day
1,4-Dichlorobenzene	400.00 ug/l	56.32 lbs/day	2600.0 ug/l	366.10 lbs/day
3,3'-Dichlorobenzidine	0.04 ug/l	0.01 lbs/day	0.1 ug/l	0.01 lbs/day
1,1-Dichloroethylene	0.06 ug/l	0.01 lbs/day	3.2 ug/l	0.45 lbs/day
1,2-trans-Dichloroethylene	700.00 ug/l	98.57 lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dichlorophenol	93.00 ug/l	13.10 lbs/day	790.0 ug/l	111.24 lbs/day
1,2-Dichloropropane	0.52 ug/l	0.07 lbs/day	39.0 ug/l	5.49 lbs/day
1,3-Dichloropropylene	10.00 ug/l	1.41 lbs/day	1700.0 ug/l	239.37 lbs/day
2,4-Dimethylphenol	540.00 ug/l	76.04 lbs/day	2300.0 ug/l	323.86 lbs/day
2,4-Dinitrotoluene	0.11 ug/l	0.02 lbs/day	9.1 ug/l	1.28 lbs/day
2,6-Dinitrotoluene	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Diphenylhydrazine	0.04 ug/l	0.01 lbs/day	0.5 ug/l	0.08 lbs/day
Ethylbenzene	3100.00 ug/l	436.50 lbs/day	29000.0 ug/l	4083.42 lbs/day
Fluoranthene	300.00 ug/l	42.24 lbs/day	370.0 ug/l	52.10 lbs/day
4-Chlorophenyl phenyl ether				
4-Bromophenyl phenyl ether				
Bis(2-chloroisopropyl) e	1400.00 ug/l	197.13 lbs/day	170000.0 ug/l	23937.29 lbs/day
Bis(2-chloroethoxy) met	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Methylene chloride (HM)	4.70 ug/l	0.66 lbs/day	1600.0 ug/l	225.29 lbs/day
Methyl chloride (HM)	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Methyl bromide (HM)	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Bromoform (HM)	4.30 ug/l	0.61 lbs/day	360.0 ug/l	50.69 lbs/day
Dichlorobromomethane	0.27 ug/l	0.04 lbs/day	22.0 ug/l	3.10 lbs/day
Chlorodibromomethane	0.41 ug/l	0.06 lbs/day	34.0 ug/l	4.79 lbs/day
Hexachlorobutadiene(c)	0.44 ug/l	0.06 lbs/day	50.0 ug/l	7.04 lbs/day
Hexachlorocyclopentadi	240.00 ug/l	33.79 lbs/day	17000.0 ug/l	2393.73 lbs/day
Isophorone	8.40 ug/l	1.18 lbs/day	600.0 ug/l	84.48 lbs/day
Naphthalene				
Nitrobenzene	17.00 ug/l	2.39 lbs/day	1900.0 ug/l	267.53 lbs/day
2-Nitrophenol	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4-Nitrophenol	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dinitrophenol	70.00 ug/l	9.86 lbs/day	14000.0 ug/l	1971.31 lbs/day
4,6-Dinitro-o-cresol	13.00 ug/l	1.83 lbs/day	765.0 ug/l	107.72 lbs/day
N-Nitrosodimethylamine	0.00069 ug/l	0.00 lbs/day	8.1 ug/l	1.14 lbs/day
N-Nitrosodiphenylamine	5.00 ug/l	0.70 lbs/day	16.0 ug/l	2.25 lbs/day
N-Nitrosodi-n-propylami	0.01 ug/l	0.00 lbs/day	1.4 ug/l	0.20 lbs/day
Pentachlorophenol	0.28 ug/l	0.04 lbs/day	8.2 ug/l	1.15 lbs/day

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Phenol	2.10E+04 ug/l	2.96E+03 lbs/day	4.6E+06 ug/l	6.48E+05 lbs/day
Bis(2-ethylhexyl)phthala	1.80 ug/l	0.25 lbs/day	5.9 ug/l	0.83 lbs/day
Butyl benzyl phthalate	3000.00 ug/l	422.42 lbs/day	5200.0 ug/l	732.20 lbs/day
Di-n-butyl phthalate	2700.00 ug/l	380.18 lbs/day	12000.0 ug/l	1689.69 lbs/day
Di-n-octyl phthlate				
Diethyl phthalate	23000.00 ug/l	3238.57 lbs/day	120000.0 ug/l	16896.91 lbs/day
Dimethyl phthlate	3.13E+05 ug/l	4.41E+04 lbs/day	2.9E+06 ug/l	4.08E+05 lbs/day
Benzo(a)anthracene (P/	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(a)pyrene (PAH)	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(b)fluoranthene (F	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(k)fluoranthene (F	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Chrysene (PAH)	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Acenaphthylene (PAH)				
Anthracene (PAH)	9600.00 ug/l	1351.75 lbs/day	0.0 ug/l	0.00 lbs/day
Dibenzo(a,h)anthracene	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Indeno(1,2,3-cd)pyrene	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Pyrene (PAH)	960.00 ug/l	135.18 lbs/day	11000.0 ug/l	1548.88 lbs/day
Tetrachloroethylene	0.80 ug/l	0.11 lbs/day	8.9 ug/l	1.25 lbs/day
Toluene	6800.00 ug/l	957.49 lbs/day	200000 ug/l	28161.52 lbs/day
Trichloroethylene	2.70 ug/l	0.38 lbs/day	81.0 ug/l	11.41 lbs/day
Vinyl chloride	2.00 ug/l	0.28 lbs/day	525.0 ug/l	73.92 lbs/day
			0.0	0.00 lbs/day
			0.0	0.00 lbs/day
Pesticides				
Aldrin	0.0001 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Dieldrin	0.0001 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Chlordane	0.0006 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDT	0.0006 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDE	0.0006 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDD	0.0008 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
alpha-Endosulfan	0.9300 ug/l	0.13 lbs/day	2.0 ug/l	0.28 lbs/day
beta-Endosulfan	0.9300 ug/l	0.13 lbs/day	2.0 ug/l	0.28 lbs/day
Endosulfan sulfate	0.9300 ug/l	0.13 lbs/day	2.0 ug/l	0.28 lbs/day
Endrin	0.7600 ug/l	0.11 lbs/day	0.8 ug/l	0.11 lbs/day
Endrin aldehyde	0.7600 ug/l	0.11 lbs/day	0.8 ug/l	0.11 lbs/day
Heptachlor	0.0002 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Heptachlor epoxide				
PCB's				
PCB 1242 (Arochlor 124	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1254 (Arochlor 124	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1221 (Arochlor 122	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1232 (Arochlor 123	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1248 (Arochlor 124	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1260 (Arochlor 126	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1016 (Arochlor 10	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Pesticide				
Toxaphene	0.000750 ug/l	0.00	0.0 ug/l	0.00 lbs/day
Dioxin				
Dioxin (2,3,7,8-TCDD)	1.30E-08 ug/l	0.00 lbs/day	1.40E-08	0.00

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Metals

Antimony	14.0 ug/l	1.97 lbs/day		
Arsenic	50.0 ug/l	7.04 lbs/day	4300.00 ug/l	605.47 lbs/day
Asbestos	7.00E+06 ug/l	9.86E+05 lbs/day		
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	1.30E+03 ug/l	183.05 lbs/day	2.2E+05 ug/l	30977.67 lbs/day
Lead	700.0 ug/l	98.57 lbs/day		
Mercury			0.15 ug/l	0.02 lbs/day
Nickel			4600.00 ug/l	647.71 lbs/day
Selenium	0.1 ug/l	0.02 lbs/day		
Silver	610.0 ug/l	85.89 lbs/day		
Thallium			6.30 ug/l	0.89 lbs/day
Zinc				

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

VII. Mathematical Modeling of Stream Quality

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

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

- (1) The Utah River Model, Utah Division of Water Quality, 1992. Based upon STREAMDO IV (Region VIII) and Supplemental Ammonia Toxicity Models; EPA Region VIII, Sept. 1990 and QUAL2E (EPA, Athens, GA).
- (2) Utah Ammonia/Chlorine Model, Utah Division of Water Quality, 1992.
- (3) AMMTOX Model, University of Colorado, Center of Limnology, and EPA Region 8
- (4) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

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

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

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

VIII. Modeling Information

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

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

Other Conditions

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

Model Inputs

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

Current Upstream Information

		Stream							
		Critical Low							
		Flow	Temp.	pH	T-NH3	BOD5	DO	TRC	TDS
		cfs	Deg. C	mg/l as N	mg/l	mg/l	mg/l	mg/l	mg/l
Summer (Irrig. Season)		0.1	21.9	8.2	0.03	0.10	7.68	0.00	360.0
	Fall	0.1	6.6	8.1	0.03	0.10	---	0.00	360.0
	Winter	0.1	2.4	8.2	0.03	0.10	---	0.00	360.0
	Spring	0.1	13.6	8.2	0.03	0.10	---	0.00	360.0
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	ug/l
All Seasons	1.59*	0.53*	0.053*	0.53*	2.65*	0.53*	0.1	0.53*	
Dissolved	Hg	Ni	Se	Ag	Zn	Boron			
Metals	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l			
All Seasons	0.0000	0.53*	1.06*	0.1*	0.053*	10.0			* 1/2 MDL

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Projected Discharge Information

Season	Flow, MGD	Temp.	TDS mg/l	TDS tons/day
Summer	16.84800	17.0	660.00	46.35978
Fall	16.84800	15.0		
Winter	16.84800	12.0		
Spring	16.84800	15.0		

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

IX. Effluent Limitations

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

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

Effluent Limitation for Flow based upon Water Quality Standards

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

Season	Daily Average	
Summer	16.848 MGD	26.064 cfs
Fall	16.848 MGD	26.064 cfs
Winter	16.848 MGD	26.064 cfs
Spring	16.848 MGD	26.064 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 16.848 MGD. If the discharger is allowed to have a flow greater than 16.848 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occurring, the permit writers must include the discharge flow limitation as indicated above; or, include loading effluent limits in the permit.

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

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

WET Requirements	LC50 >	EOP Effluent	[Acute]
	IC25 >	99.8% Effluent	[Chronic]

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

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

Season	Concentration	
Summer	25.0 mg/l as BOD5	3512.1 lbs/day
Fall	25.0 mg/l as BOD5	3512.1 lbs/day
Winter	25.0 mg/l as BOD5	3512.1 lbs/day
Spring	25.0 mg/l as BOD5	3512.1 lbs/day

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

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

Season	Concentration
Summer	5.00
Fall	5.00
Winter	5.00
Spring	5.00

Effluent Limitation for Total Ammonia based upon Water Quality Standards

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

Season		Concentration	Load
Summer	4 Day Avg. - Chronic	3.4 mg/l as N	477.8 lbs/day
	1 Hour Avg. - Acute	7.7 mg/l as N	1,076.5 lbs/day
Fall	4 Day Avg. - Chronic	3.8 mg/l as N	532.0 lbs/day
	1 Hour Avg. - Acute	7.9 mg/l as N	1,107.9 lbs/day
Winter	4 Day Avg. - Chronic	3.0 mg/l as N	418.5 lbs/day
	1 Hour Avg. - Acute	8.2 mg/l as N	1,150.8 lbs/day
Spring	4 Day Avg. - Chronic	3.8 mg/l as N	0.0 lbs/day
	1 Hour Avg. - Acute	7.9 mg/l as N	0.0 lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 100.0%.

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Effluent Limitation for Total Residual Chlorine based upon Water Quality Standards

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

Season		Concentration	Load
Summer	4 Day Avg. - Chronic	0.011 mg/l	1.55 lbs/day
	1 Hour Avg. - Acute	0.019 mg/l	2.68 lbs/day
Fall	4 Day Avg. - Chronic	0.011 mg/l	1.55 lbs/day
	1 Hour Avg. - Acute	0.019 mg/l	2.68 lbs/day
Winter	4 Day Avg. - Chronic	0.011 mg/l	1.55 lbs/day
	1 Hour Avg. - Acute	0.019 mg/l	2.68 lbs/day
Spring	4 Day Avg. - Chronic	0.011 mg/l	0.00 lbs/day
	1 Hour Avg. - Acute	0.019 mg/l	0.00 lbs/day

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season		Concentration	Load
Summer	Maximum, Acute	1201.9 mg/l	84.43 tons/day
Fall	Maximum, Acute	1201.9 mg/l	84.43 tons/day
Winter	Maximum, Acute	1201.9 mg/l	84.43 tons/day
Spring	4 Day Avg. - Chronic	1201.9 mg/l	84.43 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 399.77 mg/l):

	4 Day Average Concentration	Load	1 Hour Average Concentration	Load
Aluminum	N/A	N/A	750.0 ug/l	105.4 lbs/day
Arsenic	190.44 ug/l	17.3 lbs/day	340.0 ug/l	47.8 lbs/day
Cadmium	0.76 ug/l	0.1 lbs/day	8.7 ug/l	1.2 lbs/day
Chromium III	268.71 ug/l	24.4 lbs/day	5,609.0 ug/l	788.0 lbs/day
Chromium VI	11.02 ug/l	1.0 lbs/day	16.0 ug/l	2.2 lbs/day
Copper	30.55 ug/l	2.8 lbs/day	51.7 ug/l	7.3 lbs/day
Iron	N/A	N/A	1,000.0 ug/l	140.5 lbs/day
Lead	18.61 ug/l	1.7 lbs/day	476.5 ug/l	66.9 lbs/day
Mercury	0.01 ug/l	0.0 lbs/day	2.4 ug/l	0.3 lbs/day
Nickel	168.84 ug/l	15.3 lbs/day	1,515.2 ug/l	212.9 lbs/day
Selenium	4.61 ug/l	0.4 lbs/day	20.0 ug/l	2.8 lbs/day
Silver	N/A ug/l	N/A lbs/day	41.0 ug/l	5.8 lbs/day

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Zinc	388.53 ug/l	35.3 lbs/day	387.6	ug/l	54.5 lbs/day
Cyanide	5.21 ug/l	0.5 lbs/day	22.0	ug/l	3.1 lbs/day

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

Summer	23.9 Deg. C.	75.0 Deg. F
Fall	8.6 Deg. C.	47.5 Deg. F
Winter	4.4 Deg. C.	39.9 Deg. F
Spring	15.6 Deg. C.	60.1 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	3.26E-01 lbs/day
Chlordane	4.30E-03 ug/l	6.04E-01 lbs/day	1.2E+00	ug/l	2.61E-01 lbs/day
DDT, DDE	1.00E-03 ug/l	1.40E-01 lbs/day	5.5E-01	ug/l	1.20E-01 lbs/day
Dieldrin	1.90E-03 ug/l	2.67E-01 lbs/day	1.3E+00	ug/l	2.72E-01 lbs/day
Endosulfan	5.60E-02 ug/l	7.87E+00 lbs/day	1.1E-01	ug/l	2.39E-02 lbs/day
Endrin	2.30E-03 ug/l	3.23E-01 lbs/day	9.0E-02	ug/l	1.96E-02 lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	2.17E-03 lbs/day
Heptachlor	3.80E-03 ug/l	5.34E-01 lbs/day	2.6E-01	ug/l	5.65E-02 lbs/day
Lindane	8.00E-02 ug/l	1.12E+01 lbs/day	1.0E+00	ug/l	2.17E-01 lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02	ug/l	6.52E-03 lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	2.17E-03 lbs/day
Parathion	0.00E+00 ug/l	0.00E+00 lbs/day	4.0E-02	ug/l	8.69E-03 lbs/day
PCB's	1.40E-02 ug/l	1.97E+00 lbs/day	2.0E+00	ug/l	4.35E-01 lbs/day
Pentachlorophenol	1.30E+01 ug/l	1.83E+03 lbs/day	2.0E+01	ug/l	4.35E+00 lbs/day
Toxephene	2.00E-04 ug/l	2.81E-02 lbs/day	7.3E-01	ug/l	1.59E-01 lbs/day

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

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

	1 Hour Average	
	Concentration	Loading
Gross Beta (pCi/l)	50.0 pCi/L	
BOD (mg/l)	5.0 mg/l	702.4 lbs/day
Nitrates as N	4.0 mg/l	561.9 lbs/day
Total Phosphorus as P	0.05 mg/l	7.0 lbs/day
Total Suspended Solids	90.0 mg/l	12643.6 lbs/day

Note: Pollution indicator targets are for information purposes only.

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

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

	Maximum Concentration	
	Concentration	Load
Toxic Organics		
Acenaphthene	1.20E+03 ug/l	1.69E+02 lbs/day
Acrolein	3.21E+02 ug/l	4.51E+01 lbs/day
Acrylonitrile	5.91E-02 ug/l	8.31E-03 lbs/day
Benzene	1.20E+00 ug/l	1.69E-01 lbs/day
Benzidine	ug/l	lbs/day
Carbon tetrachloride	2.51E-01 ug/l	3.52E-02 lbs/day
Chlorobenzene	6.82E+02 ug/l	9.57E+01 lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	7.52E-04 ug/l	1.06E-04 lbs/day
1,2-Dichloroethane	3.81E-01 ug/l	5.35E-02 lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	1.90E+00 ug/l	2.68E-01 lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	6.11E-01 ug/l	8.59E-02 lbs/day
1,1,2,2-Tetrachloroethane	1.70E-01 ug/l	2.39E-02 lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	3.11E-02 ug/l	4.37E-03 lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	1.70E+03 ug/l	2.39E+02 lbs/day
2,4,6-Trichlorophenol	2.10E+00 ug/l	2.96E-01 lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	5.71E+00 ug/l	8.03E-01 lbs/day
2-Chlorophenol	1.20E+02 ug/l	1.69E+01 lbs/day
1,2-Dichlorobenzene	2.71E+03 ug/l	3.80E+02 lbs/day
1,3-Dichlorobenzene	4.01E+02 ug/l	5.63E+01 lbs/day

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1,4-Dichlorobenzene	4.01E+02 ug/l	5.63E+01 lbs/day
3,3'-Dichlorobenzidine	4.01E-02 ug/l	5.63E-03 lbs/day
1,1-Dichloroethylene	5.71E-02 ug/l	8.03E-03 lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	9.32E+01 ug/l	1.31E+01 lbs/day
1,2-Dichloropropane	5.21E-01 ug/l	7.32E-02 lbs/day
1,3-Dichloropropylene	1.00E+01 ug/l	1.41E+00 lbs/day
2,4-Dimethylphenol	5.41E+02 ug/l	7.60E+01 lbs/day
2,4-Dinitrotoluene	1.10E-01 ug/l	1.55E-02 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	4.01E-02 ug/l	5.63E-03 lbs/day
Ethylbenzene	3.11E+03 ug/l	4.37E+02 lbs/day
Fluoranthene	3.01E+02 ug/l	4.22E+01 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	1.40E+03 ug/l	1.97E+02 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	4.71E+00 ug/l	6.62E-01 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	4.31E+00 ug/l	6.05E-01 lbs/day
Dichlorobromomethane(HM)	2.71E-01 ug/l	3.80E-02 lbs/day
Chlorodibromomethane (HM)	4.11E-01 ug/l	5.77E-02 lbs/day
Hexachlorocyclopentadiene	2.41E+02 ug/l	3.38E+01 lbs/day
Isophorone	8.42E+00 ug/l	1.18E+00 lbs/day
Naphthalene		
Nitrobenzene	1.70E+01 ug/l	2.39E+00 lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	7.02E+01 ug/l	9.86E+00 lbs/day
4,6-Dinitro-o-cresol	1.30E+01 ug/l	1.83E+00 lbs/day
N-Nitrosodimethylamine	6.92E-04 ug/l	9.72E-05 lbs/day
N-Nitrosodiphenylamine	5.01E+00 ug/l	7.04E-01 lbs/day
N-Nitrosodi-n-propylamine	5.01E-03 ug/l	7.04E-04 lbs/day
Pentachlorophenol	2.81E-01 ug/l	3.94E-02 lbs/day
Phenol	2.10E+04 ug/l	2.96E+03 lbs/day
Bis(2-ethylhexyl)phthalate	1.80E+00 ug/l	2.53E-01 lbs/day
Butyl benzyl phthalate	3.01E+03 ug/l	4.22E+02 lbs/day
Di-n-butyl phthalate	2.71E+03 ug/l	3.80E+02 lbs/day
Di-n-octyl phthlate		
Diethyl phthalate	2.31E+04 ug/l	3.24E+03 lbs/day
Dimethyl phthlate	3.14E+05 ug/l	4.41E+04 lbs/day
Benzo(a)anthracene (PAH)	2.81E-03 ug/l	3.94E-04 lbs/day
Benzo(a)pyrene (PAH)	2.81E-03 ug/l	3.94E-04 lbs/day
Benzo(b)fluoranthene (PAH)	2.81E-03 ug/l	3.94E-04 lbs/day
Benzo(k)fluoranthene (PAH)	2.81E-03 ug/l	3.94E-04 lbs/day
Chrysene (PAH)	2.81E-03 ug/l	3.94E-04 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	2.81E-03 ug/l	3.94E-04 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	2.81E-03 ug/l	3.94E-04 lbs/day

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Pyrene (PAH)	9.62E+02 ug/l	1.35E+02 lbs/day
Tetrachloroethylene	8.02E-01 ug/l	1.13E-01 lbs/day
Toluene	6.82E+03 ug/l	9.57E+02 lbs/day
Trichloroethylene	2.71E+00 ug/l	3.80E-01 lbs/day
Vinyl chloride	2.00E+00 ug/l	2.82E-01 lbs/day

Pesticides

Aldrin	1.30E-04 ug/l	1.83E-05 lbs/day
Dieldrin	1.40E-04 ug/l	1.97E-05 lbs/day
Chlordane	5.71E-04 ug/l	8.03E-05 lbs/day
4,4'-DDT	5.91E-04 ug/l	8.31E-05 lbs/day
4,4'-DDE	5.91E-04 ug/l	8.31E-05 lbs/day
4,4'-DDD	8.32E-04 ug/l	1.17E-04 lbs/day
alpha-Endosulfan	9.32E-01 ug/l	1.31E-01 lbs/day
beta-Endosulfan	9.32E-01 ug/l	1.31E-01 lbs/day
Endosulfan sulfate	9.32E-01 ug/l	1.31E-01 lbs/day
Endrin	7.62E-01 ug/l	1.07E-01 lbs/day
Endrin aldehyde	7.62E-01 ug/l	1.07E-01 lbs/day
Heptachlor	2.10E-04 ug/l	2.96E-05 lbs/day
Heptachlor epoxide		

PCB's

PCB 1242 (Arochlor 1242)	4.41E-05 ug/l	6.20E-06 lbs/day
PCB-1254 (Arochlor 1254)	4.41E-05 ug/l	6.20E-06 lbs/day
PCB-1221 (Arochlor 1221)	4.41E-05 ug/l	6.20E-06 lbs/day
PCB-1232 (Arochlor 1232)	4.41E-05 ug/l	6.20E-06 lbs/day
PCB-1248 (Arochlor 1248)	4.41E-05 ug/l	6.20E-06 lbs/day
PCB-1260 (Arochlor 1260)	4.41E-05 ug/l	6.20E-06 lbs/day
PCB-1016 (Arochlor 1016)	4.41E-05 ug/l	6.20E-06 lbs/day

Pesticide

Toxaphene	7.32E-04 ug/l	1.03E-04 lbs/day
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Metals

Antimony	14.03 ug/l	1.97 lbs/day
Arsenic	50.11 ug/l	7.04 lbs/day
Asbestos	7.02E+06 ug/l	9.86E+05 lbs/day
Beryllium		
Cadmium		
Chromium (III)		
Chromium (VI)		
Copper	1302.99 ug/l	183.05 lbs/day
Cyanide	701.61 ug/l	98.57 lbs/day
Lead	0.00	0.00
Mercury	0.14 ug/l	0.02 lbs/day
Nickel	611.40 ug/l	85.89 lbs/day
Selenium	0.00	0.00
Silver	0.00	0.00
Thallium	1.70 ug/l	0.24 lbs/day
Zinc		

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Dioxin
Dioxin (2,3,7,8-TCDD) 1.30E-08 ug/l 1.83E-09 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		750.0				750.0	N/A
Antimony			14.0	4309.9		14.0	
Arsenic	100.2	340.0	50.1		0.0	50.1	190.4
Barium					1002.3	1002.3	
Beryllium						0.0	
Cadmium	10.0	8.7			0.0	8.7	0.8
Chromium (III)		5609.0			0.0	5609.0	268.7
Chromium (VI)	100.2	16.0			0.0	16.00	11.02
Copper	200.5	51.7	1303.0			51.7	30.6
Cyanide		22.0	220506.4			22.0	5.2
Iron		1000.0				1000.0	
Lead	100.2	476.5			0.0	100.2	18.6
Mercury		2.40	0.1	0.15	0.0	0.14	0.012
Nickel		1515.2	611.4	4610.6		611.4	168.8
Selenium	50.1	20.0			0.0	20.0	4.6
Silver		41.0			0.0	41.0	
Thallium			1.7	6.3		1.7	
Zinc		387.6				387.6	388.5
Boron	751.7					751.7	

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	750.0	N/A	
Antimony	14.03		
Arsenic	50.1	190.4	Acute Controls
Asbestos	7.02E+06		
Barium			
Beryllium			
Cadmium	8.7	0.8	
Chromium (III)	5609.0	269	
Chromium (VI)	16.0	11.0	
Copper	51.7	30.6	

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Cyanide	22.0	5.2	
Iron	1000.0		
Lead	100.2	18.6	
Mercury	0.140	0.012	
Nickel	611.4	169	
Selenium	20.0	4.6	
Silver	41.0	N/A	
Thallium	1.7		
Zinc	387.6	388.5	Acute Controls
Boron	751.73		

Other Effluent Limitations are based upon R317-1.

E. coli 126.0 organisms per 100 ml

X. Antidegradation Considerations

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

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

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that a level II Antidegradation Review is required. Receiving water is a Class 1C drinking water source.

XI. Colorado River Salinity Forum Considerations

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

XII. Summary Comments

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

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XIII. Notice of UPDES Requirement

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

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APPENDIX - Coefficients and Other Model Information

CBOD Coeff. (Kd)20 1/day 2.000	CBOD Coeff. FORCED (Kd)/day 0.000	CBOD Coeff. (Ka)T 1/day 1.459	REAER. Coeff. (Ka)20 (Ka)/day 232.786	REAER. Coeff. FORCED 1/day 0.000	REAER. Coeff. (Ka)T 1/day 197.833	NBOD Coeff. (Kn)20 1/day 0.250	NBOD Coeff. (Kn)T 1/day 0.147
Open Coeff. (K4)20 1/day 0.000	Open Coeff. (K4)T 1/day 0.000	NH3 LOSS (K5)20 1/day 4.000	NH3 (K5)T 1/day 2.919	NO2+NO3 LOSS (K6)20 1/day 0.000	NO2+NO3 (K6)T 1/day 0.000	TRC Decay K(CI)20 1/day 32.000	TRC K(CI)(T) 1/day 21.456
BENTHIC DEMAND (SOD)20 gm/m2/day 1.000	BENTHIC DEMAND (SOD)T gm/m2/day 0.649						
K1 CBOD {theta} 1.0	K2 Reaer. {theta} 1.0	K3 NH3 {theta} 1.1	K4 Open {theta} 1.0	K5 NH3 Loss {theta} 1.0	K6 NO2+3 {theta} 1.0	K(CI) TRC {theta} 1.1	S Benthic {theta} 1.1