

**FACT SHEET
CANYON FUEL COMPANY, LLC – SUFCO MINE
UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES)
DISCHARGE PERMIT MODIFICATION
UPDES PERMIT NUMBER: UT0022918
MAJOR INDUSTRIAL FACILITY**

FACILITY CONTACT INFORMATION

Contact Name:	Jake Wilson	Contact Name:	Bryant Bunnell
Position:	General Manager	Position:	Environmental Engineer
Contact Name:	Anthony Hardman		
Position:	Environmental Engineer and Signatory Authority		
Phone Number:	(435) 286-4489		
Mailing Address:	597 South S.R. 24 Salina, Utah 84654		
Facility Location:	East of Salina, Utah, off Interstate Highway I-70 Exit #73 Located at latitude 38° 54' 32" North and longitude 111° 24' 57" West		

DESCRIPTION OF FACILITY

The Canyon Fuel Company, LLC – SUFCO Mine (Mine) is an active underground coal mine facility with Standard Industrial Classification Code 1222 for bituminous underground coal mining operations, and is located in Convulsion Canyon between Salina and Emery, Utah. The Mine has three discharge points known as Outfalls 001, 002, and 003. Outfall 003 discharges mine water on a continuous basis from a mine breakout point into the North Fork of Quitchupah Creek. The water discharged from Outfall 003 drops down through a culvert pipe with final impact on bedrock before entering the North Fork of Quitchupah Creek. Over the past few years, the discharge flow from Outfall 003 has increased from 3.3 million gallons per day (MGD) up to 6.7 MGD as a monthly average and with a maximum effluent flow of 7.6 MGD as reported. Outfall 002, which collects runoff from the entire active mining area of the surface facilities, is from a second (lower) sedimentation pond in a series of two sedimentation ponds. Discharges from Outfall 002 occur regularly and are to the South Fork of the North Fork of Quitchupah Creek, also known as East Spring Canyon Drainage. Outfall 001 is associated with previous mine dewatering operations and has not discharged in many years and is not anticipated to discharge in the foreseeable future. The Mine anticipates the increased dewatering flows via Outfall 003 to continue and has therefore requested a modification to their UPDES Permit (Permit) to increase the effluent flow limit for that Outfall only. No other Permit modifications are being requested by the Mine at this time.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

As a result of the requested effluent flow limit increase, the following list is a summary of the proposed changes when compared to the previous Permit:

1. The effluent flow limit for Outfall 003 has been increased from 8.0 MGD to 12.0 MGD for future anticipated mine dewatering needs.
2. The monitoring requirements have increased from twice monthly sampling events to continuously monitored and recorded for flow, pH, turbidity, and dissolved oxygen as detailed in the Permit for Outfall 003.
3. The Total Dissolved Solids (TDS) maximum effluent concentration requirement for Outfall 003 has been updated to reflect the current Waste-Load Analysis (WLA) as a result of the increased flows.
4. The Whole Effluent Toxicity (WET) percent effluent testing requirement for Outfall 003 has also been updated based upon the current WLA.
5. While the minimum effluent concentration of 6.5 mg/L remains the same for dissolved oxygen, the monitoring requirement has been updated for consistency at all discharge points from a daily minimum to a monthly average minimum requirement to reflect the current WLA.

These are the only changes proposed with this permit modification that are subject to public comment during the public notice period. All other permit limitations and monitoring requirements remain unchanged.

DISCHARGE INFORMATION

DESCRIPTION OF DISCHARGE OUTFALLS

The permitted discharging outfalls remain unchanged as follows:

Outfall Numbers

Location of Discharge Outfalls

001

Located at latitude 38° 54' 54" North and longitude 111° 24' 54" West, mine water discharge from an eight-inch pipe to the South Fork of the North Fork of Quitchupah Creek.

002

Located at latitude 38° 54' 32" North and longitude 111° 24' 57" West, discharge is from an eighteen-inch pipe from the lower sedimentation pond to the South Fork of the North Fork of Quitchupah Creek.

003

Located at latitude 38° 57' 26" North and longitude 111° 23' 06" West, main mine

water discharge from a twenty-four-inch pipe to the North Fork of Quitcupah Creek.

RECEIVING WATERS AND STREAM CLASSIFICATION

The receiving waters are tributaries of Quitcupah Creek, which is classified 2B, 3A, and 4 as described below and according to Utah Administrative Code (UAC) R317-2-13.

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

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

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

TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

According to Utah's 2024 Integrated Report and the 303(d) list and Water Quality Assessment for prioritizing impaired waterbodies, the receiving water for the Mine discharges is Quitcupah Creek Upper (Assessment Unit UT14070002-002_00, Quitcupah Creek from U-10 to headwaters), which is listed as impaired for benthic invertebrate assessment, dissolved oxygen and temperature. A TMDL study was previously completed in 2004 to primarily address TDS in the greater West Colorado River Watershed (Price River, San Rafael River and Muddy Creek TMDLs for Dissolved Solids – West Colorado Watershed Management Unit, Utah, April 2004). Although the TMDL study has not since been updated for other impairments on the Quitcupah Creek Upper stream segment, both dissolved oxygen and temperature have been separately addressed as potential parameters of concern and remain included in the permit as appropriate. For more information, the TMDL study can be found at <https://documents.deq.utah.gov/water-quality/watershed-protection/total-maximum-dailyloads/DWQ-2015-006611.pdf>.

BASIS FOR EFFLUENT LIMITATIONS

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

Permit limits can also be derived from a WLA. The WLA incorporates Secondary Treatment Standards, Water Quality Standards, including any TMDL impairments as appropriate, Antidegradation Reviews (ADRs) and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet Utah Water Quality Standards in the receiving

waters. During this UPDES permit modification development and WLA process, a Level I ADR was performed and concluded that a Level II ADR was required since there is a proposed increase in total effluent flow as compared to the previous permit (for Outfall 003 only). The separate Level II ADR was completed by the Mine and submitted to DWQ as part the Permit modification request information as required. The separate Level II ADR concluded that the proposed increase in flow for Outfall 003 from any potential additional future dewatering operations is not only needed to continue safely operating the Mine, but is also the most practicable and preferred least degrading treatment option. The WLA and ADR information indicate that the effluent limitations and preferred treatment option as provided, respectively, will be sufficiently protective of water quality in order to meet Utah Water Quality Standards in the receiving waters. The WLA and ADR information are attached to this Fact Sheet.

The following list is the basis of the effluent limitations for the permit parameters:

- 1) Since the Mine discharge meets the EPA definition of “alkaline mine drainage,” the permittee is subject to the technology-based effluent limitations found 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 (applicable only to Outfall 002).
- 2) Daily minimum and daily maximum limitations on pH are derived from Utah Water Quality Standards found in UAC R317-2-14.
- 3) TDS are limited according to Utah Water Quality Standards and policies established by the Colorado River Basin Salinity Control Forum (Forum). TDS are limited by both mass loading and concentration requirements as described below:
 - a. Since discharges from the Mine eventually reach the Colorado River, TDS mass loading is limited according to policies established by the 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 2023. Based on Forum Policy, provisions can be made for salinity-offset projects to account for any TDS loading in excess of the permit requirement. Forum Policy requires the TDS loading limitation of 1-ton per day (or 366 tons per year) as a sum from all discharge points, unless the average concentration of TDS is 500 mg/L or less. If the concentration of TDS at any Outfall is less than or equal to 500 mg/L as a thirty-day average, then no loading limit applies for that Outfall (fresh water waiver). The 1-ton per day (or 366 tons per year) loading limit applies only to those Outfalls exceeding 500 mg/L as a thirty-day average. Those Outfalls exceeding

500 mg/L as a thirty-day average, collectively, need to meet the 1-ton per day (or 366 tons per year) limit. If 1-ton per day (or 366 tons per year) TDS cannot be achieved, then the permittee is required to remove salinity/TDS in excess of 1-ton per day (or 366 tons per year) by developing a treatment process, participating in a salinity off-set program, or developing some type of mechanism to remove the excess salinity/TDS. Provisions have previously been made by the Mine for salinity-offset projects to account for any TDS loading in excess of the 1-ton per day requirement. Salinity-offset credits and tracking provisions shall be retained as described further in the permit to account for TDS in excess of 1-ton/day, as appropriate.

- b. The permit limit for TDS concentrations at each outfall is derived from the applicable WLA to include assimilative capacity based on the Utah Water Quality Standard of 1,200 mg/L, as found in UAC R317-2-14.
- 4) The limitation on total recoverable iron is based upon the Utah Water Quality Standard of 1.0 mg/L for dissolved iron found in UAC R317-2-14. Dissolved iron is a component of total recoverable iron and therefore, the total iron effluent limit of 1.0 mg/L is a more conservative limitation based upon BPJ of the permitting authority and is consistent with other similar industrial facilities in Utah.
- 5) Oil & Grease concentrations are limited to 10 mg/L based upon BPJ of the permitting authority to be consistent with other industrial facilities statewide.
- 6) The Dissolved Oxygen limitation is water quality based as derived from the WLA and UAC R317-2-14 to be protective of the receiving waters and their beneficial uses.
- 7) The effluent flow limitations are based upon the projected maximum design flow as provided by the Mine facility.

Reasonable Potential Analysis

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

A qualitative RP analysis was performed on metals parameters to determine if there was reasonable potential for the increased discharge via Outfall 003 to exceed the applicable Water Quality Standards. Based upon the initial screening RP analysis, a closer look at any of the metals was not necessary and it was determined not to include any additional effluent limits in the modified Permit. This is because all the data points reviewed did not exceed the applicable Water Quality Standards and/or laboratory method detection limits. Therefore, no RP currently exists at the facility for the metals parameters and a more quantitative RP analysis using the RP Model was not required at this time. The result is RP Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit. A copy of the RP summary is included at the

end of this Fact Sheet.

The permittee is expected to comply with the following Permit limitations for all Outfalls:

Parameter, Units *a	Effluent Limitations *a				Monitoring Requirements *a	
	Monthly Average Maximum	Monthly Average Minimum	Daily Minimum	Daily Maximum	Sample Frequency	Sample Type
Flow, MGD						
Outfall 001	0.01	--	--	Report	2/Month	Measured
Outfall 002	0.5	--	--	Report	2/Month	Measured
Outfall 003	12.0	--	--	Report	Continuous	Recorded
TSS, mg/L	--	--	--	70	2/Month	Grab
Total Iron, mg/L	--	--	--	1.0	2/Month	Grab
Dissolved Oxygen, mg/L						
Outfalls 001 & 002	--	6.5	Report	--	2/Month	Grab
Outfall 003	--	6.5	Report	--	Continuous	Recorded
Oil & Grease, mg/L *b	--	--	--	10	Monthly	Grab
Visible oil and grease sheen, floating solids, foam, or sanitary waste *b	--	--	--	None	2/Month	Visual
TDS, mg/L *c						
Outfall 001	Report	--	--	1422	2/Month	Grab
Outfall 002	Report	--	--	1204	2/Month	Grab
Outfall 003	Report	--	--	1210	2/Month	Grab
TDS tons/day *c	Report	--	--	Report	Monthly	Calculated
pH, standard units (001 & 002)	--	--	6.5	9.0	2/Month	Grab
pH (003)	--	--	6.5	9.0	Continuous	Recorded
Turbidity, NTU (001 & 002)						
Turbidity (003) *d	--	--	--	Report	Monthly	Grab
				Report	Continuous	Recorded
Temperature, °C *e	--	--	--	Report	Monthly	Grab
Chronic WET Biomonitoring						
Outfall 001	--	--	--	IC ₂₅ > 61% effluent	Quarterly	Composite/Grab
Outfall 003	--	--	--	IC ₂₅ > 99% effluent	Quarterly	Composite/Grab
Total Metals, mg/L *f	--	--	--	Report	Quarterly	Grab

*a See Permit *Part VII*, for definition of terms. Effluent limits and monitoring requirements apply to all Outfalls unless otherwise stated.

- *b In addition to monthly sampling for oil and grease, a visual inspection for any oil and grease sheen, sanitary wastes, floating solids, and visible foam shall be performed at least twice per month at all Outfalls. There shall be no visible sheen, 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. If a sheen is observed from any Outfall, then a sample of the effluent shall be collected immediately thereafter and the oil and grease shall not exceed 10 mg/L in concentration.
- *c TDS concentrations for each of the outfalls shall not exceed the applicable daily maximum effluent 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 30-day (monthly) average. However, if the 30-day average concentration exceeds 500 mg/L, then the permittee cannot discharge more than 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 1-ton per day loading limit, the permittee is required to continue to participate in and/or fund a salinity offset project to include 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 1-ton per day loading limit. The tonnage reduction from the offset project must be calculated by a method similar to one used by the Natural Resources Conservation Service, 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 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 Turbidity monitoring shall be conducted and reported monthly whenever possible from all discharging Outfalls to ensure that there is not an increase of more than 10 NTU over the receiving waters, if applicable.
- *e Temperature monitoring shall be conducted and reported monthly whenever possible from all discharging Outfalls.
- *f The following additional total metals shall be monitored quarterly as required from all discharging outfalls; Arsenic, Boron, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver and Zinc. The permittee is required to utilize the lowest detection limit possible using standard methods and certified laboratories.

SELF-MONITORING AND REPORTING REQUIREMENTS

The self-monitoring and reporting requirements, as included in the above permit table, are the same as in the previous permit, with an increase to continuous monitoring for some of the Outfall 003 effluent limit parameters as previously mentioned. The Permit will require reports to be submitted monthly and quarterly, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Lab reports for biomonitoring and metals must be attached to the applicable DMRs as appropriate.

BIOMONITORING REQUIREMENTS

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

A review of the WET testing results for the past five years indicates that the Mine has passed all quarterly chronic WET tests. The permittee is classified as a major industrial facility and historical discharges from the Mine are from intercepted ground water and storm water only, which has resulted in the absence of toxicity as tested since at least 2016. Therefore, the Mine will continue conducting chronic WET quarterly testing alternating the test species between *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow) from the discharging mine water Outfalls 001 & 003 as detailed in the permit. Chronic toxicity occurs when the inhibitory concentration to 25% of the population (IC_{25}) is less than or equal to the effluent concentrations as derived from the WLA and included in the Permit, which has been updated for Outfall 003. The IC_{25} 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. The Permit contains standard requirements for accelerated re-testing upon failure of a WET test, as appropriate.

The Permit also contains a toxicity limitation re-opener provision. This provision allows for modification of the Permit at any time in the future to include additional WET limitations and/or monitoring, should additional information indicate the presence of toxicity in the discharge. The chronic WET testing provisions as well as the toxicity limitation re-opener provision are detailed further in the Permit.

PERMIT DURATION

It is recommended that this permit be effective for the remainder of the five (5) year Permit term.

Drafted and Reviewed by;
Jeff Studenka, Discharge Permit Writer
Lonnie Shull, Biomonitoring
Amy Dickey, TMDL/Watershed
Suzan Tahir, WLA/ADR
Utah Division of Water Quality
(801) 536-4300

PUBLIC NOTICE INFORMATION (to be updated after)

Began: Month Day, Year

Ended: Month Day, Year

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

The Public Notice of the draft permit was published on State of Utah and/or DWQ's website for at least 30 days as required.

During the public notice and comment period provided under UAC 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 UAC R317-8-6.12.

ADDENDUM TO FACT SHEET

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes, they are considered minor changes and the permit is not required to be re Public Noticed as provided in UAC R317-8-5.6(3).

Responsiveness Summary

(Explain any comments received and response sent.)

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PND Draft

ATTACHMENT 1

Wasteload Analysis Information
(DWQ-2026-001457 & DWQ-2026-001458)

&

Permit Modification Request & Antidegradation Review
(DWQ-2026-001870)

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

Date: March 25, 2026

Prepared by: Suzan Tahir
Standards and Technical Services

Facility: Canyon Fuel Company; SUFCO Mine Outfall 003
UPDES No. UT0022918

Receiving water: Quitchupah Creek Tributaries (2B, 3A, 4)

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

Discharge

Receiving Water Body: North fork of Quitchupah Creek

Outfall 003 Mine Water Discharge

Design Flow: Increase in design flow is requested from 8 MGD to 12 MGD to be able to accommodate dewatering needs within the mine

Facility Operations: Active Coal Mine, the mine produces low-sulfur bituminous coal that is used primarily for thermal electricity generation

Receiving Water Classification

Per UAC R317-2-13.1, the designated beneficial uses of Quitchupah Creek and Tributaries, from Highway U-10 crossing to headwaters 2B, 3A, 4.

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

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- *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.*

Critical Flow

Typically, the critical flow for the wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). Due to a lack of flow records, the 20th percentile of available flow measurements was calculated for the period of record to approximate the 7Q10 low flow condition. The flow values from the 2022 permit cycle were used in this wasteload.

The flow data for discharge 003 was characterized using the combined flows from station #6 (S FK OF N FK OF QUITCHUPAH CREEK) and Station #7 (U N FK QUITCHUPAH CK) retrieved from the older Utah Division of Oil, Gas and Mining (DOGM) database for the period 2002-2022.

Outfall Number	Database	Site	Site Description	Flow (cfs)	Period
003	Division of Oil, Gas and Mining (DOGM)	6	S FK OF N FK OF QUITCHUPAH CK	0.196	2002-2022
003	Division of Oil, Gas and Mining (DOGM)	7	N FK QUITCHUPAH CK	0.196	2002-2022

Ambient Water Quality

The receiving water for this discharge was characterized by using data from the Ambient Water Quality Monitoring System (the new Utah Coal Mining Water Quality Database [portal](#)), for the period 2000-2026 for site SUFCO-007.

Assessment Category and Total Maximum Daily Load (TMDL)

According to Utah’s 2024 Integrated Report (IR) and its 303(d) list of impaired waterbodies, the receiving water for the discharges, Quitchupah Creek Upper (UT14070002-002_00, Quitchupah Creek from U-10 to headwaters) is listed as impaired for Benthic Invertebrate Assessment, Dissolved Oxygen, and Temperature. A TMDL has not been completed for these parameters on Quitchupah Creek.

Protection of Downstream Uses

Per UAC R317-2-8, *all actions to control waste discharges under these rules shall be modified as necessary to protect downstream designated uses.* For this discharge, 3A numeric aquatic life use criteria apply to the immediate receiving water (Quitchupah Creek Upper).

Mixing Zone

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

Since the receiving water low flow is equal to or less than twice the flow of a point source discharge, the combined flows are considered to be totally mixed.

Parameters of Concern

The potential parameters of concern identified for the discharge/receiving water were dissolved oxygen, temperature, total dissolved solids and iron, as determined in consultation with the UPDES Permit Writer.

WET Limits

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

Outfall #	IC25 WET (% Effluent)
003	99.0%

Wasteload Allocation Methods

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

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

Models and supporting documentation are available for review upon request.

Antidegradation Level I Review

The objective of the Level I Antidegradation Review (ADR) is to ensure the protection of existing uses, defined as the beneficial uses attained in the receiving water on or after November 28, 1975. No evidence is known that the existing uses deviate from the designated beneficial uses for the

Utah Division of Water Quality
Wasteload Analysis
Canyon Fuel Company, LLC, SUFCO Mine Outfall 003
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receiving water. Therefore, the beneficial uses will be protected if the discharge remains below the WQBELs presented in this wasteload.

Antidegradation Level II

A Level II ADR is required for this facility as the permit applicant requested an increase in the effluent flow limitations over those authorized in the existing permit.

Documents:

WLA Document :

SUFCO_003_WLADoc_2026.docx

Wasteload Analysis and Addendums:

SUFCO_003_WLA_2026.xlsm

SUFCO_003_WLA_SOB_2026.pdf

References:

Utah Division of Water Quality. 2024. [Final 2024 Integrated Report on Water Quality](#)

Utah Division of Water Quality. 2021. *Utah Wasteload Analysis Procedures* [Version 2.0](#).

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

<https://ogm.utah.gov/awqms-access/>

WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis

17-Mar-26
10:00

Facilities: Canyon Fuel Company; SUFCO Mine
Discharging to: North Fork of Quitcupah Creek

UPDES No: UT-0022918

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

North Fork of Quitcupah Creek : 2B, 3A, 4
Antidegradation Review: Level I review completed. Level II review required.

III. Numeric In-Stream Criteria 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)

Dissolved Oxygen (DO) 6.50 mg/l (30 Day Average)
5.00 mg/l (7Day Average)
4.00 mg/l (instantaneous)

Maximum Total Dissolved Solids 1200.0 mg/l

Acute and Chronic Heavy Metals (Dissolved)

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration		Load*
Aluminum	87.00 ug/l**	8.705 lbs/day	750.00	ug/l	75.045 lbs/day
Arsenic	150.00 ug/l	15.009 lbs/day	340.00	ug/l	34.020 lbs/day
Cadmium	2.83 ug/l	0.284 lbs/day	9.11	ug/l	0.911 lbs/day
Chromium III	319.81 ug/l	32.000 lbs/day	6691.08	ug/l	669.510 lbs/day
Chromium VI	11.00 ug/l	1.101 lbs/day	16.00	ug/l	1.601 lbs/day
Copper	36.64 ug/l	3.667 lbs/day	63.28	ug/l	6.332 lbs/day
Iron			1000.00	ug/l	100.060 lbs/day
Lead	24.42 ug/l	2.444 lbs/day	626.77	ug/l	62.714 lbs/day
Mercury	0.0120 ug/l	0.001 lbs/day	2.40	ug/l	0.240 lbs/day
Nickel	202.13 ug/l	20.225 lbs/day	1818.01	ug/l	181.910 lbs/day
Selenium	4.60 ug/l	0.460 lbs/day	18.40	ug/l	1.841 lbs/day
Silver	N/A ug/l	N/A lbs/day	59.43	ug/l	5.946 lbs/day
Zinc	465.25 ug/l	46.553 lbs/day	465.25	ug/l	46.553 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 495.85 mg/l as CaCO3

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Organics [Pesticides]

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration		Load*
Aldrin			1.500	ug/l	0.150 lbs/day
Chlordane	0.004	0.435 lbs/day	1.200	ug/l	0.120 lbs/day
DDT, DDE	0.001	0.101 lbs/day	0.550	ug/l	0.055 lbs/day
Dieldrin	0.056	5.663 lbs/day	0.240	ug/l	0.024 lbs/day
Endosulfan	0.056	5.663 lbs/day	0.110	ug/l	0.011 lbs/day
Endrin	0.036	3.640 lbs/day	0.086	ug/l	0.009 lbs/day
Guthion			0.010	ug/l	0.001 lbs/day
Heptachlor	0.004	0.384 lbs/day	0.260	ug/l	0.026 lbs/day
Lindane	0.080	8.089 lbs/day	1.000	ug/l	0.100 lbs/day
Methoxychlor			0.030	ug/l	0.003 lbs/day
Mirex			0.010	ug/l	0.001 lbs/day
Parathion			0.066	ug/l	0.007 lbs/day
PCB's	0.014	1.416 lbs/day	N/A	ug/l	#VALUE! lbs/day
entachlorophenol	15.00	1516.746 lbs/day	19.000	ug/l	1.901 lbs/day
Toxephene	0.0002	0.020 lbs/day	0.7300	ug/l	0.073 lbs/day

IV. Numeric Stream Standards for Protection of Agriculture

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration	Load*	
Arsenic			100.0	ug/l	lbs/day
Boron			750.0	ug/l	lbs/day
Cadmium			10.0	ug/l	0.50 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	60.04 tons/day

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

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

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

	Maximum Conc., ug/l - Acute Standards			
	Class 1C [2 Liters/Day for 70 Kg Person over 70 Yr.]		Class 3A, 3B [6.5 g for 70 Kg Person over 70 Yr.]	
Toxic Organics				
Acenaphthene	ug/l	lbs/day	90.0 ug/l	9.10 lbs/day
Acrolein	ug/l	lbs/day	400.0 ug/l	40.45 lbs/day
Acrylonitrile	ug/l	lbs/day	7.0 ug/l	0.71 lbs/day
Benzene	ug/l	lbs/day	51.0 ug/l	5.16 lbs/day
Benzidine	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Carbon tetrachlor	ug/l	lbs/day	5.0 ug/l	0.51 lbs/day
Chlorobenzene	ug/l	lbs/day	800.0 ug/l	80.89 lbs/day
1,2,4-Trichlorobenzene				
Hexachlorobenze	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Dichloroethar	ug/l	lbs/day	2000.0 ug/l	202.23 lbs/day
1,1,1-Trichloroethane				
Hexachloroethan	ug/l	lbs/day	0.1 ug/l	0.01 lbs/day
1,1-Dichloroethane				
1,1,2-Trichloroeth	ug/l	lbs/day	8.9 ug/l	0.90 lbs/day
1,1,2,2-Tetrachlor	ug/l	lbs/day	3.0 ug/l	0.30 lbs/day
Chloroethane			0.0 ug/l	0.00 lbs/day
Bis(2-chloroethyl)	ug/l	lbs/day	2.2 ug/l	0.22 lbs/day
2-Chloroethyl vin	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2-Chloronaphthal	ug/l	lbs/day	1000.0 ug/l	101.12 lbs/day
2,4,6-Trichloroph	ug/l	lbs/day	2.8 ug/l	0.28 lbs/day
p-Chloro-m-cresol			0.0 ug/l	0.00 lbs/day
Chloroform (HM)	ug/l	lbs/day	2000.0 ug/l	202.23 lbs/day
2-Chlorophenol	ug/l	lbs/day	800.0 ug/l	80.89 lbs/day
1,2-Dichlorobenz	ug/l	lbs/day	3000.0 ug/l	303.35 lbs/day
1,3-Dichlorobenz	ug/l	lbs/day	10.0 ug/l	1.01 lbs/day
1,4-Dichlorobenz	ug/l	lbs/day	900.0 ug/l	91.00 lbs/day
3,3'-Dichlorobenz	ug/l	lbs/day	0.2 ug/l	0.02 lbs/day
1,1-Dichloroethyle	ug/l	lbs/day	20000.0 ug/l	2022.33 lbs/day
1,2-trans-Dichloro	ug/l	lbs/day	4000.0 ug/l	404.47 lbs/day
2,4-Dichlorophen	ug/l	lbs/day	60.0 ug/l	6.07 lbs/day
1,2-Dichloroprop	ug/l	lbs/day	31.0 ug/l	3.13 lbs/day
1,3-Dichloroprop	ug/l	lbs/day	1700.0 ug/l	171.90 lbs/day
2,4-Dimethylphen	ug/l	lbs/day	3000.0 ug/l	303.35 lbs/day
2,4-Dinitrotoluene	ug/l	lbs/day	1.7 ug/l	0.17 lbs/day
2,6-Dinitrotoluene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Diphenylhydr	ug/l	lbs/day	0.2 ug/l	0.02 lbs/day
Ethylbenzene	ug/l	lbs/day	130.0 ug/l	13.15 lbs/day
Fluoranthene	ug/l	lbs/day	20.0 ug/l	2.02 lbs/day
4-Chlorophenyl phenyl ether				
4-Bromophenyl phenyl ether				
Bis(2-chloroisopr	ug/l	lbs/day	65000.0 ug/l	6.57E+03 lbs/day
Bis(2-chloroethox	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Methylene chlorid	ug/l	lbs/day	1000.0 ug/l	101.12 lbs/day
Methyl chloride (f	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Methyl bromide (f	ug/l	lbs/day	10000.0 ug/l	1011.16 lbs/day
Bromoform (HM)	ug/l	lbs/day	120.0 ug/l	12.13 lbs/day
Dichlorobromome	ug/l	lbs/day	27.0 ug/l	2.73 lbs/day
Chlorodibromome	ug/l	lbs/day	21.0 ug/l	2.12 lbs/day
Hexachlorobutadi	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Hexachlorocyclop	ug/l	lbs/day	4.0 ug/l	0.40 lbs/day
Isophorone	ug/l	lbs/day	1800.0 ug/l	182.01 lbs/day
Naphthalene				
Nitrobenzene	ug/l	lbs/day	600.0 ug/l	60.67 lbs/day
2-Nitrophenol	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4-Nitrophenol	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dinitrophenol	ug/l	lbs/day	14000.0 ug/l	1415.63 lbs/day
4,6-Dinitro-o-cres	ug/l	lbs/day	765.0 ug/l	77.35 lbs/day
N-Nitrosodimethy	ug/l	lbs/day	3.0 ug/l	0.30 lbs/day
N-Nitrosodipheny	ug/l	lbs/day	6.0 ug/l	0.61 lbs/day
N-Nitrosodi-n-pro	ug/l	lbs/day	0.5 ug/l	0.05 lbs/day
Pentachlorophen	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Phenol	ug/l	lbs/day	3.0E+05 ug/l	3.03E+04 lbs/day
Bis(2-ethylhexyl)g	ug/l	lbs/day	0.4 ug/l	0.04 lbs/day
Butyl benzyl phth	ug/l	lbs/day	0.1 ug/l	0.01 lbs/day

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Di-n-butyl phthala	ug/l	lbs/day	30.0 ug/l	3.03 lbs/day
Di-n-octyl phthlate				
Diethyl phthalate	ug/l	lbs/day	600.0 ug/l	60.67 lbs/day
Dimethyl phthlate	ug/l	lbs/day	2.0E+03 ug/l	2.02E+02 lbs/day
Benzo(a)anthracene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(a)pyrene (ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(b)fluorant	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(k)fluorant	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Chrysene (PAH)	ug/l	lbs/day	0.1 ug/l	0.01 lbs/day
Acenaphthylene (PAH)				
Anthracene (PAH)	ug/l	lbs/day	400.0 ug/l	40.45 lbs/day
Dibenzo(a,h)anth	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Indeno(1,2,3-cd)j	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Pyrene (PAH)	ug/l	lbs/day	30.0 ug/l	3.03 lbs/day
Tetrachloroethyle	ug/l	lbs/day	520.0 ug/l	52.58 lbs/day
Toluene	ug/l	lbs/day	520 ug/l	52.58 lbs/day
Trichloroethylene	ug/l	lbs/day	7.0 ug/l	0.71 lbs/day
Vinyl chloride	ug/l	lbs/day	1.6 ug/l	0.16 lbs/day
				lbs/day
Pesticides				lbs/day
Aldrin	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Dieldrin	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Chlordane	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDT	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDE	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDD	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
alpha-Endosulfan	ug/l	lbs/day	30.0 ug/l	3.03 lbs/day
beta-Endosulfan	ug/l	lbs/day	40.0 ug/l	4.04 lbs/day
Endosulfan sulfat	ug/l	lbs/day	40.0 ug/l	4.04 lbs/day
Endrin	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Endrin aldehyde	ug/l	lbs/day	1.0 ug/l	0.10 lbs/day
Heptachlor	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Heptachlor epoxide				
PCB's				
PCB 1242 (Aroch	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1254 (Aroch	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1221 (Aroch	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1232 (Aroch	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1248 (Aroch	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1260 (Aroch	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1016 (Aroch	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Pesticide				
Toxaphene	ug/l		0.0 ug/l	0.00 lbs/day
Dioxin				
Dioxin (2,3,7,8-TC	ug/l	lbs/day		

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Metals

Antimony	ug/l	lbs/day		
Arsenic	ug/l	lbs/day	640.00 ug/l	64.71 lbs/day
Asbestos	ug/l	lbs/day		
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	ug/l	lbs/day	4.0E+02 ug/l	40.45 lbs/day
Lead	ug/l	lbs/day		
Mercury			0.15 ug/l	0.02 lbs/day
Nickel			4600.00 ug/l	465.14 lbs/day
Selenium	ug/l	lbs/day		
Silver	ug/l	lbs/day		
Thallium			0.47 ug/l	0.05 lbs/day
Zinc				

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

VII. Mathematical Modeling of Stream Quality

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

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

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

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

- (1) Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Athens Georgia. EPA/600/3-85/040 June 1985.
- (2) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

VIII. Modeling Information

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

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

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Other Conditions

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

Model Inputs

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

Current Upstream Information

Stream Critical		Temp.	pH	T-NH3	BOD5	DO	TRC	TDS
Low Flow	cfs	Deg. C		mg/l as N	mg/l	mg/l	mg/l	mg/l
Summer	0.20	12.3	8.6	0.01	1.00	7.38	0.01	244.2
Fall	0.20	4.4	8.5	0.01	1.00	---	0.01	312.5
Winter	0.20	1.7	8.6	0.01	1.00	---	0.01	260.0
Spring	0.70	13.5	8.6	0.01	1.00	---	0.01	224.2
Dissolved Metals	Al ug/l	As ug/l	Cd ug/l	CrIII ug/l	CrVI ug/l	Copper ug/l	Fe ug/l	Pb ug/l
All Seasons	2.385*	5.00	0.50	0.795*	3.975*	0.8*	270.0	5.00
Dissolved Metals	Hg ug/l	Ni ug/l	Se ug/l	Ag ug/l	Zn ug/l	Boron ug/l		
All Seasons	0.0795*	2.50	1.59*	0.15*	0.0795*	1.59*	* ~80% MDL	

Projected Discharge Information

Season	Flow, MGD	Temp.
Summer	12.00000	14.9
Fall	12.00000	14.3
Winter	12.00000	13.9
Spring	12.00000	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	12.000 MGD	18.564 cfs
Fall	12.000 MGD	18.564 cfs
Winter	12.000 MGD	18.564 cfs
Spring	12.000 MGD	18.564 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 12 MGD. If the discharger is allowed to have a flow greater than 12 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occurring, the permit writers must include the discharge flow limitation as indicated above; or, include loading effluent limits in the permit.

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

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

WET Requirements	LC50 >	100.0% Effluent	[Acute]
	IC25 >	99.0% Effluent	[Chronic]

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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 495.85 mg/l):

	4 Day Average		1 Hour Average			
	Concentration	Load	Concentration		Concentration	Load
Aluminum*	N/A	N/A	750.0	ug/l	75.0	lbs/day
Arsenic*	151.53 ug/l	9.8 lbs/day	340.0	ug/l	34.0	lbs/day
Cadmium	2.86 ug/l	0.2 lbs/day	9.1	ug/l	0.9	lbs/day
Chromium III	323.18 ug/l	20.9 lbs/day	6,691.1	ug/l	669.5	lbs/day
Chromium VI*	11.07 ug/l	0.7 lbs/day	16.0	ug/l	1.6	lbs/day
Copper	37.02 ug/l	2.4 lbs/day	63.3	ug/l	6.3	lbs/day
Iron*	N/A	N/A	1,000.0	ug/l	100.1	lbs/day
Lead	24.63 ug/l	1.6 lbs/day	626.8	ug/l	62.7	lbs/day
Mercury*	0.01 ug/l	0.0 lbs/day	2.4	ug/l	0.2	lbs/day
Nickel	204.24 ug/l	13.2 lbs/day	1,818.0	ug/l	181.9	lbs/day
Selenium*	4.63 ug/l	0.3 lbs/day	18.4	ug/l	1.8	lbs/day
Silver	N/A	N/A	59.4	ug/l	5.9	lbs/day
Zinc	470.16 ug/l	30.4 lbs/day	465.2	ug/l	46.6	lbs/day
Cyanide*	5.25 ug/l	0.3 lbs/day	22.0	ug/l	2.2	lbs/day

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

Effluent Limitations for Heat/Temperature based upon Water Quality Standards

Summer	14.3 Deg. C.	57.7 Deg. F
Fall	6.5 Deg. C.	43.6 Deg. F
Winter	3.7 Deg. C.	38.7 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		Concentration	Load
Aldrin			1.5E+00	ug/l	2.32E-01	lbs/day
Chlordane	4.30E-03 ug/l	4.30E-01 lbs/day	1.2E+00	ug/l	1.86E-01	lbs/day
DDT, DDE	1.00E-03 ug/l	1.00E-01 lbs/day	5.5E-01	ug/l	8.51E-02	lbs/day
Dieldrin	5.60E-02 ug/l	5.60E+00 lbs/day	2.4E-01	ug/l	3.72E-02	lbs/day
Endosulfan	5.60E-02 ug/l	5.60E+00 lbs/day	1.1E-01	ug/l	1.70E-02	lbs/day
Endrin	3.60E-02 ug/l	3.60E+00 lbs/day	8.6E-02	ug/l	1.33E-02	lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	1.55E-03	lbs/day
Heptachlor	3.80E-03 ug/l	3.80E-01 lbs/day	2.6E-01	ug/l	4.02E-02	lbs/day
Lindane	8.00E-02 ug/l	8.00E+00 lbs/day	1.0E+00	ug/l	1.55E-01	lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02	ug/l	4.64E-03	lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	1.55E-03	lbs/day
Parathion	1.30E-02 ug/l	1.30E+00 lbs/day	6.6E-02	ug/l	1.02E-02	lbs/day
PCB's	1.40E-02 ug/l	1.40E+00 lbs/day	N/A	ug/l	#VALUE!	lbs/day
entachlorophenol	1.50E+01 ug/l	1.50E+03 lbs/day	1.9E+01	ug/l	2.94E+00	lbs/day
Toxephene	2.00E-04 ug/l	2.00E-02 lbs/day	7.3E-01	ug/l	1.13E-01	lbs/day

Effluent Targets for Pollution Indicators Based upon Water Quality Standards

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

	1 Hour Average	
	Concentration	Loading
Gross Beta (pCi/l)	50.0 pCi/L	
BOD (mg/l)	5.0 mg/l	500.3 lbs/day
Nitrates as N	4.0 mg/l	400.2 lbs/day
Total Phosphorus as P	0.05 mg/l	5.0 lbs/day
Total Suspended Solids	90.0 mg/l	9005.4 lbs/day

Note: Pollution indicator targets are for information purposes only.

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**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:

Toxic Organics	Concentration	Maximum Concentration Load
Acenaphthene	9.10E+01 ug/l	9.10E+00 lbs/day
Acrolein	4.04E+02 ug/l	4.04E+01 lbs/day
Acrylonitrile	7.07E+00 ug/l	7.08E-01 lbs/day
Benzene	5.15E+01 ug/l	5.16E+00 lbs/day
Benidine	ug/l	lbs/day
Carbon tetrachloride	5.05E+00 ug/l	5.06E-01 lbs/day
Chlorobenzene	8.08E+02 ug/l	8.09E+01 lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	7.98E-05 ug/l	7.99E-06 lbs/day
1,2-Dichloroethane	2.02E+03 ug/l	2.02E+02 lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	1.01E-01 ug/l	1.01E-02 lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	8.99E+00 ug/l	9.00E-01 lbs/day
1,1,2,2-Tetrachloroethane	3.03E+00 ug/l	3.03E-01 lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	2.22E+00 ug/l	2.22E-01 lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	1.01E+03 ug/l	1.01E+02 lbs/day
2,4,6-Trichlorophenol	2.83E+00 ug/l	2.83E-01 lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	2.02E+03 ug/l	2.02E+02 lbs/day
2-Chlorophenol	8.08E+02 ug/l	8.09E+01 lbs/day
1,2-Dichlorobenzene	3.03E+03 ug/l	3.03E+02 lbs/day
1,3-Dichlorobenzene	1.01E+01 ug/l	1.01E+00 lbs/day
1,4-Dichlorobenzene	9.10E+02 ug/l	9.10E+01 lbs/day
3,3'-Dichlorobenzidine	1.52E-01 ug/l	1.52E-02 lbs/day
1,1-Dichloroethylene	2.02E+04 ug/l	2.02E+03 lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	6.06E+01 ug/l	6.07E+00 lbs/day
1,2-Dichloropropane	3.13E+01 ug/l	3.13E+00 lbs/day
1,3-Dichloropropylene	1.72E+03 ug/l	1.72E+02 lbs/day
2,4-Dimethylphenol	3.03E+03 ug/l	3.03E+02 lbs/day
2,4-Dinitrotoluene	1.72E+00 ug/l	1.72E-01 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	2.02E-01 ug/l	2.02E-02 lbs/day
Ethylbenzene	1.31E+02 ug/l	1.31E+01 lbs/day
Fluoranthene	2.02E+01 ug/l	2.02E+00 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	6.57E+04 ug/l	6.57E+03 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	1.01E+03 ug/l	1.01E+02 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	1.21E+02 ug/l	1.21E+01 lbs/day
Dichlorobromomethane(HM)	2.73E+01 ug/l	2.73E+00 lbs/day
Chlorodibromomethane (HM)	2.12E+01 ug/l	2.12E+00 lbs/day
Hexachlorocyclopentadiene	4.04E+00 ug/l	4.04E-01 lbs/day
Isophorone	1.82E+03 ug/l	1.82E+02 lbs/day
Naphthalene		
Nitrobenzene	6.06E+02 ug/l	6.07E+01 lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	1.41E+04 ug/l	1.42E+03 lbs/day
4,6-Dinitro-o-cresol	7.73E+02 ug/l	7.74E+01 lbs/day
N-Nitrosodimethylamine	3.03E+00 ug/l	3.03E-01 lbs/day
N-Nitrosodiphenylamine	6.06E+00 ug/l	6.07E-01 lbs/day
N-Nitrosodi-n-propylamine	5.15E-01 ug/l	5.16E-02 lbs/day
Pentachlorophenol	4.04E-02 ug/l	4.04E-03 lbs/day

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Salt Lake City, Utah

Phenol	3.03E+05 ug/l	3.03E+04 lbs/day
Bis(2-ethylhexyl)phthalate	3.74E-01 ug/l	3.74E-02 lbs/day
Butyl benzyl phthalate	1.01E-01 ug/l	1.01E-02 lbs/day
Di-n-butyl phthalate	3.03E+01 ug/l	3.03E+00 lbs/day
Di-n-octyl phthalate		
Diethyl phthalate	6.06E+02 ug/l	6.07E+01 lbs/day
Dimethyl phthalate	2.02E+03 ug/l	2.02E+02 lbs/day
Benzo(a)anthracene (PAH)	1.31E-03 ug/l	1.31E-04 lbs/day
Benzo(a)pyrene (PAH)	1.31E-04 ug/l	1.31E-05 lbs/day
Benzo(b)fluoranthene (PAH)	1.31E-03 ug/l	1.31E-04 lbs/day
Benzo(k)fluoranthene (PAH)	1.31E-02 ug/l	1.31E-03 lbs/day
Chrysene (PAH)	1.31E-01 ug/l	1.31E-02 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	1.31E-04 ug/l	1.31E-05 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	1.31E-02 ug/l	1.31E-03 lbs/day
Pyrene (PAH)	3.03E+01 ug/l	3.03E+00 lbs/day
Tetrachloroethylene	5.25E+02 ug/l	5.26E+01 lbs/day
Toluene	5.25E+02 ug/l	5.26E+01 lbs/day
Trichloroethylene	7.07E+00 ug/l	7.08E-01 lbs/day
Vinyl chloride	1.62E+00 ug/l	1.62E-01 lbs/day
Pesticides		
Aldrin	7.78E-07 ug/l	7.79E-08 lbs/day
Dieldrin	1.21E-06 ug/l	1.21E-07 lbs/day
Chlordane	3.23E-04 ug/l	3.24E-05 lbs/day
4,4'-DDT	3.03E-05 ug/l	3.03E-06 lbs/day
4,4'-DDE	1.82E-05 ug/l	1.82E-06 lbs/day
4,4'-DDD	1.21E-04 ug/l	1.21E-05 lbs/day
alpha-Endosulfan	3.03E+01 ug/l	3.03E+00 lbs/day
beta-Endosulfan	4.04E+01 ug/l	4.04E+00 lbs/day
Endosulfan sulfate	4.04E+01 ug/l	4.04E+00 lbs/day
Endrin	3.03E-02 ug/l	3.03E-03 lbs/day
Endrin aldehyde	1.01E+00 ug/l	1.01E-01 lbs/day
Heptachlor	5.96E-06 ug/l	5.97E-07 lbs/day
Heptachlor epoxide		
PCB's		
PCB 1242 (Arochlor 1242)	4.55E-05 ug/l	4.55E-06 lbs/day
PCB-1254 (Arochlor 1254)	4.55E-05 ug/l	4.55E-06 lbs/day
PCB-1221 (Arochlor 1221)	4.55E-05 ug/l	4.55E-06 lbs/day
PCB-1232 (Arochlor 1232)	4.55E-05 ug/l	4.55E-06 lbs/day
PCB-1248 (Arochlor 1248)	4.55E-05 ug/l	4.55E-06 lbs/day
PCB-1260 (Arochlor 1260)	4.55E-05 ug/l	4.55E-06 lbs/day
PCB-1016 (Arochlor 1016)	4.55E-05 ug/l	4.55E-06 lbs/day

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Salt Lake City, Utah**

Pesticide		
Toxaphene	7.17E-04 ug/l	7.18E-05 lbs/day
Metals		
Antimony	ug/l	lbs/day
Arsenic	ug/l	lbs/day
Asbestos	ug/l	lbs/day
Beryllium		
Cadmium		
Chromium (III)		
Chromium (VI)		
Copper	ug/l	lbs/day
Cyanide	ug/l	lbs/day
Lead		
Mercury	ug/l	lbs/day
Nickel	ug/l	lbs/day
Selenium		
Silver		
Thallium	ug/l	lbs/day
Zinc		
Dioxin		
Dioxin (2,3,7,8-TCDD)	1.41E-08 ug/l	1.42E-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				646.8		646.8	
Arsenic	101.1	340.0				101.1	151.5
Asbestos							
Barium							
Beryllium						0.0	
Cadmium	10.1	9.1				9.1	2.9
Chromium (III)		6691.1				6691.1	323.2
Chromium (VI)	101.0	16.0				16.00	11.07
Copper	202.1	63.3				63.3	37.0
Cyanide		22.0	404.2			22.0	5.3
Iron		1000.0				1000.0	
Lead	101.0	626.8				101.0	24.6
Mercury		2.40		0.15		0.15	0.012
Nickel		1818.0		4648.6		1818.0	204.2
Selenium	50.5	18.4				18.4	4.6
Silver		59.4				59.4	
Thallium				0.5		0.5	
Zinc		465.2				465.2	470.2
Boron	757.9					757.9	
Sulfate	2020.8					2020.8	

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Salt Lake City, Utah**

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	646.76		
Arsenic	101.1	151.5	Acute Controls
Asbestos			
Barium			
Beryllium			
Cadmium	9.1	2.9	
Chromium (III)	6691.1	323	
Chromium (VI)	16.0	11.1	
Copper	63.3	37.0	
Cyanide	22.0	5.3	
Iron	1000.0		
Lead	101.0	24.6	
Mercury	0.152	0.012	
Nickel	1818.0	204	
Selenium	18.4	4.6	
Silver	59.4	N/A	
Thallium	0.5		
Zinc	465.2	470.2	Acute Controls
Boron	757.92		
Sulfate	2020.8		N/A at this Waterbody

Other Effluent Limitations are based upon R317-1.

E. coli 126.0 organisms per 100 ml

X. Antidegradation Considerations

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

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that an Antidegradation Level II Review is required. The proposed permit is a renewal with proposed increase in flow or concentration over that which was approved in the previous permit.

XI. Colorado River Salinity Forum Considerations

Discharges in the Colorado River Basin are required to have their discharge at a TDS loading of less than 1.00 tons/day unless certain exemptions apply. Refer to the Forum's Guidelines for additional information allowing for an exceedence of this value. This doesn't apply to facilities that do not discharge to the Colorado River Basin.

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.



Sufco Mine

597 South SR24
Salina, Utah 84654
(435) 286-4880

February 11, 2026

Dept. of Environmental Quality, Division of Water Quality
ATTN: Jeff Studenka
195 North 1950 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870



Re: Modification of UPDES Permit No. UT0022918, Canyon Fuel Company, LLC – Sufco Mine

Dear Mr. Studenka,

In accordance with the Utah Water Pollution Control Act, the Clean Water Act of 1977, and the Water Quality Act of 1987, we elect to modify UPDES Permit No. UT0022918. The application is attached to this letter.

We believe we have provided the information necessary for the modification of this permit. If additional information is required, please contact Anthony Hardman at (435) 286-4489.

Canyon Fuel Company acknowledges and agrees to an hourly rate of \$135 for permit modification services.

Regards,

Anthony Hardman
Environmental Engineer
Canyon Fuel Company, LLC
SUFSCO Mine
P: (435) 286 – 4489
E: Ahardman@wolverinefuels.com



UPDES Industrial Permit Application

Part II. Facility Information

Design and Actual Flow Rates

Provide design and actual flow rates in designated spaces.

Design Flow Rate	
12.0(003)+0.5(002)	mgd

Annual Average Flow Rates (Actual) See Attached excel sheet for 002 and 003.

Five Years Ago		Four Years Ago		Three Years Ago	
See Attached	mgd		mgd		mgd
Two Years Ago		Last Year		Current Year	
	mgd		mgd		mgd

Maximum Daily Flow Rates (Actual)

Five Years Ago		Four Years Ago		Three Years Ago	
	mgd		mgd		mgd
Two Years Ago		Last Year		Current Year	
	mgd		mgd		mgd

Describe the treatment for each outfall*

	Outfall Number	001 & 002	Outfall Number	003	Outfall Number	
Level of Treatment						
Primary	Treatment Unit	Primary Sediment Pond	Treatment Unit	NA	Treatment Unit	
	Size		Size		Size	
	Flow rate	84.14 gpm	Flow rate	Varies	Flow rate	
	Retention time	5.06 Days	Retention time		Retention time	
	Other		Other	NA	Other	
Equivalent to secondary	Treatment Unit	Secondary Sediment Pond	Treatment Unit	NA	Treatment Unit	
	Size	2.14 ac-ft	Size	Varies	Size	
	Flow rate	84.14 gpm	Flow rate		Flow rate	
	Retention time	5.76 Days	Retention time		Retention time	
	Other		Other	NA	Other	



UPDES Industrial Permit Application

Part II. Facility Information *continued*

Describe the treatment for each outfall* *continued*

	Outfall #		Outfall #		Outfall #	
Secondary	Treatment Unit		Treatment Unit		Treatment Unit	
	Size		Size		Size	
	Flow rate		Flow rate		Flow rate	
	Retention time		Retention time		Retention time	
	Other		Other		Other	
Advanced	Treatment Unit		Treatment Unit		Treatment Unit	
	Size		Size		Size	
	Flow rate		Flow rate		Flow rate	
	Retention time		Retention time		Retention time	
	Other		Other		Other	
Other (specify)	Treatment Unit		Treatment Unit		Treatment Unit	
	Size		Size		Size	
	Flow rate		Flow rate		Flow rate	
	Retention time		Retention time		Retention time	
	Other		Other		Other	

* The data can be entered in the section above or an excel spreadsheet. Attached additional sheets if needed.

Production

Outfall Number	Operation, Product, or Material	Quantity per Day	Unit of Measure



UPDES Industrial Permit Application

Part II. Facility Information *continued*

BLUEPRINT: Attach a line drawing that shows the water flow through your facility with a water balance.

Blueprint Attached

MAP: Attach a USGS topographic map or aerial photo extending one mile beyond the property boundaries of the site, the facility or activity boundaries, any treatment area(s), outfall(s), major drainage patterns, and the receiving surface waters stated above.

Map Attached

Are improvements to the facility scheduled?

YES If YES, explain below.

NO If NO, Skip to Part III

Briefly list and describe the schedule improvements.

1.	
2.	
3.	
4.	

Provide scheduled or actual dates of completion for improvements.

Scheduled or Actual Dates of Completion for Improvements

Scheduled Improvement (from above)	Affected Outfalls (list outfall number)	Begin Construction (MM/DD/YYYY)	End Construction (MM/DD/YYYY)	Begin Discharge (MM/DD/YYYY)	Attainment of Operational Level (MM/DD/YYYY)
1.					
2.					
3.					
4.					



**Division of Water Quality (DWQ)
 UPDES Program**

UPDES Industrial Permit Application

Part III. Sampling Information

Provide all parameter sampling data with analytical results, reporting limit and any laboratory flags on an Excel spreadsheet. *An Excel Spreadsheet will be provided upon request.*

Has WET testing been conducted during the last 5 years? YES NO

Indicate the acute and chronic WET tests (PASS or FAIL) results for the past 5 years. If no WET testing for the quarter, then leave blank (e.g., for semi-annual or annual testing or missed testing events).

Year	Outfall No. <u>003</u>		Outfall No. _____		Outfall No. _____					
	Acute	Chronic	Acute	Chronic	Acute	Chronic				
2021	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
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2022	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
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2023	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
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2024	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
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2025	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
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Describe any cause(s) of toxicity:

Were the above WET analysis submitted to Utah DWQ? YES NO



UPDES Industrial Permit Application

Part IV. Compliance Information

Has the facility had and parameter exceedances over the past five years? YES NO

If Yes, provide the below information:

Parameter	Exceedance	Month/Year	Cause
Solids, total suspended	30 Day Avg/7 Day Avg	12/2021	Storm Events/Snow Melt
Solids, Total Suspended	30 Day Avg/ 7 Day Avg	08/2025	Pond Cleaning



UPDES Industrial Permit Application

Part V. Outfalls and Receiving Water(s)

Provide the latitude and longitude to the nearest second for each dewatering outfall. The specified location should be after all treatment and before release to the receiving water. Provide the name of the initial receiving water. If the initial receiving water is unnamed, please also indicate the closed named drainage the receiving water flows into (i.e. unnamed tributary of City Creek). Attach additional sheets if necessary for more outfalls.

Each outfall to a different receiving water segment is subject to additional application fees and annual fees.

Outfall No.	Average daily flow rate	Latitude	Longitude	Receiving Surface Waters (Name)
001	0 mgd	38 ⁰ 54 ' 54 "	111 ⁰ 24 ' 54 "	So. Fork of the No. Fork of Quitchupah Creek
002	0.12 mgd	38 ⁰ 54 ' 32 "	111 ⁰ 24 ' 57 "	So. Fork of the No. Fork of Quitchupah Creek
003	3.25 mgd	38 ⁰ 57 ' 26 "	111 ⁰ 23 ' 06 "	No. Fork of Quitchupah Creek

Do any of the outfalls described above have a season or periodic discharges?

YES NO

If so, provide the following information for each applicable outfall.

	Outfall No.	Outfall No.	Outfall No.
Number of times per year discharges occurs			
Average duration of each discharge (specify units)			
Average flow of each discharge	mgd	mgd	mgd
Months in which discharge occurs			



UPDES Industrial Permit Application

Part VI. Effluent and Intake Characteristics

Table A.

Conventional and Non-Conventional Pollutants

Are you requesting a waiver for one or more pollutants listed Table A for any of your outfalls? YES NO

If yes, indicate the applicable outfalls below. Attach the waiver request and other required information to the application.

Outfall Number	001	Outfall Number	002	Outfall Number	003
----------------	-----	----------------	-----	----------------	-----

Have you completed monitoring for all Table A pollutants at each of your outfalls for which a waiver has not been requested and attached the results to this application? YES NO; a waiver has been requested for all pollutants at all outfalls

Table B.

Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants

Do any of the facility's processes that contribute wastewater fall into one or more of the primary industry categories listed in Appendix A? YES NO Not applicable

Have you checked "Testing Required" for all toxic metals, cyanide, and total phenols in Section 1 of Table B? YES NO

List the applicable primary industry categories and check the boxes indicating the required Gas Chromatography/Mass Spectrometry (GS/MS) Fraction(s) identified in Appendix A.

Primary Industry Category	Required Gas Chromatography/Mass Spectrometry (GS/MS) Fraction(s)
	<input type="checkbox"/> Volatile <input type="checkbox"/> Acid <input type="checkbox"/> Base/Neutral <input type="checkbox"/> Pesticide
	<input type="checkbox"/> Volatile <input type="checkbox"/> Acid <input type="checkbox"/> Base/Neutral <input type="checkbox"/> Pesticide
	<input type="checkbox"/> Volatile <input type="checkbox"/> Acid <input type="checkbox"/> Base/Neutral <input type="checkbox"/> Pesticide

Have you checked "Testing Required" for all required pollutants in Sections 2 through 5 of Table B for each of the GC/MS fractions? YES NO

Have you checked "Believe Present" or Believed Absent" for all pollutants listed in Sections 1 through 5 of Table B where testing is not required? YES NO

Have you provided (1) quantitative data for those Section 1, Table B, pollutants for which you have indicated testing is required or (2) quantitative data or other required information for those Section 1, Table B, pollutants that you have indicated are "Believe Present" in your discharge? YES NO

Have you provided (1) quantitative data for those Sections 2 through 5, Table B, pollutants for which you have determined testing is required or (2) quantitative data or an explanation for those Sections 2 through 5, Table B, pollutants you have indicated are "Believed Present" in your discharge? YES NO



UPDES Industrial Permit Application

Part VI. Effluent and Intake Characteristics *continued*

Table C.

Certain Conventional and Non-Conventional Pollutants

Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed on Table C for all outfalls?

YES NO

Have you completed Table C by providing (1) quantitative data for those pollutants that are limited either directly or indirectly in an Effluent Limitation Guidelines and/or (2) quantitative data or an explanation for those pollutants for which you have indicated "Believe Present"?

YES NO

Table D.

Certain Hazardous Substances and Asbestos

Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed on Table D for all outfalls?

YES NO

Have you completed Table D by (1) describing the reasons the applicable pollutants are expected to be discharged and (2) by providing quantitative data, if available?

YES NO

Table E.

2,3,7,8-Tetrachlorodibenzo-p-Dioxin (2,3,7,8-TCDD)

Does the facility use or manufacture one or more of the 2,3,7,8-TCDD congeners listed below:

- 2,4,5-trichlorophenoxy acetic acid (2,4,5-T)
- 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP)
- 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloro-propionate (Erbon)
- 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel)
- 2,4,5-trichlorophenol (TCP)
- hexachlorophene (HCP).
- Or do you know of have reason to believe that TCDD is or may be present in the effluent?

YES, Complete Table E NO, Skip to Part VII

Have you completed Table E by reporting qualitative data for TCDD?

YES NO

Were any of the analyses reported in this section performed by a contract laboratory or consulting firm?

YES NO, Skip to Part VII

Provide information for each contract laboratory or consulting firm below.

	Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
Name of laboratory/firm			
Laboratory address			
Phone Number			
Pollutant(s) analyzed			



UPDES Industrial Permit Application

Part VII. Used or Manufactured Toxics

Is any pollutant listed in Table B a substance or a component of a substance used or manufactured at your facility as an intermediate or final product or byproduct?

YES NO, Skip to Part VIII

List the pollutants below.

1.	4.	7.
2.	5.	8.
3.	6.	9.



UPDES Industrial Permit Application

Part IX. Biosolids Information

Was the Biosolids Annual Report submitted? YES NO

Attach a Biosolids Management Plan with application

Serve Connections?

Provide the total dry metric tons per the latest 365-day period of sewage sludge generated, treated, used and disposed of:

Practice	Dry Metric Tons per 365-day Period
Amount generated at the facility	
Amount treated at the facility	
Amount used (i.e., received from offsite) at the facility	
Amount disposed of at the facility	

Treatment Provided at Your Facility

Identify the treatment process(es) used at your facility to reduce pathogens in sewage sludge

- | | |
|--|---|
| <input type="checkbox"/> Preliminary operations (e.g., sludge grinding and degritting) | <input type="checkbox"/> Thickening (concentration) |
| <input type="checkbox"/> Stabilization | <input type="checkbox"/> Anaerobic digestion |
| <input type="checkbox"/> Composting | <input type="checkbox"/> Conditioning |
| <input type="checkbox"/> Disinfection | <input type="checkbox"/> Dewatering (e.g. centrifugation, sludge drying beds, sludge lagoons) |
| <input type="checkbox"/> Heat drying | <input type="checkbox"/> Thermal reduction |
| <input type="checkbox"/> Methane or biogas capture and recovery | |

Sewage Sludge Disposal Method

Land Application of Bulk Sewage Sludge

Is sewage sludge from your facility applied to the land? YES NO If No, Skip to next section

Total dry metric tons per 365-day period of sewage sludge applied to all land sites: _____

Surface Disposal

Is sewage sludge from your facility placed on a surface disposal site? YES NO If No, Skip to next section

Total dry metric tons of sewage sludge from your facility placed on all surface disposal sites per 365-day period: _____

Do you own or operate all surface disposal sites to which you send sewage sludge for disposal? YES NO If No, complete the below information

Surface disposal site *you do not operate*

Site name _____

Mailing address _____

City _____ State _____ Zip _____

Contact Name _____ Title _____

Phone Number _____ Email Address _____



UPDES Industrial Permit Application

Part IX. Bisolids Information *continued*

Incineration

Is sewage sludge from your facility fired in a sewage sludge incinerator?
 YES NO If No, Skip to next section

Total dry metric tons of sewage sludge from your facility fired in all sewage sludge incinerators per 365-day period: _____

Do you own or operate all sewage sludge incinerators in which sewage sludge from facility is fired?
 YES NO If No, complete the below information

Incinerator location *you do not operate*

Site name _____

Mailing address _____

City _____ State _____ Zip _____

Contact Name _____ Title _____

Phone Number _____ Email Address _____

Disposal in a Municipal Solid Waste Landfill

Is sewage sludge from your facility placed on a municipal solid waste landfill?
 YES NO If No, Skip to next section

Total dry metric tons of sewage sludge from your facility placed in this municipal solid waste landfill per 365-day period: _____

Do you own or operate the municipal solid waste landfill in which sewage sludge is disposed?
 YES NO If No, complete the below information

Municipal Solid Waste Landfill *you do not operate*

Site name _____

Mailing address _____

City _____ State _____ Zip _____

Contact Name _____ Title _____

Phone Number _____ Email Address _____



UPDES Industrial Permit Application

Part X. Reuse Information

Is wastewater applied to land?

YES NO If YES, complete the below information.

Land Application Site and Discharge Data			
Location	Size	Average Daily Volume Applied	How often
NA-No Reuse	acres	gpd	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
	acres	gpd	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
	acres	gpd	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent

Seasonal land application.

Indicate months of seasonal land application

- | | | | |
|-----------------------------------|--------------------------------|------------------------------------|-----------------------------------|
| <input type="checkbox"/> January | <input type="checkbox"/> April | <input type="checkbox"/> July | <input type="checkbox"/> October |
| <input type="checkbox"/> February | <input type="checkbox"/> May | <input type="checkbox"/> August | <input type="checkbox"/> November |
| <input type="checkbox"/> March | <input type="checkbox"/> June | <input type="checkbox"/> September | <input type="checkbox"/> December |

Where is the Reuse water distributed

- Residential irrigation
- Urban uses
 - Non-residential landscape irrigation
 - Golf course irrigation
 - Toilet flushing
 - Fire protection
- Irrigation of food crops (direct contact with edible part) – spray irrigation
- Irrigation of food crops (*Non direct contact with edible part*) – no spray irrigation
- Irrigation
 - Sod farms
 - Silviculture
 - Limited access highway rights of way
 - Other areas where human access is restrict or unlikely to occur
- Irrigation of animal feed crops other than pasture for milking animals
- Impoundment of wastewater where direct human contact is not allowed or is unlikely to occur
- Cooling water
- Soil compaction or duct control in construction areas
- Other

Attached an updated Reuse Project Plan

An updated Reuse Project Plan is required during every permit renewal.



UPDES Industrial Permit Application

Part X. Antidegradation Review

The objective of antidegradation rules and policies is to protect existing high quality waters and set forth a process for determining where and how much degradation is allowable for socially and/or economically important reasons. In accordance with Utah Administrative Code (UAC R317-2-3), an antidegradation review (ADR) is a permit requirement for any project that will increase the level of pollutants in waters of the state. The rule outlines requirements for both Level I and Level II ADRs, as well as public comment procedures. This review form is intended to assist the applicant and Division of Water Quality (DWQ) staff in complying with the rule but is not a substitute for the complete rule in R317-2-3.5. Additional details can be found in the *Utah Antidegradation Implementation Guidance* and relevant sections of the guidance are cited in this review form.

ADRs should be among the first steps of an application for a UPDES permit because the review helps establish treatment expectations. The level of effort and amount of information required for the ADR depends on the nature of the project and the characteristics of the receiving water. To avoid unnecessary delays in permit issuance, DWQ recommends that the process be initiated at least one year prior to the date a final approved permit is required.

DWQ will determine if the project will impair beneficial uses (Level I ADR) using information provided by the applicant and whether a Level II ADR is required. The applicant is responsible for conducting the Level II ADR. For the permit to be approved, the Level II ADR must document that all feasible measures have been undertaken to minimize pollution for socially, environmentally or economically beneficial projects resulting in an increase in pollution to waters of the state.

For permit requiring a Level II ADR, this antidegradation form must be completed and approved by DWQ before any UPDEs permit can be issued. Typically, the ADR form is completed in an iterative manner in consultation with DWQ. The applicant should first complete the statement of social, environmental and economic importance (SEEI) in Section C and determine the parameters of concern (POC) in Section D. Once the POCs' are agreed upon by DWQ, the alternatives analysis and selection of preferred alternative Section E can be conducted based on minimizing degradation resulting from discharge of the POCs. Once the applicant and DWQ agree upon the preferred alternative, the review is considered complete, and the form is submitted to DWQ.

What are the designated uses of the receiving water (R317-2-6)?

- Domestic Water Supply
- Recreation
- Aquatic Life
- Agricultural Water Supply
- Great Salt Lake

Antidegradation Category 1, 2 or 3 of receiving water (R317-2-3.2, -3.3, and -3.4):

Category 3



UPDES Industrial Permit Application

Part X. Antidegradation Review *continued*

Effluent flow reviewed: *typically, this should be the maximum daily discharge at the design capacity of the facility. Exceptions should be noted.*

Increased to 8 MGD in 2022, looking to increase this amount to 12 MGD with this permit modification for dewatering needs within the mine.

What is the application for? (Check all that apply)

- A UPDES permit for a new facility, project, or outfall.
- A UPDES permit renewal with an expansion or modification of an existing wastewater treatment works.
- A UPDES permit renewal requiring limits for a pollutant not covered by the previous permit and/or an increase to existing permit limits.
- A UPDES permit renewal with no charges in facility operations.

Section B. Is a Level II ADR required?

This section of the form is intended to help applicants determine if a Level II ADR is required for specific permitted activities. In addition, the Executive Secretary may require a Level II ADR for an activity with the potential for major impact on the quality of waters of the state (R317-2-3.5a.1).

B1. The UPDES permit is new or is being renewed and the proposed effluent concentration and loading limits are higher than the concentration and loading limits in the previous permit and any previous antidegradation review(s).

- YES – (Proceed to B3 of the Form)
- NO – No Level II ADR is required and there is no need to proceed further with the review questions. Continue to the Certification Statement and Signature page.

B2. Will any pollutants use assimilative capacity of the receiving water, i.e. do the pollutant concentrations in the effluent exceed those in the receiving waters at critical conditions? For most pollutants, effluent concentrations that are higher than the ambient concentrations require an antidegradation review? For a few pollutants such as dissolved oxygen, and antidegradation review is required if the effluent concentrations are less than the ambient concentrations in the receiving water. (Section 3.3.3 of Implementation Guidance)

- YES – (Proceed to B4 of the Form)
- NO – No Level II ADR is required and there is no need to proceed further with the review questions. Continue to the Certification Statement and Signature page.



UPDES Industrial Permit Application

Part X. Antidegradation Review *continued*

B3. Are water quality impacts of the proposed project temporary and limited (Section 3.3.4 of Implementation Guidance)? Proposed projects that will have temporary and limited effects on water quality can be exempted from a Level II ADR.

- YES – Identify the reason used to justify this determination if B4.1 and proceed to Section G. No Level II ADR is required.
- NO – A Level II ADR is required (Proceed to Section C)

B3.1 Complete this question only if the applicant is requesting a Level II review exclusion for temporary and limited projects (See R317-2-3.5(b)(3) and R317-2-3.5(b)(4)). For projects requesting a temporary and limited exclusion please indicate the factor(s) used to justify this determination (check all that apply and provide details as appropriate) (Section 3.3.4 of Implementation Guidance):

- Water quality impacts will be temporary and related exclusively to sediment or turbidity and fish spawning will not be impaired.

Factors to be considered in determining whether water quality impacts will be temporary and limited:

- a) The length of time during which water quality will be lowered:
- b) The percent change in ambient concentrations of pollutants:
- c) Pollutants affected:
- d) Likelihood for long-term water quality benefits:
- e) Potential for any residual long-term influences on existing uses:
- f) Impairment of fish spawning, survival and development of aquatic fauna excluding fish removal efforts:

Additional justification, as needed:



UPDES Industrial Permit Application

Part X. Antidegradation Review *continued*

Level II ADR

Section C, D, E, and F of the form constitute the Level II ADR Review. The applicant must provide as much detail as necessary for DWQ to perform the antidegradation review. Questions are provided for the convenience of applicants; however, for more complex permits it may be more effective to provide the required information in a separate report. Applicants that prefer a separate report should record the report name here and proceed to Section G of the form.

Option Report Name: Feb 5, 2022 Petersen Hydrologic SUFCO Supplemental Report

Section C. Is the degradation from the project socially and economically necessary to accommodate important social or economic development in the area in which the waters are located? *The applicant must provide as much detail as necessary for DWQ to concur that the project is socially and economically necessary when answering the questions in the section. More information is available in Section 6.2 of the Implementation Guidance.*

C1. Describe the social and economic benefits that would be realized through the proposed project, including the number and nature of jobs created and anticipated tax revenues.

See attached report for all remaining or unanswered ADR questions and information.

C2. Describe any environmental benefits to be realized through implementation of the proposed project.

C3. Describe any social and economic losses that may result from the project, including impacts to recreation or commercial development.

C4. Summarize any supporting information from the affected communities on preserving assimilative capacity to support future growth and development.



UPDES Industrial Permit Application

Part X. Antidegradation Review *continued*

C5. Please describe any structures or equipment associated with the project that will be placed within or adjacent to the receiving water.

C6. Will the discharge potentially impact a drinking water source, e.g., Class 1C waters? Depending upon the locations of the discharge and its proximity to downstream drinking water diversions, additional treatment or more stringent effluent limits or additional monitoring, beyond that which may otherwise be required to meet minimum technology standards or in stream water quality standards, may be required by the Director in order to adequately protect public health and the environment (R317-2-3.5 d.).

- YES
- NO

Section D. Identify and rank (from increasing to decreasing potential threat to designated uses) the parameters of concern. Parameters of concern are parameters in the effluent at concentrations greater than ambient concentrations in the receiving water. The applicant is responsible for identifying parameter concentrations in the effluent and DWQ will provide parameter concentrations for the receiving water. More information is available in Section 3.3.3 of the Implementation Guidance.

Parameters of Concern:			
Rank	Pollutant	Ambient Concentration	Effluent Concentration
1.			
2.			
3.			
4.			
5.			



UPDES Industrial Permit Application

Part X. Antidegradation Review *continued*

Pollutants Evaluated that are not Considered Parameters of Concern:

Pollutant	Ambient Concentration	Effluent Concentration	Justification
1.			
2.			
3.			
4.			
5.			

Section E. Alternative Analysis Requirements of Level II Antidegradation Review. *Level II ADRs require the applicant to determine whether there are feasible less-degrading alternatives to the proposed project. More information is available in Section 5.5 and 5.6 of the Implementation Guidance.*

E1. The UPDES permit is being renewed without any changes to flow or concentrations. Alternative treatment and discharge options including changes to operations and maintenance were considered and compared to the current processes. NO economically feasible treatment or discharge alternatives were identified that were not previously considered for any previous antidegradation review(s).

- YES – (Proceed to Section F)
- NO or Does Not Apply (Proceed to E2)

E2. Attach as an appendix to this form a report that describes that following factors for all alternative treatment options (see 1) a technical descriptions of the treatment process, including construction costs and continued operation and maintenance expenses, 2) the mass and concentration of discharge constituents, and 3) a description of the reliability of the system, including the frequency where recurring operation and maintenance may lead to temporary increases in discharged pollutants. Most of this information is typically available from a Facility Plan, if available.

Report Name: Feb 5, 2022 Petersen Hydrologic SUFCO Supplemental Report

E3. Describe the proposed method and cost of the baseline treatment alternative. The baseline treatment alternative is the minimum treatment required to meet water quality based effluent limits (WQBEL) as determined by the preliminary or final wasteload analysis (WLC) and any secondary or categorical effluent limits.



UPDES Industrial Permit Application

Part X. Antidegradation Review *continued*

E4. Were any of the following alternatives feasible and affordable?

Alternative	Feasible	Reason Not Feasible/Affordable
Pollutant Trading	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Water Recycling/Reuse	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Land Application	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Connection to Other Facilities	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Upgrade to Existing Facility	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Total Containment	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Improved O&M of Existing Systems	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Seasonal or Controlled Discharge	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
New Construction	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
No Discharge	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

E5. From the applicant's perspective, what is the preferred treatment option?

Mine water is discharged from the Sufco Mine through Outfall 002 (into the South Fork of the North Fork of Quitchupah Creek) and Outfall 003 (into the North Fork of Quitchupah Creek). Note that there has been no discharge from Outfall 001 in more than 25 years. Excess TDS contributions to the Quitchupah Creek receiving waters are currently being offset through the purchase of salt credits. For this permit renewal, Sufco Mine proposes only to increase the maximum permitted discharge volume from the current permit value of 8.0 mgd to 12.0 mgd with corresponding changes to stream loading. Where necessary, Sufco will purchase additional salt credits to offset excess TDS concentrations in the receiving waters resulting from the increased loading associated with the increased volume of mine discharge. The salt credit offsets fund projects that are designed to decrease salt loading to the impacted stream drainage through modifications to agricultural and land management practices within the drainage.



UPDES Industrial Permit Application

Part X. Antidegradation Review *continued*

E6. Is the preferred option also the least polluting feasible alternative?

YES NO

If No, what were less degrading feasible alternative(s)?

If No, provide a summary of the justification for not selecting the least polluting feasible alternative and if appropriate, provide a more detailed justification as an attachment.

Section F. Optional Information

F1. Does the applicant want to conduct optional public review(s) in addition to the mandatory public review? Level II ADRs are public noticed for a thirty day comment period. More information is available in Section 3.7.1 of the Implementation Guidance.

YES NO

F2. Does the project include an optional mitigation plan to compensate for the proposed water quality degradation?

YES NO

Report Name: _____



UPDES Industrial Permit Application

Part XI. Certification Statement and Signature

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with 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 of knowing violations.

Anthony Hardman *[Signature]* Environmental Engineer 02/11/26
 PRINT NAME of Signatory Signature Title Date
 Authority

The Division of Water Quality may request additional information.

Important: The UPDES Permit Application will not be considered complete unless you answer every question. If an item does not apply to you, enter "Not Applicable" to show that you considered the question.

The UPDES Permit Application, must be signed as follows:

- 1) For a corporation, a responsible corporate officer shall sign the NOT, a responsible corporate officer means:
 - a. A President, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or
 - b. The manager of one or more manufacturing, production, or operating facilities, if
 - i. The manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental statutes and regulations;
 - ii. The manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and
 - iii. Authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- 2) For a partnership of sole proprietorship, the general partner or the proprietor, respectively; or
- 3) For a municipality, state or other public agency, either a principal executive officer or ranking elected official shall sign the application; in this subsection, a principal executive officer of any agency means;
 - a. The chief executive officer of the agency; or
 - b. A senior executive officer having responsibility for the overall operations of a principal geographic unit or division of the agency.

Where to File the UPDES Permit Application form:

Please submit the original form with a signature in ink to the below address. Remember to retain a copy for your records.

UPDES sent by mail:

**Division of Water Quality
 195 North 1950 West
 PO Box 144870
 Salt Lake City, UT 84114-4870**

OFFICE USE ONLY

Date received: ___ / ___ / ___ Received by: _____ Document No: _____

via: Email Fax Webportal Mail Hand Delivery



UPDES Industrial Permit Application

**Appendix A. Testing Requirements for Organic Toxic Pollutants
Industry Categories***

	Industry Category	Volatile	Gas Chromatography/Mass Spectrometry (GS/MS) Fraction(s)†		Pesticide
			Acid	Base/Neutral	
1.	Adhesives and sealants	X	X	X	<input type="checkbox"/>
2.	Aluminum forming	X	X	X	<input type="checkbox"/>
3.	Auto and other laundries	X	X	X	X
4.	Battery manufacturing	X	<input type="checkbox"/>	X	<input type="checkbox"/>
5.	Coal mining	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Coil coating	X	X	X	<input type="checkbox"/>
7.	Copper forming	X	X	X	<input type="checkbox"/>
8.	Electric and electronic compounds	X	X	X	X
9.	Electroplating	X	X	X	<input type="checkbox"/>
10.	Explosives manufacturing	<input type="checkbox"/>	X	X	<input type="checkbox"/>
11.	Foundries	X	X	X	<input type="checkbox"/>
12.	Gum and wood chemicals (all subparts except D and F)	X	X	<input type="checkbox"/>	<input type="checkbox"/>
13.	Gum and wood chemicals, Subpart D (tall oil rosin)	X	X	X	<input type="checkbox"/>
14.	Gum and wood chemicals, Subpart F (rosin-based derivatives)	X	X	X	<input type="checkbox"/>
15.	Inorganic chemicals manufacturing	X	X	X	<input type="checkbox"/>
16.	Iron and steel manufacturing	X	X	X	<input type="checkbox"/>
17.	Leather tanning and finishing	X	X	X	<input type="checkbox"/>
18.	Mechanical products manufacturing	X	X	X	<input type="checkbox"/>
19.	Nonferrous metals manufacturing	X	X	X	X
20.	Ore mining, Subpart B (base and precious metals)	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
21.	Organic chemicals manufacturing	X	X	X	X
22.	Paint and ink formulation	X	X	X	<input type="checkbox"/>
23.	Pesticides	X	X	X	X
24.	Petroleum refining	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.	Pharmaceutical preparations	X	X	X	<input type="checkbox"/>
26.	Photographic equipment and supplies	X	X	X	<input type="checkbox"/>
27.	Plastic and synthetic materials manufacturing	X	X	X	X
28.	Plastic processing	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	Printing and publishing	X	X	X	X
30.	Pulp and paperboard mills	X	X	X	X
31.	Rubber processing	X	X	X	<input type="checkbox"/>
32.	Soap and detergent manufacturing	X	X	X	<input type="checkbox"/>
33.	Steam electric power plants	X	X	<input type="checkbox"/>	<input type="checkbox"/>
34.	Textile mills (except Subpart C, Greige Mills)	X	X	X	<input type="checkbox"/>
35.	Timber products processing	X	X	X	X

Key

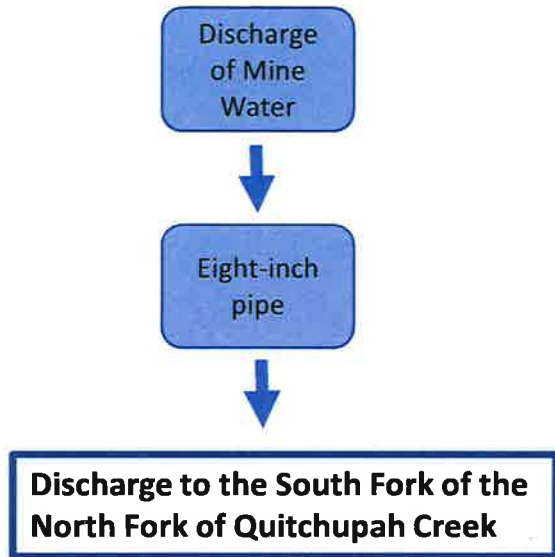
* See note at conclusion of 40 CFR 122, Appendix D (1983) for explanation of effect of suspensions on testing requirements for primary industry categories

† The pollutants in each fraction are listed in Table B

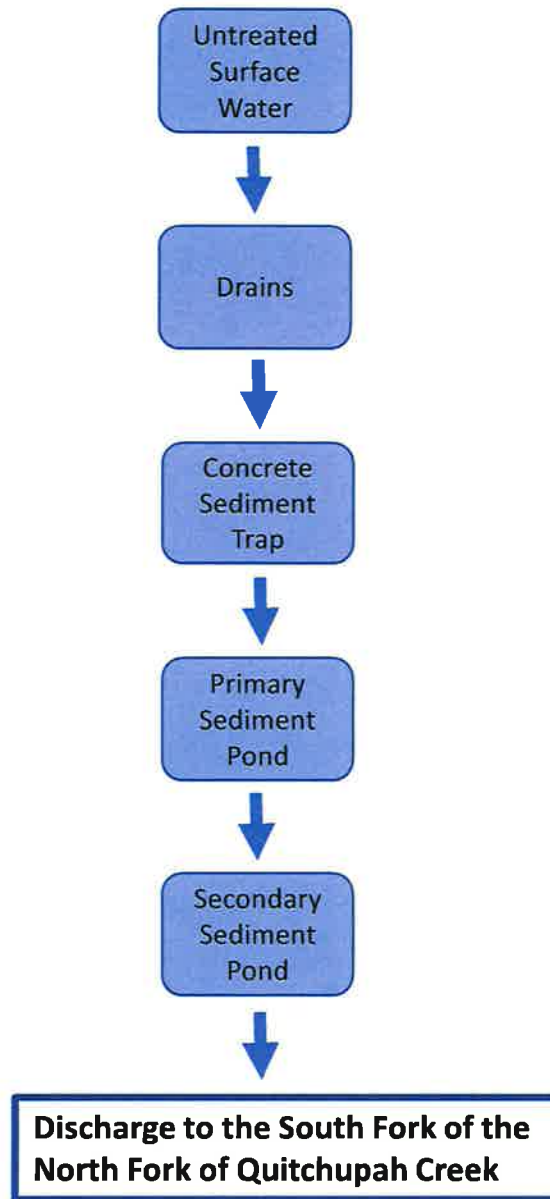
X Testing is required

Testing is not required

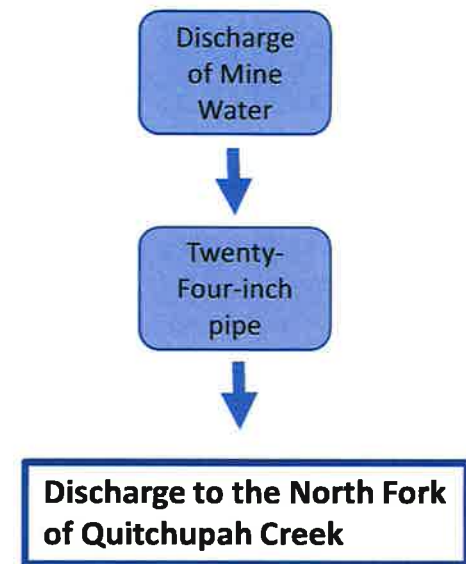
DP-001 Water Flow



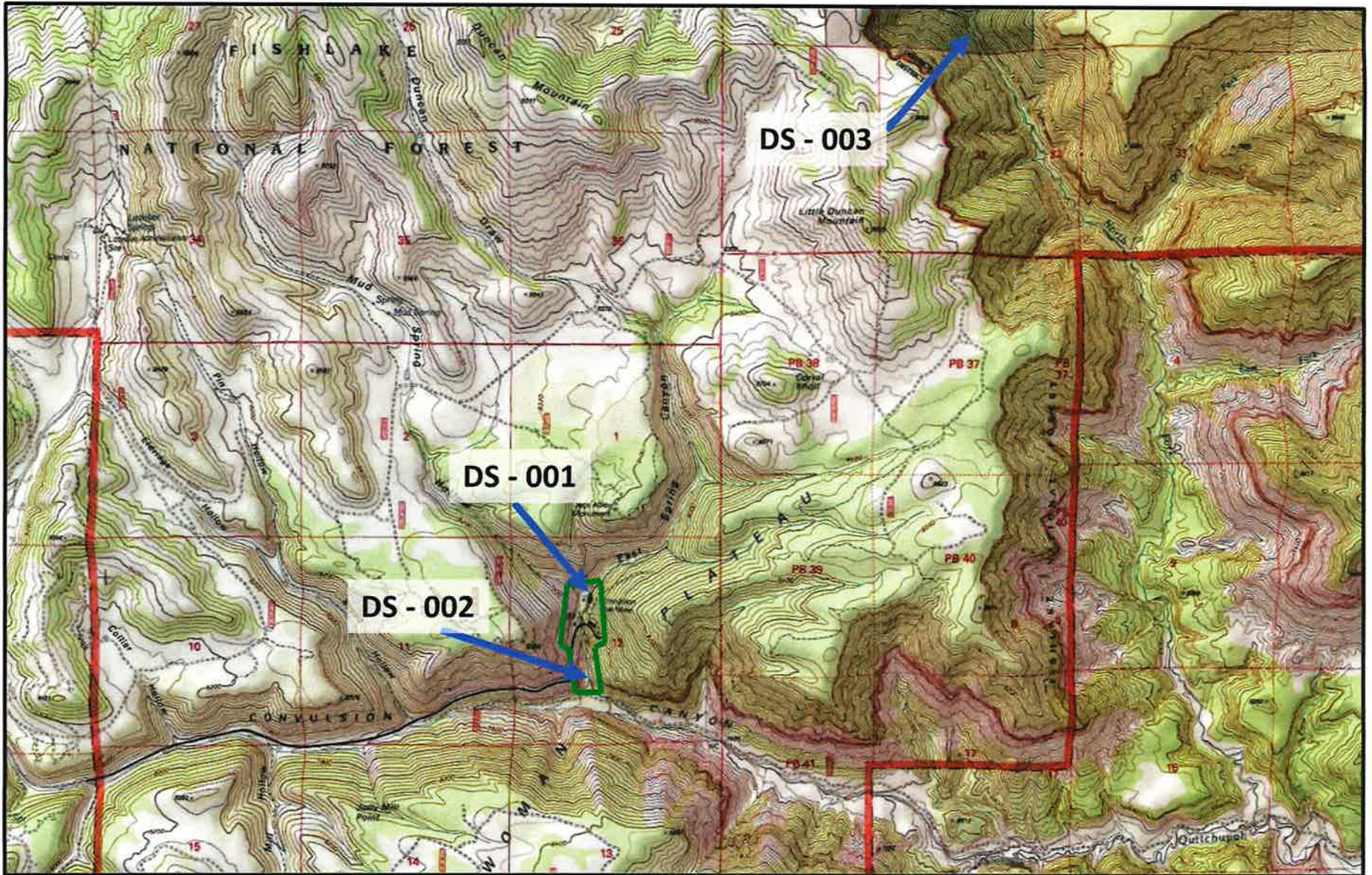
DP-002 Water Flow




DP-003 Water Flow

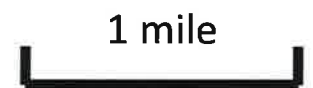


*Due to the primarily unidirectional flow of each discharge, providing a water balance was deemed unnecessary.



 Approximate Facility Boundary Location
(Sufco Mine)

UPDES Discharge Location Map
All Locations Are Approximate





PETERSEN HYDROLOGIC

5 February 2026

Mr. Anthony Hardman
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Sufco Mine
397 South 800 West
Salina, Utah 84526

Anthony,

At your request, we have prepared this report to provide supplemental information to the Utah Department of Environmental Quality, Division of Water Quality in support of the modification application for the Canyon Fuel Company, LLC Sufco Mine UPDES permit.

Overview

The Canyon Fuel Company, LLC Sufco Mine is located in the southern Wasatch Plateau coal mining district of Utah, approximately 30 miles northeast of Salina, Utah. The mine has been in continuous operations since 1941, becoming a longwall mining operation in 1985. The mine produces low-sulfur bituminous coal that is used primarily for thermal electricity generation.

Information related to specific items of the Level II ADR portion of the 2026 UPDES permit modification for the Sufco Mine is provided in the following sections of this report.

C1. Describe the social and economic benefits that would be realized through the proposed project, including the number and nature of jobs created and anticipated tax revenues.

The Canyon Fuel Company, LLC Sufco Mine is a major employer in the local community (predominantly within Sevier, Sanpete, Emery, and Carbon Counties). The mine employs approximately 400 workers. Additionally, the mine supports many jobs in supporting industries and services in the community. It is estimated that for every one employee at the mine there are three employees substantiated within supporting services. Tax revenue and royalties are paid directly to nearby counties and to the state of Utah. The jobs, wages, taxes and royalties provided by the mine as well as supporting industries substantially increases the economic activity in the community which results in an increased standard of living.

The Sufco Mine produces coal that is used primarily for thermal generation of electricity. The continuous supply of coal to fuel power plants provides reliable, affordable electricity to users. The availability of reliable and affordable electricity provides a significant benefit to the overall economic condition within communities and within individual families.

C2. Describe any environmental benefits to be realized through implementation of the proposed projects

The proposed increase in the maximum daily mine-water discharge volume from 8.0 million gallons per day to 12.0 million gallons per day is being requested so that mining operations may continue in areas where higher amounts of groundwater may possibly be intercepted. Potential increases in the volume of water discharged from the Sufco Mine into the Quitchupah Creek drainage would increase in-stream flows that would provide additional habitat and a net benefit to stream biota, particularly in the arid desert regions downstream of the Sufco Mine.

Studies commissioned previously by Sufco Mine have determined that groundwater intercepted in the underground mine workings is primarily very old water that is not in good hydraulic communication with overlying groundwater recharge sources. Thus, the discharge of groundwater intercepted by the Sufco mine workings (including the proposed increased maximum daily flows) would make additional water available for downstream use that would otherwise not be available.

C3. Describe any social and economic losses that may result from the project, including impacts to recreation or commercial development.

It is not believed that the possible increase in the quantity of water discharged into the Quitchupah Creek drainage below the Sufco Mine would result in any social or economic losses such as recreation or commercial development. No changes to the effluent limitations (concentrations) in the UPDES permit are being proposed for this permit modification.

C4. Summarize any supporting information from the affected communities on preserving assimilative capacity to support future growth and development.

The Sufco Mine discharges compliant water downstream. The average TDS is well below the standard and the averages for all other parameters monitored are very low relative to the limits.

C5. Please describe any structures or equipment associated with the project that will be placed within or adjacent to the receiving water.

Sufco Mine does not plan to place new structures or equipment within or adjacent to the receiving water in connection with the proposed increase in the maximum daily discharge from 8.0 million gallons per day to 12.0 million gallons per day.

C6. Will the discharge potentially impact a drinking water source, e.g., Class 1C waters? Depending upon the locations of the discharge and its proximity to downstream drinking water diversions, additional treatment or more stringent effluent limits or additional monitoring, beyond that which may otherwise be required to meet minimum technology standards or in stream water quality standards, may be required by the Director in order to adequately protect public health and the environment.

Sufco Mine water is discharged into the Quitchupah Creek surface water drainage, which is part of the Colorado River system. There are no known Class 1C reaches in Quitchupah Creek downstream of the Sufco Mine discharge.

Section D. Identify and rank (from increasing to decreasing potential threat to designated uses) the parameters of concern.

Concentrations of potential pollutants in the effluent water from the Sufco Mine, including total metals concentrations monitored during the current UPDES permit term, are presented in the tables attached to the Sufco Mine UPDES modification application. The parameters of concern for this UPDES permit modification remain unchanged from those present during the current UPDES permit term. The only requested modification to Sufco's UPDES permit in this modification application is an increase in the maximum daily discharge rate from 8.0 million gallons per day to 12.0 million gallons per day. While no increases in concentrations of any potential polluting substances are anticipated as a result of this permit modification, the loading (in terms of mass per unit of time for the chemical constituents present) will increase proportionally to the increased volume of mine water discharged.

Total dissolved solids (TDS) concentrations are of concern regionally within the Colorado River drainage. As shown on the attached tables, TDS concentrations in Outfall

002 averaged approximately 725 mg/L with maximum concentrations not exceeding 1,050 mg/L over the previous five years. During this period TDS concentrations at Outfall 003 averaged about 766 mg/L with maximum concentrations not exceeding 960 mg/L. Because these concentrations exceed 500 mg/L, salt credits have been purchased to offset the excess TDS discharged from the Sufco Mine. In the event that discharge of mine water from the Sufco Mine exceeds the TDS loading amount currently offset by Sufco Mine's salt credits, Sufco Mine will purchase additional salt credits as necessary.

Pollutants Evaluated that are not Considered Parameters of Concern:

It is noted that, previously, dissolved oxygen concentrations in mine discharge water from the Sufco Mine were evaluated by the Utah Division of Water Quality as a parameter of concern. Subsequently, Sufco Mine made modifications to the water handling procedures at the mine that resolved the potential concerns regarding dissolved oxygen levels in the mine discharge water. Monitoring of dissolved oxygen concentrations in the mine discharge water is ongoing currently and for this permit modification it is proposed that dissolved oxygen concentrations continue to be monitored.

E2. Attach as an appendix to this form a report that describes that following factors for all alternative treatment options (see 1) a technical descriptions of the treatment process, including construction costs and continued operation and maintenance expenses, 2) the mass and concentration of discharge constituents, and 3) a description of the reliability of the system, including the frequency where recurring operation and maintenance may lead to temporary increases in discharged pollutants. Most of this information is typically available from a Facility Plan, if available.

Alternative treatment options for decreasing TDS such as reverse osmosis processes would not be economically feasible or practical considering the discharge volume from the Sufco Mine. Continuing participation in a salinity offset program seems to be the most reasonable solution.

E3. Describe the proposed method and cost of the baseline treatment alternative. The baseline treatment alternative is the minimum treatment required to meet water quality-based effluent limits (WQBEL) as determined by the preliminary or final wasteload analysis (WLC) and any secondary or categorical effluent limits.

The current salinity offset program cost the mining company approximately 3.75 million dollars paid over 3 years (2014-2016). Considering the average TDS levels and the remaining credits, the current program will last in total approximately 12-20 years since it began in 2014. This estimate results in the approximate annual cost of \$187,500 to \$312,500.

E4. Were any of the following alternatives feasible and affordable?

Pollutant Trading

Pollutant trading (salt credits) is the preferred treatment alternative for excess TDS concentrations in the Sufco Mine discharge.

Water Recycling/Reuse

Typically, as groundwater is intercepted during mining operations at the Sufco Mine, it is necessary to promptly convey the accumulating water away from mining areas so that mining operations can proceed. To maintain an operating mine, the water must be discharged to the surface or stored in underground sumps. The total dissolved solids concentration of the mine water is primarily the result of a series of geochemical reactions with naturally occurring rocks and sediments present within the mine environment and also to interactions with any other chemicals or mining-related

substances present in the mine. Recycling or reuse of mine water through this geochemical environment would likely not improve the TDS concentrations of the mine discharge water.

Land Application

Application of the Sufco Mine discharge waters to the land is not feasible because of the lack of lands suitable for such activities at the mine site.

Connection to Other Facilities

There are no mines or other structures known to be present adjacent to the Sufco Mine to which the mine could be connected with any positive benefit. Thus, this alternative is not viable.

Upgrade to Existing Facility

The Sufco Mine is a large, operating coal mine. The mine plan is designed to minimize impacts to water quality of the mine discharge water (i.e., underground settling areas for suspended sediments, minimizing the potential for intercepted groundwaters to interact with salt-forming materials where possible, providing zones favorable to aeration/oxygenation, etc.). Historically, improvements to the mining plan have been incorporated when potential positive benefits to water quality are identified. Further modifications to the existing mine plan would likely not be expected to result in appreciably diminished pollutant concentrations relative to those currently occurring.

Total Containment

Because of the volume of intercepted groundwater commonly encountered at the Sufco Mine, there is not sufficient storage volume in underground sumps, etc. to totally contain the mine water. Discharge of intercepted groundwater is thus necessary and total containment is not feasible.

Improved O&M of Existing Systems

It is our belief that the existing systems at the Sufco Mine are generally operating as designed. Improvements of O&M of existing systems at the mine would likely not result in appreciably improved mine-water discharge quality. Thus, the potential for improved O&M of existing systems to result in appreciable improvements in water quality is low and this alternative is not viable.

Seasonal or Controlled Discharge

The interception of groundwater at the Sufco Mine does not exhibit seasonal variability in inflow rates. Because there is not sufficient useable volume in the underground mine workings to store large quantities of intercepted groundwater, historically it has been necessary that continuous discharge of mine water to the surface occurs. Thus, the potential for seasonal or controlled discharge at the Sufco Mine is not viable.

New Construction

New construction at the Sufco Mine to improve the quality of the mine discharge water is not planned. It is considered that the current construction is functioning as designed and new construction would not result in appreciably improved mine-water discharge quality. Thus, the new construction alternative is not viable.

No Discharge

The quantity of intercepted groundwater at the Sufco Mine over time greatly exceeds the potential storage capacity of underground storage locations. Thus, discharge of intercepted groundwater to the surface is necessary and the no discharge option is not viable.

E5. From the applicant's perspective, what is the preferred treatment option?

Mine water is discharged from the Sufco Mine through Outfall 002 (into the South Fork of the North Fork of Quitcupah Creek) and Outfall 003 (into the North Fork of

Quitcupah Creek). Note that there has been no discharge from Outfall 001 in more than 25 years. Excess TDS contributions to the Quitcupah Creek receiving waters are currently being offset through the purchase of salt credits. For this permit modification, Sufco Mine proposes only to increase the maximum permitted discharge volume from the current permit value of 8.0 million gallons per day to 12.0 million gallons per day with corresponding changes to stream loading. Where necessary, Sufco will purchase additional salt credits to offset excess TDS concentrations in the receiving waters resulting from the increased loading associated with the increased volume of mine discharge. The salt credit offsets fund projects that are commonly designed to decrease salt loading to the impacted stream drainage through modifications to agricultural and land management practices within the drainage.

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ATTACHMENT 2

Reasonable Potential Analysis

PND Draft

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REASONABLE POTENTIAL ANALYSIS SUMMARY

The Division of Water Quality (DWQ) has worked to improve the reasonable potential analysis (RP) for permit developments with the inclusion of additional limits and/or parameters as necessary by using an EPA provided RP model (model). As a result of the model, more parameters and/or limits may be included in the renewal permit. In the 2015 DWQ policy entitled, “Reasonable Potential Analysis Guidance” (RP Guide), there are four possible RP outcomes as follows;

- Outcome A: A new effluent limitation will be placed in the permit.
- Outcome B: No new effluent limitation. Routine monitoring requirements will be placed or increased from what they are in the permit,
- Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit,
- Outcome D: No limitation or routine monitoring requirements are in the permit.

Initial Screening Results of Reasonable Potential Analysis for SUFCO Mine UPDES Permit No. UT0022918 – Outfall 003 (2023-2025)

Parameter	No. of Samples	MEC* mg/L	Permit Limits/Water Quality Standards MAC** (most stringent)		Outcome/Result
			Acute mg/L	Chronic mg/L	
Total Arsenic	12	0.0008	0.1011	0.1515	MEC < MAC***
Total Cadmium	12	<0.0005	0.0091	0.0029	MEC < MAC
Total Chromium	12	0.0036	6.67	0.334	MEC < MAC
Total Copper	12	<0.02	0.0633	0.037	MEC < MAC
Total Lead	12	<0.02	0.101	0.0246	MEC < MAC
Total Mercury	12	<0.0001	0.000152	0.000012	MEC < MAC (acute) <i>Undetermined (chronic)</i>
Total Nickel	12	0.0094	1.818	0.204	MEC < MAC
Total Selenium	12	<0.0005	0.0184	0.0046	MEC < MAC
Total Silver	12	<0.02	0.0594	NA	MEC < MAC
Total Zinc	12	<0.02	0.4652	0.4702	MEC < MAC
Total Boron	12	0.59	0.758	NA	MEC < MAC
Total Iron	31	0.66	1.0	NA	MEC < MAC

Notes/Legend:

NA = not applicable, no limit criterion.

*MEC = Maximum Effluent Concentration as determined from existing data set.

**MAC = Maximum Allowable Concentration as derived from the applicable Utah Water Quality Standards, current Permit Limits and/or Wasteload Analysis, with the most stringent criteria selected.

***MEC < MAC = MEC less than MAC, no RP or additional limitations required.

MEC > MAC = MEC greater than MAC triggering RP to exceed applicable limitations.

Undetermined = Unable to determine the Acute and/or Chronic WQS criteria due to insufficient Laboratory method detection limits (MDLs) and/or reporting limits. Since inception of effluent sampling for the additional metals parameters beginning in 2021, laboratory analyses for this metals parameter have not resulted in a detected concentration above the applicable MDL as reported. As MDLs continue to improve over time, this can be re-evaluated during the next Permit review period as appropriate.

Summary: A qualitative RP analysis was performed on metals parameters to determine if there was reasonable potential for the discharge to exceed the applicable Water Quality Standards. Based upon the initial screening RP analysis, a closer look at any of the metals was not necessary and it was determined not to include any additional effluent limits in the modified Permit. This is because all the data points reviewed did not exceed the applicable Water Quality Standards and/or laboratory method detection limits. Therefore, no RP currently exists at the facility for the metals parameters and a more quantitative RP analysis using the RP Model was not required at this time. The result is RP Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit. This will be reevaluated during the next Permit cycle as appropriate.

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