

**FACT SHEET  
CANYON FUEL COMPANY, LLC – SKYLINE MINE  
UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES)  
DISCHARGE RENEWAL PERMIT  
UPDES PERMIT NUMBER: UT0023540  
MAJOR INDUSTRIAL FACILITY**

**FACILITY CONTACT INFORMATION**

Person Name: Jed Gordon  
Position: General Manager & Signatory

Person Name: Brayden Wilson  
Position: Environmental Engineer

Phone Number: (435) 448-2685

Permittee Name: Canyon Fuel Company, LLC

Facility Name: Skyline Mine

Facility Location: Up Eccles Canyon from Scofield Town along State Route 264

Mailing Address: HC 35, Box 380  
Helper, Utah 84526

**DESCRIPTION OF FACILITY**

The Canyon Fuel Company's Skyline Mine facility (Skyline Mine) is an active underground coal mine operation with Standard Industrial Classification 1222, for bituminous underground coal mining operations. Skyline Mine is located approximately 8 miles southwest of Scofield Town, along State Route 264 in Carbon County, Utah. Skyline Mine currently has five UPDES Permit (Permit) discharge points (Outfalls 001, 002, 003, 004 & 005). For reference, an Outfall location map has been included as an attachment to this Fact Sheet.

Outfall 001, which discharges to Eccles Creek, is comprised of both the continuous mine water discharges, as well as any surface water runoff directed to the sedimentation pond from the main facility. Outfall 002 is from a sedimentation pond, which collects surface water runoff from the nearby coal load out facility located at the intersection of State Routes 264 & 96 and discharges intermittently to Eccles Creek during pond maintenance, precipitation and/or snow melt events. Outfall 002 only discharged in April 2023 during the past five-year monitoring period. Outfall 003 is from a sedimentation pond located at the off-site waste rock disposal area near Scofield Town and has not discharged to date and is not expected to discharge in the foreseeable future due to its size. If discharge were to occur it would go to UP Canyon Creek, tributary to Mud Creek and Scofield Reservoir. Outfall 004 is configured to discharge both mine water, as well as any surface water runoff directed to the sedimentation pond, from the Winter Quarters Canyon ventilation shaft facility location near Scofield Town. Outfall 004 first began discharging mine water in May 2020 to

Winter Quarters Canyon Creek, which is also tributary to Mud Creek and Scofield Reservoir, to safely dewater and operate the active mining areas at the time. Prior to May 2020, any and all mine water discharges were discharged via Outfall 001. Outfall 004 ceased discharging operations in late 2023 and will likely not discharge again in the foreseeable future as mine dewatering operations have moved away from the area. Outfall 005, which began discharging in 2022, enables a portion of the mine water discharges that would otherwise discharge via Outfall 001, to be discharged directly into Electric Lake, which is tributary to Huntington Creek. Outfalls 001 & 005 are the primary discharge points while the other Outfalls remain in the Permit for any potential future discharges during the next five-year Permit period as appropriate.

### SUMMARY OF PERMIT CHANGES

Changes in the Permit are as follows:

1. Temperature monitoring has been added for all discharging Outfalls as discussed further in the **Total Maximum Daily Load** section of this Fact Sheet.
2. Monitoring for the metals parameters has been updated by omitting the dissolved metals monitoring, while keeping the total metals monitoring in place, as discussed further in the **Reasonable Potential Analysis** section of this Fact Sheet.
3. Maximum Annual Average Effluent Limitations at Outfall 005 for total iron and total dissolved solids (TDS) have been removed from the Permit, while keeping the Daily Maximum Effluent Limitations in place, as discussed further in the **Basis for Outfall 005 Effluent Limitations** section of this Fact Sheet.

### DISCHARGE INFORMATION

#### **DESCRIPTION OF DISCHARGE**

Skyline Mine has been reporting self-monitoring results via Discharge Monitoring Reports (DMRs) on a monthly basis as required. A summary of the past five years of effluent discharge data has been included as an attachment to this Fact Sheet. The Permit Outfalls and discharge locations remain unchanged as follows:

#### Outfall

001

#### Description of Discharge Point

Located at Latitude 39° 41' 04", Longitude 111° 12' 04". Outfall from sedimentation pond and mine water discharges to Eccles Creek.

002

Located at Latitude 39° 41' 05", Longitude 111° 09' 23". Outfall from sedimentation pond at the load-out facility discharging to Eccles Creek.

003

Located at Latitude 39° 43' 13", Longitude 111° 09' 13". Outfall from sedimentation pond associated with the waste rock disposal site discharging to UP Canyon Creek.

004

Located at Latitude 39° 43' 13", Longitude 111°

11' 59". Outfall from sedimentation pond and mine water discharges to Winter Quarters Canyon Creek.

005

Located at Latitude 39° 38' 58", Longitude 111° 14' 22" as proposed. Outfall for mine water discharges into Electric Lake.

### RECEIVING WATERS AND STREAM CLASSIFICATION

The receiving waters of Eccles Creek, UP Canyon Creek, Winter Quarters Canyon Creek and Electric Lake are all classified according to Utah Administrative Code (UAC) R317-2-13.1. b as follows:

- Class 1C -- Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water
- Class 2B -- Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.
- Class 3A -- Protected for cold water species of game fish and other cold-water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 4 -- Protected for agricultural uses including irrigation of crops and stock watering.

Additionally, the receiving water of Electric Lake for Outfall 005 is classified as High Quality Waters – Category 2, as listed in UAC R317-2-12.2. High Quality Waters – Category 2 is defined in UAC R317-2-3.3 as follows:

*“...designated surface water segments which are treated as High Quality Waters – Category 1 except that a point source discharge may be permitted provided that the discharge does not degrade existing water quality.”*

The Permit requirements and limitations for Outfall 005 have been developed so that the discharge does not degrade the existing water quality of Electric Lake. For reference, a similar UPDES Permit (#UT0025534) was issued by DWQ to PacifiCorp in 2000, in conjunction with Skyline Mine, for discharges from the nearby James Canyon wells and pipeline into Electric Lake, which has since ceased UPDES Permit discharge operations.

### TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

According to the Utah 2024 303(d) Water Quality Assessment Report, the receiving water for Outfalls 001 through 004 effluent discharge, “*Scofield Tributaries*, (AU name: *Scofield Tributaries* AU ID: *UT14060007-002\_00*)”, are listed as “Not Supporting” for Maximum Temperature, Minimum Dissolved Oxygen, and pH. A TMDL is needed, however, the priority is stated as “Low”. Downstream “*Scofield Reservoir*, (AU name: *Scofield Reservoir*, AU ID: *UT-L-14060007-005\_00*)” is listed as “Not Supporting” for Eutrophication, Harmful Algal Blooms, Minimum Dissolved Oxygen, pH and Total Phosphorus as P. The Scofield Reservoir TMDL was completed in 2000 to address the impairment for pH, dissolved oxygen, and total phosphorus. Skyline Mine has previously monitored for pH, dissolved oxygen (DO) and total phosphorus and will continue to monitor for pH and dissolved oxygen as appropriate. However, total phosphorus monitoring was removed during the previous permit renewal at the request of Skyline Mine as a result of several years of monitoring that resulted in no measurable concentrations as expected. This will continue in the Permit renewal as Skyline Mine is not considered a contributing source of phosphorus.

The receiving water for Outfall 005 effluent discharge “*Electric Lake Tributaries*, (AU name: *Electric Lake Tributaries* AU ID: *UT14060009-001\_00*)”, are listed as “Insufficient Data”. Downstream “*Electric Lake*, (AU name: *Electric Lake*, AU ID: *UT-L-14060009-025\_00*)” is listed as “No Evidence of Impairment”. Electric Lake is classified as High Quality Waters and is not listed as impaired for any water quality parameters. Therefore, no additional monitoring requirements or parameters of concern have been included in this Permit as a result of any TMDL requirements, however, Temperature monitoring of all effluent discharges has been added in the Permit to support any future water quality analyses or TMDL studies.

### **BASIS FOR EFFLUENT LIMITATIONS**

In accordance with regulations promulgated in the Code of Federal Regulations (C.F.R.), specifically in 40 C.F.R. § Part 122.44 and in UAC R317-8-4.2, effluent limitations are derived from technology-based effluent limitations guidelines and/or Utah Water Quality Standards found in UAC R317-2 as applicable. In cases where multiple limits have been developed, those that are more stringent 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 upon precedent, prevailing regulatory standards or other relevant information.

Permit limits can also be derived from a Wasteload Analysis (WLA), which incorporates Utah Water Quality Standards, including TMDL impairments as appropriate, Antidegradation Reviews (ADR) 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 renewal permit development, a WLA and ADR were completed. An ADR Level I review was performed and concluded that an ADR Level II review was not required this time since there are no proposed increases in flow or concentrations from the previous Permit. The WLA indicates that the effluent limitations 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 included as an attachment to this Fact Sheet.

The following list is the basis of the Permit effluent limitations for **Outfalls 001 through 004**:

- 1) Since the Skyline Mine discharges meet the U.S. Environmental Protection Agency (EPA) definition of “alkaline mine drainage,” the permittee is subject to the technology-based effluent limitations in 40 C.F.R. § 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 C.F.R. § Part 434.63 allows alternate effluent limits to be applied when discharges result from specific runoff events, detailed below and in the Permit. Skyline Mine has the burden of proof that the described runoff event occurred as described in the Permit.
    - i. For runoff events (rainfall or snowmelt) less than or equal to a 10-year 24-hour precipitation event, settleable solids may be substituted for TSS and shall be limited to 0.5 milliliters per liter (ml/L). All other effluent limitations must be achieved concurrently, as described in the Permit.
    - ii. For runoff events (rainfall or snowmelt) greater than a 10-year 24-hour precipitation event, the pH limitations may supersede the otherwise applicable

Permit effluent limitations.

- 2) The Daily minimum and daily maximum Permit limitations on pH are derived from Utah Water Quality Standards found in UAC R317-2-14.
- 3) The DO daily minimum Permit limitation remains unchanged from past Permits as originally based upon Utah Water Quality Standards found in UAC R317-2-14 Table 2.14.2, and which still remains aligned with both past and current WLA recommendations.
- 4) TDS are limited in the permit by both mass loading and concentration requirements as described below:
  - a. Since discharges from Skyline Mine are within the Colorado River Basin, TDS mass loading is limited according to policies established by the Colorado River Basin Salinity Control Forum (Forum), as authorized in UAC R317-2-4 to further control salinity in the Utah portion of the Colorado River Basin. On February 28, 1977 the Forum produced the *“Policy For Implementation of Colorado River Salinity Standards Through the NPDES Permit Program”* (Policy), with the most current subsequent triennial revision dated October 2023. Based on Forum Policy, provisions have previously been made for salinity-offset projects to account for any TDS loading in excess of the tons per day Permit requirement as a sum of all discharges. Therefore, salinity-offset provisions have once again been included in the Skyline Mine permit as the facility remains current on the requirements included therein to account for any and all excess TDS loading. These provisions and requirements, as described further in both the permit and in this Fact Sheet, will remain in Skyline Mine’s renewal permit as appropriate.
  - b. Limitations on TDS concentrations are limited by the Utah Water Quality Standard found in UAC R317-2-14, Table 2.14.1. and shall apply to Outfalls 001 through 004 as appropriate.
- 5) The iron limitation is based upon the Utah Water Quality Standard of 1.0 mg/L for dissolved iron (found in UAC R317-2 Table 2.14.2) as well as the WLA limitation of 1.0 mg/L for total recoverable iron. Total recoverable iron is a more stringent limit than dissolved iron since the dissolved component is a part of the total recoverable component. Therefore, the existing permit limit of 1.0 mg/L for total recoverable iron will remain in the renewal permit and shall apply to Outfalls 001 through 004 as appropriate.
- 6) Oil and Grease concentrations are limited to 10 mg/L by BPJ of the permitting authority to be consistent with other similar UPDES Permits.

**Basis for Outfall 005 Effluent Limitations**

Since Outfall 005 discharges into a Category 2 receiving water body as mentioned previously, a separate WLA was conducted to ensure that no degradation of Electric Lake would occur as a result of the discharge. The combined WLA information for all Outfalls is attached to this Fact Sheet and provides the data analysis summary for the parameters of concern. As expected, the effluent limitations for Outfall 005 are more restrictive than those of the other Outfalls. This includes concentration limitations for TDS, TSS and total iron as appropriate and remain unchanged as derived from the previous, original WLA conducted in 2020. The Daily Maximum Permit limits for both TDS and total iron remain unchanged and are derived from the 80<sup>th</sup> percentile of the Upper Lake tributaries data set as presented in the WLA data tables, while the TSS limitation remains unchanged from the previous 2020 WLA. The current WLA also recommended

Maximum Annual Average limitations for TDS and iron, which are not being included in the Permit at this time to be consistent with the other Permit Outfalls and other similar type UPDES Permits. This is based upon several factors, including the existing limited Lake data that is proximal in location to Outfall 005 near the Upper Lake input data points, as well as from a comparison to another similar type UPDES Permit and the BPJ of the permitting authority. For comparative purposes, the previously mentioned similar UPDES Permit (#UT0025534) included only the Daily Maximum limits of 255 mg/L for TDS and 0.5 mg/L for Total Iron and also did not include Maximum Annual Average limitations as well.

Permit limits for pH, dissolved oxygen, and oil & grease remain unchanged and are consistent with the other Permit Outfalls based upon BPJ of the permitting authority.

Additionally, as a provision of the previous UPDES Permit, Skyline Mine was required to complete a geochemical analysis mixing model study (study) regarding the initial mine water discharges from Outfall 005 into Electric Lake as furtherance of no degradation into the aforementioned Category 2 receiving waters. The study was completed and submitted to DWQ in October 2022, entitled, *"Hydrogeochemical Investigation Of Electric Lake Reservoir, Emery County, Utah; Geochemical Mixing Model for UPDES 005 Discharge to Electric Lake Reservoir, October 31, 2022,"* which was then subsequently reviewed and evaluated by DWQ that no degradation of Electric Lake was likely to occur and that any additional or more protective effluent limits were not required based upon the existing water quality of the effluent discharges. In further support of the existing effluent limitations included in the Permit, a reasonable potential analysis for the potential parameters of concern is discussed in greater detail in the following section and includes the parameter dissolved iron, which historically is not a parameter of concern from Skyline Mine discharges, but is identified in the WLA due to the uniqueness of the receiving water. Therefore, all metals monitoring data, including dissolved iron has been further evaluated as discussed below.

### **Reasonable Potential Analysis**

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

An RP analysis was performed on all metals parameters from Skyline Mine water discharge data via Outfalls 001, 004 & 005. Initial screening values that were submitted through both the monthly discharge monitoring reports, as well as the permit renewal application information, showed that a closer look may be needed for several of the metals parameters. Therefore, a qualitative RP analysis was conducted for all metals parameters at each of the Outfalls, which resulted in the total metal parameters for cadmium, lead, mercury, nickel and selenium as having potential to exceed the applicable Acute and/or Chronic Water Quality Standards (WQS). All other total metals parameters were below the applicable WQS, except for total iron, which already has a water quality based effluent limit applied to each of the Outfalls as appropriate.

Upon closer look of the Outfall effluent data points, including any potential outliers that were above the laboratory method detection limits (MDLs), as well as each of the metal parameter MDLs themselves, it does not appear that sufficiently sensitive test methods, MDLs and/or their reporting limits are being consistently utilized for all parameters. Specifically, for the same total metals in question: cadmium, lead, mercury, nickel and selenium. All of which would require more sensitive testing/reporting methods and/or lower MDLs in order to better evaluate RP for each of the respective Acute and/or Chronic WQS. As such, RP for these metals could not be adequately determined with the existing data points and current MDLs/reporting limits. Therefore, more data points are needed utilizing the most sensitive laboratory

MDLs and reporting limits to determine if RP actually exists for the total cadmium, lead, mercury, nickel and/or selenium parameters to exceed either the Acute WQS and/or the Chronic WQS as applied to each Outfall.

Based upon this evaluation as detailed further in the attached RP Analysis Summary, the final RP determination was not to include any additional total metal effluent limits at this time, however, monitoring for all the total metals parameters will remain in place utilizing sufficiently sensitive laboratory test methods, reporting limits and MDLs as detailed in the permit. This will provide a better data set to be re-evaluated for RP during the next permit cycle as appropriate. Once re-evaluated, the permit can then be re-opened and modified as necessary to include any additional permit limitations as required.

The result of the RP analysis was, Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit, but with utilizing sufficiently sensitive laboratory test methods, MDLs and reporting limits as appropriate. A copy of the RP Summary is included as an attachment at the end of this Fact Sheet.

The Permit effluent limitations are as follows:

**OUTFALLS 001, 002, 003, & 004**

Parameter, Units	Effluent Limitations *a		
	Maximum Monthly Average	Daily Minimum	Daily Maximum
Total Effluent Flow, million gallons/day (MGD), *b	Report	--	Report
Total Iron, mg/L	--	--	1.0
Total Suspended Solids (TSS), mg/L	Report	--	70
Total Dissolved Solids (TDS), mg/L, *c	Report	--	1,200
TDS, tons/day, *c	Report	--	--
Dissolved Oxygen, mg/L	--	5.0	--
pH, Standard Units (SU)	--	6.5	9.0
Turbidity, NTU *f	--	--	Report
Temperature, °C	--	--	Report
Oil & Grease, mg/L, *d	--	--	10
Whole Effluent Toxicity (WET) Chronic Biomonitoring (Outfalls 001 & 004 only) *g	--	--	IC <sub>25</sub> > 100% effluent
Total Metals, mg/L, *e	--	--	Report

### OUTFALL 005

Parameter, Units	Effluent Limitations *a		
	Maximum Monthly Average	Daily Minimum	Daily Maximum
Total Effluent Flow, MGD, *b	Report	--	Report
Total Iron, mg/L	--	--	0.45
TSS, mg/L	Report	--	31
TDS, mg/L, *c	Report	--	235
TDS, tons/day, *c	Report	--	--
Dissolved Oxygen, mg/L	--	5.0	--
pH, SU	--	6.5	9.0
Turbidity, NTU *f	--	--	Report
Temperature, °C	--	--	Report
Oil & Grease, mg/L, *d	--	--	10
Whole Effluent Toxicity (WET) Chronic Biomonitoring *g	--	--	IC <sub>25</sub> > 100% effluent
Total Metals, mg/L, *e	--	--	Report

### SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are similar to the previous Permit with the addition of Temperature monitoring for all discharges. The Permit requires reports to be submitted monthly and quarterly as applicable, on DMR forms due 28 days after the end of each monitoring period. Effective January 1, 2017, monitoring results shall be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Lab reports for biomonitoring, metals and toxic organics shall be attached to the DMRs when applicable.

### ALL OUTFALLS (Unless stated otherwise)

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow, *b	Continuous/Monthly	Recorder/Measured	MGD
Total Iron	Twice Monthly	Grab	mg/L
TSS	Weekly	Grab	mg/L
TDS, *c	Twice Monthly	Grab	mg/L & tons/day
pH	Weekly	Grab	SU
Oil & Grease, *d	Weekly, Twice Monthly	Grab, Visual	mg/L, Yes/No
Turbidity, *f	Monthly	Grab	NTU



Temperature	Monthly	Grab	°C
Dissolved Oxygen	Monthly	Grab	mg/L
Chronic WET Biomonitoring (Outfalls 001, 004 & 005), *g	Quarterly	Composite	Pass/Fail
Total Metals, *e (Outfalls 001, 004 & 005)	Monthly	Grab	mg/L

\*a See Definitions, Part VIII of the Permit, for definition of terms.

\*b Flow measurements of the effluent volume shall be made in such a manner that the Permittee can affirmatively demonstrate that representative values are being obtained. Mine water discharges via Outfalls 001, 004 & 005 shall be continuously measured. If the rate of discharge is controlled, such as from intermittent discharging outfalls, the rate and duration of discharge shall be reported. Wastewater shall be discharged in a manner to prevent erosion, scouring, or damage to the Outfall location structures.

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

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

A monitoring and adjustment plan to track the TDS credits shall continue to be submitted to DWQ 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.

\*d Weekly oil & grease sample analyses shall be conducted at Outfalls 001, 004 & 005 when discharging. At Outfalls 002 & 003, oil & grease monitoring shall initially be a visual test conducted at least twice per month. If any oil and/or grease sheens are observed visually, or there is any other reason to believe that oil and/or grease may be present in the discharge, then a grab sample of the effluent must be immediately taken and this sample shall not exceed 10 mg/L. There shall be no visible sheen or floating solids or visible foam in other than trace amounts upon any discharges and there shall be no discharge of any sanitary wastes at any time.

\*e Total Recoverable Metals monitoring using sufficiently sensitive standard test methods, reporting limits and certified laboratories shall include; aluminum, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc.

- \*f Turbidity monitoring shall be conducted at least monthly whenever possible from all discharging Outfalls and their receiving water to demonstrate that there is not an increase of more than 10 nephelometric turbidity units (NTU) over the respective receiving waters, when applicable.
- \*g Quarterly WET testing shall alternate the test species as follows: Ceriodaphnia dubia (water flea) shall be tested during the 1<sup>st</sup> and 3<sup>rd</sup> quarters and Pimephales promelas (fathead minnows) shall be tested during the 2<sup>nd</sup> and 4<sup>th</sup> quarters.

### **BIOSOLIDS**

The State of Utah has adopted the 40 C.F.R. § 503 federal regulations for the disposal of sewage sludge (biosolids) by reference. However, this facility does not receive, generate, treat or dispose of biosolids. Therefore 40 C.F.R. § 503 shall not apply.

### **STORM WATER**

Separate storm water permits may be required based on the types of activities occurring on site. Permit coverage under the Multi Sector General Permit (MSGP) for Storm Water Discharges from Industrial Activities is required based on the Standard Industrial Classification (SIC) code for the facility and the types of industrial activities occurring. Skyline has previously obtained separate MSGP coverage as appropriate.

Permit coverage under the Construction General Storm Water Permit (CGP) is required for any construction at the facility which disturb an acre or more, or is part of a common plan of development or sale that is an acre or greater, and which is not part of active mining activities. A Notice of Intent (NOI) is required to obtain a construction storm water permit prior to the period of construction.

Information on storm water permit requirements can be found at <http://stormwater.utah.gov>

### **PRETREATMENT REQUIREMENTS**

Skyline Mine does not discharge process wastewater to a Publicly Owned Treatment Works (POTW). However, any wastewater discharged to a sanitary sewer or POTW is subject to Federal, State and local regulations. Pursuant to section 307 of the Clean Water Act, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in 40 C.F.R. § 403 and the State Pretreatment Requirements found in UAC R317-8-8.

In addition, in accordance with 40 C.F.R. § 403.12(p)(1), the Permittee must notify the POTW, the EPA Regional Waste Management Director, the DWQ Director and the State hazardous waste authorities in writing if Skyline Mine discharges any substance into a POTW that if otherwise disposed of would be considered a hazardous waste under 40 C.F.R. § 261. This notification must include the name of the hazardous waste, the EPA hazardous waste number, and the type of discharge (continuous or batch).

### **BIOMONITORING REQUIREMENTS**

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is

regulated in accordance with the Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring), dated February 2018. Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

Skyline Mine is classified as a major industrial discharger, therefore the renewal Permit will once again require whole effluent toxicity (WET) testing for the mine water discharges as appropriate based upon the aforementioned biomonitoring guidance document. Skyline Mine has been conducting quarterly chronic WET testing of their mine water discharges via Outfalls 001, 004 & 005 utilizing the test species, *Ceriodaphnia dubia* (water flea) and *Pimephales promelas* (fathead minnow) alternating quarterly as detailed in the permit. A review of past five-year Permit period from 2020 through 2024 reveals that Skyline Mine has had no chronic WET testing failures. Based upon Skyline Mine's past performances and WET testing results, no changes in the WET testing Permit requirements are being proposed at this time.

Since the outfalls discharge to either a category Class 1C Water (Outfalls 001 & 004), or a Category 2 High Quality Water (Outfall 005), Skyline Mine shall continue quarterly chronic WET testing, alternating the test species as appropriate from all mine water discharging outfalls. A CO<sub>2</sub> atmosphere may be used (in conjunction with an unmodified test) in order to account for any artificial pH drift, as previously authorized by the Director. The Permit will contain the standard requirements for accelerated testing upon failure of a WET test, and a Preliminary Toxicity Investigation (PTI) and Toxicity Reduction Evaluation (TRE) as necessary.

### **PERMIT DURATION**

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

Drafted and Reviewed by  
Jeff Studenka, Discharge Permit Writer  
Daniel Griffin, Biosolids  
Jennifer Robinson, Pretreatment  
Lonnie Shull, Biomonitoring  
Jordan Bryant, Storm Water  
Amy Dickey, TMDL/Watershed Protection  
Chris Shope, Wasteload Analysis/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**

(If applicable to explain any comments received and response sent. Actual letters can be referenced, but not required to be included).

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## **ATTACHMENT 1**

*Wasteload Analysis & ADR Information  
(DWQ-2025-004421 & DWQ-2025-004516)*



State of Utah

SPENCER J. COX  
Governor

DEIDRE HENDERSON  
Lieutenant Governor

Department of  
Environmental Quality

Tim Davis  
Executive Director

DIVISION OF WATER QUALITY  
John K. Mackey, P.E.  
Director

**Utah Division of Water Quality  
Statement of Basis ADDENDUM**

**Wasteload Analysis and Antidegradation Level I Review**

**Date:** May 20, 2025

**Prepared by:** Christopher L. Shope  
Standards and Technical Services

**Facility:** Canyon Fuel Company, LLC – Skyline Mine  
UPDES Permit No. UT-0023540

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**

There are five effluent discharge points listed in the permit renewal application. All effluent discharges are from mine dewatering and sediment ponds.

Outfall 001: Discharge of mine water, stormwater, and washdown water; 16.9 MGD

Outfall 002: Discharge of stormwater and washdown water; 0.115 MGD

Outfall 003: Discharge of stormwater; 0.072 MGD

Outfall 004: Discharge of mine water and stormwater; 1.0 MGD

Outfall 005: Discharge of mine water to Electric Lake; 7.2 MGD

#### Receiving Water

The effluent from Outfalls 001 through 004 will discharge into Eccles Creek, Up Canyon Creek, or Winter Quarters Canyon Creek. These creeks then drain to Mud Creek, which drains to Scofield Reservoir. Outfall 005 discharges into Electric Lake.

Outfall 001: Eccles Creek → Mud Creek → Scofield Reservoir

Outfall 002: Eccles Creek → Mud Creek → Scofield Reservoir

Outfall 003: Up Canyon Creek → Mud Creek → Scofield Reservoir

Outfall 004: Winter Quarters Canyon Creek → Mud Creek → Schofield Reservoir

Outfall 005: Electric Lake

Per UAC R317-2-13.1(b) the designated beneficial uses for: *Price River and tributaries, from Price City Water Treatment Plant intake to headwaters*, are: 1C,2B,3A,4. In addition, per UAC R317-2-13.1(b), the designated beneficial uses for: *Huntington Creek and tributaries, from Highway U-10 crossing to headwaters*, are: 1C,2B,3A,4.

- *Class 1C - Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water*
- *Class 2B - Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.*
- *Class 3A -- Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.*
- *Class 4 - Protected for agricultural uses including irrigation of crops and stock watering.*

Per UAC R317-2-8 Protection of Downstream Uses, all actions to control waste discharges under these rules shall be modified as necessary to protect downstream designated uses. Per UAC R317-2-13.12(d), the designated beneficial uses for: *Scofield Reservoir*, are: 1C,2B,3A,4. Per UAC R317-2-13.12(h), the designated beneficial uses for: *Electric Lake*, are: 2B,3A,4. Furthermore, per UAC R317-2-3.3, Electric Lake is a Category 2 anti-degradation water body:

- *A point source discharge may be permitted provided that the discharge does not degrade existing water quality.*
- *Waters of the state designated as Category 2 Waters are listed in R317-2-12.2.*

#### Critical Low Flow

Typically, the critical flow for the receiving water in a 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 for Eccles Creek, the 20th percentile of flow measurements was calculated on a seasonal basis. The source of flow data for Eccles Creek was from a summation of DOGM



sampling sites CS-3, CS-9, and CS-11 for 2015-2025. Due to a lack of flow records for Upper Huntington Creek, the 20th percentile of flow measurements was again calculated on an annual basis. The source of flow data for Upper Huntington Creek was from monitoring location DWQ 4931250 HUNTINGTON CK AB ELECTRIC L for 2015-2025. Table 1 provides critical flow conditions.

**Table 1: Critical low flow(cfs)**

Outfalls	Receiving Water	Season	Critical Low Flow (cfs)
001-004	Eccles Creek	Summer	0.111
		Fall	0.045
		Winter	0.018
		Spring	0.854
005	Electric Lake	Annual	1.460

In addition, per UAC R317-2-5, streams with a flow equal to or less than twice the flow of a point source discharge may be considered to be totally mixed. Therefore, no mixing zones are allowed for any of these five effluent discharges and water quality concentrations must meet the numeric criteria at the end-of-pipe (EOP).

Eccles Creek upstream receiving water quality was also characterized based on samples collected from DOGM sampling sites CS-3, CS-9, and CS-11 for 2015-2025. For Electric Lake, water quality data were supplied by Skyline Mine and PacifiCorp as well as Division of Water Quality (DWQ) database sources in 2020. Sixteen water quality sampling locations were used in the analysis. These monitoring locations included: UPL-1, UPL-2, UPL-3, UPL-4, UPL-10, UPL-11, and PG-1 in Upper Huntington Creek; UPL-EL-1 and UPL-EL-3 (at multiple depths), JC-1, MLID 4931190, and MLID 4931200 for Electric Lake; and H-1, H-2, UPL9, and UPL-9A in Lower Huntington Creek. To provide increased precision in the distribution of specific analyte concentrations, all of the monitoring locations were grouped as Upper Huntington Creek, Electric Lake, and Lower Huntington Creek samples. Statistical analysis of the three groups was performed to evaluate reasonable representative background conditions corresponding to these regions. No recent water quality samples were available, therefore we revert to the 2020 analysis.

#### Total Maximum Daily Load (TMDL)

According to the Utah's [Final 2024 Integrated Report on Water Quality](#) dated April 30, 2024 (UDWQ, 2024), the receiving water for Outfalls 001 through 004 effluent discharge "*Scofield Tributaries*, (AU name: *Scofield Tributaries* AU ID: *UT14060007-002\_00*)", are listed as "Not Supporting" for Maximum Temperature, Minimum Dissolved Oxygen, and pH. A TMDL is needed, however, the priority is stated as "Low". Downstream "*Scofield Reservoir*, (AU name: *Scofield Reservoir*, AU ID: *UT-L-14060007-005\_00*)" is listed as "Not Supporting" for Eutrophication, Harmful Algal Blooms, Minimum Dissolved Oxygen, pH and Total Phosphorus as P. The Scofield Reservoir TMDL was completed to address the impairment for pH, dissolved oxygen, and total phosphorus. Skyline Mine did not receive a waste load allocation (UDWQ, 2015).

The receiving water for Outfall 005 effluent discharge "*Electric Lake Tributaries*, (AU name: *Electric Lake Tributaries* AU ID: *UT14060009-001\_00*)", are listed as "Insufficient Data".

Downstream “*Electric Lake*, (AU name: *Electric Lake*, AU ID: *UT-L-14060009-025\_00*)” is listed as “No Evidence of Impairment”.

### Mixing Zone

Per UAC R317-2-5, 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. Water quality standards must be met at the end of the regulatory mixing zone.

However, UAC R317-2-5 also states that, streams with a flow equal to or less than twice the flow of a point source discharge may be considered to be totally mixed. For Outfalls 001 through 004, the data indicated critical upstream ambient flow of 1.3 ft<sup>3</sup>/s relative to the 26.2 ft<sup>3</sup>/s effluent discharge. For Outfall 005 the data indicated critical upstream ambient flow of 1.5 ft<sup>3</sup>/s versus 11.2 ft<sup>3</sup>/s effluent discharge. Therefore, no mixing zones are allowed for any of the effluent discharges and water quality concentrations must meet the numeric criteria at the end-of-pipe (EOP).

### Parameters of Concern

The potential parameters of concern identified for the discharge/receiving water were determined in consultation with the UPDES Permit Writer, the Utah Water Quality Assessment Reports, and the industry SIC codes from <https://www.osha.gov/data/sic-search>. The potential parameters of concern for this facility include: pH, total dissolved solids (TDS), total suspended solids (TSS), and Iron.

### WET Limits

The percent of effluent in the receiving water in a fully mixed condition, and acute and chronic dilution in a not fully mixed condition are calculated in the WLA in order to generate WET limits. The LC<sub>50</sub> (lethal concentration, 50%) percent effluent for acute toxicity and the IC<sub>25</sub> (inhibition concentration, 25%) percent effluent for chronic toxicity, as determined by the WET test, needs to be below the WET limits, as determined by the WLA. The WET limit for LC<sub>50</sub> is typically 100% effluent and does not need to be determined by the WLA. WET limits are provided in Table 2.

**Table 2: WET Limits for IC<sub>25</sub>**

	<b>Percent Effluent</b>
<b>Season</b>	<b>Outfalls 001 - 005</b>
Summer	100%
Fall	100%
Winter	100%
Spring	100%

### Wasteload Allocation Methods

Effluent limits for Outfalls 001 through 004 were determined for conservative constituents using a simple mass balance mixing analysis (UDWQ, 2021). The mass balance analysis is summarized in the Wasteload Addendums.

For Electric Lake, it was evaluated that a daily maximum concentration limit consistent with the 80<sup>th</sup> percentile of the Upper Huntington Creek sample will be implemented once again as was done initially in 2020. Furthermore, it is recommended that the arithmetic mean of the Lake sample is considered for an annual average concentration limit through the annual running average of bi-monthly sampling results.

**Table 3: TDS (mg/l) background statistical description by region**

region	count	min	20%	mean	median	80%	max	std	var	skew
Lake	1266	108	151	167.34	164	183	451	23	529.16	3.4
Lower	1242	26	230	303.18	292	369	763	83.53	6977.37	0.94
Upper	1392	105	175	202.36	201	235	301	34.12	1164.08	0.08

**Table 4: Total Iron (mg/l) background statistical description by region**

region	count	min	20%	mean	median	80%	max	std	var	skew
Lake	1258	0	0.05	0.08	0.05	0.08	3.11	0.18	0.03	14.66
Lower	1240	0.03	0.11	0.95	0.2	0.72	48.22	4.71	22.18	9.64
Upper	1392	0	0.08	0.38	0.21	0.45	12.01	0.84	0.71	8.24

**Table 5: Dissolved Iron (mg/l) background statistical description by region**

region	count	min	20%	mean	median	80%	max	std	var	skew
Lake	1262	0	0.03	0.03	0.03	0.03	0.34	0.01	0	9.52
Lower	1240	0	0.03	0.04	0.03	0.03	1.69	0.11	0.01	13.02
Upper	1392	0	0.03	0.03	0.03	0.03	0.43	0.03	0	7.38

The Upper Huntington Creek region displays some seasonal variability, particularly in TDS. Total iron concentration concentrations also display multi-annual trends, suggestive of variable groundwater flowpaths and associated geochemical influence. Furthermore, total iron in Electric Lake typically increases between two and ten-fold through the fall and winter, while dissolved iron remains near detection limit. Therefore, the dissolved iron fraction drops from a high of 60 percent to between 6 and 20 percent through the fall, winter, and spring with the lowest concentration in May or June.

Dissolved iron in Electric Lake was generally at the detection limit of 0.03 mg/l. The dissolved iron fraction ranges between 9 and 14 percent of total iron in the Upper Huntington Creek but is relatively stable in Electric Lake at 60 percent. This indicates that iron is predominately in the particulate fraction for the Upper region, while the dissolved fraction dominates Electric Lake.

### Effluent Limits

The water quality based effluent limits for the proposed Outfall 005 are summarized in Table 6.

**Table 6: Water Quality Based Effluent Limits Summary for Outfall 005**

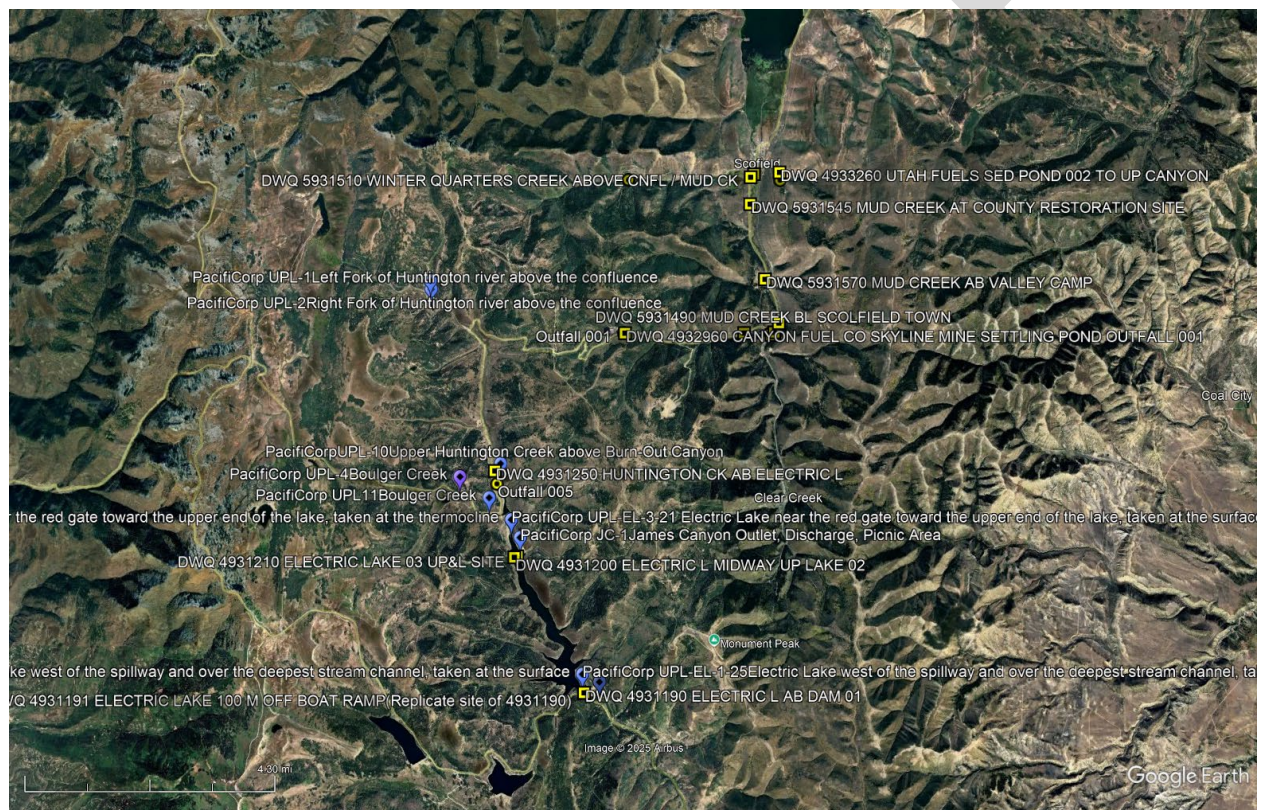
Effluent Constituent	Water Quality Limit (WQBEL)	
	Daily Maximum	Recommended Annual Average
Total Dissolved Solids (TDS mg/l)	235	167
Total Iron (mg/l)	0.45	0.08
Dissolved Iron (mg/l)	0.03	0.03

Models and supporting documentation are available for review upon request.

### Antidegradation Level I Review

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

A Level II Antidegradation Review (ADR) is not required for this facility Per UAC R-317-2-3, because the facility will maintain the same effluent discharge and water quality is not expected to be lowered by the proposed activity.



**Figure 1: Location map of outfalls, monitoring locations, and surface water channels.**

### Documents:

WLA Document: *250520-Skyline\_Mine\_EOP\_001-005\_WLA\_2025.docx*

Wasteload Analysis and Addendums: *250520-Skyline\_Mine\_EOP\_001-005\_WLA\_2025.xlsx*

### References:

Utah Division of Water Quality. 2015. Scofield Reservoir TMDL. <https://public.deq.utah.gov/WebLink/DocView.aspx?id=15465&dbid=0&repo=Public>



Utah Division of Water Quality. 2021. Utah Wasteload Analysis Procedures Version 2.0. <https://documents.deq.utah.gov/water-quality/standards-technical-services/DWQ-2021-000684.pdf>

Utah Division of Water Quality. 2024. Final 2024 Integrated Report on Water Quality. <https://lf-public.deq.utah.gov/WebLink/DocView.aspx?id=87957&repo=Public&searchid=fcd9ea4c-51e1-4227-aa29-fb1921c2cc19&cr=1>

## Utah Division of Water Quality

**WASTELOAD ANALYSIS [WLA]**

Date: 5/27/2025

**Appendix A: Mass Balance Mixing Analysis for Conservative Constituents****A Level II Antidegradation Review (ADR) is not required for this facility.**

Discharging Facility: Canyon Fuel Company - Skyline Mine (001-005)  
 UPDES No: UT0023540  
 Eccles Ck to Mud Ck to Scofield Reservoir

Permit Flow [MGD]: 16.90000 Annual Max. Daily  
 16.90000 Annual Max. Monthly

Receiving Water: Eccles Ck, Up Canyon Ck, and Winters Ck to Mud Ck to Scofield Reservoir. Electric Lake.  
 Stream Classification: 1C,2B,3A,4  
 Stream Flows [cfs]: 0.00 All Seasons Critical Low Flow UDOGM CS-3,9,11 20%  
 - All Seasons Critical Low Flow (20th %) UDOGM CS-3,9,11 20%

Fully Mixed: YES  
 Acute River Width: 100%  
 Chronic River Width: 100%

**Modeling Information**

A mass balance mixing analysis was used to determine the effluent limits.

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

**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 reflect the environmental conditions expected at low stream flows.

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 16.9 MGD. If the discharger is allowed to have a flow greater than 16.9 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.

**Technology Based Effluent Limits**

Parameter	Limit
Total Phosphorus as P	1.00 mg/L

**Effluent Limitations for Protection of Drinking Water (Class 1C Waters) (R317-2-14.1)**

Physical Parameter	Concentration	
	Minimum	Maximum
pH	6.5	9.0

**Bacteriological**

E. coli (30 Day Geometric Mean)	206 (#/100 mL)
E. coli (Maximum)	668 (#/100 mL)

**Metals-Dissolved Maximum**

Parameter	Standard'	Maximum Background	Limit
Arsenic (µg/L)	10.0		10.0
Barium (µg/L)	1000.0		1000.0
Beryllium (µg/L)	4.0		4.0
Cadmium (µg/L)	10.0		10.0
Chromium (µg/L)	50.0		50.0
Lead (µg/L)	15.0		15.0
Mercury (µg/L) <sup>c</sup>	2.000		2.000
Selenium (µg/L)	50.0		50.0

Utah Division of Water Quality

Silver (µg/L) 50.0 50.0

**Inorganics-Maximum**

Parameter	Standard	Maximum Background	Limit
Bromate (mg/L)	0.01		0.01
Chlorite (mg/L)	1.0		1.0
Fluoride (mg/L)	4.0		4.0
Nitrates as N (mg/L)	10.0		10.0
Total Dissolved Solids (mg/L)	1200.0		1200.0

**Radiological**

Parameter	Maximum Concentration Standard
Gross Alpha (pCi/L)	15

**Effluent Limitations for Protection of Recreation (Class 2B Waters) (R317-2-14.1)**

Physical Parameter	Concentration Minimum	Maximum
pH	6.5	9.0
Turbidity Increase (NTU)		10.0

**Bacteriological (R317-2-14.1)**

E. coli (30 Day Geometric Mean)	206 (#/100 mL)
E. coli (Maximum)	668 (#/100 mL)

**Effluent Limitations for Protection of Aquatic Wildlife (Class 3A Waters) (R317-2-14.21)**

Physical Parameter	Concentration Minimum	Maximum
pH	6.5	9.0
Turbidity Increase (NTU)		10.0
Temperature (deg C)		20
Temperature Change (deg C)		2

**Dissolved Oxygen (mg/L)**

	Minimum Concentration ELS Present	Others Present
Instantaneous	8.0	4.0
30-day Average	6.5	6.5
7-day Average	9.5	5

**Inorganics**

Parameter	Chronic (30-day ave)	Acute (1-hour ave) Standard
Phenol (mg/L)		0.010
Hydrogen Sulfide (Undissociated-mg/L)		0.002
Total Residual Chlorine (mg/L)	0.011	0.019

**Ammonia-Total (mg/L)**

Chronic (30-day ave)				Acute (1-hour ave)			
Season	Standard	ELS Present Background	Limit	Standard	Background	Limit	
Summer	1.7		1.7	3.7		3.7	
Fall	2.0		2.0	4.3		4.3	
Winter	1.8		1.8	3.9		3.9	
Spring	1.9		1.9	4.0		4.0	
ELS Absent							
Season	Standard	Background	Limit	Standard	Background	Limit	
Summer	2.2		2.2	3.7		3.7	
Fall	3.2		3.2	4.3		4.3	
Winter	3.0		3.0	3.9		3.9	
Spring	3.0		3.0	4.0		4.0	

**Metals-Total Recoverable**

**Utah Division of Water Quality**

Parameter	Chronic (4-day ave)			Acute (1-hour ave)		
	Standard <sup>1</sup>	Background	Limit	Standard <sup>1</sup>	Background	Limit
Aluminum (µg/L)				750.0		750.0
Arsenic (µg/L)	150.0		150.0	340.0		340.0
Cadmium (µg/L)	1.7		1.7	5.0		5.0
Chromium VI (µg/L)	11.0		11.0	16.0		16.0
Chromium III (µg/L)	194.9		194.9	4,077		4,077
Copper (µg/L)	21.9		21.9	35.8		35.8
Cyanide (µg/L) <sup>2</sup>	5.2		5.2	22.0		22.0
Iron (µg/L)				1,000		1,000
Lead (µg/L)	11.3		11.3	290.2		290.2
Mercury (µg/L) <sup>2</sup>	0.012		0.012	2.4		2.4
Nickel (µg/L)	121.2		121.2	1,090		1,090
Selenium (µg/L)	4.6		4.6	18.4		18.4
Silver (µg/L)				21.0		21.0
Tributyltin (µg/L) <sup>2</sup>	0.072		0.072	0.46		0.46
Zinc (µg/L)	278.7		278.7	278.7		278.7

1: Based upon a Hardness of 270.8 mg/l as CaCO<sub>3</sub>

2: Background concentration assumed 67% of chronic standard

**Organics [Pesticides]**

Parameter	Chronic (4-day ave)		Acute (1-hour ave)	
	Standard	Limit	Standard	Limit
Aldrin (µg/L)			1.5	1.5
Chlordane (µg/L)	0.0043	0.0043	1.2	1.2
DDT, DDE (µg/L)	0.001	0.001	0.55	0.55
Diazinon (µg/L)	0.17	0.17	0.17	0.17
Dieldrin (µg/L)	0.0056	0.0056	0.24	0.24
Endosulfan, a & b (µg/L)	0.056	0.056	0.11	0.11
Endrin (µg/L)	0.036	0.036	0.086	0.086
Heptachlor & H. epoxide (µg/L)	0.0038	0.0038	0.26	0.26
Lindane (µg/L)	0.08	0.08	1.0	1.0
Methoxychlor (µg/L)			0.03	0.03
Mirex (µg/L)			0.001	0.001
Nonylphenol (µg/L)	6.6	6.6	28.0	28.0
Parathion (µg/L)	0.0130	0.0130	0.066	0.066
PCB's (µg/L)	0.014	0.014		
Pentachlorophenol (µg/L)	15.0	15.0	19.0	19.0
Toxephene (µg/L)	0.0002	0.0002	0.73	0.73

**Radiological**

Parameter	Maximum Concentration
Gross Alpha (pCi/L)	15



Aluminum		750	1.000	750		1.000	
Arsenic	10	340	1.000	340	150	1.000	150
Barium	1000						
Beryllium	4						
Cadmium	10	5.0	0.902	4.5	1.75	0.867	1.52
Chromium VI		16.0	1.000	16.0	11.0	1.000	11.0
Chromium III		4077	0.316	1288	195	0.860	168
Chromium	50						
Copper		35.8	0.960	34.4	21.9	0.960	21.0
Cyanide		22.0	1.000	22.0	5.2	1.000	5.2
Iron		1000	1.000	1000			
Lead	15	290	0.646	187	11.3	0.646	7.3
Mercury	2	2.4	1.0000	2.4	0.012	1.0000	0.012
Nickel		1090	0.998	1088	121	0.997	121
Selenium	50	18.4	1.000	18.4	4.6	1.000	4.6
Silver	50	21.0	0.850	17.8			
Tributyltin		0.46	1.000	0.46	0.072	1.000	0.072
Zinc		279	0.978	273	279	0.986	275

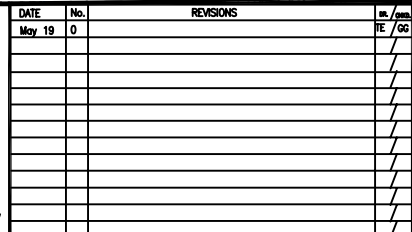
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## **ATTACHMENT 2**

*Outfall Locations Map*  
*(DWQ-2025-002650)*

PND DRAFT





BASE PREPARED BY INTERMOUNTAIN AERIAL SURVEYS, SALT LAKE CITY, UTAH - M96147



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# ATTACHMENT 3

## *Effluent Monitoring Data Summary*

### Skyline Mine Discharges (2020-2024)

Parameter (Units)	Discharge Flow (MGD)		pH (SU)		O & G (mg/L)	DO (mg/L)	TDS (mg/L)		TSS (mg/L)	
	Avg	Max	Min	Max	Max	Min	Avg	Max	Avg	Max
001	8.25	15.79	7.20	8.51	<5	6.2	590	944	10	38
002*	0.082	0.115	7.79	8.87	<5	7.7	413	486	8	8
003	0	0	-	-	-	-	-	-	-	-
004**	0.64	1.42	7.53	8.94	10	5.4	812	<b>1440</b>	31	66
005***	3.42	5.99	7.26	8.50	<5	6.1	202	<b>242</b>	9	<b>40</b>

#### Notes:

Permit exceedances are shown in **BOLD**.

Metals monitoring data are summarized in the following RP section (Attachment 4).

\*Outfall 002 only discharged in April 2023.

\*\*Outfall 004 ceased discharge operations in late 2023.

\*\*\*Outfall 005 began discharging in 2022.

Pending Draft

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## **ATTACHMENT 4**

### *Reasonable Potential Analysis*

## REASONABLE POTENTIAL ANALYSIS

DWQ has worked to improve the RP analysis for the inclusion of limits for certain parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. A Copy of the Reasonable Potential Analysis Guidance (RP Guide) is available at DWQ. There are four outcomes for the RP Analysis 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 for metals parameter values that were submitted through the discharge monitoring reports showed that a closer look at the metal parameters is not needed. The RP Initial Screening Tables for each discharging Outfall are included below. Note that the full RP analysis model was not utilized at this time due to the lack of data points with sufficiently sensitive laboratory reporting limits as further discussed below.

**Table 1: Outfall 001 Metals RP Initial Screening Table for Skyline Mine (2021-2025 continuous flow)**

Parameter	No. of Samples	MEC*a mg/L	Water Quality Standard MAC*b		Outcome/Result
			Acute mg/L	Chronic mg/L	
Total Aluminum	48	0.18	0.75	NA	MEC < MAC *c
Total Arsenic	48	<0.04	0.34	0.15	MEC < MAC
Total Cadmium	48	<0.02 *f	0.005	0.0017	Undetermined *f
Total Chromium	48	<0.02	4.077	0.195	MEC < MAC
Total Copper	48	<0.02	0.0358	0.0219	MEC < MAC
Total Iron	130	0.99	1.00	NA	MEC < MAC
Total Lead	48	<0.02 *f	0.2902	0.0113	MEC < MAC (acute) Undetermined (chronic)*f
Total Mercury	48	<0.0002 *f	0.0024	0.000012	MEC < MAC (acute) Undetermined (chronic)*f
Total Nickel	48	0.025	1.09	0.1212	MEC < MAC
Total Selenium	48	<0.02 *f	0.0184	0.0046	Undetermined *f
Total Silver	48	0.02	0.021	NA	MEC < MAC
Total Zinc	48	0.13	0.2787	0.2787	MEC < MAC

**Table 2: Outfall 004 Metals RP Initial Screening Table for Skyline Mine (ceased discharging in 2023)**

Parameter	No. of Samples	MEC*a mg/L	Water Quality Standard MAC*b		Outcome/Result
			Acute mg/L	Chronic mg/L	
Total Aluminum	36	0.34	0.75	NA	MEC < MAC *c
Total Arsenic	36	0.05	0.34	0.15	MEC < MAC
Total Cadmium	36	<0.02 *f	0.005	0.0017	Undetermined *f
Total Chromium	36	<0.02	4.077	0.195	MEC < MAC
Total Copper	36	<0.02	0.0358	0.0219	MEC < MAC
Total Iron	36	<b>2.63</b>	1.00	NA	<b>MEC &gt; MAC *d</b>
Total Lead	36	<0.02 *f	0.2902	0.0113	MEC < MAC (acute) Undetermined (chronic)*f

Total Mercury	36	<0.0002 *f	0.0024	0.000012	MEC < MAC (acute) Undetermined (chronic)*f
Total Nickel	36	0.22 *f	1.09	0.1212	MEC < MAC (acute) Undetermined (chronic)*f
Total Selenium	36	<0.02 *f	0.0184	0.0046	Undetermined *f
Total Silver	36	0.02	0.021	NA	MEC < MAC
Total Zinc	36	0.036	0.2787	0.2787	MEC < MAC

**Table 3: Outfall 005 Metals RP Initial Screening Table for Skyline Mine (started discharging in 2022)**

Parameter	No. of Samples	MEC*a mg/L	Water Quality Standard MAC*b		Outcome/Result
			Acute mg/L	Chronic mg/L	
Total Aluminum	30	0.24	0.75	NA	MEC < MAC *c
Total Arsenic	30	<0.02	0.34	0.15	MEC < MAC
Total Cadmium	30	<0.02 *f	0.005	0.0017	Undetermined *f
Total Chromium	30	<0.02	4.077	0.195	MEC < MAC
Total Copper	30	<0.02	0.0358	0.0219	MEC < MAC
Total Iron	30	<b>0.51</b>	0.45	NA	<b>MEC &gt; MAC *d</b>
Dissolved Iron	30	0.03	0.03	NA	MEC = MAC *e
Total Lead	30	<0.02 *f	0.2902	0.0113	MEC < MAC (acute) Undetermined (chronic)*f
Total Mercury	30	<0.0002 *f	0.0024	0.000012	MEC < MAC (acute) Undetermined (chronic)*f
Total Nickel	30	<0.02	1.09	0.1212	MEC < MAC
Total Selenium	30	<0.02 *f	0.0184	0.0046	Undetermined *f
Total Silver	30	<0.02	0.021	NA	MEC < MAC
Total Zinc	30	<0.02	0.2787	0.2787	MEC < MAC

Notes/Legend

NA – Not Applicable, no current Water Quality Standard (WQS). WQS Exceedances shown in **BOLD**.

\*a – MEC: Maximum expected effluent concentration as determined from existing data set and sufficiently sensitive method detection limits.

\*b – MAC: Maximum allowable concentration from current WQS and/or wasteload analysis.

\*c – MEC < (less than) MAC: No Acute or Chronic limit required.

\*d – MEC > (greater than) MAC: Acute and/or Chronic limits may be required.

\*e – MEC = (equal to) MAC: Acute and/or Chronic limits not required at this time.

\*f – Undetermined: Unable to determine the Acute and/or Chronic WQS criteria due to insufficient Laboratory method detection limits (MDLs) and/or reporting limits. Since the inception of sampling for additional metals in 2021, effluent analyses for these metals parameters has not resulted in a detected concentration above the applicable MDL as reported. Upon further review, the MDLs for these and other metals parameter analyses are not reflective of adequate and sufficiently sensitive test methodologies and/or reporting limits that are readily available and expected from commercial laboratories. Therefore, going forward the permittee shall ensure that sufficiently sensitive test methodologies, MDLs and their reporting limits are being utilized as appropriate for all effluent parameters.

Summary: An RP analysis was performed on all metals parameters from Skyline Mine water discharge data via Outfalls 001, 004 & 005 (see Tables above). Initial screening values that were submitted through both the monthly discharge monitoring reports, as well as the permit renewal application information, showed that a closer look may be needed for several of the metals parameters. Therefore, a qualitative RP analysis was conducted for all metals parameters at each of the Outfalls, which resulted in the total metal parameters for cadmium, lead, mercury, nickel and selenium as having potential to exceed the applicable Acute and/or Chronic Water Quality Standards (WQS). All other total metals parameters were below the applicable WQS, except for total iron, which already has a water quality based effluent limit applied to each of the Outfalls as appropriate.

Upon closer look of the Outfall effluent data points, including any potential outliers that were above the laboratory method detection limits (MDLs), as well as each of the metal parameter MDLs themselves, it does not appear that sufficiently sensitive test methods, MDLs and their reporting limits are being consistently utilized for all metals parameters. Specifically, for the same total metals in question: cadmium, lead, mercury, nickel and selenium. All of which would require more sensitive testing/reporting methods and/or lower MDLs in order to better evaluate RP for each of the respective Acute and/or Chronic WQS. As such, RP for these metals could not be adequately determined with the existing data points and current MDLs and/or laboratory reporting limits. Therefore, more data points are needed utilizing the most sensitive laboratory MDLs and reporting limits to determine if RP actually exists for the total cadmium, lead, mercury, nickel and/or selenium parameters to exceed either the Acute WQS and/or the Chronic WQS as applied to each Outfall.

Regarding dissolved iron at Outfall 005, only one of the past 30 samples has resulted in a detectable concentration which also equaled the most stringent WQS for that single data point (see Table 3 above). Concluding that RP does not currently exist for dissolved iron as a potential parameter of concern at Outfall 005, or for any of the other dissolved metals parameters at any of the three Outfalls due to the lack of RP from the corresponding total metals analyses. Total recoverable metals analysis is the more appropriate monitoring requirement since the dissolved component is a part of the total recoverable component. Therefore, no additional limitations for dissolved metals is warranted at this time and monitoring for dissolved metals has been removed from the permit leaving total metals monitoring in place for all three Outfalls as appropriate.

Based upon this RP evaluation, as well as all relevant information and best professional judgement of the permitting authority, including the previously submitted report entitled, "Hydrogeochemical Investigation Of Electric Lake Reservoir, Emery County, Utah; Geochemical Mixing Model for UPDES 005 Discharge to Electric Lake Reservoir, October 31, 2022," the final RP outcome was not to include any additional metal effluent limits at this time, however, monitoring for all the total metals parameters will remain in place utilizing sufficiently sensitive laboratory test methods, MDLs and reporting limits as detailed in the permit. This will provide a better data set to be re-evaluated for RP during the next permit cycle as appropriate. Once re-evaluated, the permit can be re-opened and modified as necessary to include any additional permit limitations as required.

Result: The RP analysis of the effluent discharge data for all of the listed parameters resulted in no additional Acute or Chronic limits being required at this time, which equates to **RP Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit, but with utilizing sufficiently sensitive laboratory test methods, MDLs and reporting limits as appropriate.**

Pending Draft

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