

**FACT SHEET AND STATEMENT OF BASIS  
FOSSIL ROCK RESOURCES, LLC – FOSSIL ROCK MINE  
UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES)  
DISCHARGE RENEWAL PERMIT  
UPDES PERMIT NUMBER: UT0023728  
MINOR INDUSTRIAL FACILITY**

**FACILITY CONTACTS**

Person Name: Ryan Wilson  
Position: Manager of Land and Regulatory Affairs

Person Name: Vicky Miller  
Position: Environmental Engineer & Signatory Authority

Phone Number: 970-852-0110

Permittee: Fossil Rock Resources, LLC  
Facility Name: Fossil Rock Mine

Mailing Address: 9815 South Monroe Street  
Sandy, Utah 84070

Facility Location: ~10 miles northwest of Orangeville, Utah

**DESCRIPTION OF FACILITY**

Fossil Rock Resources, LLC – Fossil Rock Mine (Mine) is an inactive underground coal mine facility with standard industrial classification (SIC) code 1222 for bituminous coal underground mining. The Mine ceased operations in 2001, with the Mine portals having since been sealed and with no active mining activity since that time. There are currently three permitted discharge outfalls, none of which have reported any discharges in many years while the Mine has remained inactive and idled. Any discharges from Outfall 001 would be from an onsite sedimentation pond for collecting surface water runoff from precipitation and snowmelt events at the Mine facility, while any discharges from Outfall 002 would be from active Mine dewatering operations. Discharges from Outfall 003 would be from a sedimentation pond that collects surface water runoff from precipitation and snowmelt events at the Mine’s nearby waste rock site. This permit renewal will once again authorize any potential future discharges from the Mine during the next five years as appropriate.

**SUMMARY OF CHANGES FROM PREVIOUS PERMIT**

There are three proposed changes with this permit renewal. The first change is regarding the Stormwater permit provisions, which have been removed as part of a Division of Water Quality (DWQ) programmatic separation of the previously combined UPDES permits. The Mine may now be required to apply for and obtain separate UPDES Industrial Storm Water Permit coverage under the UPDES MSGP No. UTR000000, or an applicable exemption, as described further in the **STORMWATER** section of this Fact Sheet.

The second permit change is the additional field monitoring for temperature to be conducted and reported monthly, along with the existing monitoring requirements. Temperature monitoring is now included to provide additional water quality data in support of any potential future Total Maximum Daily Load (TMDL) study to address an impairment for the receiving waters within the watershed. See the **TOTAL MAXIMUM DAILY LOAD REQUIREMENTS** section of this Fact Sheet for more information.

The third permit change is the addition of total metals monitoring to be conducted and reported quarterly along with the existing monitoring requirements. Total metals monitoring for arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver and zinc are now being included to provide additional and more current water quality data upon future startup of the Mine and dewatering discharges so that a Reasonable Potential analysis can be conducted to confirm the absence or presence of the metals parameters in the discharge as appropriate. See the **Reasonable Potential Analysis** section of this Fact Sheet for more information.

All other permit conditions remain unchanged.

## **DISCHARGE INFORMATION**

### **DESCRIPTION OF DISCHARGE**

The Mine site is inactive, with no reported discharges in many years. The Mine has been reporting self-monitoring results on Discharge Monitoring Reports through NetDMR on a monthly basis as appropriate. There have been no permit violations during the previous 5-year permit cycle.

<u>Outfall</u>	<u>Description of Discharge Points</u>
001	Located at latitude 39° 19' 00" and longitude 111° 11' 20". Outfall from sedimentation pond for surface water runoff from the mine site into Cottonwood Canyon Creek drainage.
002	Located at latitude 39° 19' 03" and longitude 111° 11' 25". Outfall for mine water discharges from mine portals into Cottonwood Canyon Creek drainage.
003	Located at latitude 39° 17' 43" and longitude 111° 7' 18". Outfall from sedimentation pond for surface water runoff from nearby waste rock pile site into Grimes Wash drainage.

### **RECEIVING WATERS AND STREAM CLASSIFICATION**

Discharges through Outfalls 001 & 002 are to Cottonwood Canyon Creek Drainage, which then flows into Cottonwood Creek. Discharges through Outfall 003 are to Grimes Wash, which is an intermittent tributary of Cottonwood Creek. Cottonwood Creek is classified as follows according to Utah Administrative Code (UAC) R317-2-13:

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

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

### **TOTAL MAXIMUM DAILY LOAD REQUIREMENTS**

According to the DWQ 2022 Integrated Report and 303(d) Assessment, Cottonwood Creek Upper (Cottonwood Creek and tributaries from USFS boundary to headwaters and Joes Valley Reservoir, UT14060009-007\_00) is listed as impaired for pH (1C, 2B and 3A use classes), temperature (3A use class), and total dissolved solids (TDS) (4 use class). Since temperature monitoring has not been included in previous permits, it has now been added to provide additional water quality data in support of any future TMDL study to address the impairment. The parameters of concern remain the same as the previous permit with the addition of the temperature monitoring.

A TMDL study addressing the TDS impairment for the San Rafael River and tributaries was completed as part of the West Colorado River Watershed TMDL in 2004. As part of the TMDL study, site specific standards were developed for several stream segments in the watershed. A site-specific standard of 3,500 mg/l TDS was developed for Cottonwood Creek (and has since been incorporated into the Utah Water Quality Standards) from the confluence with Huntington Creek to Highway 57. The Fossil Rock Mine (formerly known as the 'Trail Mountain Mine') discharges to Cottonwood Canyon Creek approximately 8 miles above this stream segment. The TMDL included a TDS permit limit of 1,136 mg/l for the 'Trail Mountain Mine' in order to be protective of downstream uses. For more detailed information, the approved TMDL study can be found at <https://documents.deq.utah.gov/water-quality/watershed-protection/total-maximum-daily-loads/DWQ-2015-006611.pdf>.

### **BASIS FOR EFFLUENT LIMITATIONS**

In accordance with regulations promulgated in Title 40 of Code of Federal Regulations (40 CFR) Part 122.44 and in UAC R317-8-4.2, effluent limitations are derived from technology-based effluent limitation guidelines, Utah Secondary Treatment Standards (UAC R317-1-3.2) or Utah Water Quality Standards (UAC R317-2-14) 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 or BPJ, 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 the Wasteload Analysis (WLA), which incorporates Secondary Treatment Standards, Water Quality Standards (WQS), including any applicable 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 State water quality standards in the receiving waters. During this UPDES renewal permit development, a WLA and ADR were completed as appropriate. An ADR Level I review was performed and concluded that an ADR Level II review was not required at this time since there are no proposed increases in flow or concentrations from the existing discharge operations. The WLA indicates that the effluent limitations will be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. The WLA and ADR information are included as attachments to this Fact Sheet.

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

1. Effluent limitations for pH are derived from current Utah WQS found in UAC R317-2-14.
2. Total Suspended Solids (TSS) effluent limitations remain unchanged. The TSS daily maximum effluent limitation is carried over from the previous permit and is applicable to all Outfalls as derived from technology-based effluent limitations found in 40 CFR Part 434.45 for coal mine facilities defined with an alkaline mine drainage. The TSS monthly and weekly average effluent limitations for all Outfalls are also carried over from the previous permit requirements and are based upon both Utah Secondary Treatment Standards as well as a Level II ADR that was previously completed and approved by DWQ in 2013, which included the more restrictive TSS limitations for mine water discharges via Outfall 002 than from either the applicable 40 CFR requirements, or the effluent limitations previously derived from Utah Secondary Treatment Standards. Therefore, the more stringent TSS limitations as a result of the previous ADR will apply once again for Outfall 002 based upon BPJ of the permitting authority, especially since the Mine discharges to the same location and stream segment as the adjacent PacifiCorp Wilberg Mine (UPDES Permit No. UT0022896) in order to be consistent with mine water discharges in both permits and to be protective of the downstream water uses.

A 2020 rule change in UAC R317-1-3 clarified that Utah Secondary Treatment Standards for both TSS and biochemical oxygen demand are not applicable for Non- Publicly Owned Treatment Works (POTW) facilities. POTWs are facilities that receive and process domestic waste water. The Mine is an industrial and Non-POTW type facility and therefore, Secondary Treatment Standards do not automatically apply as in previous industrial permits. However, the TSS effluent limitations remain unchanged in this permit based upon BPJ of the permitting authority, as well as a request from the Mine to maintain the current TSS limitations, to be consistent with previous permits.

3. The total iron limitation is based upon the Utah WQS of 1.0 mg/L for dissolved iron (UAC R317-2 Table 2.14.2) and will once again be included in this renewal permit as 1.0 mg/L for total iron. Total iron includes the dissolved iron component and is therefore considered a more protective permit provision and is consistent with other coal mine permits in Utah.
4. The oil & grease limitation is based on BPJ of the permitting authority and is consistent with other industrial permits in Utah.
5. TDS limitations are based upon the existing TMDL for effluent concentration values as mentioned previously, and are also based the Colorado River Basin Salinity Control Forum (CRBSCF) for mass loading values as authorized in UAC R317-2-4 to further control salinity in the Utah portion of the Colorado River Basin. Regarding TDS loading, the CRBSCF Policy entitled "NPDES Permit Program Policy for Implementation of Colorado River Salinity Standards" (Policy), with the most current version dated October 2023, requires the TDS loading limitation of one-ton (or 2000 lbs) per day, or 366 tons per year as a sum from all discharge points, unless the average concentration of TDS is 500 mg/L or less. If the concentration of TDS at any Outfall is less than or equal to 500 mg/L as a thirty-day average, then no loading limit applies for that Outfall. The one-ton per day (or 366 tons per year) loading limit applies only to those Outfalls exceeding 500 mg/L as a thirty-day average. Those Outfalls exceeding 500 mg/L as a thirty-day average, collectively, need to meet the one-ton (2000 lbs) per day, or 366 tons per year limit. If one-ton (2000 lbs) per day, or 366 tons per year TDS cannot be achieved, then the permittee will be required to remove salinity/TDS in excess of one-ton (2000 lbs) per day, or 366 tons per year by developing

a treatment process, participating in a salinity off-set program, or developing some type of mechanism to remove the salinity/TDS. The selection of a salinity control program must be approved by the Director of DWQ.

6. The effluent flow limitation remains unchanged and is based upon the design flow of the discharging outfalls provided previously by the Mine as included in the permit application information.
7. There are other technology-based effluent limits included in the permit as well for Outfalls 001 & 003 as appropriate. 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. The mine has the burden of proof that the described runoff events occurred.

For runoff events (rainfall or snowmelt) less than or equal to a 10-year 24-hour precipitation event, settleable solids shall 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.

Any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) may comply with the existing pH limitations instead of the otherwise applicable limitations.

**Reasonable Potential Analysis**

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this Permit renewal was conducted following DWQ’s September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance) with outcomes as defined in the RP Guidance that provide a frame work for what routine monitoring or effluent limitations are required.

A formal RP analysis for this permit renewal was not conducted because there has been a lack of discharge data from the Mine, which currently remains inactive. Because the Mine has not discharged in over 20 years, as well as not having additional metals monitoring requirements in the permit previously, there is insufficient data to perform RP for this permit renewal. As a result, monitoring for the appropriate metals parameters will now be included in the permit renewal in addition to the existing monitoring requirements. Starting on the effective date of this permit, the following additional total metals analyses shall be monitored quarterly from all discharging outfalls; Arsenic, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel, Selenium, Silver and Zinc. The additional metals monitoring will help establish a record of presence or absence of each parameter and will allow for RP to be conducted in the future once at least ten data points are collected. If the Mine begins operating and discharging regularly, a qualitative RP analysis can then be performed on subsequent permit renewals as appropriate.

The Mine is once again expected to be able to meet the permit limitations as follows:

Parameter, Units	Effluent Limitations *a			
	Maximum Monthly Avg	Maximum Weekly Avg	Daily Minimum	Daily Maximum
Total Flow, MGD *b, *c	0.5	--	--	--
TSS, mg/L (Outfalls 001 & 003)	25	35	--	70
TSS, mg/L (Outfall 002)	20	30	--	70

Total Iron, mg/L	--	--	--	1.0
TDS, mg/L	1136	--	--	Report
TDS, lbs/day *d	--	--	--	2000
pH, Standard Units	--	--	6.5	9.0
Oil & Grease, mg/L *e	--	--	--	10.0
Temperature, °F	--	--	--	Report
Total Metals, mg/L *f	--	--	--	Report

### SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the same as in the previous permit, with the addition of temperature and total metals monitoring, as mentioned previously. The sampling frequency is based on the Mine being a minor industrial permit with a maximum design effluent flow of <1 MGD and is consistent with other similar coal mine UPDES permits. The permit will once again require self-monitoring reports to be submitted monthly on Discharge Monitoring Report (DMR) forms via NetDMR due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Monthly	Measured	MGD
TSS	Monthly	Grab	mg/L
Total Iron	Monthly	Grab	mg/L
TDS	Monthly	Grab	mg/L
TDS *d	Monthly	Grab	lbs/day
pH	Monthly	Grab	SU
Oil & Grease *e	Monthly	Visual/Grab	mg/L
Temperature	Monthly	Grab	°F
Total Metals *f	Quarterly	Grab	mg/L

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

\*b Flow measurements of effluent volume shall be made in such a manner that the Permittee can affirmatively demonstrate that representative values are being obtained.

\*c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

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

other type of treatment process, must be approved by the Director of the Division of Water Quality.

- \*e Oil & Grease shall be sampled when sheen is present or observed. If no sheen is present or visible, then report NA. In addition to monthly monitoring for oil and grease, a visual inspection for floating solids, sanitary waste, and visible foam shall be performed monthly at all Outfalls. There shall be no sheen, floating solids, sanitary waste, or visible foam in other than trace amounts.
- \*f Starting on the effective date of this permit, the following total metals analyses shall be monitored quarterly from all discharging outfalls; Arsenic, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel, Selenium, Silver and Zinc. The permittee is required to utilize the lowest detection limit possible using sufficiently sensitive standard test methods and certified laboratories.

## **STORMWATER**

Previously, stormwater discharge requirements and coverage were combined in this individual permit. These have now been separated to provide consistency among permittees, electronic reporting for storm water discharge monitoring reports, and increased flexibility to changing site conditions. Permit coverage under the Multi Sector General Permit (MSGP) for Storm Water Discharges from Industrial Activities may still be required based on the Standard Industrial Classification (SIC) code for the facility and the types of industrial activities occurring, if any. If the facility has not already determined if separate MSGP coverage is required, it has 30 days from when this permit is issued to submit the appropriate Notice of Intent (NOI) for the MSGP or exclusion documentation.

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. 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**

The Mine does not discharge process wastewater to a Publicly Owned Treatment Works (POTW). Any process wastewater that the Mine may discharge to a POTW, either as a direct discharge or as a hauled waste, is subject to federal, state, and local pretreatment regulations. Pursuant to section 307 of the Clean Water Act, the Mine shall comply with all applicable federal general pretreatment regulations promulgated, found in 40 CFR 403, the pretreatment requirements found in UAC R317-8-8, and any specific local discharge limitations developed by the POTW accepting the waste.

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

## **BIOMONITORING REQUIREMENTS**

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern 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 (WET Policy). Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

The permittee is categorized as a minor industrial facility that has not discharged in over 20 years. If discharges were to occur in the future, it would be to an intermittent stream that typically has no upstream flows for most of the year and in which discharge toxicity is neither an existing concern, nor likely to be present based on previous monitoring data that includes WET testing from when the Mine was active many years ago. Based on these considerations and following the WET Policy, there is no reasonable potential for toxicity in the permittee's discharge. As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit at any time in the future should additional information indicate the presence of toxicity in the discharge.

## **PERMIT DURATION**

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

Drafted & Reviewed by  
Jeff Studenka, Discharge Permit Writer & Colorado River Basin Salinity Control  
Lonnie Shull, Biomonitoring  
Jordan Bryant, Stormwater  
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Amy Dickey, Watershed Protection/TMDL  
Suzan Tahir, Wasteload Analysis & ADR  
Utah Division of Water Quality (801) 536-4300  
February 1, 2024

## **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 will be published on the Division of Water Quality website for at least 30 days as required.

During the public comment period provided under R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled.



A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in R317-8-6.12.

**ADDENDUM TO FSSOB**

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes they were not considered Major and the permit is not required to be re Public Noticed.

**Responsiveness Summary**

(Explain any comments received and response sent if applicable)

**ATTACHMENTS (1):** I. Wasteload Analysis and Antidegradation Review Information

DWQ-2023-200101

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**ATTACHMENT 1**

*Wasteload Analysis and  
Antidegradation Review Information  
(DWQ-2023-123764 & DWQ-2023-123775)*

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