U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 8
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STATEMENT OF BASIS

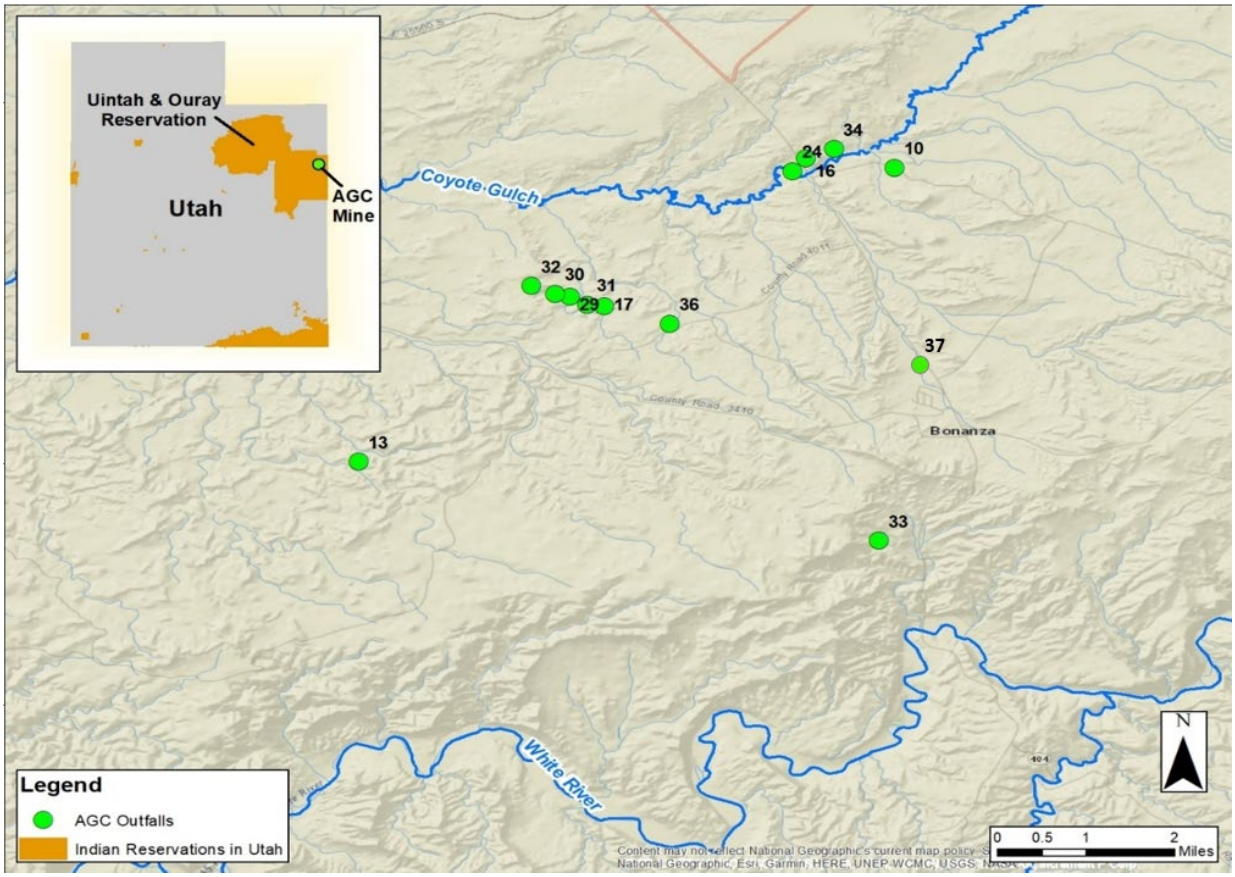
PERMITTEE:	American Gilsonite Company
FACILITY NAME AND ADDRESS:	American Gilsonite Company – Bonanza 29950 South Bonanza Highway Bonanza, Utah 84008-9284
PERMIT NUMBER:	UT0000167
RESPONSIBLE OFFICIAL:	Nicholas Lott, Chief Operating Officer (435) 781-4552 nick@americangilsonite.com
FACILITY CONTACT:	Jonathan Lombardo, Engineering and Environmental Supervisor (435) 789-1921 ext. 452 jonathan@americangilsonite.com
PERMIT TYPE:	Mine Dewatering, Renewal, Indian Country
FACILITY LOCATION:	Bonanza Mine Uintah County, Utah Lat. 40.016° N, Long. 109.175°W
DISCHARGE LOCATION(S):	Multiple outfalls (see Table 1)
RECEIVING WATER:	Coyote Wash, unnamed tributaries of Coyote Wash, and an unnamed tributary of the White River

1. INTRODUCTION

This statement of basis (SoB) is for the reissuance of a National Pollutant Discharge Elimination System (NPDES) permit to the American Gilsonite Company (AGC), for the AGC Bonanza Mine (facility). The Permit establishes discharge limitations for any discharge of water from their thirteen (13) permitted outfalls to Coyote Wash (a tributary of the White River), unnamed tributaries of Coyote Wash and an unnamed tributary of the White River. The SoB explains the nature of the discharges, EPA's decisions for limiting the pollutants in the wastewater, and the regulatory and technical basis for these decisions.

The facility is located on the Uintah & Ouray Reservation in eastern Utah (Figure 1), which is home to the Ute Indian Tribe. EPA Region 8 is the permitting authority for facilities located in Indian country, as defined in 18 U.S.C. Part 1151, within Region 8 and supports implementation of federal environmental laws consistent with the federal trust responsibility, the government-to-government relationship, and EPA's 1984 Indian Policy.

Figure 1. Facility Location Map



2. MAJOR CHANGES FROM PREVIOUS PERMIT

- Eight outfalls have been removed from this permit renewal at the request of the Permittee (Outfalls 001, 002, 003, 015, 020, 023, 028, and 035).
- The stormwater/process wastewater lagoon at the processing plant has been incorporated into this Permit. This lagoon is not allowed to discharge during normal operations, but has been assigned a new outfall (Outfall 037).
- The sanitary wastewater lagoon at the processing plant, which was previously covered under NPDES permit number UTG-589407, has been incorporated into this Permit,. The lagoon is not allowed to discharge and does not have an assigned outfall.
- Dissolved oxygen effluent limitations and monitoring requirements have been added to the Permit.
- A significant portion of the previous flow and total dissolved solids (TDS) load to Outfall 024 is now discharged to an underground injection control (UIC) well. This UIC discharge is covered under UIC permit UT-52338-00000. This does not result in any changes to Permit conditions but is a significant change to the operation of the facility.
- The stormwater pollution prevention plan (SWPPP) and stormwater management control sections in the previous permit have been combined and updated.
- Several additional best management practices (BMPs) regarding operation and management (O&M) and inspection requirements have been added to the Permit as special conditions.

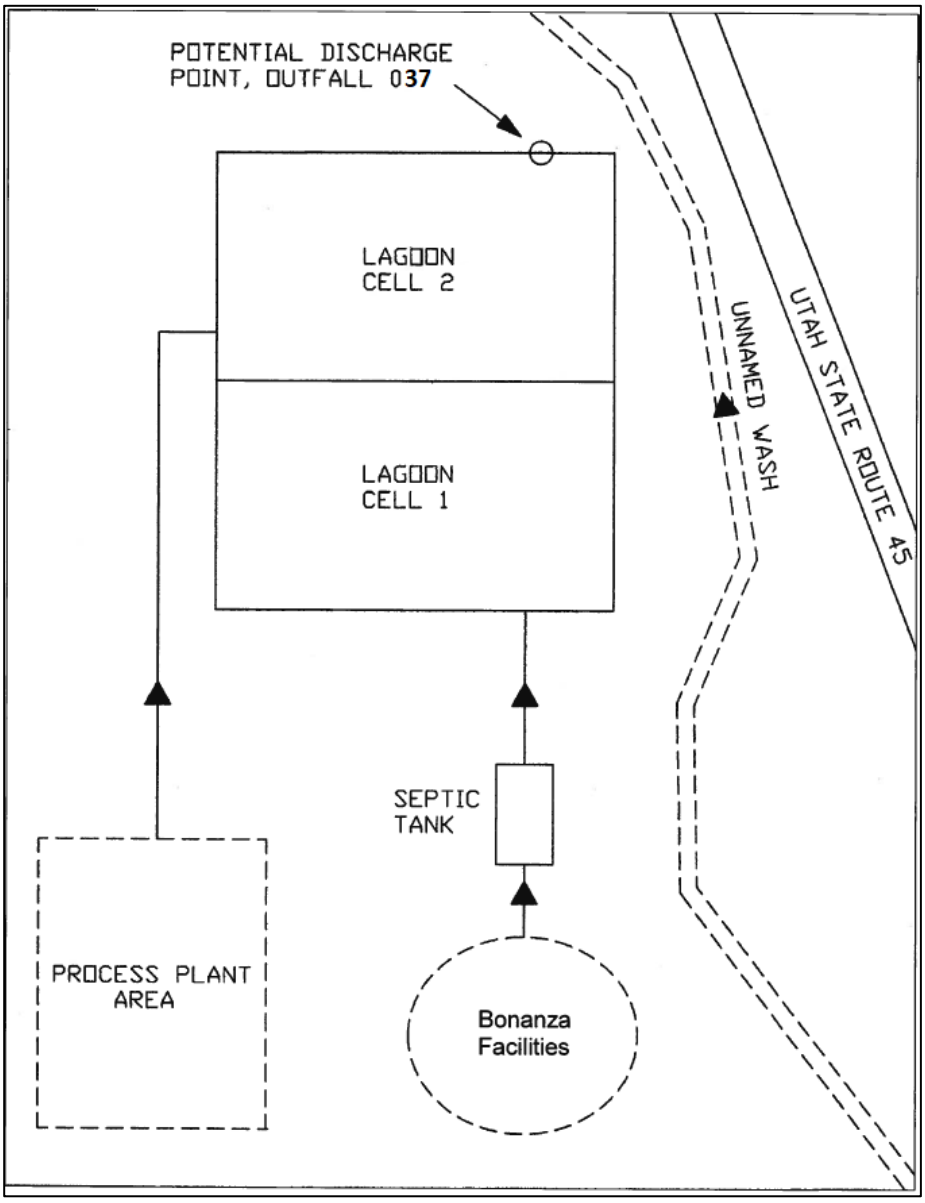
3. BACKGROUND INFORMATION

AGC mines, processes, packages and ships gilsonite from the Bonanza, Utah facility. Gilsonite is a non-hazardous, naturally occurring hydrocarbon resin that is similar in appearance to coal or hard asphalt. It is mined by hand underground in vertical shafts by pneumatic chipping hammers and conveyed to the surface through a centrifugal blower. Gilsonite is used in more than 160 products, primarily in dark-colored printing inks and paints, oil well drilling muds and cements, asphalt modifiers, foundry sands additives, and a wide variety of chemical products.

3.1. Facility Description

Bonanza, Utah is a company-owned town located approximately 40 miles southeast of Vernal, Utah, in Section 23, Township 9S, Range 24E on the Uintah & Ouray Reservation. The AGC process plant is located just south and west of the town of Bonanza and the lagoon for stormwater and process water is located to the north of town (Figure 2). A second lagoon for sanitary wastewater for Bonanza is located next to the process water lagoon and is currently covered under general permit number UTG589407. Both lagoons are fenced and non-discharging. The facility plans to drop general permit coverage for the wastewater lagoon in the next general permitting cycle due to its non-discharging status. EPA Region 8 has incorporated both the sanitary and the stormwater/process wastewater lagoons associated with the process plant into this Permit: the sanitary lagoon as a non-discharging lagoon, and the stormwater/process wastewater lagoon as a non-discharging lagoon with an outfall for extreme precipitation events.

Figure 2. AGC Bonanza Wastewater and Stormwater Schematic



The facility is a working mine with multiple outfalls spread across a large rural area (Figure 1). For most of the outfalls, there are no discernible out-buildings to assign a location to – most outfalls are simply a pipe leading to an unnamed drainage (although outfall 024 discharges directly into Coyote Wash). The coordinates in the title page above refer to the location of the processing plant in Bonanza, Utah.

Mine shafts are sunk down to the gilsonite vein on approximately 1,000 foot to 1,500 foot centers. The depth to the gilsonite vein varies from approximately 200 feet in some areas up to 1,400 feet in others. The vein typically extends down through the Uintah Formation to the top of the Green River Formation. Shafts are connected underground by drifts (horizontal tunnels) in the ore. Once the shafts are connected with the drifts, mining starts in the block of gilsonite on both sides of the shaft. Hand labor is used underground to reduce contamination of the ore by the surrounding rock. Miners using

air-driven chipping hammers break off the gilsonite ore. Broken ore falls by gravity to the bottom of a slope where it is pulled by vacuum into a vent pipe for transport to the surface. Air lift fans located on the surface pull the ore to the top of the head frame where it is discharged into a bin. The air stream used to transport the material is filtered of dust particles before being discharged to the atmosphere. The ore is then transported by truck to the process plant where it is prepared for packaging and shipment.

The groundwater table in the area ranges from about 400 feet to 800 feet, with 600 feet being a rough average. When small or moderate amounts of groundwater are encountered, the mining suction equipment can transport it up to the surface along with the "wet" gilsonite. This mixture is then deposited at a drying bed on the surface, where this wet gilsonite is allowed to dry and the water is evaporated. The dried gilsonite is then collected from the drying beds and transported to the processing plant. This process does not result in any discharge. However, when too much water is encountered in the shaft for the mining suction system to handle, the lowest portion of the shaft is used as a sump. A submersible pump is then placed in the bottom of the shaft and water is pumped up to the surface. If the water does not require treatment for total suspended solids (TSS) or pH, then it is simply pumped to the surface and discharged from one of the permitted outfall locations.

Over the course of time, the area accessible in existing mining shafts is depleted of gilsonite ore. The mine progressively sinks new shafts further along the vein, and the existing shafts are abandoned. This process necessitates new outfalls being added over time and former outfalls being abandoned as the active mining progresses along the vein.

At the processing plant, gilsonite is prepared for packaging and shipment. Trucks and equipment are washed down regularly. Run-on to the site is controlled. All runoff from the plant (washwater, direct rainfall, etc.) flows into the storm sewer drains at the plant and is routed to the process wastewater/stormwater lagoon (lagoon #2 in Figure 2). Water is held in this lagoon and allowed to evaporate and infiltrate into the ground. It has never had a surface discharge.

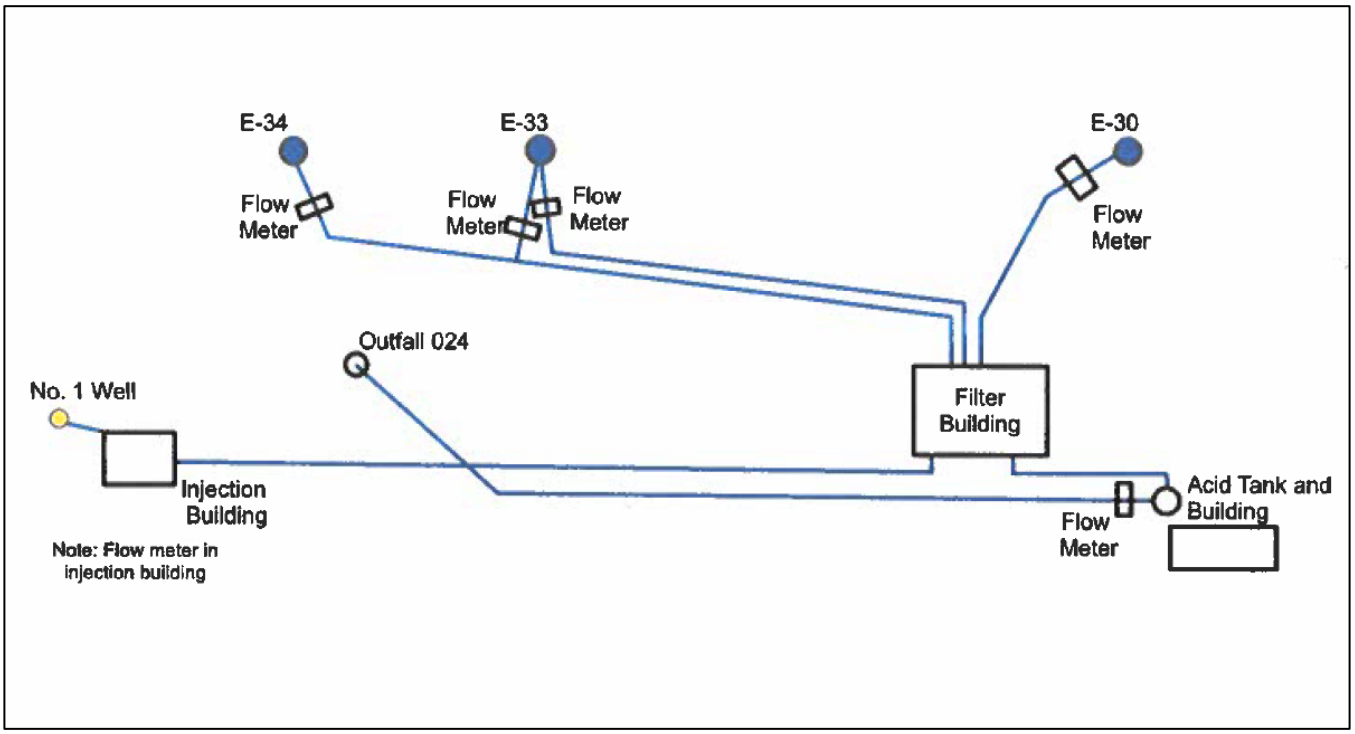
3.2. Treatment Process

The mine typically treats water for two parameters – pH and TSS. When pH adjustment is required (currently used at Outfalls 024 and 031), the water is pumped to a treatment shed on the surface. This shed contains a 55-gallon drum of concentrated sulfuric acid that is used to adjust the high pH discharge water. A sensor relays the pH of the water to the injection control system, where concentrated sulfuric acid is injected into the pipe to adjust the pH down to roughly 8.75. In cases where TSS treatment is needed (currently used at Outfalls 013, 031 and 036), a bag filter is installed at the end of the pipe (at the discharge point) and is replaced as needed.

Prior to 2019, discharge from the Eureka Vein mines E-30, E-33, and E-34 was routed to Outfall 024. Since the UIC well began operation, this discharge is now split between Outfall 024 and the UIC well (Figure 3). Currently, the discharge from mine E-34 and E-33 are combined and run through a filter in the Filter Building prior to being routed to the UIC well. These mines represent discharges with high TDS. Discharge from mine E-30 is routed to the acid treatment facility prior to discharge at Outfall 024. The current set-up allows discharge from mine E-33 to be diverted to a separate manifold and discharged at Outfall 024 as well, if desired.

The Permittee must also have and implement a stormwater pollution prevention plan (SWPPP). The emphasis of the SWPPP is to minimize the potential for the discharge of pollutants in stormwater. See section 5.2 of the Permit for more information on the SWPPP.

Figure 3. Eureka Vein Mine Water Flow Schematic



3.3. Outfall Locations

The previous permit authorized 20 outfalls. With this renewal, AGC has requested the removal of eight outfall locations. EPA has added a new outfall for the processing plant process wastewater/stormwater lagoon. The 13 outfalls that are authorized in this Permit are all located within about five miles of the process plant (Table 1 and Figure 1). All discharges covered by the Permit, with the exception of Outfall 037, are from pumping groundwater to the surface and discharging it into existing drainages. These outfalls are all located in dry washes draining to either Coyote Wash or the White River, with the exception of Outfall 024, which is directly to Coyote Wash. Outfall 037 covers any discharges associated with the process wastewater lagoon. Outfall 037 has never had a surface discharge.

Table 1. Outfall Locations and Descriptions

Outfall	Latitude (°N)	Longitude (°W)	Associated Vein, Mines	Treatment Process	Receiving Water
010	40.06167	109.18222	Eureka Vein, E-30	None/Untreated	Unnamed tributary of Coyote Wash
013	40.00914	109.26992	Little Emma Vein, LE-8	Sediment controls (filter bags)	Unnamed tributary of Coyote Wash
016	40.06333	109.19667	Eureka Vein, E-31	None/Untreated	Unnamed tributary of Coyote Wash
017	40.03694	109.22972	Bonanza Vein, B-44	None/Untreated	Unnamed tributary of Coyote Wash
024	40.06073	109.19618	Eureka Vein, E-30, E-33, E-34	pH controls (sulfuric acid injection system)	Coyote Wash
029	40.03861	109.23528	Bonanza Vein, B-48	None/Untreated	Unnamed tributary of Coyote Wash
030	40.03861	109.23750	Bonanza Vein, B-44, B-46, B-48, and B-50	None/Untreated	Unnamed tributary of Coyote Wash
031	40.03722	109.23250	Bonanza Vein, B-46	pH controls (sulfuric acid injection system) and sediment controls (filter bags)	Unnamed tributary of Coyote Wash
032	40.04056	109.24167	Bonanza Vein, B-52	None/Untreated	Unnamed tributary of Coyote Wash
033	39.99500	109.18472	Wagonhound Vein, WH-4	None/Untreated	Unnamed tributary of the White River
034	40.06506	109.19214	Eureka Vein, E-33	None/Untreated	Unnamed tributary of Coyote Wash
036	40.03381	109.21897	Bonanza Vein, B-38	pH controls (sulfuric acid injection system) and sediment controls (filter bags)	Unnamed tributary of Coyote Wash
037	40.02750	109.17917	(processing plant)	stormwater controls, settling	Unnamed tributary of Coyote Wash

The authorization to discharge under this Permit is limited to these specific outfalls. However, numerous requests for minor modifications to move outfall locations have been submitted since this Permit was originally authorized by EPA. EPA recognizes that the facility operations are constantly moving along gilsonite veins. Therefore, this reissuance authorizes an additional level of flexibility to move dewatering outfall locations without reopening the Permit provided all of the following are met:

1. The new outfall location is within 0.25 miles (1,320 feet) of the existing outfall location;
2. The immediate receiving water does not change for the new outfall location;
3. The new outfall location remains on the same vein and incorporates the same treatment processes;
4. There is no change to nearby affected landowners; and
5. Notification of the change in outfall location is provided to EPA **prior** to any discharges to the new outfall location.

3.4. Chemicals Used

The facility uses concentrated sulfuric acid to adjust the pH at outfalls 024 and 031. They use approximately 6,000 gallons/year. The use of sulfuric acid has been considerably reduced since AGC began injecting some of the discharge from Outfall 024 into a UIC well.

4. DESCRIPTION OF RECEIVING WATER

Outfall 024 discharges directly into Coyote Wash, which is a tributary of the White River. Ten dewatering outfalls and the process wastewater lagoon outfall (Outfall 037) flow into unnamed dry washes that eventually discharge to Coyote Wash. One outfall is located on an unnamed dry wash that discharges into the White River (Figure 1). The White River is a tributary of the Green River, which is a tributary of the Colorado River. The White River is a perennial stream, and there is a USGS gage on the White River near the facility (USGS 09306500, White River near Watson, Utah) that reports a 7Q10 low flow of approximately 86 cubic feet per second (equivalent to 55.7 million gallons per day [mgd]) for the period 1951-2020. According to the previous statement of basis and clarified by local Bureau of Land Management (BLM) personnel, portions of Coyote Wash are perennial near the Gilsonite mine, and intermittent near the White River. The portion near the mine is likely perennial due to mine water discharge. Discharges from the mine into Coyote Wash usually dissipate into the ground before reaching the White River except in times of snowmelt or rain events. The low flow statistics for Coyote Wash are unknown. This area is in hydrologic unit code (HUC) 14050007 (Lower White). All discharge locations are dry much of the year (including Coyote Wash above Outfall 024) and thus have no dilution flow.

5. PERMIT HISTORY

This facility has been permitted by the NPDES program since at least 1977. EPA issued the facility's NPDES permit through 1983. From 1988 through 1998 (three permit cycles), the state of Utah was the permitting authority, and then EPA became the permitting authority again for the 2001 permit until present. The previous permit became effective on May 1, 2015 and was administratively continued on April 1, 2020.

5.1. Discharge Monitoring Report (DMR) Data

Most outfalls at the facility are intermittent discharges. Outfalls 002, 003, 010, 015, 016, 020, 023, 028, 030, 032, 033, 034, and 035 did not discharge during the previous permit cycle (May 2015 to July 2020). Note that seven of the outfalls listed above are being removed from this permit renewal at the request of the Permittee. Outfalls 013, 017, and 029 only reported discharge during one quarter of the previous permit cycle, and Outfall 001 reported discharge during two consecutive quarters of the previous permit cycle (Outfall 001 is also being removed from this permit renewal). Outfalls 024, 031, and 036 reported more or less continuous discharge during the previous permit cycle.

The facility's DMR data is summarized in Table 2. During the previous permit cycle (May 2015 to July 2020), the facility reported 12 violations of the 7-day average TSS limits (Outfalls 013 [1 violation], 031 [4 violations]), and 036 [7 violations]), 10 violations of the 30-day average TSS limits (Outfalls 031 [4 violations]), and 036 [6 violations]) and five violations of the pH upper limit of 9.0 (Outfalls 024 [1 violation], 029 [1 violation], and 031 [3 violations]).

During the same permitting cycle, the facility reported 21 violations of the TDS concentration limits (Outfalls 024 [18 violations], 029 [1 violation]), and 031 [2 violations]), and has been out of compliance for the entire period of record on their sum-of-all-outfalls rolling average TDS loading limit, with the exception of the most recent reporting (as of June 2020). Due to significant engineering changes made to Outfall 024 in 2019, this rolling average TDS loading limit is expected to remain in compliance moving forward. These changes to their discharge (via the UIC well) are discussed further in section 3.2.

Table 2. Summary of the AGC Bonanza Mine DMR Data (March 2015 – July 2020) for all outfalls from EPA's Integrated Compliance Information System (ICIS) database (data accessed 7/29/20)

Parameter	Permit Limit(s)	Reported Average	Reported Range	Number of Data Points	Number of Violations
Flow, mgd	-	0.523	0 – 0.89	132	-
TSS, mg/L	25/35 a/	16.1/17.7	0 – 153 (both)	65 (both)	12/10
TDS, mg/L	3,500	3,070	1,410 – 9,720	65	21
TDS Annual Loading, rolling average, tons/year (sum of all outfalls)	1,281	3,188	512 – 4,381	21	20

Parameter	Permit Limit(s)	Reported Average	Reported Range	Number of Data Points	Number of Violations
pH, standard units	6.5-9.0 b/	8.82 c/	6.51 – 9.63	130	5
Oil & Grease, mg/L	10	0	No detections	61	0
Oil and Grease, visible observation of sheen	No visible sheen allowed	-	No visible sheen observed	64	0

a/ There are two permit limits for TSS – a 30-day average and a 7-day average. The table uses the format 30-day/7-day.
b/ Limitation is a range, pH shall not to be less than 6.5 nor greater than 9.0 standard units at any time.
c/ Median reported pH.

5.2. Other Facility History

The previous permit required an Intercepted Groundwater Report (section 1.4 of the previous permit) to justify the continuance of the limitation of 3.5 tons of TDS being discharged per day from the facility (although the facility was out of compliance and discharging approximately 15 tons TDS per day at the time). This limit is further described in section 6.2.1, but was based on a 1997 study provided by AGC to the state of Utah. Despite a search by the Permittee and the permitting authority during the previous permit term, this 1997 study was no longer available, thus there was the need for a new study to be performed. The new study was submitted to EPA on June 1, 2015 and documented the area's topology, geography, hydrology, plans to substantially reduce or eliminate salt discharges, and the expected hydrologic impacts of reduced discharge. The new study also identified underground injection of highly saline discharge water as the preferred alternative to treatment and discharge.

An Administrative Order on Consent (Consent Order) was entered into between EPA and AGC in July of 2015 (Docket No. CWA-08-2015-0019). Through this Consent Order, AGC agreed to identify and implement necessary actions to correct deficiencies and comply with the 2015 permit. These deficiencies were primarily related to high TDS discharges.

To address the issues discussed above, AGC applied for a permit for an underground injection control system (permit number UT-52338-00000), which was issued in July 2016. The facility constructed this system and began injecting in 2019. This underground injection system is used to inject high salinity water from mines E-34 and E-33 into the Birds' Nest aquifer. This injection system has helped AGC come into compliance with the TDS and salinity load limits in the permit.

During the previous permitting cycle, the site was inspected by EPA in June of 2017. Inspection findings include permit violations of pH, TSS, and TDS (see section 5.1), other reporting findings, missing BMP controls, and issues with the stormwater pollution prevention plan management. These findings are further addressed in this statement of basis.

6. PROPOSED PERMIT LIMITATIONS

6.1. Technology Based Effluent Limitations (TBELs)

6.1.1. Federal TBELs

This facility is categorized as an asphaltic mining facility and falls under Federal Effluent Limitations Guidelines in 40 CFR Part 436, Subpart F – Asphaltic Mineral Subcategory. The provisions of this subpart are applicable to the processing of bituminous limestone, oil-impregnated diatomite, and oilsonite not primarily as an energy source. The development document for the federal effluent limit guidelines mentions "bituminous limestone, oil-impregnated diatomite, and gilsonite," and in fact used this facility as the basis for effluent limitation development. The development document does not mention "oilsonite," and it is believed that this is a typo in the 1975 Federal Register and 40 CFR 436. Section 436.62 contains the following best practical control technology (BPT) requirements:

> (a) Subject to the provisions of the following paragraphs of this section, there shall be no discharge of process generated wastewater pollutants into navigable waters.
>
> (b) Only that volume of water resulting from precipitation that exceeds the maximum safe surge capacity of a process wastewater impoundment may be discharged from that impoundment. The height difference between the maximum safe surge capacity level and the normal operating level must be greater than the inches of rain representing the 10-year, 24-hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration for the locality in which such impoundment is located.

According to the NOAA Precipitation Frequency Data Server, which was accessed on October 1, 2020, the 10-year, 24-hour rainfall total for this location is approximately 1.46 inches. Therefore, the facility's process wastewater/stormwater lagoon must have the capacity to store the runoff associated with a 1.46-inch rainfall event.

6.2. Water Quality Based Effluent Limitations (WQBELs)

The dewatering operation discharges into dry washes which in turn discharge to either Coyote Wash or the White River (except for Outfall 024 which discharges directly to Coyote Wash). The process wastewater lagoon discharges to an unnamed tributary of Coyote Wash. A general description of the receiving waters can be found in section 4. The receiving waters are all within the Uintah & Ouray Reservation and do not reach state of Utah waters for over 100 miles downstream (after the White River joins the Green River). Therefore, state of Utah water quality standards are not considered here.

The Ute Indian Tribe does not have EPA-approved water quality standards, nor did they have any tribally-adopted water quality standards or regulations at the time of permit issuance. The Permit

contains a re-opener provision if EPA-approved water quality standards are developed at a future date.

In the absence of applicable Ute Indian Tribe water quality standards, EPA considered the following additional sources for potential water quality-based effluent limits.

6.2.1. Colorado River Basin Salinity Control Act

Salinity impacts are a major concern in the Colorado River watershed. In 1974, in coordination with the Department of the Interior and the U.S. State Department, Congress passed the Colorado River Basin Salinity Control Act. The goal of this Act is to decrease salt loading in the Colorado River. This Act establishes salinity guidelines for point sources discharging into the Colorado River watershed.

Per this Act, industrial users may not discharge more than one ton per day (or 366 tons per year – the policy allows for either a daily or annual loading limit) of TDS to the Colorado River watershed. However, there are variances that can be applied to these criteria based on cost and the connectivity to intercepted groundwater. EPA issued a permit to AGC on June 9, 1983 which provided a two ton/day limit for TDS. This limit was based on a January 28, 1978 report from AGC which summarized all existing discharges from the Bonanza Mine at 654 tons/year equating to 1.8 tons/day.

In 1997, the Permittee conducted a groundwater study of the discharge pursuant to the Colorado River Basin Salinity Control Forum guidelines and requested a TDS increase from the two tons per day limit to 3.5 tons per day limit. At the time, the state of Utah was the permitting authority, and this request was granted by the state of Utah in the renewal permit issued on December 10, 1997. Despite a thorough search in subsequent permitting cycles by the Permittee, the state of Utah, and EPA, this 1997 groundwater study was no longer able to be located.

The 3.5 tons/day load limit was converted to a 1,281 tons/year load limit in the previous permit. This is in line with the Colorado River Basin Salinity Control Forum policy and is easier to track with monthly or quarterly monitoring. The annual loading limit is calculated as a rolling annual average and is reported quarterly. The Permittee was in violation of this limit through much of the current permit cycle, discharging approximately 4,500 tons/year annual load. However, in 2019 the Permittee installed a UIC well and is now discharging some of the high salinity wastewater to the well. At the time of development of this statement of basis, the Permittee's rolling TDS annual average was in compliance with Permit limits.

6.2.2. EPA Recommended Water Quality Criteria for Aquatic Life

EPA Quality Criteria for Water (1986) provides basic guidance on the kind and extent of all identifiable effects on the health and welfare of aquatic life which may be expected from the presence of pollutants in water. This guidance addresses several pollutants which are relevant to this facility. It recommends a pH range of 6.5 to 9.0 for freshwater aquatic life. It provides narrative statements on the harmful effects of oil and grease. It also reports dissolved oxygen (DO) values for warmwater aquatic life criteria that range from 3.0 to 6.0 mg/L as suggested minimum values. Specifically, in areas where early life stages may not be present, it recommends an instantaneous minimum value of 3.0 mg/L DO, and a 30-day average value of 5.5 mg/L DO.

6.2.3. Total Maximum Daily Loads (TMDLs)

Section 303(d) of the Clean Water Act authorizes EPA to assist states, territories and authorized tribes in listing impaired waters and developing Total Maximum Daily Loads (TMDLs) for these waterbodies. A TMDL establishes the maximum amount of a pollutant allowed in a waterbody and serves as the starting point or planning tool for restoring water quality. Currently, there are no 303(d) listings for impairment nor developed TMDLs on the Uintah & Ouray Reservation. The Permit contains a re-opener provision if a TMDL is developed at a future date.

6.3. Justifications and Reasonable Potential Determinations for Final Effluent Limitations and Monitoring Requirements

6.3.1. Total Suspended Solids (TSS)

The existing TSS limits of 25 mg/L monthly average and 35 mg/L weekly average were included in the Permit when it was issued by the Utah Division of Environmental Quality and are based on Utah secondary treatment standards defined in the Utah Wastewater Disposal Regulations (*UAC R317-1-3.2.B*). These are typically applied to sanitary wastewater treatment facilities and not industrial activities such as ore mining and it is not clear why these were originally applied to this facility. However, these effluent limitations were retained when EPA became the permitting authority due to "anti-backsliding" regulations, and because implementing some type of TBEL for TSS is consistent with the permitting approach used for other industrial and mining point source dischargers in EPA Region 8.

6.3.2. Temperature

An effluent limit for temperature is not included in this Permit. The Ute Indian Tribe does not currently have any temperature water quality standards. Additionally, this Permit discharges groundwater which is typically cooler than ambient surface temperatures in the summer and warmer than ambient surface temperatures in the winter, thereby moderating surface water temperatures year-round.

6.3.3. TDS

This Permit contains a daily maximum effluent limit of 3,500 mg/L TDS for all outfalls. This limit was included as far back as 1983 and was a production-based limit. It is not clear what this production-based limit was originally based on. Regardless, this effluent limit is retained in the Permit due to "anti-backsliding" regulations, and because this limit helps ensure compliance with the salinity loading effluent limitations.

6.3.4. Salinity Loading

This Permit contains an effluent limit of 1,281 tons of salt per year (equivalent to 3.5 tons of salt per day), measured as TDS. This limit was included in the permit issued in 1997 and was based on an intercepted groundwater study. Although that original study can no longer be found, the Permittee submitted a study in 2015 that generally meets the requirements in the *Policy for Implementation of Colorado River Salinity Standards Through the NPDES Permit Program for Intercepted Ground Water.* Therefore, the current load limit is being retained in the Permit. This

decision will be re-evaluated in five years to determine if the requirements for waiving the one ton per day limitation consistent with the aforementioned policy continue to be met.

6.3.5. pH

A pH range limit of 6.5-9.0 was included in previous permits, and was originally based on Utah water quality standards. This pH range is equivalent to EPA's national recommended freshwater aquatic life pH criteria and will be retained in the Permit.

6.3.6. Oil & Grease

An oil and grease limit was included in the previous permit and will be retained in this Permit. There are no specific dewatering Effluent Limit Guidelines (ELGs) developed for concentration limitations on oil and grease. However, EPA's 1986 recommended aquatic life criteria recommends that "surface waters shall be virtually free" from floating oils of petroleum origin, as "floating sheens of such oils result in deleterious environmental effects." EPA Region 8 has developed a protocol to implement the 1986 criteria in tribal permits using a dual approach: frequent visual observations of the discharge looking for a visible sheen or floating oil, and when either of those is observed, a sample must be immediately taken and analyzed for oil and grease with an effluent limitation of 10 mg/L.

6.3.7. Dissolved Oxygen (DO)

In 2017, the Utah Department of Environmental Quality reported a concern to EPA regarding DO in Coyote Wash. They reported that on October 24, 2016, BLM measured a DO concentration of 0.21 mg/L in Coyote Wash approximately one mile downstream of where Outfall 024 discharges to the stream. BLM continued sampling this location through 2019, and approximately one third of their DO measurements fell below EPA's instantaneous minimum recommended aquatic life criteria for warmwater fish of 3.0 mg/L (see section 6.2.2). Table 1 of EPA's 1986 water quality criteria lists recommended dissolved oxygen levels for warmwater "other life stages" criteria, which consist of a 30-day average of 5.5 mg/L DO or more, and an instantaneous minimum of 3.0 mg/L DO. The DO levels measured in Coyote Wash by BLM indicate that it is unlikely to support aquatic life, including fish, macroinvertebrates, fungi, and aerobic bacteria.

Since groundwater is typically low in DO, it is possible that the low DO in the stream may be the result of groundwater dewatering discharge from AGC. In early 2021, AGC collected some preliminary DO data from several outfalls, which indicate that the groundwater in their mines is typically around 1.0 mg/L DO before any treatment. Since Coyote Wash at this location is effluent dominated by Outfall 024, there is reasonable potential for AGC discharges to impact the DO recommended water quality criteria in Coyote Wash.

Many of the facility's outfalls are intermittent or infrequent dischargers (see section 5.1) and discharge to dry sand washes. The discharges at these outfalls are not considered to have reasonable potential to affect any downstream dissolved oxygen criteria. However, Outfall 024 discharges continuously to Coyote Wash, and Outfalls 031 and 036 discharge continuously to a dry wash and combine shortly downstream into one discharge. This combined discharge has the potential to regularly reach Coyote Wash as surface flow. DO is a potential pollutant of concern at these three outfalls.

The facility provided preliminary DO data for all three of these outfalls. Outfalls 031 and 036 are higher up on a hill with greater vertical drop, and preliminary data show that the effluent is quickly re-aerated as it flows down the outfall dissipation rock structure from the pipe at either outfall. At Outfall 031, nine measurements (seven colorimetric; two with a meter) at the bottom of the outfall structure show DO measurements ranging from 4.9 to 7 mg/L DO. At Outfall 036, three measurements at the bottom of the outfall structure show DO measurements ranging from 5.8 to 6.1 mg/L DO. For these outfalls, monitoring only will be required in the Permit to verify that the effluent is meeting recommended water quality criteria for DO. The data for Outfall 024 shows that the discharge water quality is remaining around 1 mg/L DO (Outfall 024 is in a relatively flat area and does not have significant vertical drop or travel distance to help re-aerate the water). Due to this, DO effluent limitations will be implemented at this outfall and the facility must ensure that this effluent meets the recommended water quality criteria.

To allow for some natural re-aeration as the water flows down any rock outfall structures, the sampling and compliance point for DO will be at the bottom of any of these manmade or natural rock outfall structures as long as:

1. The location is representative of the discharge per 40 CFR 122.41(j)(1);
2. Sampling occurs prior to any mixing or dilution with the receiving water;
3. Sampling occurs within one hundred (100) feet of the pipe outfall; and
4. The outfall does not discharge directly to Coyote Wash. Any outfall that discharges directly to Coyote Wash (e.g., Outfall 024) must use the end-of-pipe as the sampling and compliance point.

6.3.8. Whole Effluent Toxicity (WET) Monitoring

Discharge data from this dewatering operation indicates that the source water is chemically consistent. Furthermore, with the exception of pH adjustments using sulfuric acid, there are no chemicals used during the treatment process. Finally, with the exception of Outfall 024, all facility discharges are located in stream channels that are dry most of the year. Outfall 024 has been given DO effluent limits to ensure that aquatic life will be further protected at that particular outfall. For these reasons, EPA believes the chemical-specific effluent limitations are sufficient to attain and maintain any applicable water quality criteria and prevent toxicity in the receiving water. Therefore, WET effluent limitations and monitoring will not be required. The Permit contains a re-opener provision if the need for WET effluent limitations or monitoring is determined at a future date.

6.3.9. No Discharge of Sanitary Wastewater or Contact Cooling Water

The process plant has a sanitary wastewater lagoon (lagoon cell 1 in Figure 2). This lagoon does not have a permitted outfall, and the Permit does not authorize the facility to discharge sanitary wastewater.

The previous permit contained a prohibition for discharging contact cooling water. The facility does not use cooling water and it is unclear why this provision was included. However, to avoid any “anti-backsliding” concerns, this provision will remain in the Permit.

6.3.10.No Discharge of Process Wastewater Except During Extreme Precipitation Events

The process plant has a process wastewater/stormwater lagoon (lagoon cell 2 in Figure 2). Federal effluent limitation guidelines prohibit the discharge of process wastewater under normal operating conditions; therefore the facility cannot discharge from this lagoon, except during a 10-year, 24-hour precipitation event or greater, as allowed in 40 CFR Part 436.62 (see section 6.1.1). According to the NOAA Precipitation Frequency Data Server, which was accessed on October 1, 2020, the 10-year, 24-hour rainfall total for this location is approximately 1.46 inches. Therefore, the facility must have the capacity to store the runoff associated with a 1.46-inch rainfall event.

The Permittee provided information which shows that the process wastewater/stormwater lagoon has enough freeboard to contain the 10-year, 24-hour precipitation event without discharging. According to the Permittee, the lagoon is 4.0 million gallons in volume and is typically no more than six to twelve inches full during normal operations – this represents less than ten percent of total capacity. Aerial photography available on Google Earth support this statement; in the photo (dated 6/17/2015), only a small corner of the lagoon has standing water; the rest is empty. Therefore, at any given time the lagoon has the capacity to hold well over 3 million gallons from a runoff event.

According to the Permittee, the area draining to the process wastewater/stormwater lagoon is approximately 31 acres. A simple SCS Curve Number analysis using a curve number of 89 (associated with an industrial area with relatively sandy soils) shows that the lagoon could likely hold runoff associated with a four to five inch precipitation event without discharging. To put it another way, if the entire contributing 31 acres was impervious - and therefore all 1.46 inches of rainfall was delivered to the lagoon - it would still only equate to approximately 1.25 million gallons of water. Additional narrative factors also support this conclusion - the native soils are very sandy, infiltration rates are high, and the facility has not discharged from this lagoon since it began operating in the 1970s. Together, this information indicates that the lagoon is adequately sized to hold the runoff associated with a 10-year, 24-hour precipitation event without discharging.

In the event that a discharge occurs from this lagoon, effluent limitations and monitoring requirements apply to Outfall 037 (Tables 4 and 6). Water-quality based effluent limits discussed in this section will apply, with the exception of DO. Rainfall is high in DO and does not pose a concern for low DO values. The Permittee will be required to monitor discharge from Outfall 037 for the same parameters associated with the dewatering outfalls (including DO). In addition, the Permittee is required to report the precipitation event date and magnitude, and an estimate of the total volume of the discharge.

6.4. Final Effluent Limitations

Applicable technology based and water quality based effluent limits were compared and the most stringent of the two was selected for the following effluent limits (Tables 3 and 4). All effluent limits are at end-of-pipe or end of outfall structure.

Table 3. Effluent Limitations for Outfalls 010, 013, 016, 017, 024, 029, 030, 031, 032, 033, 034, and 036

Characteristic	30-Day Average a/	7-Day Average a/	Daily Maximum a/	Instantaneous Minimum a/	Limit Basis
Flow, mgd	report only	n/a	report only	n/a	-
TSS, mg/L	25	35	n/a	n/a	PP/PJ
Oil and Grease, mg/L	n/a	n/a	10	n/a	RWQC/ EPA Policy
TDS, mg/L	n/a	n/a	3,500	n/a	PP/PJ
Dissolved Oxygen (DO), mg/L	5.5 b/	n/a	n/a	3.0 b/	RWQC
pH	Shall not be less than 6.5 nor greater than 9.0 at any time.				RWQC
TDS Load, tons/year	The TDS load from the sum of all outfalls shall not be greater than 1,281 tons/year				CRBSCF
Process water	There shall be **no** discharge of process generated wastewater pollutants or contact cooling water.				TBEL/PP/ PJ
Sanitary wastewater	There shall be **no** discharge of sanitary wastewater.				ND
Visible sheen	There shall not be any visible sheen in the receiving water or adjoining shoreline.				RWQC/ EPA Policy

PP/PJ: Previous Permit and Professional Judgment, TBEL: Technology-based effluent limit, RWQC: EPA's 1986 Recommended Water Quality Criteria, ND: the sanitary wastewater lagoon is non-discharging.

a/ See section 1 of the Permit for definition of terms.

b/ Dissolved oxygen (DO) effluent limitations only apply to **Outfall 024**.

Table 4. Effluent Limitations for Outfall 037

Characteristic	30-Day Average a/	7-Day Average a/	Daily Maximum a/	Instantaneous Minimum a/	Limit Basis
Discharge Volume Total, million gallons b/	n/a	n/a	report only	n/a	-
Date, dd/mm/yyyy	n/a	n/a	report only	n/a	-
Rainfall Total, inches	n/a	n/a	report only	n/a	-
TSS, mg/L	n/a	n/a	report only	n/a	-
Oil and Grease, mg/L	n/a	n/a	10	n/a	RWQC/ EPA Policy
TDS, mg/L	n/a	n/a	report only	n/a	-
Dissolved Oxygen, mg/L	n/a	n/a	report only	n/a	-
pH	Shall not be less than 6.5 nor greater than 9.0 at any time.				RWQC
Sanitary wastewater	There shall be **no** discharge of sanitary wastewater.				ND
Visible sheen	There shall not be any visible sheen in the receiving water or adjoining shoreline.				RWQC/ EPA Policy

RWQC: EPA's 1986 Recommended Water Quality Criteria, ND: the sanitary wastewater lagoon is non-discharging.

a/ See section 1 of the Permit for definition of terms.

b/ Only that volume of water resulting from greater than a 10-year, 24-hour rainfall event may be discharged from the process wastewater/stormwater lagoon. The 10-year, 24-hour rainfall event is established by the National Climatic Center, National Oceanic and Atmospheric Administration and for the facility is defined as 1.46 inches of rainfall within 24 hours.

6.5. Antidegradation

Discharges from the facility are existing, and no changes to effluent quality or quantity are proposed. No exceedances of numeric or narrative standards are allowed in the Permit. Therefore, an increased water quality impact will not occur and no further antidegradation review is required.

6.6. Anti-Backsliding

Federal regulations require at 40 CFR Part 122.44(l)(1) that "when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit were based have materially and substantially changed since the time the Permit was issued and would constitute cause for permit modification or revocation and reissuance under 40 CFR Part 122.62)."

This permit renewal complies with anti-backsliding regulatory requirements. All effluent limitations, standards, and conditions in the Permit are either equal to or more stringent than those in the previous permit (see section 2).

7. MONITORING REQUIREMENTS

The following parameters shall be monitored during discharge from the dewatering operation (Tables 5 and 6). If no discharge occurs during a monitoring period, "no discharge" shall be indicated on the DMR. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, as required in 40 CFR Part 122.41(j).

Effluent monitoring samples shall be taken at the appropriate outfall. The effluent sampling location shall be after all treatment processes but prior to discharge to the receiving water. The monitoring point for DO will be at the bottom of any manmade or natural rock outfall structures rather than the discharge pipe as long as:

(1) The location is representative of the discharge per 40 CFR 122.41(j)(1);
(2) Sampling occurs prior to <u>any</u> mixing or dilution with the receiving water;
(3) Sampling occurs within one hundred (100) feet of the pipe outfall.
(4) The outfall does not discharge directly to Coyote Wash. Any outfall that discharges directly to Coyote Wash (e.g., Outfall 024) must use the end-of-pipe as the sampling and compliance point.

Table 5. Monitoring and Reporting Requirements for Outfalls 010, 013, 016, 017, 024, 029, 030, 031, 032, 033, 034, and 036

Effluent Characteristic	Monitoring Frequency	Sample Type a/	Data Type a/
Flow, million gallons per day (mgd)	Monthly b/	Instantaneous	Daily Maximum 30-Day Average
TSS, mg/L	Monthly c/	Grab	30-Day Average 7-Day Average
Oil and Grease, visual	Weekly	Visual d/	Present/Not Present
pH, s.u.	Weekly e/	Grab	Instantaneous Minimum Instantaneous Maximum
Dissolved Oxygen (DO), mg/L f/	Monthly g/	Grab	Instantaneous Minimum 30-Day Average
TDS, mg/L	Monthly h/	Grab	Daily Maximum 30-Day Average
TDS Load, tons/year	Quarterly i/	Calculation	Rolling Annual Average

a/ See section 1 of the Permit for definitions 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. The average flow rate and the daily maximum flow (maximum volume discharged during a 24-hour period) observed during the reporting period shall be reported in million gallons per day.

c/ The average monthly value and highest average weekly value shall be reported for each month in the quarterly reporting period.

d/ For visual observations, report "Yes" or "1" if the parameter was detected during the reporting period; report "No" or "0" if the parameter was not detected during the reporting period. If a visible sheen or floating oil is detected or observed in the discharge, a grab sample shall be taken immediately, analyzed and recorded in accordance with the requirements of 40 CFR Part 136.

e/ The maximum and minimum pH shall be reported for each month in the quarterly reporting period.

f/ Monitoring requirements for dissolved oxygen only apply to **Outfalls 024, 031, and 036**.

g/ The average monthly value and the instantaneous minimum shall be reported for each month in the quarterly reporting period.

h/ The average monthly value and the daily maximum shall be reported for each month in the quarterly reporting period.

i/ The reported value for this parameter is the total mass of dissolved solids discharged by this facility per year. This value is reported once per quarter and is based on a rolling annual average (i.e., the last 12 months of data). This parameter can be calculated by taking the sum of the products of total dissolved solids (TDS, in mg/L) and average monthly flow (AMF, in mgd) *for each outfall and each month*, and converting to tons/year using both equations below. If more than one TDS sample is collected from an outfall during a month, the TDS results shall be averaged for that month.

(1) Rolling Annual TDS Load (tons/year) = sum of the past 12 months of Monthly TDS Load

(2) Monthly TDS Load (tons/month) = 0.125 x [$TDS_{outfall010}$ x $AMF_{outfall010}$ + $TDS_{outfall013}$ x $AMF_{outfall013}$ + $TDS_{outfall016}$ x $AMF_{outfall016}$ +…(the other outfalls)…+ $TDS_{outfall036}$ x $AMF_{outfall036}$]

Table 6. Monitoring and Reporting Requirements for Outfall 037

Effluent Characteristic	Monitoring Frequency	Sample Type a/	Data Type a/
Discharge Volume, million gallons b/	Once per discharge	Calculation	Discharge Total
Date, mm/dd/yyyy c/	Once per discharge	Calculation	Date
Rainfall Total, inches d/	Once per discharge	Calculation	Rainfall Total
TSS, mg/L	Once per discharge	Grab	Observed Value
Oil and Grease, visual e/	Once per discharge	Visual	Present/Not Present
pH, s.u.	Once per discharge	Grab	Observed Value
Dissolved Oxygen (DO), mg/L	Once per discharge	Grab	Observed Value
TDS, mg/L	Once per discharge	Grab	Observed Value

a/ See section 1 of the Permit for definitions of terms.
b/ Total volumetric discharge estimates shall be made in such a manner that the Permittee can affirmatively demonstrate that representative values are being obtained.
c/ Report the date on which the discharge event began.
d/ Report data from the nearest NOAA rain gage or a calibrated local rain gage.
e/ For visual observations, report "Yes" or "1" if the parameter was detected during the reporting period; report "No" or "0" if the parameter was not detected during the reporting period. If a visible sheen or floating oil is detected or observed in the discharge, a grab sample shall be taken immediately, analyzed and recorded in accordance with the requirements of 40 CFR Part 136.

8. SPECIAL CONDITIONS IN PERMIT

8.1. Operating BMPs

The Permittee uses chemical and engineering controls to achieve TSS and pH effluent limitations. They have had several violations of these effluent limits (see section 5.1). To assist in meeting these effluent limitations, multiple BMPs related to TSS and pH management have been added to the Permit in section 5.1, as allowed in 40 CFR Part 122.44(k)(4).

8.2. Stormwater Requirements

The previous permit contained a requirement to develop and implement a SWPPP. The SWPPP is a written assessment of potential sources of pollutants in stormwater runoff and control measures that

will be implemented to minimize the discharge of these pollutants in runoff from this facility. In this Permit, the SWPPP requirements have been updated to better align with the SWPPP requirements in EPA's 2021 Multi-Sector General Permit. The updated SWPPP requirements have been added to section 5.2 of the Permit.

9. REPORTING REQUIREMENTS

On December 21, 2015, the NPDES Electronic Reporting Rule (40 CFR Part 127) went into effect. This rule includes two phases. Phase 1 included the requirement that by no later than December 21, 2016, entities that are required to submit DMRs must do so electronically unless a waiver from electronic reporting is granted to the entity. Phase 2 includes the requirement that by no later than December 21, 2025, or as otherwise specified in 40 CFR Part 127, other specified reporting must be done electronically.

With the effective date of the Permit, the Permittee must electronically report DMRs on a quarterly frequency using NetDMR. Electronic submissions by permittees must be submitted to EPA Region 8 no later than the 28th of the month following the completed reporting period (Table 7). The Permittee must sign and certify all electronic submissions in accordance with the signatory requirements of the Permit. NetDMR is accessed from the internet at https://netdmr.zendesk.com/home.

The reports that are to be submitted electronically after December 21, 2025, or as otherwise specified in 40 CFR Part 127, are to be submitted using the NPDES Electronic Reporting Tool (NeT). The instructions on how to use NeT are not yet available. In the future, the Permittee will receive instructions on how to use NeT. Until then, the Permittee shall continue to submit these reports in paper format by mailing them to the specified addresses.

Table 7. Due Dates for Quarterly DMR Submittals

Compliance Monitoring Period	**Due Date**
January – March	April 28
April – June	July 28
July – September	October 28
October – December	January 28

10. OPERATIONS AND MAINTENANCE REQUIREMENTS

40 CFR Part 122.41(e) requires permittees to properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this Permit. To ensure this, the Permit will require an operation and maintenance plan and regular facility inspections, both of which are important aspects of proper operation and maintenance. Regular facility inspections and a working operation and maintenance plan allow the Permittee to observe and identify any operational deficiencies, and provides a framework to address

those deficiencies. These requirements have been established in section 7.6 of the Permit to help ensure compliance with the provisions of 40 CFR Part 122.41(e).

11. ENDANGERED SPECIES CONSIDERATIONS

The Endangered Species Act (ESA) of 1973 requires all Federal Agencies to ensure, in consultation with the U.S. Fish and Wildlife Service (FWS), that any Federal action carried out by the Agency is not likely to jeopardize the continued existence of any endangered species or threatened species (together, "listed" species), or result in the adverse modification or destruction of habitat of such species that is designated by the FWS as critical ("critical habitat"). See 16 U.S.C. § 1536(a)(2), 50 CFR Part 402. When a Federal agency's action "may affect" a protected species, that agency is required to consult with the FWS, depending upon the endangered species, threatened species, or designated critical habitat that may be affected by the action (50 CFR Part 402.14(a)).

The U. S. Fish and Wildlife Information for Planning and Conservation (IPaC) website program was accessed on February 1, 2021 to determine federally-listed Endangered, Threatened, Proposed and Candidate Species that may be present in the portion of Uintah County, Utah near the Bonanza Mine (Table 8).

Table 8. Potentially Affected Listed Species at this Location

Species	**Scientific Name**	**Status**
Black-footed ferret	*Mustela nigripes*	Experimental
Yellow-billed cuckoo	*Coccyzus americanus*	Threatened
Mexican spotted owl	*Strix occidentalis lucida*	Threatened
Bonytail	*Gila elegans*	Endangered
Colorado Pikeminnow	*Ptychocheilus lucius*	Endangered
Humpback Chub	*Gila cypha*	Endangered
Razorback Sucker	*Xyrauchen texanus*	Endangered
Ute ladies'-tresses	*Spiranthes diluvialis*	Threatened
Uintah Basin Hookless Cactus	*Sclerocactus wetlandicus*	Threatened

Additionally, IPaC determined there is critical habitat at or near this location for the Colorado pikeminnow.

11.1. Biological Evaluations and Conclusions

Biological evaluations of the potential effects of the proposed action on the nine listed species and their critical habitat are provided below. These biological evaluations are based on information obtained from the IPaC site and knowledge regarding the proposed action.

The proposed action is reissuance of this NPDES permit, which authorizes discharge to Coyote Wash, unnamed tributaries of Coyote Wash, and one unnamed tributary of the White River. This is a continuation of existing operating conditions; no significant changes to habitat, discharge volumes or water quality are planned or expected due to the reissuance of this Permit. Since this is primarily a dewatering permit, there is no consumptive use of groundwater or surface water; thus, neither water depletions nor incidental take will result from this Permit. Permit effluent limitations are generally protective of receiving water quality.

Black-footed ferret, *Mustela nigripes* – There is currently an experimental, non-essential population of black-footed ferrets in the area. No critical habitat has been designated for this species, and IPaC notes that consultation is only required on lands administered by the FWS or the National Park Service. The facility is not on lands administered by either agency. Regardless, the Permit does not authorize changes to habitat that supports this species, nor are discharges from the mine anticipated to affect this species. Based on this information, EPA has determined that the reissuance of the Permit will have **no effect** on this species.

Yellow-billed cuckoo, *Coccyzus americanus* – This species is currently listed as threatened. The facility location is outside the proposed critical habitat for this species. While it is possible that this species may inhabit the area, the Permit does not authorize changes to habitat that supports this species, nor are discharges from the mine anticipated to affect this species. Based on this information, EPA has determined that the reissuance of the Permit is **not likely to adversely affect** this species.

Mexican spotted owl, *Strix occidentalis lucida* – This species is currently listed as threatened. The facility location is outside the critical habitat for this species. Mexican spotted owls typically inhabit mature, old growth mixed forests and rocky canyonlands with minimal human disturbance. While it is possible that this species may inhabit the area, the Permit does not authorize changes to habitat that supports this species, nor are discharges from the mine anticipated to affect this species. Based on this information, EPA has determined that the reissuance of the Permit is **not likely to adversely affect** this species.

Bonytail, *Gila elegans* – This species is currently listed as endangered. The facility location is outside the critical habitat for this species. Bonytail are found almost solely in the Green River watershed, and prefer backwaters with rocky or muddy bottoms and flowing pools, although they have been reported in swiftly moving water. They are mostly restricted to rocky canyons today.

The mine discharges are to dry channels that rarely contain water. With the exception of Outfall 033, all mine outfalls are over ten miles from the White River and may not reach the White River as surface flow. Outfall 033 is in a dry wash approximately 2 miles upstream from the White River; however, this discharge is from an artificial evaporation pond at the mine site, and the pond only discharges when it becomes too full to store water. This is rare, and did not happen in the previous permit cycle. According to the Permittee, when discharge does occur at Outfall 033, the discharge is

at a very low rate of flow (40 to 60 gallons per minute, or approximately 0.07 mgd), which is significantly less than 1% of the 7Q10 low flow of the White River (see section 4).

While it is possible that the bonytail may inhabit the White River in this area, the Permit does not authorize direct discharges to the White River nor alterations to habitat that supports this species. There is no consumptive use of water so no water depletions occur due to this Permit. The discharged groundwater typically moderates surface water temperatures year-round (see section 6.3.2). The Permit limits discharges to groundwater only (i.e., no process wastewater), and pollutant concentrations allowed in the effluent – such as suspended solids, pH, and total dissolved solids – are generally protective of aquatic life (see section 6.3). Based on this information, EPA has determined that the reissuance of the Permit is **not likely to adversely affect** this species.

Colorado pikeminnow, *Ptychocheilus lucius* – This species is currently listed as endangered. The facility location overlaps the critical habitat for this species, which in this location is identified as the mainstem of the White River. Colorado pikeminnow spend their whole lives in medium to large rivers and can be found in the Green River watershed.

The mine discharges are to dry channels that rarely contain water. With the exception of Outfall 033, all mine outfalls are over ten miles from the White River and may not reach the White River as surface flow. Outfall 033 is in a dry wash approximately 2 miles upstream from the White River; however, this discharge is from an artificial evaporation pond at the mine site, and the pond only discharges when it becomes too full to store water. This is rare, and did not happen in the previous permit cycle. According to the Permittee, when discharge does occur at Outfall 033, the discharge is at a very low rate of flow (40 to 60 gallons per minute, or approximately 0.07 mgd), which is significantly less than 1% of the 7Q10 low flow of the White River (see section 4).

While it is possible that the Colorado pikeminnow may inhabit the White River in this area, the Permit does not authorize direct discharges to the White River nor alterations to habitat that supports this species. There is no consumptive use of water so no water depletions occur due to this Permit. The groundwater being discharged typically moderates surface water temperatures year-round (see section 6.3.2). The Permit limits discharges to groundwater only (i.e., no process wastewater), and pollutant concentrations allowed in the effluent – such as suspended solids, pH, and total dissolved solids – are generally protective of aquatic life (see section 6.3) and habitat associated with aquatic life. Based on this information, EPA has determined that the reissuance of the Permit is **not likely to adversely affect** this species.

Humpback chub, *Gila cypha* – This species is currently listed as endangered. No critical habitat has been designated for this species. The humpback chub is found in the White River. The humpback chub inhabits a variety of habitats ranging from pools to turbulent areas, substrates of silt, sand boulder, and bedrock, and depths ranging from 1 meter to as deep as 15 meters.

The mine discharges are to dry channels that rarely contain water. With the exception of Outfall 033, all mine outfalls are over ten miles from the White River and may not reach the White River as surface flow. Outfall 033 is in a dry wash approximately 2 miles upstream from the White River; however, this discharge is from an artificial evaporation pond at the mine site, and the pond only discharges when it becomes too full to store water. This is rare, and did not happen in the previous permit cycle. According to the Permittee, when discharge does occur at Outfall 033, the discharge is

at a very low rate of flow (40 to 60 gallons per minute, or approximately 0.07 mgd), which is significantly less than 1% of the 7Q10 low flow of the White River (see section 4).

While it is possible that the humpback chub may inhabit the White River in this area, the Permit does not authorize direct discharges to the White River nor alterations to habitat that supports this species. There is no consumptive use of water so no water depletions occur due to this Permit. The discharged groundwater typically moderates surface water temperatures year-round (see section 6.3.2). The Permit limits discharges to groundwater only (i.e., no process wastewater), and pollutant concentrations allowed in the effluent – such as suspended solids, pH, and total dissolved solids – are generally protective of aquatic life (see section 6.3). Based on this information, EPA has determined that the reissuance of the Permit is **not likely to adversely affect** this species.

Razorback sucker, *Xyrauchen texanus* – This species is currently listed as endangered. No critical habitat has been designated for this species. The razorback sucker can be found in the Green River watershed. Razorback suckers prefer to live over sand, mud, or gravel bottoms. They inhabit a diversity of habitats from mainstream channels to the backwaters of medium and large streams or rivers.

The mine discharges are to dry channels that rarely contain water. With the exception of Outfall 033, all mine outfalls are over ten miles from the White River and may not reach the White River as surface flow. Outfall 033 is in a dry wash approximately 2 miles upstream from the White River; however, this discharge is from an artificial evaporation pond at the mine site, and the pond only discharges when it becomes too full to store water. This is rare, and did not happen in the previous permit cycle. According to the Permittee, when discharge does occur at Outfall 033, the discharge is at a very low rate of flow (40 to 60 gallons per minute, or approximately 0.07 mgd), which is significantly less than 1% of the 7Q10 low flow of the White River (see section 4).

While it is possible that the razorback sucker may inhabit the White River in this area, the Permit does not authorize direct discharges to the White River nor alterations to habitat that supports this species. There is no consumptive use of water so no water depletions occur due to this Permit. The discharged groundwater typically moderates surface water temperatures year-round (see section 6.3.2). The Permit limits discharges to groundwater only (i.e., no process wastewater), and pollutant concentrations allowed in the effluent – such as suspended solids, pH, and total dissolved solids – are generally protective of aquatic life (see section 6.3). Based on this information, EPA has determined that the reissuance of the Permit is **not likely to adversely affect** this species.

Ute ladies'-tresses orchid, *Spiranthes diluvialis* – This species is currently listed as threatened. No critical habitat has been designated for this species. The Ute ladies'-tresses orchid typically occurs in riparian, wetland and seepy areas associated with old landscape features within historical floodplains of major rivers. They are also found in wetland and seepy areas near freshwater lakes or springs. While it is possible that this species may be found in the area, the Permit does not authorize changes to habitat that supports this species, nor are discharges from dewatering operations anticipated to affect it. Based on this information, EPA has determined that the reissuance of the Permit is **not likely to adversely affect** this species.

Uintah Basin Hookless Cactus, *Sclerocactus wetlandicus* – This species is currently listed as threatened. No critical habitat has been designated for this species. The Uintah Basin hookless cactus

is a small, barrel-shaped cactus. The Uinta Basin hookless cactus is generally found on coarse soils derived from cobble and gravel river and stream terrace deposits, or rocky surfaces on mesa slopes at 4,400 to 6,200 feet in elevation. While it is possible that this species may be found in the area, the Permit does not authorize changes to habitat that supports this species, nor are discharges from dewatering operations anticipated to affect it. Based on this information, EPA has determined that the reissuance of the Permit is **not likely to adversely affect** this species.

Per the *Endangered Species Consultation Handbook* and the *Memorandum of Agreement Between EPA, FWS, and National Marine Fisheries Service Regarding Enhanced Coordination Under the Clean Water Act and Endangered Species Act*, the "not likely to adversely affect" determination requires further consultation with the FWS.

12. NATIONAL HISTORIC PRESERVATION ACT REQUIREMENTS

Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470(f) requires that federal agencies consider the effects of federal undertakings on historic properties. The U.S. National Park Service National Register of Historic Places database was used to determine and evaluate resources of concern near the facility. No properties were found.

During public notice of the Permit, the Tribal Historic Preservation Office (THPO) will be notified as an interested party to ensure that historic properties are not negatively affected by the conditions of the Permit.

13. 401 CONDITIONS

EPA is the CWA Section 401 certifying authority for the Permit, because the Ute Indian Tribe has not received authorization to implement section 303(c) of the CWA. EPA has determined the Permit protects Tribal water quality requirements, so § 401 conditions are unnecessary. Regardless, EPA will solicit public comments on Section 401 conditions during the public comment period.

14. MISCELLANEOUS

The effective date and expiration date of the Permit will be determined upon issuance for a period not to exceed 5 years.

Permit drafted by Erik Makus, U.S. EPA, (406) 457-5017, January 2021.

ADDENDUM:

AGENCY CONSULTATIONS

On July 26, 2021, the FWS agreed with EPA's preliminary conclusion that the Permit reissuance is not likely to adversely affect listed species.

The Ute Indian THPO did not comment on EPA's preliminary determination that the Permit reissuance will not impact any historic properties.

At the time of permit reissuance, EPA was the Clean Water Act Section 401 certifying authority for the Permit, because the Ute Indian Tribe had not received authorization to implement section 303(c) of the Act. EPA solicitated comments for Section 401 certification requirements during the public notice comment period and did not receive any comments related to Section 401 certification. Upon addressing all comments received (if any) during the public notice comment period related to Section 401 certification requirements, the signing of the Permit shall constitute EPA's Section 401 certification.

PUBLIC NOTICE AND RESPONSE TO COMMENTS

The Permit and statement of basis, including the CWA section 401 certification, were public noticed in the *Vernal Express* and EPA's website on April 7, 2021. EPA received one public comment. The comment received and the response are provided below.

Comment: Jerrad Goodell, Bureau of Land Management

My only comment on this document is on Page 8 section 4 "Description of Receiving Water" It currently says "According to the previous statement of basis and verified by local Bureau of Land Management (BLM) personnel, Coyote Wash from Outfall 024 to its confluence with the White River is also perennial, although the low flow statistics are unknown."

I would like to clarify our discussion and say portions of Coyote Wash are perennial near the Gilsonite mine and intermittent near the White River. I believe the portion near the mine is only perennial due to mine water discharge. The flows in Coyote Wash near the mine usually dissipate into the ground before reaching the White River except in times of snowmelt or rain events.

EPA Response:

EPA misunderstood an earlier conversation with BLM. EPA has adjusted the language in section 4 of the Statement of Basis to reflect the corrected language above. This change does not have any bearing on any permit conditions included in the Permit.

No changes were made to the Permit; however, the language in Section 4 of the SoB has been modified.

ERRATA

During public notice, EPA noticed that formula (2) - below Table 4 in the Permit and Table 5 in the statement of basis - was more complex than necessary. The equation demonstrates how to calculate total salinity load using total gallons discharged per month (TVD) in units of million gallons per month. However, the permit requires reporting of average monthly flow rate (AMF) in units of million gallons per day. While these can be converted back and forth by multiplying AMF by 30 days/month, the goal of providing the formula was to make it simple to report the total salinity load using units already in use. Therefore, EPA has simplified the equation by plugging AMF into the equation instead of TVD and multiplying the entire equation by 30. The description above the formula was altered slightly as well to better describe the new version.

Formula (2) below Table 4 of the Permit and Table 5 of the statement of basis have been replaced with the following (changes are in **bold and red**):

Monthly TDS Load (tons/month) = **0.125** x [$TDS_{outfall010}$ x **$AMF_{outfall010}$** + $TDS_{outfall013}$ x **$AMF_{outfall013}$** + $TDS_{outfall016}$ x **$AMF_{outfall016}$** +…(all other outfalls)…+ $TDS_{outfall036}$ x **$AMF_{outfall036}$**]

During the finalization of the Permit, AGC informed EPA of two minor developments at the facility:

1. On April 15, 2021, AGC installed an acid injection system at Outfall 036 because they were experiencing pH violations at that outfall. Previously, acid injection systems were installed at Outfalls 024 and 031 only. Section 5.1.2 of the Permit includes BMP language that applies to acid injection controls and specifically lists Outfalls 024 and 031. EPA has added Outfall 036 to the listed outfalls under this BMP in the Permit. This does not affect any other portion of the Permit.

   Table 1 in the statement of basis has been modified to include pH controls as one of the "Treatment Processes" installed at Outfall 036. Section 5.1.2 of the Permit has been modified as follows:

   pH: Currently, pH adjustment with sulfuric acid is performed at Outfalls 024**~~, and~~** 031 **and 036** to control high pH in the discharge. BMPs for the pH adjustment process shall include…

2. On May 12, 2021, AGC requested to move Outfall 030 approximately 200 feet southeast of its current location. Since all requirements listed in their permit for moving an outfall were met, EPA grants this request and has updated the coordinates for Outfall 030 in Table 1 of the statement of basis and Table 1 of the Permit as follows:

   Old outfall coordinates: 40.03917 N, 109.23780 W
   New outfall coordinates: 40.03861 N, 109.23750 W