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Statement of Basis

PERMITTEE:	**American Gilsonite Company**
FACILITY:	**American Gilsonite Company - Cottonwood Mine**
PERMIT NO:	**UT-0025259**
RESPONSIBLE OFFICIAL:	Nicholas Lott General Manager American Gilsonite Company
CONTACT PERSON:	Nicholas Lott General Manager American Gilsonite Company 29950 South Bonanza Highway Bonanza, UT 84008 Office: 435-781-4552 Email: nlott@amgc.com
PERMIT TYPE:	Minor - Mine Dewatering (Renewal) Indian Country

Background Information

The American Gilsonite Company (AGC) mines, processes, packages and ships Gilsonite® from their Bonanza, Utah facility. Gilsonite®, is a registered trademark of American Gilsonite Company and is a non-hazardous, naturally occurring, hydrocarbon resin that is similar in appearance to coal or hard asphalt. It is mined underground by hand 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.

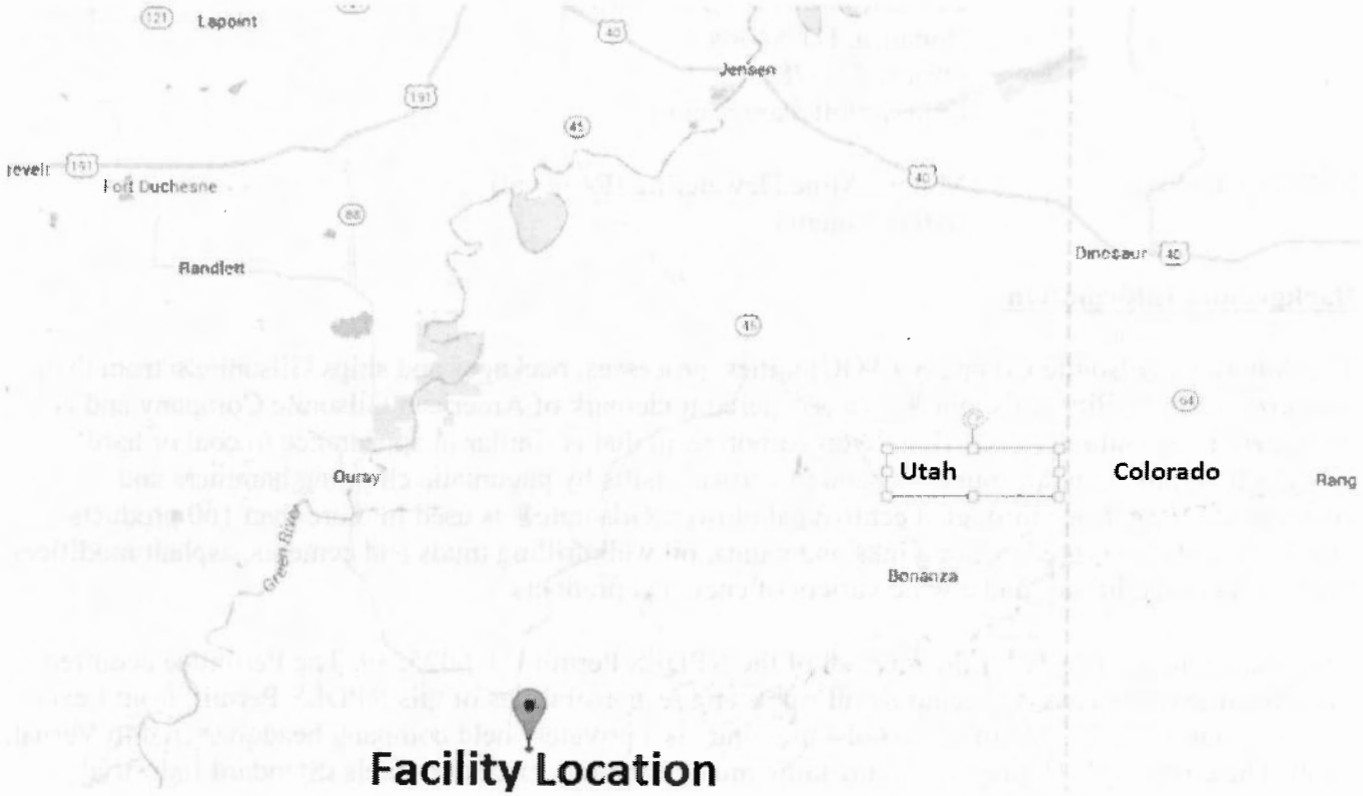
This statement of basis is for the renewal of the NPDES Permit UT-0025259. The Permittee acquired the Gilsonite related assets, including all rights and responsibilities of this NPDES Permit, from Lexco Inc. on August 12, 2009. American Gilsonite, Inc., is a privately held company headquartered in Vernal, Utah. The company's business is nonmetallic mineral mining, excluding fuels (Standard Industrial Classification (SIC) code 1499). The facility covered by this Permit is the company's Cottonwood mine, where Gilsonite is mined. The mine is located approximately 38 miles due south of Vernal, Utah, in the south 1/2 of Section 35, Township 10 South, Range 21 East in Uintah County, Utah. The approximate latitude and longitude of the mine site is 39.898056° N and 109.514722° W. This latitude and longitude is also the location of Outfall 002 authorized under this Permit. The facility is located entirely within the Uintah and Ouray Indian Reservation.

Gilsonite is a black, lustrous asphaltic mineral and is brittle. At the Cottonwood mine site, the Gilsonite vein is approximately 3 feet wide, has nearly a vertical dip, and a strike of approximately 20 degrees north of west. Although the Gilsonite vein extends to the surface, the current mining practice is to have a mine shaft go down vertically some distance before the mine is expanded horizontally along the vein in

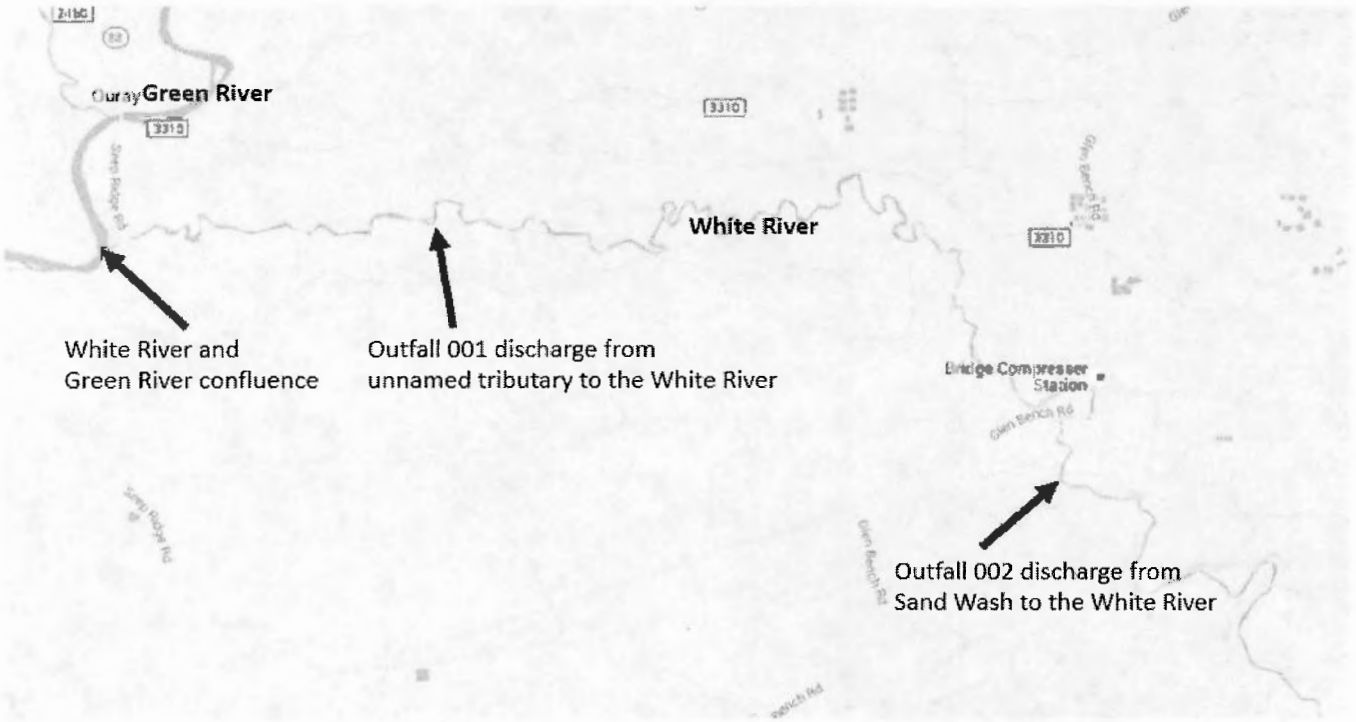
addition to going deeper. This reduces the amount of opening into the mine, with safety being a major consideration. Pneumatic tools are used to chip the ore from the Gilsonite vein. After the ore is conveyed to the surface, it is trucked to a facility in Randlett, Utah, for further processing and/or distribution. No processing of Gilsonite occurs at the Cottonwood mine.

Based on the previous permit application (with the permit issued in 2008), there are three mine shafts at the Cottonwood Mine (i.e., Mine #1, Mine #2, and Mine #3). Mine #1 is in the middle and Mine #2 is located approximately 1,000 to 1,200 feet the WNW, and Mine #3 is located approximately 1,500 to 1,700 feet to the ESE of Mine #1. Mines #1 and #2 are connected underground. This Permit authorizes the discharge of dewatering effluent from Mine #2 (which is connected to Mine #1) to Outfall 001 and from Mine #3 to Outfall 002.

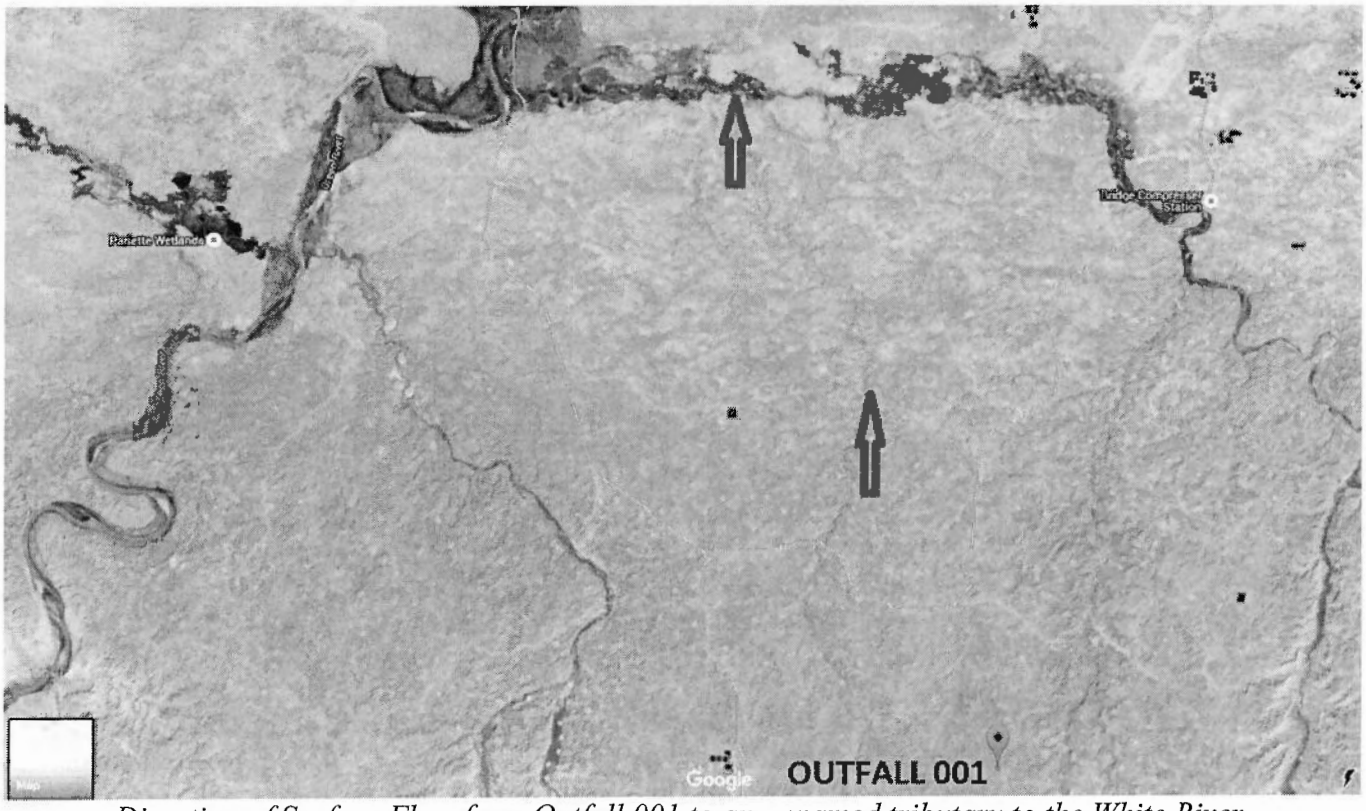
With the exception of storm water runoff, the only discharge at the Cottonwood Mine is ground water that is pumped from the mines. Currently there are no discharges from this mine as it is inactive. However, this Permit is in place for when mining activities resume at the Cottonwood Mine. The timing of resuming mining activities is related to market forces dictating the price of Gilsonite.



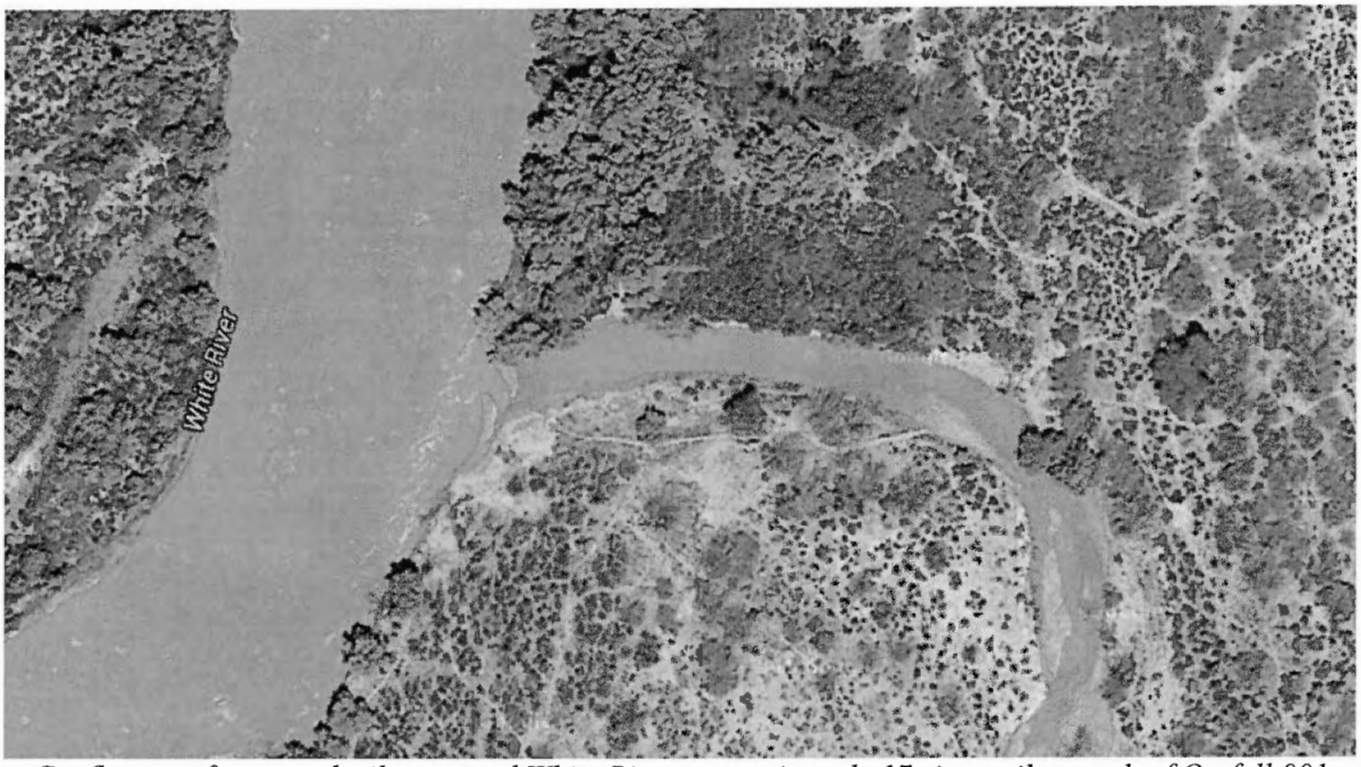
Location of the American Gilsonite Company, Cottonwood Mine – (2015, Google Maps)



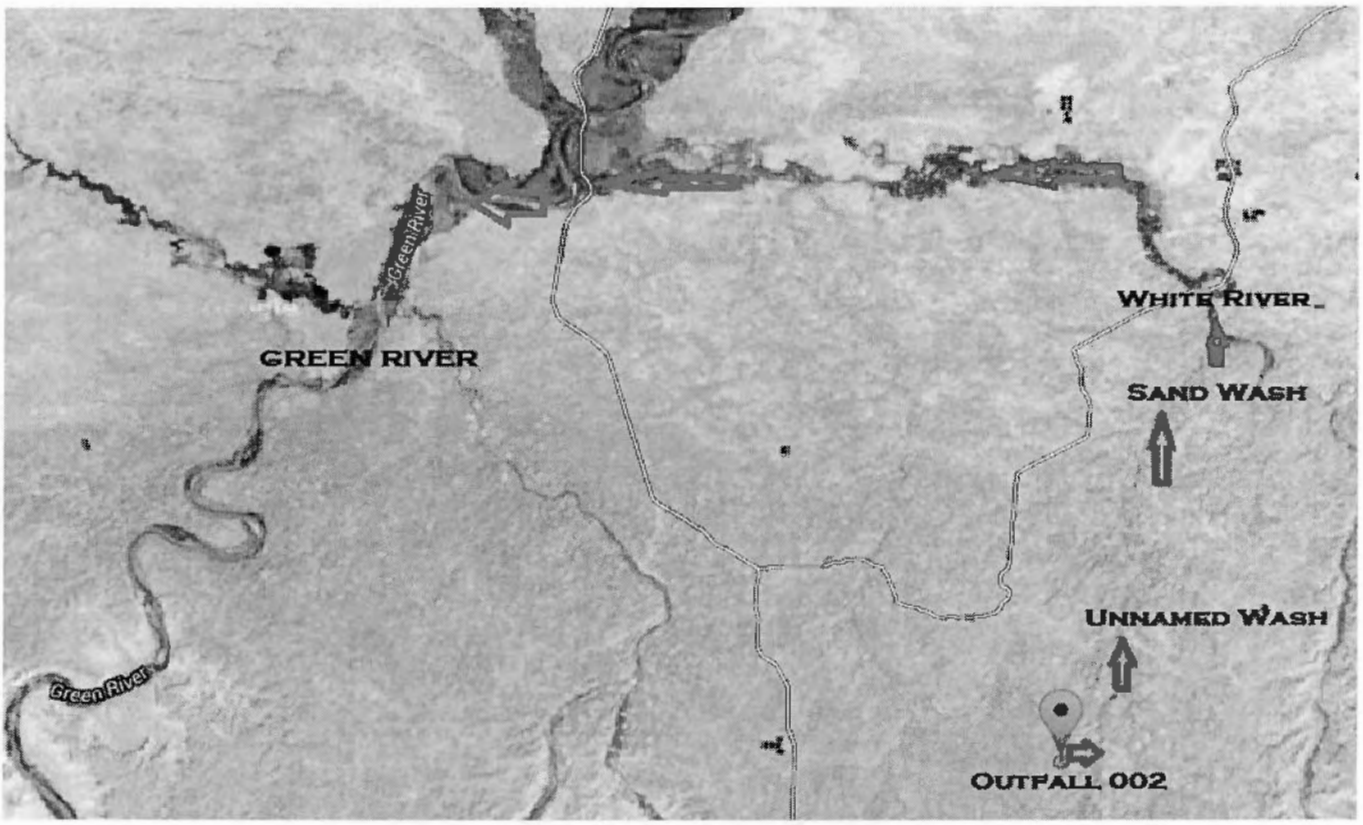
Both Outfall 001 and 002 discharge to unnamed tributaries of the White River. Discharges from Outfall 001 flow into unnamed drainages which flow northwest prior to reaching the White River. Discharges from Outfall 002 flow into unnamed drainages which flow northeast prior to discharging into the White River. Immediately prior to reaching the White River, discharges from Outfall 002 flow into a waterbody referred to as "Sand Wash."



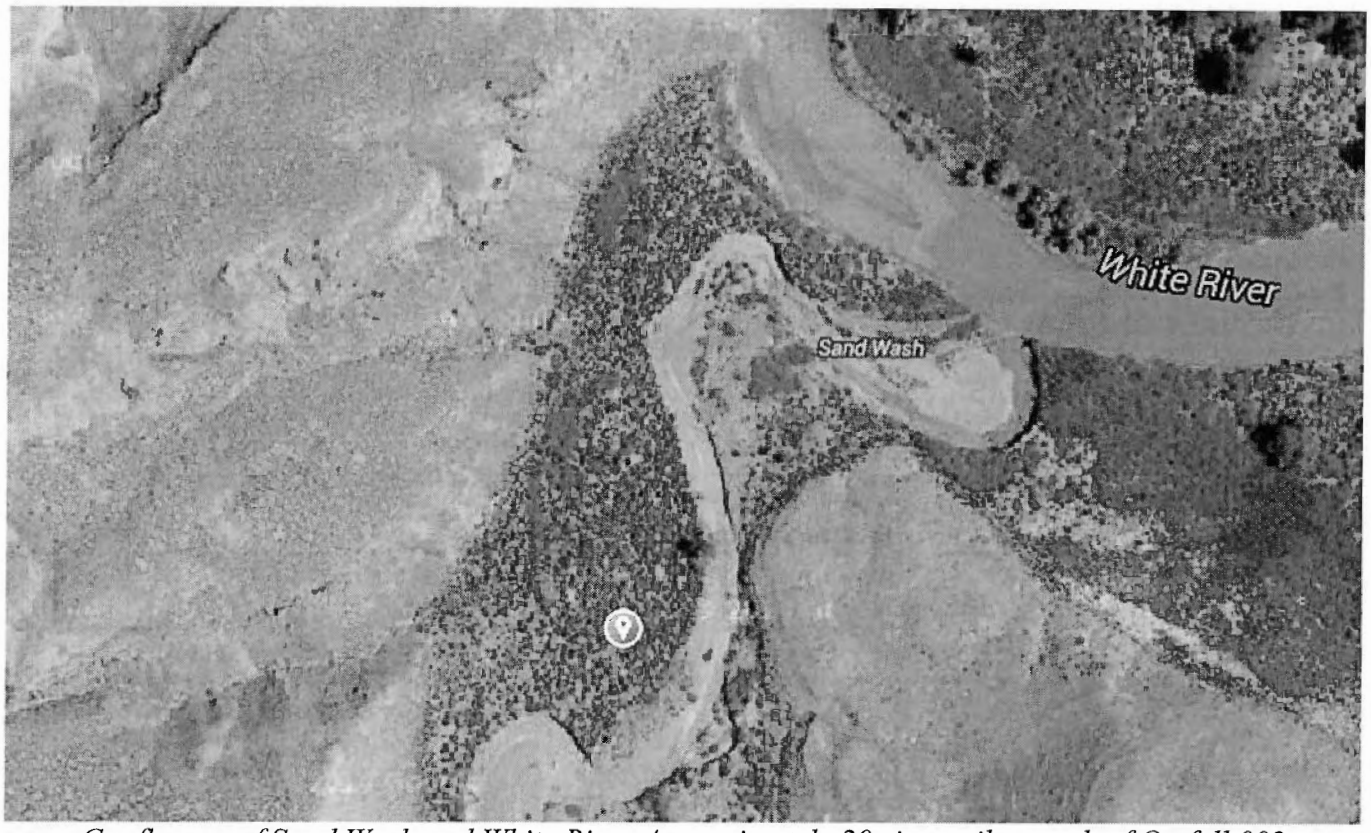
Direction of Surface Flow from Outfall 001 to an unnamed tributary to the White River. (Terra Metrics Map Data, Google – 2015)



Confluence of unnamed tributary and White River approximately 17 river miles north of Outfall 001 (Digital Globe, USDA Farm Service Agency, Map Data – 2015)



Direction of surface flow from Outfall 002 to an unnamed wash which discharges to Sand Wash. (Terra Metrics Map Data, Google – 2015)



Confluence of Sand Wash and White River Approximately 20 river miles north of Outfall 002 (Digital Globe, USDA Farm Service Agency, Map Data – 2015)

Discharges covered by this Permit from Outfalls 001 and 002 are from pumping groundwater to the surface and discharging it into existing drainageways. It is not known whether the discharges from this mine are conveyed to the White River as surface flow or whether the discharges from the mine entirely infiltrate into one of the unnamed stream beds prior to reaching the White River. Satellite imagery indicates that there is significant intermittent flow in drainages conveying flow from both outfalls to the White River, however the degree of infiltration and intermittent flow between Outfalls 001 and 002 is difficult to ascertain. Satellite imagery has been used to indicate a hydrologic connection which is likely highly dependent on recent storms.

Description of Discharge Points

Outfall Serial Number(s)	Description of Discharge Point(s)
001	This is the discharge from Mine Shaft No. 2 at the Cottonwood Mine to an unnamed ephemeral drainageway tributary to the White River. The latitude and longitude are approximately 39.900833°N and 109.523888°W.
002	This is the discharge from Mine Shaft No. 3 at the Cottonwood Mine to an unnamed ephemeral drainageway tributary to the White River. The latitude and longitude are approximately 39.898056°N and 109.514722°W.

Effluent Limitations – Outfalls 001 and 002

The following effluent limits are included for Outfalls 001 and 002 in this Permit:

Effluent Characteristic	Effluent Limitation		
	30-Day Average a/	7-Day Average a/	Daily Maximum a/
Total Suspended Solids, mg/L	25	35	N/A
Total Dissolved Solids, mg/L	N/A	N/A	3,500
The pH of the effluent shall not be less than 6.5 nor greater than 9.0 in any single sample or analysis.			
The concentration of oil and grease in any single sample shall not exceed 10 mg/L nor shall there be any visible sheen in the receiving water or adjoining shoreline.			
Total Dissolved Solids loading from all outfalls shall not be greater than an annual total of 366 tons per year on a rolling quarterly basis.			
There shall be no discharge of sanitary wastewater, process water or contact cooling water.			

a/ See Definitions, Part 1.1, for definitions.

Self-Monitoring Requirements – Outfalls 001 and 002

One significant difference can be noted from the previous permit issued for this facility as it relates to monitoring for TDS loading. There has been no reporting of TDS loading (tons/year) in the DMR data for this Permit, as this parameter was inadvertently omitted from Discharge Monitoring Report (DMR) forms in the past. This Permit requires the Permittee to calculate the sum of Total Dissolved Solids discharged in tons per year and report it on a rolling quarterly basis. This means that for each quarter, the sum of TDS loading for the past year is calculated. This sum of TDS loading cannot exceed 366 tons per year for any quarter from which the past year's loading was calculated.

The following self-monitoring requirements are included for Outfalls 001 and 002 in this Permit:

Effluent Characteristic	Frequency e/	Sample/Monitoring Type a/
Total Flow, mgd b/	Monthly	Instantaneous
Total Dissolved Solids, mg/L	Monthly	Grab
Total Dissolved Solids, tons/year d/	Monthly	Calculation
Total Suspended Solids, mg/L	Monthly	Grab
pH, units	Monthly	Grab
Oil and Grease, visual c/	Weekly	Visual/Grab

a/ See Definitions, Part 1.1, 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. The average flow rate (in million gallons per day) during the reporting period and the maximum flow rate observed (in mgd) shall be reported.

For intermittent flows, the approximate volume of water discharged per reporting period and maximum rate of discharge shall be reported.

c/ A weekly visual observation is required. Any discharge shall be visually observed for the presence of a visible sheen and/or floating oil. If a visible sheen is detected, a grab sample shall be taken immediately and analyzed in accordance with the requirements of 40 CFR Part 136. The concentration of oil and grease shall not exceed 10 mg/L in any sample.

d/ In addition to the monthly sample, the Permittee shall calculate the mass of Total Dissolved Solids discharged for each outfall (using concentration and flow), sum the mass of Total Dissolved Solids for all outfalls, and report in the DMR that sum of Total Dissolved Solids in tons per year. Total loading from all outfalls shall be calculated each month. Total annual loading reported on the DMR must reflect the loading from all outfalls on a rolling quarterly basis. For example:

Daily loading (tons/day) = Concentration (mg/L) * (3.785 L/gal) / (453,592 mg/pound) / (2,000 pounds/ton) * flow (gallons/day)

Monthly loading (tons/month) = daily loading (tons/day) * days/month (days in the month monitored)

Annual loading (tons/year) = sum of the past 12 months of monthly loading

This formula can be simplified using a constant for all these conversions such that:

Tons of TDS/day = Concentration (mg/L) * Flow (gpd) * 4.17×10^{-9}

e/ Samples are required when outfalls are discharging. In instances where flow is intermittent, flow measurements should be combined and reported.

Basis for Effluent Limitations

The basis for the effluent limitations in this Permit are Colorado River Basin Salinity Control Forum guidelines, National Effluent Guidelines for the Mineral Mining and Processing Point Source Category, and professional judgment. A further justification of each of these effluent limits is provided in the following text.

Total Suspended Solids (TSS):

The TSS 25mg/L monthly average and 35 mg/L weekly average are based on technology-based effluent limits for all dischargers. These specific limitations 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*). The practice of placing technology-based effluent limits for total suspended solids for all dischargers is consistent with the permitting approach used for industrial point source dischargers in EPA Region 8. It is not reasonable to have mass limitations on TSS because the daily flow may vary, depending on circumstances (e.g., periods of no pumping for several days.) Dilution to meet the concentration limitations on TSS is highly unlikely due to the scarcity of water in the area.

Total Dissolved Solids (TDS) Mass Loading:

Salinity is a significant problem in the Lower Colorado River as it affects a large population of water users downstream. Salinity impacts have been a major concern in the United States and Mexico. The salinity of the Colorado River increases as it flows downstream. The salts in the Colorado River system are naturally occurring and pervasive. Many of the saline sediments of the Basin were deposited in prehistoric marine environments. Salts contained within the sedimentary rocks are easily eroded, dissolved, and transported into the river system. Recognizing the rapidly increasing salinity concentration in the Lower Colorado River Basin, the Colorado River Basin States came together in 1973 and organized the Colorado River Salinity Basin Control Forum (more information at www.coloradoriversalinity.org). The Forum has put in measures to reduce annual salt loading by more than 1.3 million tons. In order for a permittee to be in compliance with the industrial criteria of the Colorado River Basin Salinity Control Forum, industrial users may not discharge more than 1.00 tons/day or 366 tons/year of dissolved solids. This Permit maintains an effluent limitation of 366 tons per year consistent with the Forum policy.

No Discharge of Sanitary Wastewater, Process Water, or Contact Cooling Water:

This Permit specifies that there shall be no discharge of sanitary wastewater, process water or contact cooling water. This effluent limitation is based on Effluent Guidelines. The Standard Industrial Classification (SIC) code for the AGC facility is 1499, "Miscellaneous Nonmetallic Minerals, Except Fuels" and is covered under the effluent limitation guidelines at 40 Code of Federal Regulations (CFR) §436.60 "Mineral Mining and Processing Point Source Category – Subpart F - Asphaltic Minerals." In accordance with 40 CFR§436.62 (Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available), "there shall be no discharge of process generated waste water pollutants into navigable waters." The American Gilsonite Company Bonanza Mine does not discharge process wastewater.

Total Dissolved Solids (TDS) Concentration-Based Effluent Limit:

This Permit continues an end-of-pipe effluent limit of 3500 mg/L TDS for all outfalls. This limit was included in the Permit issuance in 1998 based as a technology based effluent limitation using professional judgment based on current and projected loading from the American Gilsonite Bonanza mine.

Oil and Grease:

The Oil and Grease limit is based on EPA Regional Policy. The limitation of 10 mg/L is commonly used in the EPA as a concentration which can have detrimental impacts to impact aquatic life.

Water Quality Considerations:

The Ute Indian Tribe has not adopted water quality standards for the Uintah and Ouray Indian Reservation. Outside the reservation the state of Utah has classified the White River and tributaries, except for Bitter Creek and tributaries, as Class 2B and Class 3B. The 2B classification is to be protected for secondary contact recreation such as boating, wading, or similar uses. The 3B classification is to be protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain. The data submitted with the application for permit renewal indicate that the metals are "believed to absent" in the discharge as there is not a significant

source of metals in the processing of Gilsonite nor are metals generated in the processing or treatment of Gilsonite. This is supported by the fact that Gilsonite is not a metal ore, rather it is a naturally occurring hydrocarbon bitumen, and the mining of Gilsonite does not introduce additional metals or acidic compounds which would cause for the leaching of metals in existing soils or soils adsorbed to Gilsonite deposits. Therefore, no water quality based limits for metals were included in this Permit. The effluent limitations that were in the previous permit and the effluent limitations in this Permit should not interfere with designated aquatic life and recreation uses.

Discharges from this facility would not cause or contribute to a violation of any Utah water quality standard at the border of the Uintah and Ouray Indian Reservation. An effluent limitation for TDS was not feasible to calculate based on meeting the State's water quality standard of 1,200 mg/L at that point where the White River crosses from Indian Country into the state of Utah. The discharges infiltrate into several unnamed washes where there is periodic infiltration during the approximate 17-20 mile distance of surface flow prior to reaching the White River. After the discharge reaches the White River, significant dilution occurs prior to reaching the Utah border.

Suspended solids, dissolved solids, and turbidity are important parameters in both municipal and industrial water supply practices. The EPA maintains water quality criteria for TDS of 250 mg/L for "Human Health for the consumption of Organism Only" (*EPA Quality Criteria for Water, EPA 440/5-86-001, May 1, 1986*, also known as the "*Gold Book Criteria*"). The *Gold Book Criteria* provides the following basis for this limit: "This limit is based on health considerations as it relates to effective chlorine disinfection. Suspended matter provides areas where microorganisms do not come into contact with the chlorine disinfectant, and the ability of common wastewater treatment processes (i.e., coagulation, sedimentation, filtration, and chlorination) to achieve acceptable final turbidities is a function of the composition of the material as well as its concentration." Given that there are no drinking water uses on the White River, a more stringent concentration-based water quality limit for TDS was not included in this Permit based on these grounds.

When establishing numeric effluent limits, there are three approaches that can be used:

1) Calculate allowable loading utilizing promulgated water quality standards;
2) Calculate allowable loading utilizing recommended water quality criteria modified to reflect site-specific conditions; or
3) Adopt criteria derived using other scientifically defensible methods.

While this Permit reissuance does not include a concentration-based water quality based effluent limitation for TDS, this limit could be considered in the reissuance of this Permit should water quality standards or criteria be developed for TDS. Alternatively, should additional geographically-specific data on the tolerance of aquatic life to dissolved solids be presented, this could be considered in the evaluation of a more stringent TDS limit. Specific data which correlate to this Permit were not readily available in EPA's ecoregion criteria for the xeric west to support a more stringent TDS limitation (*Ambient Water Quality Criteria Recommendations – Information Supporting the Development of State and Tribal Nutrient Criteria – Rivers and Streams in Nutrient Ecoregion II – EPA 822-B-B-00-016, December 2000)*

Reporting Requirements

Effluent monitoring results obtained during the previous three (3) months shall be summarized and reported on **one** Discharge Monitoring Report Form (EPA No. 3320-1), postmarked no later than the

28th day of the month following the reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported.

Inspection Requirements

Part 1.3.3 of the Permit has inspection requirements for the wastewater treatment facilities and outfalls on at least a weekly basis. The basic intent of the inspection requirements is to ensure that the Permittee is maintaining the integrity and operating capabilities of the treatment and discharge systems. If problems are observed, the Permittee is expected to take the appropriate corrective measures. The inspection shall also be conducted to determine if a discharge is occurring, has occurred since the previous inspection, and/or if a discharge is likely to or needs to occur before the next inspection. A log shall be maintained of inspections, observations, and corrective actions taken and must be available to inspectors upon request.

Storm Water Requirements

The storm water requirements for this facility are contained in Parts 2 and 3 of the Permit. These are based on Best Professional Judgment and mimic those requirement found in many industrial stormwater permits such as EPA's Multi Sector Permit for Industrial Stomrwater Discharges. The purpose of these stormwater requirements is to minimize the discharge of pollutants in stormwater runoff. This is accomplished through good housekeeping measures to maintain a clean and orderly facility, the implementation of stormwater control measures (also referred to as Best Management Practices or BMPs) to reduce the potential of sources to contribute to pollutants in stormwater, preventative maintenance requirements to minimize the potential for spills and leaks during materials handling, waste management procedures, and spill prevention and response procedures to address incidents of spills or leaked material.

This Permit also requires the development of a Storm Water Pollution Prevention Plan (SWPPP). This plan is used to document the BMPs selected and maintained to meet the stormwater requirements in the Permit. Any amendments to this plan must be completed within 60 days of the effective date of this Permit. It is not likely that there will be amendments to the SWPPP within 60 days of the Permit, since the mine is currently not in operation.

Endangered Species Act (ESA) Requirements

Section 7(a) of the Endangered Species Act requires federal agencies to insure that any actions authorized, funded, or carried out by an agency are not likely to jeopardize the continued existence of any federally-listed endangered or threatened species or adversely modify or destroy critical habitat of such species. Federally listed threatened, endangered and candidate species found in Uintah County, Utah include:

Group	Species	Status
Bird	Yellow-billed Cuckoo (*Coccyzus americanus*)	C
Bird	Greater Sage-grouse (*Centrocercus urophasianus*)	C
Bird	Mexican Spotted Owl (*Strix occidentalis lucida*)	T
Fishes	Humpback chub (Gila cypha)	E
Fishes	Colorado Pikeminnow (Ptychocheilus lucius)	E
Fishes	Bonytail chub (Gila elegans)	E
Fishes	Razorback sucker (Xyrauchen texanus)	E

Flowering Plants	Graham beardtongue (Penstemon grahamii)	PT
Flowering Plants	Shrubby reed-mustard (Schoenocrambe suffrutescens)	E
Flowering Plants	White River beardtongue (Penstemon scariosus albifluvis)	C
Flowering Plants	Ute ladies'-tresses (Spiranthes diluvialis)	T
Flowering Plants	Clay reed-mustard (Schoenocrambe argillacea)	T
Flowering Plants	Pariette cactus (Sclerocactus brevispinus)	T
Flowering Plants	Uinta Basin hookless cactus (Sclerocactus wetlandicus)	T
Mammals	Canada Lynx (Lynx canadensis)	T

E = Endangered, T = Threatened, C = Candidate, CH = Critical Habitat, PT = Proposed Threatened

The EPA finds that this Permit is Not Likely to Adversely Affect any of the species listed by the U.S. Fish and Wildlife Service under the Endangered Species Act. This facility discharges from two outfalls to tributaries of the White River, which flows into the Green River. The Permit limitations are protective of water quality and flows are expected to not be excessive. The EPA requested concurrence from the U.S. Fish and Wildlife Service on the determination that reissuance of this Permit is not likely to adversely affect any of the species listed under the Endangered Species Act on April 1, 2016.

National Historic Preservation Act (NHPA) Requirements

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their "undertakings" on historic properties. "Undertaking" is defined in the NHPA regulations as "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval." 36 C.F.R. § 800.16(y). Historic properties include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places; the term encompasses artifacts, records, and remains related to and located within such properties, and also includes properties meeting the National Register criteria that are of traditional religious and cultural importance to an Indian tribe. See 36 C.F.R. § 800.16(1).

The EPA Region 8's reissuance of this Permit is a federal undertaking within the meaning of the NHPA regulations. Section 106 of the NHPA, 16 U.S.C. § 470(f) requires that federal agencies consider the effects of federal undertakings on historic properties. The EPA has evaluated its planned issuance of the NPDES Permit for the American Gilsonite Bonanza mining site to assess this action's potential effects on any listed or eligible historic properties or cultural resources. The EPA does not anticipate any impacts on listed/eligible historic properties or cultural resources. The wastewater discharges and related activities may have the potential to have an effect on historic properties, but there are no historic properties within the Area of Potential Effects (APE). During the public comment period, the EPA will notify the Tribal Historic Preservation Offices (THPOs) of the Ute Mountain Ute Tribe of the planned issuance of this NPDES Permit and request their input on potential effects on historic properties and the EPA's preliminary determination in this regard.

Public Notice

This Permit was public noticed in the Uintah Basin Standard and the Vernal Express on April 12, 2016. Notification of this public notice was provided to the EPA Region 8 Interested Parties list for the State of Utah. No comments were received during the public notice period for this Permit.

Miscellaneous

The Permit will be issued for a period of approximately five years, but not to exceed five years, with the Permit effective date and expiration date determined at the time of Permit issuance.

Permit drafted by Greg Davis, 8P-W-WW, EPA Region 8.
Permit reviewed by Robert Shankland, SEE, 8P-W-WW, EPA Region 8.

Minor Change to the Permit after Public Notification

The EPA has adjusted its civil monetary penalties seven times since 1996, most recently on July 1, 2016 (81 Fed. Reg. 43091-43096). The final rule is effective on August 1, 2016. For Section 3.2. Penalties for Violations of Permit Conditions in this Permit, all penalty requirements are updated to reflect the August 1, 2016 Civil Monetary Penalty Inflation Adjustment Rule requirements.