

Official Draft Public Notice Version **March 27, 2026**

The findings, determinations, and assertions contained in this document are not final and subject to change following the public comment period.

**FACT SHEET**  
**ALTON COAL DEVELOPMENT, LLC – COAL HOLLOW PROJECT**  
**UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES)**  
**RENEWAL DISCHARGE PERMIT**  
**UPDES PERMIT NUMBER: UT0025992**  
**MINOR INDUSTRIAL FACILITY**

**FACILITY CONTACTS**

Operator Name: B. Kirk Nicholes  
Position: Environmental Specialist & Signatory  
Phone Number: (435) 691-1551

Permittee Name: Alton Coal Development, LLC  
Facility Name: Alton Coal Development, LLC – Coal Hollow Project

Mailing Address: 463 North 100 West  
Cedar City, Utah 84721

Facility Address: 2060 South Alton Road, Alton, Utah

**DESCRIPTION OF FACILITY**

Alton Coal Development, LLC (ACD) operates the Coal Hollow Project Mine (Mine) located near the Town of Alton in Kane County, Utah. The ACD Mine falls under the Standard Industrial Classification (SIC) code 1221, for Bituminous Coal and Lignite Surface Mining, and includes the areas known as the South Private Lease and North Private Lease and currently remains an inactive surface coal mine operation, but with previous mining areas that are in the ongoing process of reclamation through the Utah Division of Oil, Gas & Mining. ACD anticipates restarting mining operations in the near future, however, and therefore has applied for a continuation of their UPDES Permit (Permit) for any future discharges over the next five years as appropriate.

**SUMMARY OF CHANGES FROM PREVIOUS PERMIT**

There are no proposed changes in either the Outfalls inventory, or the existing Permit limits at this time. The only change when compared to the previous Permit is that the monitoring requirement for total metals has now been added to Outfall 002, which will include the future mine water discharges instead of previously discharging through Outfall 007, as planned by ACD and as discussed further in the **Reasonable Potential Analysis** section of this Fact Sheet.

**DISCHARGE INFORMATION**

**DESCRIPTION OF DISCHARGE**

Discharges from the ACD Mine facility are intermittent in nature and generally occur only during wet weather events, such as from significant storm or snow melt runoff events. All of the immediate receiving streams are also intermittent in nature. ACD has been reporting self-monitoring results of the discharges on Discharge Monitoring Report (DMR) forms on a monthly basis as required. A summary of the DMR data for the past five years has been included as an attachment to this Fact Sheet. The discharge Outfalls remain unchanged in the Permit as follows:

<u>Outfall Numbers</u>	<u>Location of Discharge Outfalls</u>
001-A	Storm water runoff from sediment pond #1 to Lower Robinson Creek, Latitude 37° 24' 13" N, Longitude 112° 27' 13" W.
001-B	Storm water runoff from sediment pond #1B to Lower Robinson Creek, Latitude 37° 24' 11" N, Longitude 112° 27' 16" W.
002	Sediment pond #2F including mine dewatering to an unnamed tributary of Lower Robinson Creek located at Latitude 37° 24' 7.51" N, Longitude 112° 27' 42.16" W.
003	Sediment pond #3 to Lower Robinson Creek located at Latitude 37° 23' 50.31" N, Longitude 112° 27' 52.40" W.
004	Sediment pond #4 to Sink Valley Wash located at Latitude 37° 23' 00.66" N, Longitude 112° 27' 07.21" W.
007	Sediment pond #7 to an unnamed tributary of Kanab Creek located at Latitude 37° 25' 13.95" N, Longitude 112° 28' 8.40" W.

**RECEIVING WATERS AND STREAM CLASSIFICATION**

Discharges from the ACD Mine are to Lower Robinson Creek and other tributaries of Kanab Creek, which are classified according to Utah Administrative Code (UAC) R317-2-13 as follows:

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

### **TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS**

According to the Utah's [Final 2024 Integrated Report on Water Quality](#) dated April 30, 2024 (UDWQ, 2024), the receiving water for all Outfall discharge "*Kanab Creek and tributaries, from immediately above Simpson Hollow Wash to irrigation diversion at confluence with Reservoir Canyon* (AU name: *Kanab Creek-2*, AU ID: *UT15010003-003\_00*)" was listed as "Not Supporting for Total Boron, Dissolved Selenium, and total dissolved solids (TDS). No TMDL has been completed for this watershed at this time. The status is stated as "TMDL Needed" however, the Priority is "Low." As a result of the impairments, effluent limits will remain unchanged in the Permit based upon the applicable Water Quality Standards for total boron, selenium and TDS as detailed further in the following section of this Fact Sheet.

### **BASIS FOR EFFLUENT LIMITATIONS**

In accordance with regulations promulgated in 40 Code of Federal Regulations (C.F.R.) § Part 122.44 and UAC R317-8-4.2, effluent limitations are derived from technology-based effluent limitations guidelines, Utah Secondary Treatment Standards (UAC R317-1-3.2) or Utah Water Quality Standards (UAC R317-2-14) as applicable. In cases where multiple limits have been developed, those that are more stringent apply. In cases where no limits or multiple limits have been developed, Best Professional Judgment (BPJ) of the permitting authority may be used where applicable. Best Professional Judgment, or BPJ, refers to a discretionary, best professional decision made by the permit writer based upon precedent, prevailing regulatory standards, or other relevant information.

Permit effluent limits can also be derived from a Waste-load Analysis (WLA), which incorporates Secondary Treatment Standards, Water Quality Standards (WQS), including any applicable TMDL impairments as appropriate, Antidegradation Reviews (ADR), and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During the development of this renewal Permit, a WLA and ADR were completed as appropriate and determined that this discharge will not cause a violation of water quality standards. An ADR Level I review was performed and concluded that an ADR Level II review was not required at this time since there is no change in the effluent loading or concentrations and water quality will not be further lowered by the proposed activity, as per UAC R317-2-3.5.b.1.(b). The total facility flow information utilized in the WLA remains unchanged and is derived from the sum of the individual Outfall sedimentation ponds' capacity as provided in the Permit application information. However, an effluent flow limit has once again not been included in the Permit since all effluent limits are based upon existing WQS rather than based upon any flow or flow-weighted averages. This provides the flexibility needed when large runoff events occur that are greater than the 10-year/24-hour storm events as detailed below and in the Permit. The WLA indicates that the effluent limitations will be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. The WLA with ADR information is attached to this Fact Sheet.

The Permit effluent parameter limitations and their basis are as follows:

- 1) The daily minimum and maximum limitations for pH are derived from WQS as cited above.
- 2) Since the facility discharge meets the EPA definition of "alkaline mine drainage," the Permittee is subject to the technology-based effluent limitations in 40 C.F.R. § Part 434.45. Applicable technology-based limits included in the Permit are as follows for all Outfalls:
  - a. Total Suspended Solids (TSS) daily maximum limit of 70 mg/L.
  - b. For discharges composed of surface water or mine water commingled with surface water, 40 C.F.R. § Part 434.63 allows alternate effluent limits to be applied when

discharges result from specific runoff events, detailed below and in the Permit. The facility has the burden of proof that the described runoff event occurred as described in the Permit.

- i. For runoff events (rainfall or snowmelt) less than or equal to a 10-year 24-hour precipitation event, settleable solids may be substituted for TSS and shall be limited to 0.5 milliliters per liter (ml/L). All other effluent limitations must be achieved concurrently, as described in the Permit.
  - ii. For runoff events (rainfall or snowmelt) greater than a 10-year 24-hour precipitation event, the pH limitations may supersede the otherwise applicable Permit effluent limitations.
- 3) TDS are limited by both mass loading and concentration requirements and remain unchanged from the previous Permit as described below:
  - a. Since discharges from the facility would eventually reach the Colorado River, TDS mass loading is limited according to policies established by the Colorado River Basin Salinity Control Forum (Forum), as authorized in UAC R317-2-4 to further control salinity in the Utah portion of the Colorado River Basin. On February 28, 1977, the Forum produced the "Policy For Implementation of Colorado River Salinity Standards Through the NPDES Permit Program" (Policy), with the most current subsequent triennial revision dated October 2023. Based on Forum Policy, the facility is limited to 1 ton/day or 366 tons/year for TDS. If the concentration of TDS at any Outfall is less than or equal to 500 mg/L as a thirty-day average, then no loading limit applies for that Outfall. Salinity-offset provisions remain included in the Permit to account for all excess TDS loading above the 1 ton/day or 366 tons/year requirement as appropriate.
  - b. TDS concentrations are limited by WQS, which includes site-specific criteria for impaired water bodies as developed and mentioned previously. A site-specific standard has been developed for Kanab Creek and tributaries above Simpson Hollow Wash to the irrigation diversion at confluence with Reservoir Canyon (applies to Outfall 007): April through November months have a daily maximum limit of 1,400 mg/L, while the non-irrigation months of December through March default to the TDS WQS of 1,200 mg/L for agricultural uses. Additionally, there is a site-specific standard for Kanab Creek and tributaries from immediately below the confluence with Sink Valley Wash to the confluence of Simpson Hollow Wash (for Outfalls 001, 002 003 & 004): April through November months have a daily maximum limit of 1,900 mg/L, while December through March have a daily maximum limit of 1,700 mg/L. The TDS effluent concentration limitations remain unchanged in the Permit as previously set by these site-specific standards.
- 4) The iron limitation is based upon the WLA for total recoverable iron. This is consistent with other similar type permits in Utah and remains unchanged from the previous Permit.
- 5) Effluent limitations for Selenium and Boron remain unchanged and are based upon the existing WQS.
- 6) Oil and Grease limitations and effluent concentrations are limited to 10 mg/L based on the permitting authority's BPJ to be consistent with other similar type permits in Utah. This

remains unchanged from the previous Permit.

**Reasonable Potential Analysis**

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

An initial screening qualitative RP analysis was performed on all metals parameters from the facility discharge data, which were primarily from previous mine water discharges via Outfall 007 as required. Initial screening values that were submitted through both the monthly discharge monitoring reports, as well as the Permit renewal application information, showed that a closer look was not needed for any of the metals parameters since all were below the applicable WQS, except for total iron, which already has a specific effluent limitation in the Permit as derived from the WQS. Therefore, no RP currently exists at the facility for any other metals parameters, and a more quantitative RP analysis was not necessary at this time.

Monitoring future mine water discharges, which are planned via Outfall 002, for all the metals will remain in place however, as detailed in the Permit. This will ensure an adequate data set exists to run the full RP model for a more quantitative RP analysis when appropriate (the RP model requires a minimum of ten data points once any outliers are identified). This will be re-evaluated during the next permit cycle as appropriate. Based upon this RP evaluation, the final RP outcome was not to include any additional metal effluent limits at this time. A copy of the RP analysis is included at the end of this Fact Sheet.

The Permit effluent limitations remain in the Permit as follows:

Parameter, Units	Effluent Limitations *a		
	Maximum Monthly Average	Daily Minimum	Daily Maximum
Total Flow, million gallons per day (MGD), *b	Report	--	Report
Total Iron, milligrams per liter (mg/L)	--	--	1.0
Total Suspended Solids (TSS), mg/L	--	--	70
Total Dissolved Solids (TDS), mg/L, *c Outfalls 001-A, 001-B, 002, 003, 004			
Irrigation Season (April – Nov)	--	--	1,900
Non-Irrigation Season (Dec – March)	--	--	1,700
TDS, mg/L, *c, Outfall 007			
Irrigation Season (April – Nov)	--	--	1,400
Non-Irrigation Season (Dec – March)	--	--	1,200
TDS, tons per day/year, *c	--	--	1.0/366
pH, standard units (SU)	--	6.5	9.0
Oil & Grease, mg/L, *d	--	--	10
Turbidity, NTU, *e	--	--	Report
Total Boron, mg/L	--	--	0.75

Total Selenium, mg/L	0.0046	--	0.02
Total Recoverable Metals, mg/L (Outfall 002 mine water discharges only), *f	--	--	Report

Effluent limitations and reporting requirements are applicable to each Outfall unless stated otherwise.

### SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the same as in the previous Permit, except for otherwise stated above. The Permit requires reports to be submitted monthly as applicable on DMR forms due 28 days after the end of the monthly monitoring period. Effective January 1, 2017, monitoring results shall be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Lab sheets for biomonitoring, metals and toxic organics shall be attached to the DMRs.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow, *b	Continuous	Recorder/Measured	MGD
Total Iron	Monthly	Grab	mg/L
TSS	Monthly	Grab	mg/L
TDS, *c	Monthly	Grab	mg/L & tons per day/year
pH	Monthly	Grab	SU
Oil & Grease, *d	Monthly	Grab	mg/L
Oil & Grease visible sheen, floating solids, foam *d	Monthly	Visual	Yes/No
Turbidity, *e	Monthly	Grab	NTU
Total Boron	Monthly	Grab	mg/L
Total Selenium	Monthly	Grab	mg/L
Total Recoverable Metals (Outfall 002 only), *f	Monthly	Grab	mg/L

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

\*b Flow measurements of effluent volumes from all Outfalls shall be made in such a manner that the Permittee can affirmatively demonstrate that representative values are being obtained. If the rate of discharge is controlled, such as from intermittent discharging Outfalls, the rate and duration of discharge shall also be reported.

\*c The TDS concentration from each of the Outfalls shall not exceed the applicable daily maximum limit. No tons per day loading limit will be applied to an Outfall if the concentration of TDS from that Outfall is equal to or less than 500 mg/L as a 30-day average. However, if the 30-day average concentration exceeds 500 mg/L from any of the Outfalls, then the Permittee cannot discharge more than 1 ton per day or 366 tons per year as a sum from all such Outfalls. Upon determination by the Director that the Permittee is not able to meet either the 1 ton per day, or 366 tons per year TDS loading limit, then the Permittee is required to participate in and/or fund a salinity-offset project to include TDS offset credits as appropriate.

The salinity-offset project shall include TDS credits on a ton-for-ton basis for which the

Permittee is over the 1 ton per day or 366 tons per year loading limit. The tonnage reduction from the offset project must be calculated by a method similar to one used by the Colorado River Basin Salinity Control Forum, and/or other applicable agency. A monitoring and adjustment plan to track the TDS credits shall be submitted monthly to the Director upon request.

If the Permittee will be participating in the construction and implementation of a new salinity-offset project, then a project description and implementation schedule shall be submitted to the Director at least six (6) months prior to the implementation date of the project, which will then be reviewed for approval. The salinity-offset project description and implementation schedule must be approved by the Director and shall be appended to this permit.

If the Permittee will be funding any additional salinity-offset projects through third parties, the Permittee shall provide satisfactory evidence to the Director that the required funds have been deposited to the third party within six (6) months of project approval by the Director.

- \*d In addition to monthly sampling for oil & grease, a visual inspection for oil & grease, floating solids, sanitary waste and visible foam shall be performed at least monthly. If any oil and/or grease sheens are observed visually, or there is any other reason to believe that oil and/or grease may be present in the discharge, then a sample of the effluent must be immediately taken and that sample shall not exceed 10 mg/L. Additionally, there shall be no visible sheen or floating solids or visible foam in other than trace amounts upon any Outfall discharges and there shall be no discharge of any sanitary wastes at any time.
- \*e Turbidity monitoring shall be conducted at least monthly whenever possible from all discharging Outfalls and their receiving water to demonstrate that there is not an increase of more than 10 nephelometric turbidity units (NTU) over the respective receiving waters, where applicable.
- \*f Total Recoverable Metals monthly monitoring using sufficiently sensitive standard test methods, reporting limits and certified laboratories is required for mine water discharges from Outfall 002 and includes; arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, and zinc.

All Permit compliance monitoring is conducted at the Outfall locations listed in the **DESCRIPTION OF DISCHARGE** Section above.

### **BIOSOLIDS**

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

### **STORM WATER**

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

types of industrial activities occurring for which the facility has previously obtained separate MSGP coverage as appropriate.

Permit coverage under the Construction General Storm Water Permit (CGP) is required for any construction at the facility which disturb an acre or more, or is part of a common plan of development or sale that is an acre or greater, and which is not part of active mining activities. A Notice of Intent (NOI) is required to obtain a construction storm water permit prior to the period of construction. Information on storm water permit requirements can be found at <http://stormwater.utah.gov>.

### **PRETREATMENT REQUIREMENTS**

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

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

### **BIOMONITORING REQUIREMENTS**

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

The Permittee is a minor industrial facility that will be discharging an infrequent amount of effluent, in which toxicity is neither an existing concern, nor likely to be present. The Permittee is not classified as a major facility or a significant minor facility and any discharges from the facility are either from intercepted ground water during active mining operations, or from storm water or snow melt due to large precipitation events, in which toxicity has previously not been identified as an existing or a potential concern.

Based on these considerations, there is no reasonable potential for toxicity in the Permittee's discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control). As such, there will be no numerical WET limitations or WET monitoring requirements in this Permit. However, the Permit will contain a toxicity limitation re-opener provision that allows for future modification of the Permit should additional information indicate the presence of toxicity in the discharge.

**PERMIT DURATION**

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

Drafted and Reviewed by  
Jeff Studenka, Discharge Permit Writer  
Daniel Griffin, Biosolids  
Jennifer Robinson, Pretreatment  
Lonnie Shull, Biomonitoring  
Jordan Bryant, Storm Water  
Amy Dickey, TMDL/Watershed Protection  
Chris Shope, Wasteload Analysis/ADR  
Utah Division of Water Quality, (801) 536-4300

**PUBLIC NOTICE INFORMATION (to be updated after)**

Began: Month Day, Year  
Ended: Month Day, Year

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

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

During the public notice and comment period provided under UAC R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in UAC R317-8-6.12.

**ADDENDUM TO FACT SHEET**

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

**Responsiveness Summary**

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

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# ATTACHMENT 1

## *Effluent Monitoring Data Summary*

### Alton Coal Mine Effluent Discharges (2021-2025)

Parameter (Units)	Discharge Flow (MGD)		pH (SU)		O & G (mg/L)	Boron (mg/L)	TDS (mg/L)		TSS (mg/L)	
	Avg	Max	Min	Max	Max	Max	Avg	Max	Avg	Max
001-A&B*	0.0038	0.277	7.6	<b>9.3</b>	<b>60</b>	0.61	628	868	11	34
002	0	0	-	-	-	-	-	-	-	-
003	0.003	0.225	7.8	8.85	5	0.66	875	<b>1960</b>	16	43
004**	0.00002	0.00081	8.14	8.14	<5	0.08	1080	1080	17	17
007***	0.068	0.6264	7.2	8.96	<5	0.13	724	<b>1210</b>	25	<b>170</b>

Notes:

Permit limit exceedances are shown in **BOLD**.

All Metals monitoring data are summarized in the following RP Analysis in Attachment 3.

Outfall 002 has not been constructed yet and therefore has not discharged to date.

\*Outfalls 001-A&B last discharged in April 2023 during a large precipitation event resulting in pH and iron exceedances and including the single oil & grease exceedance that was attributed to lab/sampling error.

\*\*Outfall 004 discharged once in March 2024 during a large precipitation event.

\*\*\*Outfall 007 last discharged in March 2024 during a large precipitation event resulting in elevated TSS but did not result in a permit violation as Settleable Solids was substituted for TSS as permitted for large storm events.

Elevated TDS results from Outfalls 003 & 007 were each attributed to isolated pond dewatering events.

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**ATTACHMENT 2**

*Wasteload Analysis Information*  
*(DWQ-2025-009929 & DWQ-2025-009931)*



State of Utah

SPENCER J. COX  
Governor

DEIDRE HENDERSON  
Lieutenant Governor

Department of  
Environmental Quality

Tim Davis  
Executive Director

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

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

**Date:** December 16, 2025

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

**Facility:** Alton Coal Development LLC - Coal Hollow Project  
UPDES Permit No. UT0025992

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

**DISCHARGE**

All discharges are from current sedimentation impoundments according to “Water Flow Line Drawing” in the renewal application.

*Coal Hollow Mine*

- Outfall 001A: Discharge from Pond 1 to Lower Robinson Cr to Kanab Cr; 0.326 MGD
- Outfall 001B: Discharge from Pond 1B to Lower Robinson Cr to Kanab Cr; 0.016 MGD
- Outfall 002: Discharge from Pond 2 to Lower Robinson Cr to Kanab Cr; 0.114 MGD
- Outfall 003: Discharge from Pond 3 to Lower Robinson Cr to Kanab Cr; 0.294 MGD
- Outfall 004: Discharge from Pond 4 to Sink Valley Wash to Kanab Cr; 0.342 MGD
- Outfall 007: Discharge from Pond 7 to unnamed tributary to Kanab Cr; 0.203 MGD

The summation of all previous permit Outfall discharges was 1.471 MGD, which remains unchanged for this permit renewal and is considered the maximum average design flow from the

facility.

### **RECEIVING WATER AND STREAM CLASSIFICATION**

The receiving water for Outfalls 001A, 001B, 002, 003, 004, and 007 are intermittent tributaries to Kanab Creek.

Per UAC R317-2-13.2(b), the designated beneficial uses for Kanab Creek and tributaries, from state line to irrigation diversion at confluence with Reservoir Canyon: 2B, 3C, 4

- Class 2B - Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.
- Class 3C - Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.
- Class 4 - Protected for agricultural uses including irrigation of crops and stock watering. Kanab Creek and tributaries above Simpson Hollow Wash to irrigation diversion at confluence with Reservoir Canyon: April through November, daily maximum 1,400 mg/l. Assessments shall be based on TDS concentrations measured in Kanab Creek.

### **PROTECTION OF DOWNSTREAM USES**

Per UAC R317-2-8, all actions to control waste discharges under these rules shall be modified as necessary to protect downstream designated uses.

### **WATER QUALITY STANDARDS**

Numeric criteria based on designated beneficial uses are specified in UAC R317-2-14. In addition, narrative water quality standards must not be violated per UAC R317-2-7.2:

*It shall be unlawful, and a violation of these rules, for any person to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste; or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures; or determined by biological assessments in Subsection R317-2-7.3.*

### **RECEIVING WATER FLOW AND WATER QUALITY**

Typically, the critical flow for the receiving water in a wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten-year return frequency (7Q10). Due to a lack of flow records for Kanab Creek, the 20th percentile of available flow measurements was calculated to approximate the 7Q10 low flow condition. The source of flow data was monitoring location 4951940 KANAB CK AT COUNTY RD XING BL ALTON. Seasonal upstream, background critical flow conditions are provided in Table 1.

Table 1-Seasonal upstream critical flow conditions and DWQ 4951940.

Season	20 <sup>th</sup> % (ft <sup>3</sup> /s)
Summer	0.03
Fall	0.80
Winter	3.00
Spring	0.40
Average	0.30

The annual critical flow for Outfalls 001A, 001B, 002, 003, 004, and 007 were effectively considered to be zero as the receiving waters (tributaries to Kanab Creek) are intermittent and have no flow for parts of the year. Water quality-based effluent limits for these outfalls revert to end-of-pipe water quality standards.

Kanab Creek water quality was also characterized based on samples collected from DWQ sampling station 4951940. Results were compared against sample results from several USGS sampling locations upstream.

Effluent discharge flow and water quality conditions were characterized using data from the facility Discharge Monitoring Reports (DMR).

**TOTAL MAXIMUM DAILY LOAD (TMDL)**

There are seasonal (April-November) site specific TDS standards for the receiving segments of Kanab Creek and Lower Robinson Creek adopted in 2021. For example, the numeric criteria section of R317-2 states "Kanab Creek and tributaries from immediately above Simpson Hollow Wash to irrigation diversion at confluence with Reservoir Canyon: April through November, daily maximum 1,400 mg/L". TDS Limits for Kanab Creek discharges are set at the 2021 site specific standard of 1,400 mg/L during these months. Similarly, Lower Robinson Creek has site specific TDS seasonal standards as applicable to discharges for these receiving stream segments.

According to the Utah’s [Final 2024 Integrated Report on Water Quality](#) dated April 30, 2024 (UDWQ, 2024), the receiving water for all Outfall discharge “*Kanab Creek and tributaries, from immediately above Simpson Hollow Wash to irrigation diversion at confluence with Reservoir Canyon* (AU name: *Kanab Creek-2*, AU ID: *UT15010003-003\_00*)” was listed as “Not Supporting for Total Boron, Dissolved Selenium, and TDS. The status is stated as “TMDL Needed” however, the Priority is “Low”.

**MIXING ZONE**

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

For the Outfalls, the effluent was considered to be totally mixed as the ratio of critical river flow to effluent discharge was 0.916 (<=2). Acute limits were calculated using 50% of the seasonal

critical low flow. The annual critical flow for Outfalls 001A, 001B, 002, 003, 004, and 007 were effectively considered to be zero as the receiving waters (tributaries to Kanab Creek) are intermittent and have no flow for parts of the year. Water quality-based effluent limits for these outfalls revert to end-of-pipe water quality standards and no mixing zone was considered.

### PARAMETERS OF CONCERN

The potential parameters of concern identified for the discharge/receiving water were determined in consultation with the UPDES Permit Writer, the Utah Water Quality Assessment Reports, and the industry SIC codes from <https://www.osha.gov/data/sic-search>. The potential parameters of concern for this facility remain unchanged from the previous permit and include TDS, TSS, pH, iron, boron, selenium, and other metals.

### WET LIMITS

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

Table 2-Seasonal IC<sub>25</sub> WET limits for all Outfalls.

Season	% effluent
Summer	98.8
Fall	74.0
Winter	43.1
Spring	85.1

### WASTELOAD ALLOCATION METHODS

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

The Utah Rivers Model was used to evaluate the DO sag and implications on nutrients and BOD<sub>5</sub>. The analysis is summarized in the Wasteload Addendum. The water quality standard for chronic ammonia toxicity is dependent on temperature and pH, and the water quality standard for acute ammonia toxicity is dependent on pH. The AMMTOX Model developed by University of Colorado and adapted by Utah DWQ and EPA Region VIII was used to determine ammonia effluent limits (Lewis et al. 2002). This analysis is further summarized in the Wasteload Addendum.

Models and supporting documentation are available for review upon request.

### ANTIDEGRADATION LEVEL I REVIEW

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

The proposed permit is a simple renewal of an existing UPDES permit. No increase in flow or concentration of pollutants over those authorized in the existing permit is being requested. Therefore, a Level II Antidegradation Review (ADR) is not required.

### LOCATION MAP

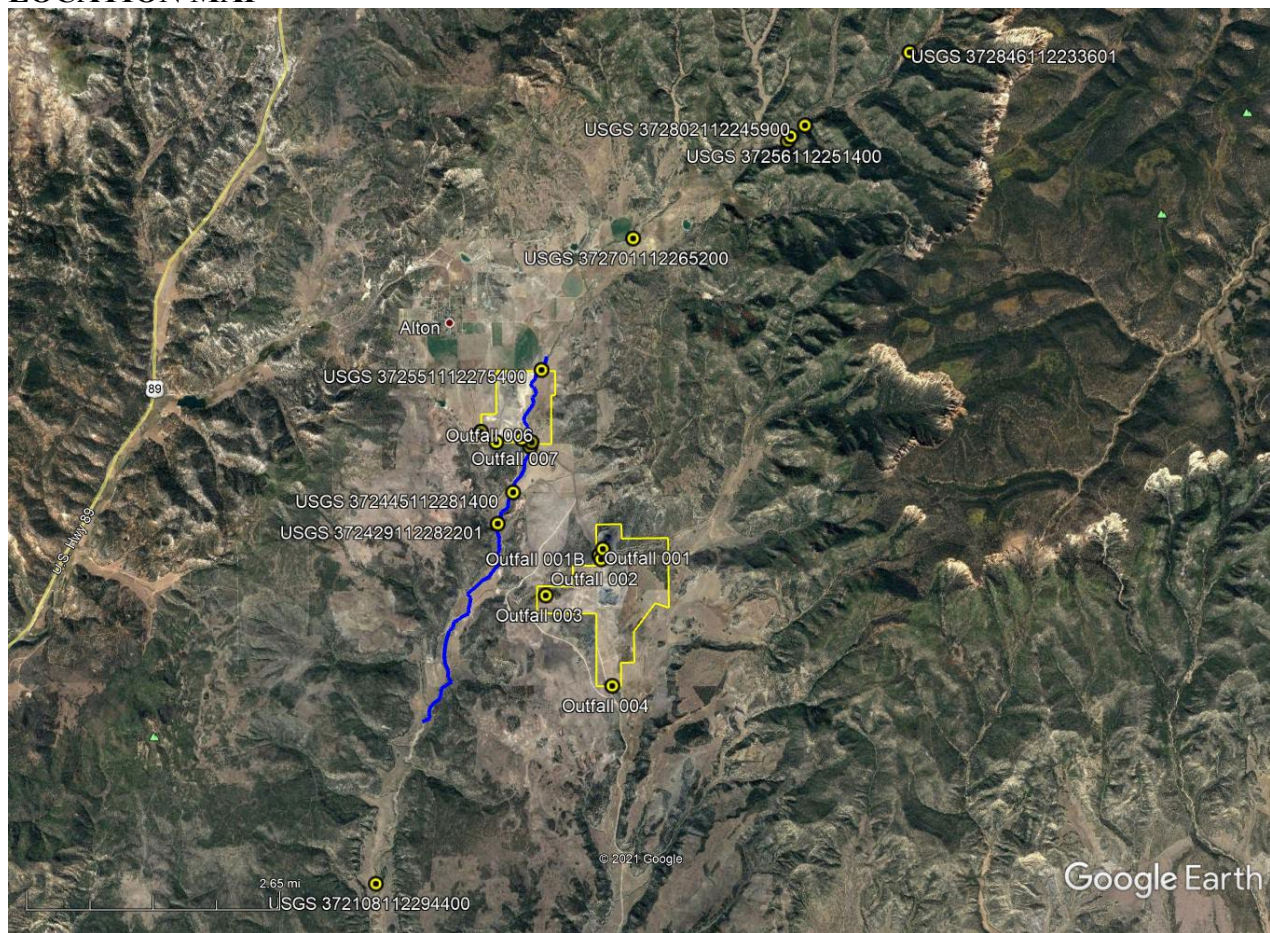


Figure 1-Location map of outfalls, monitoring locations, and surface water channels.

### DOCUMENTS

WLA Document: *251216-Alton\_Coal\_WLA\_2025.docx*

Wasteload Analysis and Addendums: *251216-Alton\_Coal\_WLA\_2025.xlsm*

**REFERENCES**

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

<https://drive.google.com/file/d/11R0lxOu8a1ixkZwthKWsSMqco4D5vJO1/view>

Utah Division of Water Quality. 2021. Utah Wasteload Analysis Procedures Version 2.0.

<https://documents.deq.utah.gov/water-quality/standards-technical-services/DWQ-2021-000684.pdf>

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

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**WASTELOAD ANALYSIS [WLA]** [REDACTED] = not included in the WLA  
**Addendum: Statement of Basis**

12/16/2025
4:00 PM

**Facilities:** Alton Coal Development LLC - Coal Hollow Project  
**Discharging to:** Unnamed Trib to Kanab Creek

**UPDES No:** UT-UT0025992

**I. Introduction**

Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses [R317-2-8, UAC]. Projected concentrations are compared to numeric water quality standards to determine acceptability. The anti-degradation policy and procedures are also considered. The primary in-stream parameters of concern may include metals (as a function of hardness), total dissolved solids (TDS), total residual chlorine (TRC), un-ionized ammonia (as a function of pH and temperature, measured and evaluated in terms of total ammonia), and dissolved oxygen.

Mathematical water quality modeling is employed to determine stream quality response to point source discharges. Models aid in the effort of anticipating stream quality at future effluent flows at critical environmental conditions (e.g., low stream flow, high temperature, high pH, etc).

The numeric criteria in this wasteload analysis may always be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

**II. Receiving Water and Stream Classification**

Unnamed Trib to Kanab Creek:	2B,3C,4
Antidegradation Review:	Level I review completed. Level II review is required.

**III. Numeric Stream Standards for Protection of Aquatic Wildlife**

Total Ammonia (TNH3)	Varies as a function of Temperature and pH Rebound. See Water Quality Standards	
Chronic Total Residual Chlorine (TRC)	0.011 mg/l (4 Day Average)	0.019 mg/l (1 Hour Average)
Chronic Dissolved Oxygen (DO)	N/A	5.0 mg/l (30 Day Average) mg/l (7Day Average) 3.0 mg/l (1 Day Average)
Maximum Total Dissolved Solids	1400.0 mg/l	Background

**Acute and Chronic Heavy Metals (Dissolved)**

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration		Load*
Aluminum	87.00 ug/l**	1.067 lbs/day	750.00	ug/l	9.200 lbs/day
Arsenic	150.00 ug/l	1.840 lbs/day	340.00	ug/l	4.171 lbs/day
Cadmium	2.40 ug/l	0.029 lbs/day	7.43	ug/l	0.091 lbs/day
Chromium III	269.65 ug/l	3.308 lbs/day	5641.71	ug/l	69.208 lbs/day
ChromiumVI	11.00 ug/l	0.135 lbs/day	16.00	ug/l	0.196 lbs/day
Copper	30.67 ug/l	0.376 lbs/day	52.00	ug/l	0.638 lbs/day
Iron			1000.00	ug/l	12.267 lbs/day
Lead	18.74 ug/l	0.230 lbs/day	480.79	ug/l	5.898 lbs/day
Mercury	0.0120 ug/l	0.000 lbs/day	2.40	ug/l	0.029 lbs/day
Nickel	169.47 ug/l	2.079 lbs/day	1524.30	ug/l	18.699 lbs/day
Selenium	4.60 ug/l	0.056 lbs/day	20.00	ug/l	0.245 lbs/day
Silver	N/A ug/l	N/A lbs/day	41.53	ug/l	0.510 lbs/day
Zinc	389.98 ug/l	4.784 lbs/day	389.98	ug/l	4.784 lbs/day

\* Allowed below discharge

\*\*Chronic Aluminum standard applies only to waters with a pH < 7.0 and a Hardness < 50 mg/l as CaCO3

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Metals Standards Based upon a Hardness of 402.61 mg/l as CaCO<sub>3</sub>

**IV. Numeric Stream Standards for Protection of Agriculture**

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Arsenic			100.0 ug/l	lbs/day
Boron			750.0 ug/l	lbs/day
Cadmium			10.0 ug/l	0.06 lbs/day
Chromium			100.0 ug/l	lbs/day
Copper			200.0 ug/l	lbs/day
Lead			100.0 ug/l	lbs/day
Selenium			50.0 ug/l	lbs/day
TDS, Summer			1400.0 mg/l	8.59 tons/day

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

Metals	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Arsenic			ug/l	lbs/day
Barium			ug/l	lbs/day
Cadmium			ug/l	lbs/day
Chromium			ug/l	lbs/day
Lead			ug/l	lbs/day
Mercury			ug/l	lbs/day
Selenium			ug/l	lbs/day
Silver			ug/l	lbs/day
Fluoride (3)			ug/l	lbs/day
to			ug/l	lbs/day
Nitrates as N			ug/l	lbs/day

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

Metals	Maximum Conc., ug/l - Acute Standards			
	Class 1C		Class 3A, 3B	
Antimony	ug/l	lbs/day		
Arsenic	ug/l	lbs/day	640.00 ug/l	7.95 lbs/day
Asbestos	ug/l	lbs/day		
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	ug/l	lbs/day	4.0E+02 ug/l	4.97 lbs/day
Lead	ug/l	lbs/day		
Mercury			0.15 ug/l	0.00 lbs/day
Nickel			4600.00 ug/l	57.12 lbs/day
Selenium	ug/l	lbs/day		
Silver	ug/l	lbs/day		
Thallium			0.50 ug/l	0.01 lbs/day
Zinc				

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

**VII. Mathematical Modeling of Stream Quality**

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

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

(1) The Utah River Model, Utah Division of Water Quality, 1992. Based upon STREAMDO IV (Region VIII) and Supplemental Ammonia Toxicity Models; EPA Region VIII, Sept. 1990 and

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QUAL2E (EPA, Athens, GA).

(2) Utah Ammonia/Chlorine Model, Utah Division of Water Quality, 1992.

(3) AMMTOX Model, University of Colorado, Center of Limnology, and EPA Region 8

(4) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al.  
Harper Collins Publisher, Inc. 1987, pp. 644.

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

(1) Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Athens Georgia. EPA/600/3-85/040 June 1985.

(2) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al.  
Harper Collins Publisher, Inc. 1987, pp. 644.

**VIII. Modeling Information**

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

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

**Other Conditions**

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

**Model Inputs**

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

**Current Upstream Information**

	Stream								
	Critical Low								
	Flow	Temp.	pH	T-NH3	BOD5	DO	TRC	TDS	
	cfs	Deg. C		mg/l as N	mg/l	mg/l	mg/l	mg/l	mg/l
Summer (Irrig. Season)	0.0	21.9	8.3	0.03	0.10	8.63	0.00	1092.5	
Fall	0.8	4.7	8.4	0.04	0.10	---	0.00	846.2	
Winter	3.0	3.1	8.5	0.02	0.10	---	0.00	846.2	
Spring	0.4	16.2	8.6	0.02	0.10	---	0.00	846.2	
Dissolved Metals	Al	As	Cd	CrIII	CrVI	Copper	Fe	Pb	
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
All Seasons	1.59*	0.53*	0.053*	0.53*	2.65*	0.53*	0.0	25.63	
Dissolved Metals	Hg	Ni	Se	Ag	Zn	Boron			
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l			
All Seasons	0.0000	0.53*	4.60	0.1*	0.053*	10.0			* 1/2 MDL

**Projected Discharge Information**

Season	Flow, MGD	Temp.	TDS mg/l	TDS tons/day
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Summer	1.47100	NA	609.92	3.74053
Fall	1.47100	NA		
Winter	1.47100	NA		
Spring	1.47100	NA		

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

**IX. Effluent Limitations**

Current State water quality standards are required to be met under a variety of conditions including in-stream flows targeted to the 7-day, 10-year low flow (R317-2-9).

Other conditions used in the modeling effort coincide with the environmental conditions expected at low stream flows.

**Effluent Limitation for Flow based upon Water Quality Standards**

In-stream criteria of downstream segments will be met with an effluent flow maximum value as follows:

Season	Daily Average	
Summer	1.471 MGD	2.276 cfs
Fall	1.471 MGD	2.276 cfs
Winter	1.471 MGD	2.276 cfs
Spring	1.471 MGD	2.276 cfs

**Flow Requirement or Loading Requirement**

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 1.471 MGD. If the discharger is allowed to have a flow greater than 1.471 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occurring, the permit writers must include the discharge flow limitation as indicated above; or, include loading effluent limits in the permit.

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

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

WET Requirements	LC50 > IC25 >	EOP Effluent 98.8% Effluent	[Acute] [Chronic]	Chronic IC25 % Effluent	Acute LC50 % Effluent		
						Receiving Water Flow Season	Effluent Flow (MGD)
Summer	0.03	1.5	2.3	2.3	YES	98.8%	EOP
Fall	0.80	1.5	2.3	3.1	YES	74.0%	EOP
Winter	3.00	1.5	2.3	5.3	YES	43.1%	EOP
Spring	0.40	1.5	2.3	2.7	YES	85.1%	EOP

**Effluent Limitation for Biological Oxygen Demand (BOD) based upon Water Quality Standards or Regulations**

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent BOD limitation as follows:

Season	Concentration
Summer	25.0 mg/l as BOD5
Fall	25.0 mg/l as BOD5
Winter	25.0 mg/l as BOD5
Spring	25.0 mg/l as BOD5

**Effluent Limitation for Dissolved Oxygen (DO) based upon Water Quality Standards**

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In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent D.O. limitation as follows:

Season	Concentration
Summer	5.00
Fall	5.00
Winter	5.00
Spring	5.00

**Effluent Limitation for Total Ammonia based upon Water Quality Standards**

In-stream criteria of downstream segments for Total Ammonia will be met with an effluent limitation (expressed as Total Ammonia as N) as follows:

Season		Concentration	Load
Summer	4 Day Avg. - Chronic	1.9 mg/l as N	23.7 lbs/day
	1 Hour Avg. - Acute	5.8 mg/l as N	71.7 lbs/day
Fall	4 Day Avg. - Chronic	1.8 mg/l as N	22.1 lbs/day
	1 Hour Avg. - Acute	5.3 mg/l as N	65.5 lbs/day
Winter	4 Day Avg. - Chronic	4.0 mg/l as N	48.7 lbs/day
	1 Hour Avg. - Acute	12.6 mg/l as N	154.9 lbs/day
Spring	4 Day Avg. - Chronic	2.1 mg/l as N	25.4 lbs/day
	1 Hour Avg. - Acute	5.8 mg/l as N	71.7 lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 100.%.

**Effluent Limitation for Total Residual Chlorine based upon Water Quality Standards**

In-stream criteria of downstream segments for Total Residual Chlorine will be met with an effluent limitation as follows:

Season		Concentration	Load
Summer	4 Day Avg. - Chronic	0.011 mg/l	0.14 lbs/day
	1 Hour Avg. - Acute	0.019 mg/l	0.24 lbs/day
Fall	4 Day Avg. - Chronic	0.015 mg/l	0.18 lbs/day
	1 Hour Avg. - Acute	0.025 mg/l	0.31 lbs/day
Winter	4 Day Avg. - Chronic	0.024 mg/l	0.30 lbs/day
	1 Hour Avg. - Acute	0.043 mg/l	0.52 lbs/day
Spring	4 Day Avg. - Chronic	0.013 mg/l	0.16 lbs/day
	1 Hour Avg. - Acute	0.022 mg/l	0.27 lbs/day

**Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards**

Season		Concentration	Load
Summer	Maximum	1403.8 mg/l	8.61 tons/day
Fall	Maximum	1406.8 mg/l	8.63 tons/day
Winter	Maximum	1411.1 mg/l	8.65 tons/day
Spring	Maximum	1405.4 mg/l	8.62 tons/day

Colorado Salinity Forum Limits                      Determined by Permitting Section

**Effluent Limitations for Total Recoverable Metals based upon Water Quality Standards**

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In-stream criteria of downstream segments for Dissolved Metals will be met with an effluent limitation as follows (based upon a hardness of 402.61 mg/l):

	4 Day Average		1 Hour Average		Load
	Concentration	Load	Concentration	Load	
Aluminum	N/A	N/A	759.2	ug/l	9.3 lbs/day
Arsenic	151.84 ug/l	1.2 lbs/day	344.2	ug/l	4.2 lbs/day
Cadmium	2.43 ug/l	0.0 lbs/day	7.5	ug/l	0.1 lbs/day
Chromium III	272.96 ug/l	2.2 lbs/day	5,711.1	ug/l	70.1 lbs/day
Chromium VI	11.09 ug/l	0.1 lbs/day	16.1	ug/l	0.2 lbs/day
Copper	31.04 ug/l	0.2 lbs/day	52.6	ug/l	0.6 lbs/day
Iron	N/A	N/A	1,012.3	ug/l	12.4 lbs/day
Lead	18.65 ug/l	0.1 lbs/day	486.4	ug/l	6.0 lbs/day
Mercury	0.01 ug/l	0.0 lbs/day	2.4	ug/l	0.0 lbs/day
Nickel	171.55 ug/l	1.4 lbs/day	1,543.0	ug/l	18.9 lbs/day
Selenium	4.60 ug/l	0.0 lbs/day	20.2	ug/l	0.2 lbs/day
Silver	N/A	N/A lbs/day	42.0	ug/l	0.5 lbs/day
Zinc	394.77 ug/l	3.1 lbs/day	394.8	ug/l	4.8 lbs/day
Cyanide (free)	5.26 ug/l	0.0 lbs/day	22.3	ug/l	0.3 lbs/day

**Effluent Limitations for Heat/Temperature based upon Water Quality Standards**

Summer	25.9 Deg. C.	78.6 Deg. F
Fall	9.9 Deg. C.	49.7 Deg. F
Winter	11.5 Deg. C.	52.7 Deg. F
Spring	20.8 Deg. C.	69.4 Deg. F

**Effluent Limitations for Organics [Pesticides] Based upon Water Quality Standards**

In-stream criteria of downstream segments for Organics [Pesticides] will be met with an effluent limit as follows:

	4 Day Average		1 Hour Average		Load
	Concentration	Load	Concentration	Load	
Aldrin			1.5E+00	ug/l	2.85E-02 lbs/day
Chlordane	4.30E-03 ug/l	5.27E-02 lbs/day	1.2E+00	ug/l	2.28E-02 lbs/day
DDT, DDE	1.00E-03 ug/l	1.23E-02 lbs/day	5.5E-01	ug/l	1.04E-02 lbs/day
Dieldrin	5.60E-02 ug/l	6.87E-01 lbs/day	2.4E-01	ug/l	4.55E-03 lbs/day
Endosulfan	5.60E-02 ug/l	6.87E-01 lbs/day	1.1E-01	ug/l	2.09E-03 lbs/day
Endrin	3.60E-02 ug/l	4.42E-01 lbs/day	8.6E-02	ug/l	1.63E-03 lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	1.90E-04 lbs/day
Heptachlor	3.80E-03 ug/l	4.66E-02 lbs/day	2.6E-01	ug/l	4.93E-03 lbs/day
Lindane	8.00E-02 ug/l	9.81E-01 lbs/day	1.0E+00	ug/l	1.90E-02 lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02	ug/l	5.69E-04 lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	1.90E-04 lbs/day
Parathion	1.30E-02 ug/l	1.59E-01 lbs/day	6.6E-02	ug/l	1.25E-03 lbs/day
PCB's	1.40E-02 ug/l	1.72E-01 lbs/day	2.0E+00	ug/l	3.80E-02 lbs/day
Pentachlorophenol	1.50E+01 ug/l	1.84E+02 lbs/day	1.9E+01	ug/l	3.61E-01 lbs/day
Toxephene	2.00E-04 ug/l	2.45E-03 lbs/day	7.3E-01	ug/l	1.39E-02 lbs/day

**Effluent Targets for Pollution Indicators Based upon Water Quality Standards**

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

**1 Hour Average**

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	Concentration	Loading
Gross Beta (pCi/l)	50.0 pCi/L	
BOD (mg/l)	5.0 mg/l	61.3 lbs/day
Nitrates as N	4.0 mg/l	49.1 lbs/day
Total Phosphorus as P	0.05 mg/l	0.6 lbs/day
Total Suspended Solids	90.0 mg/l	1104.1 lbs/day

Note: Pollution indicator targets are for information purposes only.

**Effluent Limitations for Protection of Human Health [Toxics Rule]  
Based upon Water Quality Standards (Most stringent of 1C or 3A & 3B as appropriate.)**

In-stream criteria of downstream segments for Protection of Human Health [Toxics] will be met with an effluent limit as follows:

	Concentration	Maximum Concentration Load
<b>Metals</b>		
Antimony	ug/l	lbs/day
Arsenic	ug/l	lbs/day
Asbestos	ug/l	lbs/day
Beryllium		
Cadmium		
Chromium (III)		
Chromium (VI)		
Copper	ug/l	lbs/day
Cyanide	ug/l	lbs/day
Lead		
Mercury	ug/l	lbs/day
Nickel	ug/l	lbs/day
Selenium		
Silver		
Thallium	ug/l	lbs/day
Zinc		

**Metals Effluent Limitations for Protection of All Beneficial Uses  
Based upon Water Quality Standards and Toxics Rule**

	Class 4 Acute Agricultural ug/l	Class 3 Acute Aquatic Wildlife ug/l	Acute Toxics Drinking Water Source ug/l	Acute Toxics Wildlife ug/l	1C Acute Health Criteria ug/l	Acute Most Stringent ug/l	Class 3 Chronic Aquatic Wildlife ug/l
Aluminum		759.2				759.2	N/A
Antimony				647.9		647.9	
Arsenic	101.2	344.2			0.0	101.2	151.8
Asbestos						0.00E+00	
Barium						0.0	
Beryllium						0.0	
Cadmium	10.1	7.5			0.0	7.5	2.4
Chromium (III)		5711.1			0.0	5711.1	273.0
Chromium (VI)	101.2	16.1			0.0	16.15	11.09
Copper	202.5	52.6				52.6	31.0
Cyanide		22.3	404.9			22.3	5.3
Iron		1012.3				1012.3	
Lead	100.9	486.4			0.0	100.9	18.7
Mercury		2.43		0.15	0.0	0.15	0.012
Nickel		1543.0		4656.6		1543.0	171.5
Selenium	50.6	20.2			0.0	20.2	4.6
Silver		42.0			0.0	42.0	
Thallium				0.5		0.5	
Zinc		394.8				394.8	394.8
Boron	759.2					759.2	

**Utah Division of Water Quality  
Salt Lake City, Utah**

**Summary Effluent Limitations for Metals [Wasteload Allocation, TMDL]**

[If Acute is more stringent than Chronic, then the Chronic takes on the Acute value.]

	<b>WLA Acute ug/l</b>	<b>WLA Chronic ug/l</b>	
Aluminum	759.2	N/A	
Antimony	647.87		
Arsenic	101.2	151.8	Acute Controls
Asbestos	0.00E+00		
Barium			
Beryllium			
Cadmium	7.5	2.4	
Chromium (III)	5711.1	273	
Chromium (VI)	16.1	11.1	
Copper	52.6	31.0	
Cyanide	22.3	5.3	
Iron	1012.3		
Lead	100.9	18.7	
Mercury	0.152	0.012	
Nickel	1543.0	172	
Selenium	20.2	4.6	
Silver	42.0	N/A	
Thallium	0.5		
Zinc	394.8	394.8	
Boron	759.23		

Other Effluent Limitations are based upon R317-1.

E. coli 126.0 organisms per 100 ml

**X. Antidegradation Considerations**

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

The antidegradation rules and procedures allow for modification of effluent limits less than those based strictly upon mass balance equations utilizing 100% of the assimilative capacity of the receiving water. Additional factors include considerations for "Blue-ribbon" fisheries, special recreational areas, threatened and endangered species, and drinking water sources.

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that an Antidegradation Level II Review is not required because it is a consistent permit renewal.

**XI. Colorado River Salinity Forum Considerations**

Discharges in the Colorado River Basin are required to have their discharge at a TDS loading of less than 1.00 tons/day unless certain exemptions apply. Refer to the Forum's Guidelines for additional information allowing for an exceedence of this value.

This doesn't apply to facilities that do not discharge to the Colorado River Basin.

**XII. Summary Comments**

The mathematical modeling and best professional judgement indicate that violations of receiving water beneficial uses with their associated water quality standards, including important down-stream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.

**Utah Division of Water Quality  
Salt Lake City, Utah**

**XIII. Notice of UPDES Requirement**

This Addendum to the Statement of Basis does not authorize any entity or party to discharge to the waters of the State of Utah. That authority is granted through a UPDES permit issued by the Utah Division of Water Quality. The numbers presented here may be changed as a function of other factors. Dischargers are strongly urged to contact the Permits Section for further information. Permit writers may utilize other information to adjust these limits and/or to determine other limits based upon best available technology and other considerations provided that the values in this wasteload analysis [TMDL] are not compromised. See special provisions in Utah Water Quality Standards for adjustments in the Total Dissolved Solids values based upon background concentration.

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File Name: 251216-Alton\_Coal\_WLA\_2025.xlsm

**APPENDIX - Coefficients and Other Model Information**

CBOD Coeff. (Kd)20 1/day 2.000	CBOD Coeff. FORCED (Kd)/day 0.000	CBOD Coeff. (Ka)T 1/day 1.057	REAER. Coeff. (Ka)20 (Ka)/day 226.708	REAER. Coeff. FORCED 1/day 0.000	REAER. Coeff. (Ka)T 1/day 163.119	NBOD Coeff. (Kn)20 1/day 0.400	NBOD Coeff. (Kn)T 1/day 0.137
Open Coeff. (K4)20 1/day 0.000	Open Coeff. (K4)T 1/day 0.000	NH3 LOSS (K5)20 1/day 4.000	NH3 (K5)T 1/day 2.114	NO2+NO3 LOSS (K6)20 1/day 0.000	NO2+NO3 (K6)T 1/day 0.000	TRC Decay K(CI)20 1/day 32.000	TRC K(CI)(T) 1/day 14.253
BENTHIC DEMAND (SOD)20 gm/m2/day 1.000	BENTHIC DEMAND (SOD)T gm/m2/day 0.417						
K1 CBOD {theta} 1.0	K2 Reaer. {theta} 1.0	K3 NH3 {theta} 1.1	K4 Open {theta} 1.0	K5 NH3 Loss {theta} 1.0	K6 NO2+3 {theta} 1.0	K(CI) TRC {theta} 1.1	S Benthic {theta} 1.1

**Antidegradation Review**

An antidegradation review (ADR) was conducted to determine whether the proposed activity complies with the applicable antidegradation requirements for receiving waters that may be affected. The Level I ADR evaluated the criteria of R317-2-3.5(b) and determined that a Level II antidegradation Review is not required because there is not a change to potential contaminants or increased effluent flow.

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**ATTACHMENT 3**

*Reasonable Potential Analysis*

## REASONABLE POTENTIAL ANALYSIS

DWQ has worked to improve the reasonable potential (RP) analysis for the inclusion of limits for parameters in the Permit by using an EPA provided model when applicable. As a result of the model, more parameters may be included in the renewal Permit. A Copy of the Reasonable Potential Analysis Guidance (RP Guide) is available at DWQ. There are four outcomes for the RP Analysis<sup>1</sup>. They are;

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

The Initial RP Screening Table is included below for the metals parameters, as derived from the Permit application information, DMRs and WLA. Note that the full RP analysis model was not utilized at this time due to the lack of data points with sufficiently sensitive laboratory reporting limits as further discussed below (a minimum of ten valid data points is needed for the model analysis).

**RP Initial Screening Table for Alton Coal Mine (UT0025092)  
2021-2025 Data Summary Results from all Outfalls**

Parameter	No. of Samples	MEC *a mg/L	Water Quality Standard MAC *b		Outcome/Result
			Acute mg/L	Chronic mg/L	
Total Arsenic	1	0.0007	0.101	0.152	MEC < MAC *c
Total Cadmium	7	<0.002	0.0075	0.0024	MEC < MAC
Total Chromium	7	0.006	5.711	0.273	MEC < MAC
Total Copper	8	0.006	0.0526	0.031	MEC < MAC
Total Iron	28	<b>5.25</b>	1.012	NA	<b>MEC &gt; MAC</b>
Total Lead	3	0.0036	0.101	0.0187	MEC < MAC
Total Mercury	1	<0.0002	0.0002	0.000012	MEC < MAC (acute) Undetermined (chronic)*e
Total Nickel	8	0.0062	1.543	0.172	MEC < MAC
Total Selenium	16	0.0024	0.02	0.0046	MEC < MAC
Total Silver	1	0.001	0.042	NA	MEC < MAC
Total Zinc	8	0.06	0.395	0.395	MEC < MAC
Total Boron	27	0.66	0.759	NA	MEC < MAC

### Notes/Legend

NA – Not Applicable, no current Water Quality Standard (WQS).

WQS Exceedances shown in **BOLD**.

\*a – MEC: Maximum expected effluent concentration as determined from existing data set.

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

<sup>1</sup> See Reasonable Potential Analysis Guidance for definitions of terms.

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

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

\*e – Undetermined: Unable to further evaluate the Chronic WQS criteria due to current laboratory method detection limits (MDLs) and/or reporting limits being higher than the applicable WQS. As MDLs continue to improve, this can be re-evaluated during the next RP analysis and permit renewal period.

Summary: An initial screening qualitative RP analysis was performed on all metals parameters from the facility discharge data (see Table above). Initial screening values that were submitted through both the monthly discharge monitoring reports, as well as the Permit renewal application information, showed that a closer look was not needed for any of the metals parameters since all were below the applicable Water Quality Standards (WQS), except for total iron which already has a specific effluent limitation in the Permit as derived from the WQS. Therefore, no RP currently exists at the facility for any other metals parameters and a more quantitative RP analysis was not necessary at this time. Monitoring future mine water discharges for all the metals will remain in place however, as detailed in the Permit. This will ensure an adequate data set exists to run the full RP model for a more quantitative RP analysis when appropriate (the RP model requires a minimum of ten data points once any outliers are identified). This will be re-evaluated during the next permit cycle as appropriate. Based upon this RP evaluation, the final RP outcome was not to include any additional metal effluent limits at this time.

Result: The RP analysis of the effluent discharge data for all of the listed metals parameters resulted in no additional Acute or Chronic limits being required at this time and the metals monitoring will remain in the Permit, which equates to **RP Outcome C: No new effluent limitation. Routine monitoring requirements will be maintained as they are in the Permit.**

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