

**FACT SHEET AND STATEMENT OF BASIS  
BRONCO UTAH OPERATIONS LLC, EMERY UNDERGROUND MINE  
RENEWAL PERMIT: DISCHARGE & STORM WATER  
UPDES PERMIT NUMBER: UT0022616  
UPDES MULTI-SECTOR STORM WATER GENERAL PERMIT NUMBER: UTR000000  
MAJOR INDUSTRIAL**

**FACILITY CONTACTS**

Person Name: Dan R Baker  
Position: CEO/President, Bronco Utah Operations LLC  
Phone Number: (801) 286-2301

Person Name: John C. (Kit) Pappas  
Position: Environmental Manager  
Phone Number: (435) 650-7339

**DESCRIPTION OF FACILITY**

Facility Name: Emery Underground Mine  
Mailing and Facility Address: P.O. Box 527  
Emery, Utah 84522  
Telephone: 435-650-7339  
Actual Address: 3300 North 1200 West

Classification (SIC): *1222 - Bituminous Coal Underground Mining (NAICS 212112)*

Bronco Utah Operations, LLC (Formerly Consol Coal) owns and operates an underground coal mine located 4 miles south of the town of Emery in Emery County, Utah, Township 22 South, Range 6 East. In 2009, the Emery Mine produced about 1.2 million short tons of coal. Production at the mine ceased. The mine has been idle for several years, but recent progress is being made to re-open the mine and resume the mining operation. It is anticipated that within this permit cycle, Emery Underground Mine will be operational.

**SUMMARY OF CHANGES FROM PREVIOUS PERMIT**

Biomonitoring requirements have changed to remove Acute WET testing, with the addition of Chronic WET testing being required quarterly.

**DISCHARGE**

Over the last 5 years, Emery Mine has only had need to discharged from Outfall 003. There has not been enough accumulated storm water to discharge from any of the storm water settling ponds for over 15 years. Historically, discharges from this facility have been exclusively comprised of intercepted groundwater from the mine area.

Outfall 008 has not been developed to date. However, this outfall is identified in a plan for future activities maintained by the Division of Oil Gas and Mining. Therefore, it is included as an outfall in this renewal permit.

As the mine has been developed, outfall 005, which previously only received storm water, has now been redesigned to receive and discharge intercepted mine water.

Emery Underground Mine is authorized to discharge intercepted groundwater and storm water from the following outfalls:

Outfall Number	Description of Discharge Point
001	Discharge of mine water at latitude 38° 51' 38" and longitude 111° 16' 09' from Sediment Pond #1 to Quitchupah Creek.
002	Discharge of storm water at latitude 38° 51' 34" and longitude 111° 15' 24' from Sediment Pond #2 to Quitchupah Creek.
003	Discharge of mine water at latitude 38° 52' 33" and longitude 111° 16' 53' from Sediment Pond #6 to Quitchupah Creek.
004	Discharge of mine water at latitude 38° 52' 48" and longitude 111° 16' 51' from Sediment Farmers Pond to Quitchupah Creek.
005	Discharge of mine water at latitude 38° 51' 34" and longitude 111° 15' 23' from Sediment Pond #3 to Quitchupah Creek.
006	Discharge of storm water at latitude 38° 51' 32" and longitude 111° 15' 30' from Sediment Pond #3 to Quitchupah Creek.
007	Discharge of storm water at latitude 38° 51' 45" and longitude 111° 15' 45' from Sediment Pond #5 to Quitchupah Creek.
008	Slurry emergency discharge at latitude 38° 51' 45" and longitude 111° 16' 15' from proposed Sediment Pond #7 to Quitchupah Creek.
009	Discharge of storm water at latitude 38° 52' 30" and longitude 111° 14' 08' from Sediment Pond #9 to Christiansen Wash.

## RECEIVING WATERS AND STREAM CLASSIFICATION

Discharges 001- 008 flow into Quitcupah Creek, a tributary of Muddy Creek. The receiving water is classified as 2B, 3C, and 4 (Utah Administrative Code (UAC) R317-2-13.1).

Discharge 009 flows into Christiansen Wash, a tributary of Quitcupah Creek. The receiving water is classified as 2B, 3C, and 4 (Utah Administrative Code (UAC) R317-2-13.1).

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.

## BASIS FOR EFFLUENT LIMITATIONS

The daily maximum TSS effluent limit is a technology based limit for coal mines found in 40 CFR 434. The TSS and pH effluent limitations are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The Oil and Grease and sanitary waste limitations are based on best professional judgment (BPJ).

The iron effluent limit was retained from the previous permit, as it is more stringent than limits determined by the current WLA. This is in agreement with anti-backsliding requirements found in *UAC R317-8-4.2(II)*. Further, this limit is more stringent than the 7.0 mg/L as per the applicable categorical limit, 40 CFR 434 Coal Mining Point Source Category.

Chronic Whole effluent toxicity effluent limits are based on the current Waste Load Analysis and replaced acute whole effluent testing in accordance with UAC R317-2-5, which states that chronic whole effluent toxicity testing is required if the ratio of receiving water to effluent is less than 20:1.

Sulfate and TDS limits were retained from the previous permit, as they are more stringent than limits determined by the current WLA.

Discharges from Emery Underground Mine may eventually reach the Colorado River, which places it in the guidance of the Colorado River Basin Salinity Control Forum (CRBSCF) for total dissolved solids (TDS) mass loading limitations, which is authorized in UAC R317-2-4 to further control salinity in the Utah portion of the Colorado River Basin. On February 28, 1977 the CRBSCF 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 2014, which states that if a no-salt (i.e., no-TDS) discharge cannot be achieved, then the facility is limited to discharging one-ton per day of TDS unless a demonstration is made that it is not economically feasible and/or practicable to do so.

Emery Underground Mine's TDS discharge exceeds the one ton per day loading imitation guideline as set by the CRBSCF, therefore a cost analysis of alternative plans was prepared in response to the 1977 Policy and was completed on January 12, 1984. The analysis indicates that a zero discharge (no-salt) or one-ton per day discharge of TDS is not economically feasible or practical considering the low production yields of

the extraction system. Since the initial 1984 assessment, both the policy and mining activities have changed. Bronco Utah Operations, LLC (Consol at the time) revisited the applicability of their exemption from the CRBSCF policy in a letter dated August 28, 2006. For this permit cycle, Bronco Utah Operations, LLC, was required to reevaluate and submit a justification to DWQ for exemption from the CRBSCF policy.

Bronco Utah Operations, LLC successfully demonstrated that the exemption is still applicable in a letter dated May 17, 2017. As the State permitting authority for the CRBSCF Policy, Utah Division of Water Quality staff reviewed the May 17, 2017 demonstration as submitted and concurs that the demonstrated exemption to the Policy is still applicable since production trends have been decreasing over time. The TDS concentration limit is based on a site specific standard for Quitchipah Creek.

#### **EFFLUENT LIMITATIONS FOR PRECIPITATION EVENTS**

In conformance with 40 CFR 434.63, the Division has incorporated the alternative effluent limits for discharge of mine drainage caused by precipitation events larger than regulatory design standards. The permittee has the burden of proof when requesting application of these alternative limitations. Relief shall be granted only when necessary and shall not be granted when the permittee has control over the discharge. The permittee should endeavor to meet the primary limitations whenever possible. Relief is not available for mine drainage from underground workings of underground mines that are not commingled with discharges eligible for alternate limitations (i.e., surface runoff). This is the case for Outfalls 001, 003, 004. Thus, the alternate limitations may only be applied to Outfalls 002, 005, 006, 007, 008 and 009.

For rainfall, to apply the alternative limitations in Part I.C.3., it is necessary to prove that the discharge occurred during the precipitation event, or within 48 hours after measurable precipitation has stopped. In addition, to apply the alternative limitations in Part I.C.4., it is necessary to prove that the discharge occurred during the precipitation event, or within 48 hours after precipitation greater than the 10-year, 24-hour event has stopped.

For snowmelt, to apply the alternative limitations in Part I.C.3., it is necessary to prove that the discharge occurred during pond inflow from the snow melt event, or within 48 hours after pond inflow has stopped. In addition, to apply the alternative limitations in Part I.C.4., it is necessary to prove that the discharge occurred during pond inflow from the snow melt event, or within 48 hours after pond inflow volume greater than the 10-year, 24-hour event has stopped.

Documentation that the treatment facilities were properly operated and maintained prior to and during the storm event must be submitted with any request for relief from primary limitations. The Division shall determine the adequacy of proof. As part of this determination, the Division shall evaluate whether the permittee could have controlled the discharge in such a manner that primary limitations could have been met, whether proper sediment storage levels were maintained and the ponds had sufficient water and sediment capacity for the storm event plus other relevant factors. All manual pond dewatering must meet all limitations of Part I.C.1.

Alternative effluent limits for precipitation events are as follows:

Parameter	Alternative Effluent Limitations			
	Average Monthly	Average Weekly	Minimum Daily	Maximum Daily
Flow, MGD	Report			Report
pH, standard units			6.0	9.0
Settleable solids (SS), milliliter/liter				0.5
Total Suspended Solids (TSS), mg/L	Report	Report		Report
Total Iron, mg/L				Report
Total Dissolved Solids (TDS) mg/L	Report			Report

**REASONABLE POTENTIAL ANALYSIS**

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. Historically, the Emery Underground Mine has not been required to analyze mine water for any metals other than Iron. An Iron effluent limit was included in the previous permit, which was retained in this renewal. Because of this, Iron did not require a formal reasonable potential analysis. In addition, because of limited data of metal concentrations in Bronco Emery mine discharge; this renewed permit will require accelerated metals analysis during the first 10 months the mine is discharging. Because the initial discharges at Emery Underground may be sporadic, it is acceptable if sampling events not be conducted during concurrent months. Metals to be analyzed include arsenic, cadmium, chromium, copper, mercury, nickel, lead, silver, zinc and boron.

Once 10 data sets are completed, a more robust RP analysis will be conducted following DWQ’s September 10, 2015 Reasonable Potential Analysis Guidance. At which point, if required this permit will be modified to reflect the outcome of the analysis.

**TDS AND SULFATE SITE SPECIFIC STANDARD**

According to Utah’s 2014 303(d) Water Quality Assessment, the assessment unit for this section of Quitchipah Creek (Quitchipah Creek and tributaries from the confluence with Ivie Creek to U-10 crossing; UT14070002-007) was listed as impaired for O/E Bioassessment (Class 3C use), and total dissolved solids (Class 4 use). Total dissolved solids (TDS) values in this area are naturally elevated due to the presence of shale layers. Several site-specific TDS Standards have been developed in the watershed (Quitchipah, Ivie and Muddy Creeks). Quitchipah Creek’s listing for total dissolved solids (TDS) was based solely on samples obtained from Christiansen Wash, a tributary to Quitchipah Creek, where values were compared to the state standard of 1200 mg/L, instead of Quitchipah Creek’s site specific standard of 3,800 mg/L. While it shares the same characteristics as Quitchipah, Christiansen Wash was inadvertently not included in the site specific language for Quitchipah Creek and should share the same 3,800 mg/L standard. The site specific TDS standard is 3,800 mg/L provided that the in-stream sulfate concentration does not exceed 2,000 mg/L. This is the first sulfate standard in the State of Utah. The new standard allows for a higher TDS concentration in Emery Underground Mine’s effluent while being protective of the existing livestock watering agricultural use by limiting sulfate concentrations. Sulfate is the primary constituent of TDS that

is toxic to ruminants.

The permit effluent limits are as follows:

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow *a*b	1.5	--	--	--	--
TSS, mg/L	25	35	--	--	70
Sulfate, mg/L*g	--	--	--	--	3,366
TDS, mg/L	--	--	--	--	4,766
WET, Chronic Biomonitoring*c*e	--	--	--	--	IC <sub>25</sub> > 48.9% effluent
Oil & Grease, mg/L*d	--	--	--	--	10.0
pH, Standard Units	--	--	--	6.5	9
Total Iron, mg/L	--	--	--	--	1.4
Sanitary Waste	--	--	--	--	None

#### SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are different than the previous permit. Monitoring frequency was changed to twice monthly monitoring from weekly. Weekly monitoring was required in the previous permit renewal, due to an increase in permitted flow. No issues were noted with during that permit cycle, and therefore will be reverted back to previous monitoring frequency. The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Lab sheets for biomonitoring must be attached to the biomonitoring DMR. Lab sheets for metals and toxic organics must be attached to the DMRs.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b	Twice monthly	Recorder	MGD
TSS	Twice monthly	Grab	mg/L
pH	Twice monthly	Grab	SU
WET – Biomonitoring *c *e Ceriodaphnia - Chronic Fathead Minnows – Chronic	Quarterly, Alternating Species each quarter when mine is discharging.	Composite Composite Composite Composite	Pass/Fail Pass/Fail Pass/Fail Pass/Fail
Oil & Grease *d	When Sheen Observed	Grab	mg/L
TDS, mg/L	Monthly	Composite	mg/L
Sulfate, mg/L	Monthly	Composite	mg/L
Sanitary Waste	Monthly	Visual	
Metals*f	Monthly	Grab	mg/L

- \*a See Definitions, *Part VIII*, for definition of terms.
- \*b Flow measurements of effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- \*c Chronic WET monitoring is required on outfalls 001, 003 and 004 only. Each chronic WET test shall alternate between Ceriodaphnia and the fathead minnows.
- \*d Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
- \*e Monitoring frequency will be annual while mine is idle and quarterly at commencement of mining activities.
- \*f 10 sampling events for metals shall occur during the first 10 months that Bronco Emery Mine is discharging. These months are not required to be consecutive. Reasonable potential will then be conducted on this data set. RP analysis for arsenic, cadmium, chromium, copper, mercury, nickel, selenium, lead, silver, zinc and cyanide will be conducted.
- \*g Sulfate and TDS sampling events shall occur concurrently.

## **STORM WATER**

### **STORMWATER REQUIREMENTS**

The storm water requirements are based on the UPDES Multi-Sector General Permit for Storm Water Discharges for Industrial Activity, General Permit No. UTR000000 (MSGP). This permit authorizes storm water discharges through the designated outfalls listed above. Storm water from haul roads, access roads, railroad spurs, sidings and internal haulage lines, conveyor belts, chutes, aerial tramway haulage areas, equipment storage and maintenance yards, coal handling buildings and structures, and inactive coal mines and related areas are permitted under the storm water provision of the permit. The permit includes requirements to address storm water, other than for active mining areas, in a storm water pollution prevention plan. Emery Underground Mine must continue to maintain storm water BMP's and update and maintain their current storm water pollution prevention plan.

The permit requires the preparation and implementation of a storm water pollution prevention plan for all areas within the confines of the mine. Elements of this plan are required to include:

1. The development of a pollution prevention team.
2. Development of drainage maps and materials stockpiles.
3. An inventory of exposed materials.
4. Spill reporting and response procedures.
5. A preventative maintenance program.
6. Employee training.
7. Certification that storm water discharges are not mixed with non-storm water discharges.
8. Compliance site evaluations and potential pollutant source identification, and
9. Visual examinations of storm water discharges.

Emery Underground Mine is currently covered under the UPDES Multi Sector General Permit for Industrial Activities.

**BIOMONITORING REQUIREMENTS**

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring). 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.

Emery Underground Mine is a major industrial facility that discharges intercepted groundwater. Acute Whole Effluent Toxicity (WET) testing was completed in 2014 using effluent from Outfall 003. No acute toxicity was found. Emery Underground Mine's discharge makes up over 25% of the receiving stream flows, and therefore, in this permit Emery Underground Mine shall be required to monitor WET quarterly for only chronic conditions. Biomonitoring is required at outfalls 001,003, and 004 which contain mine water. These outfalls have similar discharge rates, therefore the IC25 of 48.9% effluent will be applicable to all three. The permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the effluent during this permit cycle.

**PERMIT DURATION**

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

Drafted by:  
Nate Nichols, Discharge  
Matthew Garn, Colorado River Salinity  
Michael George, Storm Water  
Dave Wham, Wasteload Analysis  
Mike Herkimer, Biomonitoring  
Utah Division of Water Quality, (801) 536-4300

**PUBLIC NOTICE**

Began: October 30, 2017  
Ended: December 01, 2017

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

The Public Noticed of the draft permit was published in the Emery County Progress.

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

**ADDENDUM TO FSSOB**

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

**Responsiveness Summary**

No public comments were received during the above public comment period.

This Page Intentionally Left Blank

# **ATTACHMENT 1**

*Effluent Monitoring Data*

This Page Intentionally Left Blank

### Effluent Monitoring Data

Outfall 003:

Month	Flow	Sulfate	pH		O & G	Iron	TDS	TSS	
	Ave	Max Monthly Ave	Min	Max	Max	Daily Max	Max Monthly Ave	Max Monthly Ave	Daily Max
8/31/2013	.07	1482	7	7.1	0	2.29	2790	10	22
9/30/2013	.14	1457	7	7.1	0	1.34	2706	10	18
10/31/2013	.19	1474	7	7	0	.8	2777	5	5
11/30/2013	.01	586	7	7.1	0	.28	1110	5	5
12/31/2013	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI
1/31/2014	.12	214	7	7	0	1.02	386	5	5
2/28/2014	.11	1386	7	7	0	1.57	2653	7	9
3/31/2014	.16	1433	7	7.1	0	.77	2689	12	20
4/30/2014	.21	1441	7	7.1	0	.66	2801	5	6
5/31/2014	.2	1394	7	7.1	0	.97	2836	5	5
6/30/2014	.18	1446	7	7.1	0	.98	2848	14	31
7/31/2014	.19	1457	7	7	0	.65	2820	5	5
8/31/2014	.14	1131	7	7	0	1.52	2240	5	5
9/30/2014	.18	1561	7	7.1	0	.76	2799	6	7
10/31/2014	.23	1481	7	7	0	.94	2784	5	7
11/30/2014	.22	1430	7	7	0	1.02	2818	7	10
12/31/2014	.2	1391	7	7	0	1.06	2841	5	7
1/31/2015	.15	1344	7	7.1	0	1.46	2866	7	9
2/28/2015	.19	1396	7	7.1	0	1.12	2870	6	8
3/31/2015	.21	1439	7	7.1	0	1.21	2847	5	5
4/30/2015	.14	1477	7	7.1	0	1.23	2867	6	7
5/31/2015	.16	1437	6.8	7.1	0	1.12	2834	1	20
6/30/2015	.14	1485	6.9	7.1	0	.57	2873	14	31
7/31/2015	.16	1473	6.9	7	0	.89	2859	8	19
8/31/2015	.15	1462	6.9	7	0	1.11	2843	5	6
9/30/2015	.14	1487	6.9	7	0	.72	2884	9	26
10/31/2015	.13	1443	6.9	7	0	.84	2879	5	5
11/30/2015	.16	1502	6.9	7	0	1.07	2911	6	7
12/31/2015	.08	858	6.9	6.9	0	1.72	1775	4	9
1/31/2016	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI
2/29/2016	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI
3/31/2016	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI
4/30/2016	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI
5/31/2016	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI
6/30/2016	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI
7/31/2016	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI	NODI

NODI = No discharge

All other Discharge Points at Bronco Emery Mine did not discharge during the previous permit cycle.

WET Results 003

Month	WET Test	Pass / Fail
Jun-14	48Hr Acute Ceriodaphnia	Pass
Jun-14	96Hr Acute Pimephales Promelas	Pass

## **ATTACHMENT 3**

**Comment [NN1]:** Insert WLA, Edocs number DWQ-2017-009652. Included in WF

### *Wasteload Analysis*

This Page Intentionally Left Blank

**ATTACHMENT 4**

*Reasonable Potential Analysis*

This Page Intentionally Left Blank

## **REASONABLE POTENTIAL ANALYSIS**

Water Quality has worked to improve our reasonable potential analysis (RP) for the inclusion of limits for parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. A Copy of the Reasonable Potential Analysis Guidance (RP Guide) is available at water Quality. 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.

Due to the lack of substantial metals data, RP analysis will be conducted on data collected after 10 data sets of metals data are produced by Bronco Emery Deep Mine.

---

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