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# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

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### Division of Oil, Gas and Mining

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Division Director

June 26, 2020

Brian Fredrickson  
Bronco Utah Operations, LLC  
P.O. Box 527  
Emery, Utah 84522

Subject: 2019 Annual Report Review Completion, Bronco Utah Operations, LLC, Emery Deep, C/015/0015, Task #6134

Dear Mr. Fredrickson:

The Division has completed the review of the 2019 Annual Report. In the future, please note that the waste rock volume stated on the P.E. certified quarterly refuse inspection reports must be updated with the 2018 as built surveyed volume.

Thank you for your help during this process. If you have any questions, please feel free to call me at (801) 538-5350.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Christensen".

Steve Christensen  
Coal Program Manager

SKC/sqs  
Enclosure  
O:\015015.EME\WG6134 ANNUAL REPORT\AR Review.doc



# 2019 ANNUAL REPORT

Submit the completed document and any additional information identified to the Division by March 31, 2020.

## GENERAL INFORMATION

Company Name	Bronco Utah Operations, LLC	Mine Name	Emery Deep Mine
Permit Number	C/015/0015	Permit Expiration Date	2022-01-07
Operator Name	Bronco Utah Operations LLC	Phone Number	+1 (435) 286-2447
Mailing Address	Highway 10 South Box 527	Email	jpappas@broncoutah.com
City	Emery		
State	Utah	Zip Code	84522

## DOGM File Location or Annual Report Location

Excess Spoil Piles	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Not Required	
Refuse Piles	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not Required	See Appendix A-2 Quarterly Coal Refuse Inspections
Impoundments	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not Required	See Appendix A-1 Annual Impoundment Inspections
Other:		

## OPERATOR COMMENTS

Underground mining operations commenced on October 11, 2017 via the newly constructed Emery 2 portals. Appendix A-1 (Annual Impoundments Inspections), Appendix A-2 (Quarterly Coal Refuse Inspections), Appendix B-2 (Annual Subsidence Survey), Appendix B-5 (Emery Reclamation Study - Annual Qualitative/Quantitative Report), Appendix B-6 (Annual Water Monitoring Summary including Emery Town Well), Appendix D -1 (Annual Map)

## REVIEWER COMMENTS

Met Requirements  Did Not Meet Requirements

4/24/2020, Correctly identifying the volume of waste rock stored at the waste rock site and its remaining capacity was resolved through review of the 2019 annual report and addressed through subsequent mid-term review responses. In the fourth review, Task 6010, received in October 2019, statements on Chap II p. 17i, Chap III, p. 15g and Chapter IV, p. 8f of the MRP all agreed that there is 108,800 CY of excess box cut material stored at the waste disposal site, based upon as-built information presented to the Division as early as February 2019 (Task 5864).  
"These volumes will be adjusted in future refuse pile reports to reflect current volumes," (correspondence from Bronco Utah Operations LLC, to the Division dated 9/12/2019).

Certified quarterly inspections are collected in Appendix A-2 (e-p. 39) of the Annual Report. These reports have good quality photographs attached to illustrate the site from several aspects. The 1st and 2nd quarters incorrectly report 97,960 CY of waste stored at the site; bench elevation 5989.6 ft; remaining storage capacity of 40,000 CY; and state that coal is being stored at the site. In the 3rd and 4th quarter (Sept 18 and Nov. 25) volume and capacity are left blank; and state that box cut overburden is being stored and crushed at the site for in-mine use.

Conclusion: The professional engineer conducting the certified quarterly inspections must be made aware of the waste rock volume surveyed in 2018 and adjust subsequent volumes placed and remaining capacity accordingly.

The permittee has conducted quarterly sediment pond and refuse pile inspections as required in the R645 Coal Rules. These quarterly inspections were reviewed by the inspector during the quarterly complete inspection. The reports meet the R645 Coal requirements.

# COMMITMENTS AND CONDITIONS

The Permittee is responsible for ensuring annual technical commitments in the Mining and Reclamation Plan and conditions accepted with the permit are completed throughout the year. The Division has identified these commitments below and has provided space for you to report what you have done during the past year for each commitment. If additional written response is required, it should be filed as an attachment to this report.

## **Title: WATER MONITORING**

**Objective:** Provide an annual water monitoring summary to be submitted by March 31st.

**Frequency:** Annually

**Status:** Ongoing

**Reports:** Annual Report

**Citation:** Chapter VI, page VI-28

## **OPERATOR COMMENTS**

See Appendix B-6 (Annual Water Monitoring Summary including Emery Town Well)

## **REVIEWER COMMENTS**



Met Requirements



Did Not Meet Requirements

Appendix B-6 provides a summary of information collected throughout the year's water monitoring. There report also points out a few issues with the way some data has been reported in the database that will be corrected by the Division. The Permittee has met the requirement of this commitment. (AD 6/18/2002)

## **Title: INVESTIGATIVE STUDY INTO RECLAMATION PRACTICE**

**Objective:** To develop an enhanced reclamation plan, based on an evaluation of soil chemistry and vegetation establishment on previous reclaimed sites. (results located in Chapter 11, Appendix 1). This is a four-phase project. Phase I involves reporting on the investigation of past reclamation sites and practices at the mine.

Phase II requires to lower the profile of pond 6 stockpiles, reseed and keep wildlife off piles; reclaim ponds 4 & 5, and pond 1 subsoil pile; adjust final reclamation plans to incorporate beneficial treatments observed such as discing in 1 T/ac straw mulch; modify the seed mix to include only salt tolerant species and allow for a higher percentage of shrubs and forbs; adjust the reference areas to eliminate duplication.

Phase III requires that the applied techniques be evaluated qualitatively annually and quantitatively between the 4th and 6th year. These evaluations will be correlated to precipitation data.

Phase IV requires the permittee to revise the MRP to include the best technology for final revegetation.

**Frequency:** Ongoing

**Status:** Phase I has been met. Phase II has been met (2014).

**Reports:** Qualitative report annually, and quantitative report between 4th and 6th year.

**Citation:** Chapter III, page 4a, and Chapter III, Appendix 1

## **OPERATOR COMMENTS**

Field meetings and historical review were held in April 2014. Three sites were chosen for regrading and revegetation based on soil quality (see CH III pg 4a-4c)

Phase III Annual revegetative monitoring results will be reported through the annual report via Appendix B-5 Emery Reclamation Study - Annual Qualitative/Quantitative Report

**REVIEWER COMMENTS**

Met Requirements



Did Not Meet Requirements

4/24/2020, PB. Appendix B-5 (e-p 55) contains a qualitative vegetation survey of the reclamation study areas. Sampling was conducted on September 25, 2019. Density counts reflect numbers per plot, not per acre.

Conclusions: In subsoil, topsoil and reverse osmosis plots, the qualitative estimate of species density has increased over time. In the berm area, the density diminished from 2017 high values. Dominant weeds at all sites are Halogeton glomeratus and Bassia hysopifolia, both thrive in alkaline conditions.

Species at each site are listed below. Dominant species are in capital letters.

Subsoil berm area:  
Seeded shrub species: A. CANESCENS, A. gardneri, K. lanata, were persisting. A single annual sunflower was present. Grasses had died out. Greasewood, RABBITBRUSH, sagebrush and BROOM SNAKEWEED have come in on their own.

Subsoil pile:  
Seeded shrub species: A. CANESCENS, A. gardneri, K. LANATA, were persisting. RUSSIAN WILDRYE (E. junceus), and many annual sunflower were persisting. Greasewood and rabbitbrush have come in.

Topsoil pile:  
Seeded shrub species: A. canescens, A gardneri, K. LANATA, were persisting. RUSSIAN WILDRYE (E. junceus), and few annual sunflower were persisting. GREASEWOOD has come in.

Reverse Osmosis pond:  
The investigator noted that the edge of the plot seemed to have more desirable species. This could be due to less compaction from equipment on the edge.  
Seeded shrub species: A. CANESCENS, A. confertifolia A. gardneri, K. lanata, were persisting. Grasses: RUSSIAN WILDRYE (E. junceus), E. smithii, Sporobolus airoides. Stipa hymenoides and many annual sunflower persist. GREASEWOOD, rabbitbrush, tamarix, and T. canescens (spineless horsebrush) have come in.

[A record of the seeded species was sent to file on 1/20/2015 and included the following shrubs: Atriplex canescens, A. confertifolia, A. corrugate, A. gardneri var. cuneata and Krascheninnikovia lanata. The following grasses were seeded: Elymus junceus, E. smithii, Hilaria jamesii, Sporobolus airoides, S. flexuosus, Stipa hymenoides. Seeded forbes: Eriogonum umbellatum, Helianthus annuus, Phacelia crenulata, Sphaeralcea grossulariaefolia.]

**Title: SUBSIDENCE MONITORING- MONTHLY INSPECTIONS****Objective:** Inspect the area outlined on Plate V-5 as full extraction areas when pillar splitting begins.**Frequency:** Monthly until there is no significant movement (+/- 0.5 feet)**Status:** Ongoing**Reports:** Track in annual report to ensure compliance. Resubmittal of monthly reports is not necessary if the operator has already submitted them. Division engineer will review reports annually to ensure compliance.**Citation:** Chapter V, Section V-B.2 (Subsidence Survey and Monitoring Plan) Page 38**OPERATOR COMMENTS**

All subsidence in 2019 took place on Bronco surface. Monthly observations and reporting will commence when subsidence takes place on private, federal or state surface. Subsidence on Bronco surface was surveyed and is included in Appendix B-2 Annual Subsidence Survey

**REVIEWER COMMENTS**

Met Requirements



Did Not Meet Requirements

Mining activities in 2019 took place in two sections of the mine: Development mining occurred in the 1st and 2nd West mains, as well as the 2nd Left and 3rd East panels very close to the Emery 2 mine portals. The 2nd Left panel employed subsidence mining, but both the surface and mineral rights are owned by Bronco in that section of the mine. The 1st and 2nd Mains occur beneath land that is owned privately and no subsidence mining occurred there. Monthly monitoring activities will commence once subsidence mining is employed

in areas of private surface ownership. (JE - 5/7/2020)

**Title: SUBSIDENCE MONITORING- POINTS OVER PARTIAL PILLAR SECTIONS**

**Objective:** If monitoring points over partial pillar sections demonstrate significant movement (+/- 0.5 feet), the Division shall be notified of the differences and the point resurveyed at 6 month intervals until no significant movement (+/- 0.5 feet). Points that no longer demonstrate movement will be surveyed annually unless massive caving occurs.

**Frequency:** As needed

**Status:** Ongoing

**Reports:** Track in annual report to ensure compliance. Resubmittal of reports is not necessary if the operator has already submitted them. Division engineer will review reports annually to ensure compliance.

**Citation:** Chapter V, Section V-B.2 (Subsidence Survey and Monitoring Plan) Page 37

**OPERATOR COMMENTS**

Refer to Appendix B-2 Annual Subsidence Survey

**REVIEWER COMMENTS**  Met Requirements  Did Not Meet Requirements

Appendix B-2 contains a complete list of the results from a differential survey of all subsidence monitoring points within the permit area. The survey was completed in November 2019, and compared against the survey results from the prior year. Most points moved very little or not at all. The exception being six points that reside on Bronco owned surface above the 2nd Left panel where subsidence mining occurred. The maximum amount of subsidence measured was point 3846 which subsided 2.87 feet between February and November 2019. (JE - 5/7/2020)

**Title: SUBSIDENCE MONITORING- REPORT**

**Objective:** Subsidence monitoring report containing: 1.) Mine maps showing where pillars have been pulled. 2.) Maps showing surface property ownership. 3.) Location of subsidence monitoring stations. 4.) Photographs of the subsidence monitoring points above the full extraction areas outlined on Plate V-5 to record pre and post subsidence. 5.) The differential level and horizontal survey summary. 6.) A narrative explaining any "significant movement" and mitigative measures.

**Frequency:** As needed, report submitted to the Division annually

**Status:** Ongoing

**Reports:** Track in Annual Report to ensure compliance.

**Citation:** MRP, Chapter V, Section V-B.2 (Subsidence Survey and Monitoring Plan) Page 38

**OPERATOR COMMENTS**

All subsidence in 2019 took place on Bronco surface. Monthly observations and reporting will commence when subsidence takes place on private, federal or state surface. Subsidence on Bronco surface was surveyed and is included in Appendix B-2 Annual Subsidence Survey

**REVIEWER COMMENTS**  Met Requirements  Did Not Meet Requirements

A 2019 DOGM Annual Mine Map shows the location of all underground workings and highlights the the sections that were mined in 2019. Areas of the mine where subsidence mining occurred contain solid hatching indicating where pillars were pulled. Plate V-5 is an updated map of the entire permit area and shows all of the underground workings including areas that employed subsidence mining. Subsidence monitoring points are also shown in Plate V-5, and the survey results for those points are listed in Appendix B-2. Subsidence in 2019 was relatively minor, and occurred solely on Bronco owned surface. (JE - 5/7/2020)

**Title: SUBSIDENCE MONITORING- PREMINING ELEVATIONS AND GRADIENTS**

**Objective:** Establish pre-mining elevations and gradients of any irrigation ditches and pond embankments within the angle of draw. The pre-subsidence survey will be compiled or updated 6 months prior to full extraction.

**Frequency:** As needed.

**Status:** Ongoing

**Reports:** Track in annual report to ensure compliance. Division engineer will review reports annually to ensure compliance.

**Citation:** MRP, Chapter V, Section V-B.2 (Subsidence Survey and Monitoring Plan) Page 38

**OPERATOR COMMENTS**

Additional surveys will be conducted per the approved permit

**REVIEWER COMMENTS**

Met Requirements



Did Not Meet Requirements

Subsidence mining occurred on Bronco owned surface only in 2019. At present, mining outside of the Bronco owned surface areas is development mining only. This commitment will be addressed 6 months prior to subsidence occurring within the angle of draw for ponds and/or ditches on private, federal or state surface. (JE - 5/7/2020)

**Title: SUBSIDENCE MONITORING- PROTOCOL IN SEALED OLD WORK AREAS**

**Objective:** If surveyed subsidence monitoring point over sealed old works demonstrates significant movement (+/- 0.5 feet), the Division shall be notified of the survey differences and the point resurveyed at 6-month intervals until no significant movement is indicated.

Points where there is no longer significant movement will be surveyed annually.

**Frequency:** As needed

**Status:** Ongoing

**Reports:** Track in annual report to ensure compliance. Resubmittal of monthly reports is not necessary if the operator has already submitted them. Division engineer will review reports annually to ensure compliance.

**Citation:** Chapter V, Section V-B.2 (Subsidence Survey and Monitoring Plan) Page 37

**OPERATOR COMMENTS**

All subsidence in 2019 took place on Bronco surface. Monthly observations and reporting will commence when subsidence takes place on private, federal, or state surface. Subsidence on Bronco surface was surveyed and is included in Appendix B-2 Annual Subsidence Survey

**REVIEWER COMMENTS**

Met Requirements



Did Not Meet Requirements

Appendix B-2 contains a complete list of the results from a differential survey of all subsidence monitoring points within the permit area. The survey was completed in November 2019, and compared against the survey results from the prior year. All points over sealed old works demonstrated no movement. (JE - 5/7/2020)

**Title: EMERY TOWN WELL MONITORING**

**Objective:** Evaluate data collected from the Emery town wells, using hydrographs and other appropriate means, and submit a report of findings to DOGM with the Annual Report.

**Frequency:** Annually

**Status:** Ongoing

**Reports:** Annual Report

**Citation:** Chapter VI, page VI-56

**OPERATOR COMMENTS**

A discussion regarding the Emery Town Well has been included in Appendix B-5 Water Monitoring Summary including Emery Town Well

**REVIEWER COMMENTS**



Met Requirements



Did Not Meet Requirements

The discussion of the Emery Town Wells has been included in the report prepared in Appendix B-6 of the annual report submission. Impacts to the wells have not been identified. The Permittee has fulfilled the requirements of this commitment. (AD 6/18/2020)

# FUTURE COMMITMENTS AND CONDITIONS

The following commitments are not required for the current annual report year, but will be required by the permittee in the future as indicated by the "status" field. These commitments are included for information only, and do not currently require action. If you feel that the commitment is no longer relevant or needs to be revised, please contact the Division.

## **Title: SOIL SAMPLING AT 4TH EAST PORTAL**

**Objective:** Verify soil characteristics prior to final reclamation grading through sampling and analysis for pH, SAR, and EC with particular attention to those areas that were treated with dust suppressant.

**Frequency:** At final reclamation.

**Status:** At final reclamation.

**Reports:** report findings to Division.

**Citation:** Chapter III part C.1, page 11 and Appendix X, part C-3, page 24

## **Title: SOIL SAMPLING OF POND NO. 4 AND POND NO. 9**

**Objective:** To determine if evaporative salts have accumulated to a toxic level.

**Frequency:** at final reclamation

**Status:** at final reclamation.

**Reports:** report to the Division.

**Citation:** Chapter III, part C-1, page 12

## **Title: SOIL TESTING OF RECLAIMED SITE BEFORE SEEDING**

**Objective:** To verify the suitability of the growth media.

**Frequency:** At reclamation.

**Status:** At reclamation, before seeding.

**Reports:** report to Division.

**Citation:** Chapter VIII, part C-4, page 21, paragraph 1

## **Title: PERMANENT WASTE DISPOSAL SITE SUBSTITUTE TOPSOIL AND SUBSOIL COVER**

**Objective:** To determine how to segregate best available material within the disturbed area for use as substitute topsoil from less desirable material to be used as cover over the coal mine waste permanent disposal site.

**Frequency:** Prior to construction of permanent disposal site, resample of the gravel pit site for topsoil substitute quality and quantity, and cover material quality. The site will be sampled on one sample per acre grid, with analysis on one foot

**Status:** Future Commitment

**Reports:** Report to Division.

**Citation:** Chap VII, Appendix VII-2, page 2

## **Title: IDENTIFY CHEMICAL CHARACTERISTICS OF COAL MINE WASTE PRIOR TO FINAL BURIAL OR TREATMENT**

**Objective:** In accordance with R645-301-731.300, determine chemical characteristics of coal mine waste in existing temporary coal mine waste stockpile. Commitment to core temporary pile in at least 5 locations and analyze waste in 5 ft. intervals for pH, EC, SAR, Acid Base Accounting, Se, B, and texture.

**Frequency:** One year prior to moving the waste

**Status:** Future Commitment

**Reports:** Report to Division.

**Citation:** Chapter III, page 13

# REPORTING OF OTHER TECHNICAL DATA

Please list other technical data or information that was not included in the form above, but is required under the approved plan, which must be periodically submitted to the Division.

Please list attachments:

**REVIEWER COMMENTS**

Met Requirements

Did Not Meet Requirements

