



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

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*Executive Director*

Division of Oil, Gas and Mining

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June 13<sup>th</sup>, 2018

Kit Pappas  
Bronco Utah Operations, LLC  
P.O. Box 527  
Emery, Utah 84522

Subject: 2017 Annual Report Review Completion, Bronco Utah Operations, LLC,  
C/015/0015, Task ID #5665

Dear Mr. Baker:

The Division has completed the review of the 2017 Annual Report. Commitments required by the approved Mining and Reclamation Plan have been identified as outstanding. Enclosed is a copy of the review where a more detailed discussion of the outstanding commitment is provided.

The following commitments have not been adequately addressed:

- 1) Per the requirement for sampling waste material (Chapter II page 22-incorporated July 14<sup>th</sup>, 2017), additional mine development waste analysis is required. See attached review for more information.
- 2) Per the commitment found on page 37 of Chapter V, please revise the provided subsidence maps with the month and year for when the second mining/subsidence took place. See attached review for more information.

Please submit the information to the Division by August 13<sup>th</sup>, 2018. If you have any questions, please call me at (801) 538-5325.

Sincerely,

Daron R. Haddock  
Coal Program Manager

DRH/sqs

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# ANNUAL REPORT

This Annual Report shows information the Division has for your mine. Submit the completed document and any additional information identified in the Appendices to the Division by the date specified by the cover letter. During a complete inspection an inspector will check and verify the information.

## GENERAL INFORMATION

Company Name	Bronco Utah Operations, LLC	Mine Name	Emery Deep Mine
Permit Number	C/015/0015	Permit expiration Date	2021-01-07
Operator Name	Bronco Utah Operations LLC	Phone Number	+1 (435) 286-2027
Mailing Address	Highway 10 South Box 527	Email	jpappas@broncouth.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 Impoundment Inspections), Appendix A-2 (Quarterly Coal Refuse Inspections), Appendix B-2 (Annual Subsidence Survey), Appendix B-2a (Monthly Subsidence Reports), 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), Appendix E -1 (Interim Reclamation Seed Mix)

## REVIEWER COMMENTS



Met Requirements



Did Not Meet Requirements

The permittee has submitted the annual sediment pond inspection reports. No hazardous conditions were reported. Refuse pile inspections were submitted with no hazardous conditions reported. I inspected these sites and did not see any problems.

# 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: CULTURAL RESOURCE PROTECTION**

**Objective:** To monitor the five eligible cultural resource sites that could be damaged as a result of subsidence in the zero zero north area. Sites include: 42Em3964, 42Em3965, 42Em3969, and 42Em3974.

**Frequency:** Annually after undermining until the Division determines subsidence is no longer an impact.

**Status:** ongoing, Undermining has not occurred to date.

**Reports:** Annual

**Citation:** MRP, Confidential Binder, Chapter X, Part A, Page 1

### Operator Comments

Full extraction mining has not occurred under these sites since 2010, nor will it occur under these sites in the future. Underground mining operations and full extraction in the original Emery sealed old works has ceased and the mine openings have been sealed. The sites mentioned above will not require future monitoring.

Reviewer Comments  Met Requirements  Did Not Meet Requirements

As noted since "Full extraction mining has not occurred under these sites since 2010, nor will it occur under these sites in the future." this commitment should be updated to note that it has been completed. The Division concurs with the permittees findings, (personal conversation with Kit Pappas 5/8/2018). JCH

## **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 4th and 6th year.

**Citation:** MRP, 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).  
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

Annual revegetative monitoring results are included in this annual report via Appendix B-5 - Emery Reclamation Study - Annual Qualitative/Quantitative Report. Areas surveyed include:

The berm removal,  
The backfilled ditch,  
A topsoil pile,  
A subsoil pile and,  
a reclaimed reverse osmosis pond.

The following changes were noted comparing the data from this survey to that in years 2015 and 2016: even though their cover values remained quite low, the density of desirable plants increased by quite a wide margin in all plots with respect to shrubs and grasses. The total living cover was higher in 2017 when compared to the previous years, but most of this cover was comprised of "weedy" species.

5/15/2018, PB. The reclamation study has now progressed to Item #3, p. 4, Chap III which states that qualitative evaluations of vegetative growth on the stockpiles and contemporaneously reclaimed areas will be performed during the growing season for three years (2015 - 2017), and in year 5 (2019). In the fourth and sixth years (2018 and 2020) a quantitative evaluation will be performed during the growing season.

Soils information is as follows:

berm/removal location near pond 1: the pH was 8.3, EC was over 8.0 and the SAR= 30 from 0-6 and 0-12 inches (MRP, App III-1).  
osmosis pond #4: pH values of 9.2 and 9.6 and SAR values of 17 in the surface 1-6 inches.  
The subsoil and topsoil SAR values were relatively mild at pH 7- 7.9 and SAR from 8 - 11.

The seed tag was sent to the M: 015015/Incoming file on 1/20/2015. All seeds described in the mix on page 4b, Chap III were seeded (note: desert bluebells is *Phacelia crenulata*).

Appendix B5 begins on e-page 82 of the 2017 Annual Report. The 2017 Mt. Nebo evaluation was conducted in September, at the same time as the two previous evaluations. Seeded grasses have become visible. (There were none in the plots in 2016.) Seeded and non-seeded shrub species are dominant in all plots. None of the seeded forbs has succeeded. All forbs are salt tolerant weeds or natives that have self-sowed. Thirteen tamarix plants have emerged in Osmosis Pond 4. These noxious weeds must be controlled.

### **Title: WASTE STOCKPILE MATERIAL**

**Objective:** To identify chemical characteristics of material as it is placed on the Temporary Coal mine Waste Stockpile. Sample and analyze waste for acid toxic parameters in accordance with R645-301-731.300.

**Frequency:** One sample/600 cu yds of coal mine waste brought to the temporary stockpile.

**Status:** Ongoing

**Reports:** Provide analysis in annual report.

**Citation:** MRP, Chapter II, page 10.

## Operator Comments

Waste soils from construction activities at Emery 2 expansion are being stored at the site.

Reviewer Comments  Met Requirements  Did Not Meet Requirements

5/21/2018, PB. By the end of 2017, a total of 97,989 CY of box cut mine development waste had been hauled to the site from the Emery 2 construction (e-page 62, In. 2017 Annual Report). Some of the material was screened and used as road base within the mine disturbed area in 2017. The remaining volume must be sampled as described in Chap II, p. 22. All analyses should be included in the annual report. (The requirement for sampling waste was moved to page 22 Chap II during the Emery 2 Mine revision, stamped incorporated July 14, 2017.)

**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 record of additional subsidence.

**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:** MRP, Chapter V, Binder 1 of 3, Page 36

Operator Comments

The above text requires revision per the revised subsidence monitoring plan task ID 5567.  
Subsidence inspections will be conducted per Chapter V, section V-B.2 (Subsidence Survey and Monitoring Plan).

Reviewer Comments  Met Requirements  Did Not Meet Requirements

Quarterly Subsidence Inspection Reports were completed throughout 2017 on the following dates: January 13, February 23, March 23, May 9, June 15, August 16, and October 17. All inspections were completed by Kit Pappas, and were focused on the area above the mined out portions of 00 North. Since this area was mined out a long time ago and subsidence is no longer occurring, The Division recommends that Permittee discontinue subsidence monitoring in this area of the mine. Only a very limited amount of non-subsidence development mining occurred in 2017, and therefore no subsidence occurred within the permit area last year. JE

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

**Objective:** monitor points over partial pillar sections that have been resurveyed once and where no significant movement (<0.5') was found will be surveyed within one year. If this subsequent survey shows no significant movement from the original survey, the point will be surveyed again at one year intervals. Points over advancing sections need not be resurveyed unless there has been evidence that subsidence has taken place (caving).

**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:** MRP, Chapter V, binder 1 of 3, page 36.

Operator Comments

The above text requires revision per the revised subsidence monitoring plan task id 5567.  
Refer to Appendix B-2 (Annual Subsidence Survey)

Reviewer Comments  Met Requirements  Did Not Meet Requirements

N/A - Partial pillar mining was not employed by Permittee at any time during 2017. This commitment will be in effect once partial pillar mining resumes in the future. JE

### Title: SUBSIDENCE MONITORING- NEW POINTS

**Objective:** Resurvey new monitoring points established over advancing sections such as mains and submains within one year after mining has been completed beneath the station. Include dates that points were established to track if the points have been resurveyed within a year after mining has been completed.

**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:** MRP, Chapter V, binder 1 of 3, page 36.

### Operator Comments

The above text requires revision per the revised subsidence monitoring plan task id 5567.  
Underground mining operations commenced on October 11, 2017 via the newly constructed Emery 2 portals. Additional subsidence monitoring points will be established and surveyed per the approved permit.

Reviewer Comments  Met Requirements  Did Not Meet Requirements

N/A - New points established on Plate V-5 were not undermined in 2017. The West Mains were driven in by only 16 crosscuts in 2017, and new monitoring points were not established for the limited amount of non subsidence development mining that was completed. JE

**Title: SUBSIDENCE MONITORING- REPORT**

**Objective:** Subsidence monitoring report containing: 1.) Mine maps showing where pillars have been pulled and the month and year that such pillars were removed or partially removed. 2.) Maps showing the location of survey monitoring stations and tension cracks and/or compression features visible on the surface. 2a.) Photographs of the subsidence monitoring points above the full extraction areas outlined on Plate V-5 to record pre and post subsidence. 3.) The differential level and horizontal survey summary and 4.) a narrative.

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

**Status:** Ongoing

**Reports:** Provide report in annual report.

**Citation:** MRP, Chapter V, binder 1 of 3, page 37.

Operator Comments

Refer to Appendix B-2a (Monthly Subsidence Reports)

Reviewer Comments  Met Requirements  Did Not Meet Requirements

Since none of the development mining that occurred in 2017 qualified as subsidence mining, no photographs were required in this submittal. However, all of the mine maps showing where pillars have been pulled in the past are lacking the month and year those pillars were removed or partially removed as per the commitments cited on page 37 of Chapter V. JE



**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 permittee will monitor these areas by visual inspection and post-subsidence ground survey to establish the effects of subsidence.

**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:** MRP, Chapter V, binder 1 of 3, page 37.

Operator Comments

The above text requires revision per the revised subsidence monitoring plan task id 5567. Underground mining operations commenced on October 11, 2017 via the newly constructed Emery 2 portals. Additional surveys will be conducted per the approved permit.

Reviewer Comments  Met Requirements  Did Not Meet Requirements

N/A - No subsidence mining occurred in 2017, therefore these commitments are not required. JE

**Title: SUBSIDENCE MONITORING- MITIGATION REPORT**

**Objective:** Provide, to the Division on an as-needed basis, a subsidence mitigation report that describes the surface mitigation projects and their status broken down by surface land owners.

**Frequency:** quarterly

**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:** MRP, Chapter V, binder 1 of 3, page 37.

Operator Comments

The above text requires revision per the revised subsidence monitoring plan task id 5567.  
Refer to Appendix B-2a (Monthly Subsidence Reports)

Reviewer Comments  Met Requirements  Did Not Meet Requirements

N/A - No subsidence mining occurred in 2017, therefore these commitments are not required. JE

**Title: SUBSIDENCE MONITORING- UPDATE PRE-SUBSIDENCE SURVEY**

**Objective:** Update the existing pre-subsidence survey and plates six months before full extraction and provide copies to the surface land owner, the Division and the water conservancy district.

**Frequency:** As needed, six months prior to full extraction.

**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:** MRP, Chapter V, binder 1 of 3, page 37.

Operator Comments

The above text requires revision per the revised subsidence monitoring plan task id 5567.  
Underground mining operations commenced on October 11, 2017 via the newly constructed Emery 2 portals. Areas where full extraction is contemplated will have the pre-subsidence survey updated and submitted to the Division as required.

Reviewer Comments  Met Requirements

Did Not Meet Requirements

N/A - Permittee is currently in the early stages of development mining. Maps showing future subsidence mining have not been submitted to The Division. This commitment will be in effect once Permittee submits plans to The Division showing where subsidence mining will occur in the next 6 months. JE

**Title: SUBSIDENCE MONITORING- RESURVEY NEW MONITORING POINTS**

**Objective:** Resurvey new monitoring points established over partial pillar sections within six months after final mining has taken place beneath them. Provide dates that points were established to track if the points have been resurveyed within six months after final mining.

**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:** MRP, Chapter V, binder 1 of 3, page 36.

Operator Comments

The above text requires revision per the revised subsidence monitoring plan task id 5567. Subsidence monitoring point ZZ was established in 2017 to monitor previous subsidence areas over the Zero Zero North panel. Underground mining operations commenced on October 11, 2017 via the newly constructed Emery 2 portals. Additional new subsidence monitoring points will be established as required in the permit.

Reviewer Comments  Met Requirements

Did Not Meet Requirements

N/A - Permittee is currently in the early stages of development mining. Maps showing future subsidence mining have not been submitted to The Division. This commitment will be in effect once Permittee submits plans to The Division showing where partial subsidence mining will occur in the next 6 months. JE

**Title: EMERY TOWN WELL MONITORING**

**Objective:** Consol will 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-6 (Water Monitoring Summary including Emery Town Well).

Reviewer Comments  Meet Requirements  Did Not Meet Requirements

The Permittee submitted the required water monitoring summary which includes an evaluation of the Emery Town wells. The report was prepared by EarthFax Engineering Group, LLC.

**Title: MONITOR FIVE ELIGIBLE SITES IN THE ZERO ZERO NORTH AREA FOR IMPACTS FROM MINING**

**Objective:** To monitor eligible cultural resource sites that could be damaged as a result of subsidence. Sites include: 42Em3964, 42Em3965, 42Em3966, 42Em3969, 42Em3974.

**Frequency:** Annually after undermining until the Division determines subsidence is no longer an impact.

**Status:** Ongoing. Undermining was expected to occur in 2010.

**Reports:** Annual Report

**Citation:** MRP, Confidential, Chap. X, Part A. page1.

Operator Comments

Full extraction mining has not occurred under these sites since 2010, nor will it occur under these sites in the future. Underground mining operations and full extraction in the original Emery sealed old works has ceased and the mine openings have been sealed. The sites mentioned above will not require future monitoring.

Reviewer Comments  Met Requirements  Did Not Meet Requirements

This commitment is a repeat of a previous commitment and could be deleted. The Permittee can submit an amendment to the MRP and remove the commitment language. JCH

**Title: WATER MONITORING**

**Objective:** Consol will 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

Refer to Appendix B-6 (Annual Water Monitoring Summary including Emery Town Well).

Reviewer Comments  Met Requirements  Did Not Meet Requirements

The Permittee submitted the required water monitoring summary which includes an evaluation of the Emery Town wells. The report was prepared by EarthFax Engineering Group, LLC.

## 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:** MRP, 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:** MRP, 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:** MRP, 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, Consol will resample 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:** MRP, Chap VII, App. VII-2, pg. 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:** MRP, Chap III, pg. 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

# MAPS

Copies of mine maps, current and up-to-date, are to be provided to the Division as an attachment to this report in accordance with the requirements of R645-301-525.240. The map copies shall be made in accordance with 30 CFR 75.1200 as required by MSHA. Mine maps are not considered confidential.

Map Name	Map Number	Included		Confidential	
		Yes	No	Yes	No
Annual Subsidence Map		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mine Map		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Reviewer Comments    Met Requirements                       Did Not Meet Requirements

All of the mine maps showing historical mining, including where pillars have been pulled in the past are lacking the month and year those pillars were removed or partially removed as per the commitments cited on page 37 of Chapter V. A map showing dates of historical mining as well as plans for future development and subsidence mining are requested. JE