

# STATE OF COLORADO

## DIVISION OF RECLAMATION, MINING AND SAFETY

Department of Natural Resources

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January 16, 2014

John W. Hickenlooper  
Governor

Mike King  
Executive Director

Loretta Piñeda  
Director

### To all Interested Parties:

***RE: JD-9 Mine, Permit No. M-1977-306, Rationale for Recommendation to Approve a 112(d) Amendment Application for the inclusion of an Environmental Protection Plan over Objections***

### INTRODUCTION

Herein, all references to the Act and Rules refer to the *Colorado Mined Land Reclamation Act*, C.R.S. §§ 34-32-101 *et seq.* (the Act), and to the *Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal and Designated Mining Operations* (Rules or Rule).

The purpose of this document is to provide a basis for the Division of Reclamation, Mining and Safety's (Division) recommendation to approve the 112(d) Amendment application (AM-1), submitted by Cotter Corporation (Operator) for the JD-9 Mine, Permit No. M-1977-306, over the objection to the application by Information Network for Responsible Mining (INFORM).

The JD-9 Mine is located approximately 11 miles southwest of the abandoned town of Uravan in Montrose County. A Reclamation Permit was issued for this site on September 30, 1979. The site is located on Bureau of Land Management (BLM) land and the owners of the substance to be mined are the U.S. Department of Energy (DOE) Lease Block AT(05-1)-ML-60.8-C-JD-9 and the Operator. The currently approved affected area includes 11.00 acres. The approved post-mining land use is rangeland.

The JD-9 Mine is an underground operation that extracts uranium and vanadium bearing ore. Pursuant to House Bill 08-1161, all uranium mines are to be considered designated mining operations (DMO). The Reclamation Permit for every DMO must include an adequate Environmental Protection Plan (EPP). The Operator submitted the AM-1 application in order to incorporate an EPP into the Operator's permit in accordance with Rule 6.4.21.

### CHRONOLOGY

October 1, 2012	Operator submits AM-1 application
October 11, 2012	Division deems AM-1 application complete for the purposes of filing
October 25, 2012	Operator publishes first public notice in local newspaper
November 15, 2012	Operator publishes final public notice in local newspaper

December 5, 2012	Division receives timely objection letter from INFORM on the last day of the comment period
January 30, 2013	Division sends preliminary adequacy review letter to Operator, noting deficiencies in the application
April 15, 2013	Division receives Operator's response to preliminary adequacy review
June 20, 2013	Division sends second adequacy review letter to Operator, noting additional deficiencies in the application
August 2, 2013	Division receives Operator's response to second adequacy review
September 30, 2013	Mined Land Reclamation Board (MLRB) order allowed for extension of amendment decision date to January 8, 2014
November 8, 2013	Division sends third adequacy review letter to Operator, noting additional deficiencies in the application
November 21, 2013	Division receives Operator's response to third adequacy review
November 26, 2013	Division sends second stormwater review comments to Operator, noting additional deficiencies for the engineered drainage design plan.
December 17, 2013	MLRB order allowed for extension of amendment decision date to February 21, 2014
January 16, 2014	Division determines that the AM-2 application is technically adequate and orders Operator to comply with the following stipulation:  Stipulation No. 1: The approval of the final configurations of the engineered Drainage Design Plan submitted with the Environmental Protection Plan must be completed by no later than March 3, 2014. If the Division is not able to approve the final configurations by March 3, 2014 the operator shall submit the final designs for consideration as a Technical Revision with the appropriate fee of \$1,006.00 within 30 days.

## **OBJECTION**

The Division received a timely objection letter on December 5, 2012, during the public comment period, from INFORM.

### **Issues Raised by the Objector:**

The issues presented by INFORM are summarized below. The Division's responses are also summarized, along with citations to the applicable sections of the Act and/or Rules. The Division has listed the issues it believes to be within the jurisdiction of the MLRB first, followed by those it believes are outside the jurisdiction of the MLRB.

#### **A. ISSUES WITHIN THE JURISDICTION OF THE MLRB**

1. ***"If Cotter does not immediately begin mining activities, they should no longer be allowed to retain Intermittent Status, as the JD-9 does not meet the definition of an intermittent operation in the Rules."***

#### Division Response

This issue was resolved during the April 2013 MLRB hearing. The MLRB ordered and accepted the Operator's Notice of Temporary Cessation on May 7, 2013.

2. *"Groundwater and surface water quality concerns and impacts are significant at the JD-9, and have not been minimized through the current application. In the Division's Oct. 11 2011 inspection report, the inspector noted that the water treatment plant "is now unusable due to its age and condition" and that previously, the failed condition of the liners in the two discharge ponds was such that both the Division and the CDPHE required them to be shut down. Even so, Cotter's amendment application does not specify the construction of a new water treatment facility but the continued use of the existing plant. Cotter notes that 2 million gallons of water currently in the mine will need to be pumped and treated before discharge, a volume that will pose quite a challenge to a non-functioning water treatment plant."*

#### Division Response

The Operator has committed to submitting an engineered plan certified by a licensed engineer that includes design specifications for the water treatment facility, water treatment ponds and the water transport infrastructure for mine dewatering to the water treatment facility to the Division prior to the commencement of mining. Furthermore, the Operator has committed to using new ponds that include a double lined design with a leachate collection/detection system along with piezometers as a secondary method of leachate detection. The engineered plan is required to be submitted as a technical revision that is subject to Division approval prior to construction and use. Therefore, the Division finds the engineering plan and further review required by AM-1 adequate.

3. *"Current stormwater management features at the JD-9 are insufficient to protect the environment..."*

#### Division Response

The Division engineering staff has conducted a thorough review of the stormwater management plan (SWMP) designs submitted by the Operator. The SWMP meets the requirements of the EPP and is now considered adequate. Staff is working through the final technical details of the engineered drainage design plan which are to be approved by March 3, 2014, as a stipulation for approval of the amendment.

4. *"... there is insufficient baseline water surface and ground water and groundwater monitoring described in the amendment application."*

#### Division Response

The Operator has submitted the required five (5) quarters of baseline data along with a ground water sampling and analysis plan, which the Division finds adequate. Also, the Operator has committed to install additional ground water monitoring wells that will allow further characterization of the current and future water quality conditions and a better understanding of the hydrological impacts (if any) mining may have.

5. *"Cotter states that there is a spring west of the mine that may indicate the presence of another aquifer but does not identify it or describe in detail how its hydrology will be affected by proposed mining activities".*

#### Division Response

The spring is located approximately 3.25 miles west of the JD-9 Mine. The spring is located in the Navajo Formation, which underlies the Saltwash member of the Morrison formation, Wanakah formation, Entrada formation and the Carmel formation. Mining targets ore located in the upper part of the Saltwash member. With multiple geologic formations separating the ore zone, the Wanakah is considered an aquitard, along with the great distance between the spring and the mine site any potential for a continuous groundwater pathway from the mine to the spring is highly unlikely, and AM-1 complies with the Act and Rule provisions regarding hydrology.

6. ***“Considering that the JD-9 is a wet mine with seeps from the surface, the presence of aquifers that are already impacted by the mine, the history of producing water from perched aquifers, and the proximity of the mine to Bull Canyon and its pathway to the Dolores River, the hydrology of the JD-9 lease tract should be carefully studied and understood before it is further disturbed by mining. Additional monitoring wells should be installed and sequential monitoring data gathered to document baseline conditions.”***

#### Division Response

The Operator has submitted the required five (5) quarters of baseline data along with a ground water sampling and analysis plan, which the Division finds adequate to protect hydrology as required by the Act and Rules. Also, the Operator has committed to install additional ground water monitoring wells that will allow further characterization of the current water quality conditions and a better understanding of the hydrological impacts (if any) mining will have. Any other studies regarding the lease tract impacts to areas outside the Division permit are under the jurisdiction of the Department of Energy and not within the parameters of this EPP.

7. ***“Cotter should be required to implement or confirm the existence of new stormwater management features immediately in order to prevent additional migration of radionuclides and other toxic contaminants from the permitted area offsite, into the Bull Canyon drainage or into groundwater supplies”.***

#### Division Response

The Division engineering staff has conducted a thorough review of the stormwater management designs submitted by the Operator and is working through the final technical details of the engineered drainage design plan. Once the engineered drainage design plan is approved and the drainage control features are constructed an “As Built Certification” will be provided to the Division demonstrating that the features were properly constructed pursuant to Rule 7.3. Therefore, the Division finds the engineering plan and further review required by AM-1 adequate.

8. ***“The poor condition of the two previous discharge ponds is not adequately addressed in the application. Cotter states that the ponds are about two-thirds full with evaporate TENORM waste that will have to be hauled offsite to a licensed disposal facility. Yet, precautions for how this material will be handled and where it will be ultimately disposed are not discussed in the application”.***

#### Division Response

The Operator has committed to properly dispose of the evaporate in the old ponds by removing the material and disposing of the waste at a licensed waste disposal facility, which the Division determines is adequate. The Division relies on the Department of Energy’s and the Operator’s

expertise on how to handle and dispose of these types of waste. The identification of an exact location for disposal is not practical until the task is undertaken and not required under the EPP.

9. *"In the amendment application, Cotter says that it will conduct a radiometric survey of the JD-9 site prior to commencing any future mining activities. That will surely mean that it will be many years before the results of such survey are available for review. (It is worth noting that in a letter to the State from Cotter on July 26, 1990, Cotter claimed that "radiometric scanning" was one of the defined mining activities that entitled it to intermittent status.) This critical information, as well as a fully and current radiometric survey that should be undertaken now so that impacts to the public, wildlife, water quality and the environment can be taken into consideration during the review of the Environmental Protection Plan".*

Division Response

The Operator provided a radiometric survey on April 15, 2013, which addresses this objection. The survey adequately establishes current radiometric conditions for use as a baseline in future reclamation and as a reference if other issues arise.

10. *"In an April 2005 Division review of the JD-9 permit, it was noted that between 60 and 80 tons of ore was stockpiled at the mine and the "current activity" of the mine was primarily stockpiling. The report also noted that the Department of Energy informed Cotter that it was not allowed gob waste rock into the underground workings, thus precipitating the need for the proposed waste rock pile expansion on the surface. However, in the proposed EPP, Cotter again says that a portion of the waste rock generated will be finally disposed underground, despite the DOE prohibition".*

Division Response

Division staff contacted the Department of Energy (DOE) regarding INFORM's objection that waste rock being placed in the mine workings is prohibited. DOE stated that waste rock is allowed to be placed in the mine workings as long as it does not block access to mining future potential ore resources, the area proposed to be gobbled is dry, and that the proposed area is completely void of ore. Furthermore, DOE reviews the request to gob waste rock on a case by case basis and the Operator must demonstrate that the above mentioned conditions are met before gobbing can begin. Based on the information provided by DOE staff, gobbing waste rock is an acceptable and common practice. The Division also has no issues with the practice so long as it can be demonstrated that the areas for deposition of waste or ore underground are dry and above any potential static groundwater levels after mining is completed. The Division determines the proposed activities comply with the Act and Rules.

11. *"Magnesium chloride should not be used for dust control of the access and mine roads but rather a more environmentally friendly alternative".*

Division Response

Due to the lack of water at the mine the Operator has chosen to use magnesium chloride for dust suppression. The use of magnesium chloride is an accepted dust control method by other state and federal agencies. The Division has no scientifically based reason to not allow the use at the JD-9 mine site and the AM-1 proposed dust control method complies with the Act and Rules.

12. *“Further road development will result in loss of habitat for wildlife and will contribute to a degradation of the surrounding ecosystem. The JD-9 is located in a sensitive area that is both winter range and severe winter range habitat for mule deer and elk, and mining impacts these species. Operations should not be allowed between December and March. The mine may be used by hibernating bats, as there are ten bat species in the region, including Thompson’s Big Eared Bat, which is a BLM sensitive species of concern in Colorado. Cotter should develop a protocol for how to protect potential bat habitat and prevent disturbances to hibernating and roosting bats ”*

Division Response

On October 15, 2012, the Division provided notice of the application to the Colorado Parks & Wildlife (CPW).

The application materials include documents and comments from CPW. The Operator incorporated many of the recommendations from CPW into the application materials, which include:

- proposing to use existing roads for mine and venthole access as much as possible and minimizing the creation of new roads unless necessary;
- minimizing re-entry into bat winter roosting sites during hibernation season and constructing exclusions to prevent the entry and use of the site by bats;
- excluding ungulates with the currently existing eight foot tall fence around the “new” pond area and also committing to contact CPW for information regarding the use of active and passive deterrents for avian species;
- currently checking for and doing weed control at the JD-9 property on a frequent basis; and
- committing to contact CPW to discuss potential operational management issues to provide adequate protection for the bluehead sucker, flannelmouth sucker and the roundtail chub.

The Division determined the amendment application satisfied the requirements of C.R.S. § 34-32-102, C.R.S. § 34-32-116(7)(j) and Rules 3.1.8, 6.4.8 and 6.4.21(18), regarding the protection of wildlife.

13. *“Cotter’s assertion that the ore will have no acid-leaching effects because of the area’s limited precipitation is not realistic. Previous geochemical analysis of samples from the JD-9 has found that the waste rock could liberate radium, uranium and other metals into surface runoff. SPLP testing has found that aluminum, arsenic, vanadium and uranium exceed federal water quality standards and that fluoride, aluminum, molybdenum, uranium, zinc and radium are all constituents of concern.”*

Division Response

Waste rock and ore SPLP test results do indicate that aluminum, arsenic, molybdenum, selenium, uranium and vanadium exceed regulatory standards. However, the EPP explains that the potential development of acid mine drainage is low due to the geochemical composition of the rock forming minerals. Salt wash sandstones are commonly calcareous which typically generate alkaline/basic conditions. If water percolates through the waste rock and ore stockpiles, alkaline rather than acidic water would be produced, which greatly minimizes the potential for acid – leaching of the constituents of concern. Storm water controls and final reclamation requirements greatly reduce the potential for offsite precipitation infiltration into the waste rock piles. With the geographically documented low precipitation rate, geochemical make up of the rock, and the EPP

plans for storm water management, the development and expression of an acid/ toxic leachate is statistically nil. The EPP adequately addresses the issue of the potential for acidic or toxic forming materials from the waste rock and any ore on site.

- 14. *“Cotter proposes to construct a compacted clay pad for the ore stockpile, but it should have a synthetic liner in order to reduce the possibility of contamination”.***

Division Response

In the Operator’s *Response to Adequacy Review 2*, which was received by the Division on August 2, 2013, the Operator committed to installing a synthetic liner beneath the ore pad, which addresses this objection. Pursuant to Rule 7.3.1 the Operator will be required to provide “as-built” certification of the ore pad. Construction of the ore pad will be monitored by the Division as well.

- 15. *“SPLP testing should be conducted on both the ore and waste rock on an annual basis to continually monitor the potential for acid generation from these piles.”***

Division Response

The Division agrees that regular testing of the ore and waste rock must occur. The intervals at which the rock will need to be tested will be determined after the Division has reviewed a geochemical analysis of the ore, which the Operator has committed to submitting to the Division prior to any stockpiling of ore on the surface.

- 16. *“Ore should be removed within 30 days of being brought to the surface, rather than within 30 days of the end of mining, as Cotter proposes.”***

Division Response

The Operator has committed to storage of ore on the ore pad for no more than 180 days during mining. The Operator has also committed to removing all ore from the site within 30 days of the date that mining ceases. The Division considers these limitations to be adequate.

In the Operator’s *Response to Adequacy Review 2*, which was received by the Division on August 2, 2013, the Operator committed to installing a synthetic liner beneath the ore pad. Pursuant to Rule 7.3.1 the Operator will be required to provide “as-built” certification of the ore pad. Construction of the ore pad will be monitored by the Division as well.

**B. ISSUES NOT WITHIN THE JURISDICTION OF THE MLRB**

- 1. *“Cotter should also be required to demonstrate that it has adequate water available for mining. In the application, Cotter says it plans to purchase water from the town of Naturita and a commercial hauler will deliver it to the mine... The Division should require Cotter to provide proof regarding the Town of Naturita’s right and ability to provide water to multiple operations and companies.”***

Division Response

Colorado Division of Water Resources (DWR) is the regulatory authority regarding the Town of Naturita water rights. INFORM’s concerns should directed to that agency. Notice of the AM-1 application was sent to DWR by the Division on October 12, 2012. DWR did not submit comments to the Division regarding the AM-1 application for further review.

### **DIVISION RECOMMENDATION**

The Division has determined that the 112(d) Amendment Application (AM-1) submitted by Cotter Corporation for the JD-9 Mine, Permit No. M-1977-306, meets the requirements of the Act and Rules. Therefore, it is the recommendation of the Division that the Mined Land Reclamation Board approve AM-1 incorporating the submitted Environmental Protection Plan into Cotter Corporation's permit in accordance with C.R.S 34-32-116.5 (1)(a) and Rule 6.4.21.



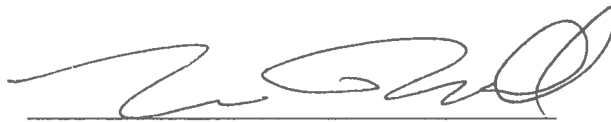


# CERTIFICATE OF SERVICE

I, Travis Marshall, hereby certify that on Thursday, January 16, 2014 I deposited a true copy of the foregoing *Rationale for Recommendation to Approve a 112(d) Amendment Application with Objections* in the United States Mail, postage paid, addressed to the following:

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Cotter Corp.  
P.O. Box 700  
Nucla, CO 81424

Jennifer Thurston  
INFORM  
P.O. Box 746  
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