

**J-BIRD MINE**  
**COC #68907**  
**MONTROSE COUNTY, COLORADO**

**PLAN of OPERATIONS**  
**AMENDMENT**  
**FOR**  
**SURFACE DRILLING**  
**&**  
**RECLAMATION**

February 22, 2013

Submitted by:  
Rimrock Exploration & Development, Inc.  
P.O. Box 430  
Nucla, Colorado 81424

Prepared by:  
Alan Chiles

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## 1.0 OPERATOR INFORMATION

The Operator for this Mine Plan of Operations is Rimrock Exploration & Development, Inc. (Rimrock).

Rimrock Exploration & Development, Inc.  
P.O. Box 430

Nucla, CO. 81424

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Federal Tax Payer ID Number: 20-2705691

Operation Name: J-Bird Mine

Primary Contact: Alan Chiles, President (970-417-1239)

Secondary Contact: Wesley Chiles, V.P. (970-417-5068)

## 1.1 State Approvals

Colorado Division of Reclamation, Mining, and Safety (CDRMS)

J-Bird Mine Permit number M-2005-050

The Emergency Response Plan (ERP) and the Environmental Protection Plan (EPP) are a part of the approved application with the CDRMS.

## 2.0 Location

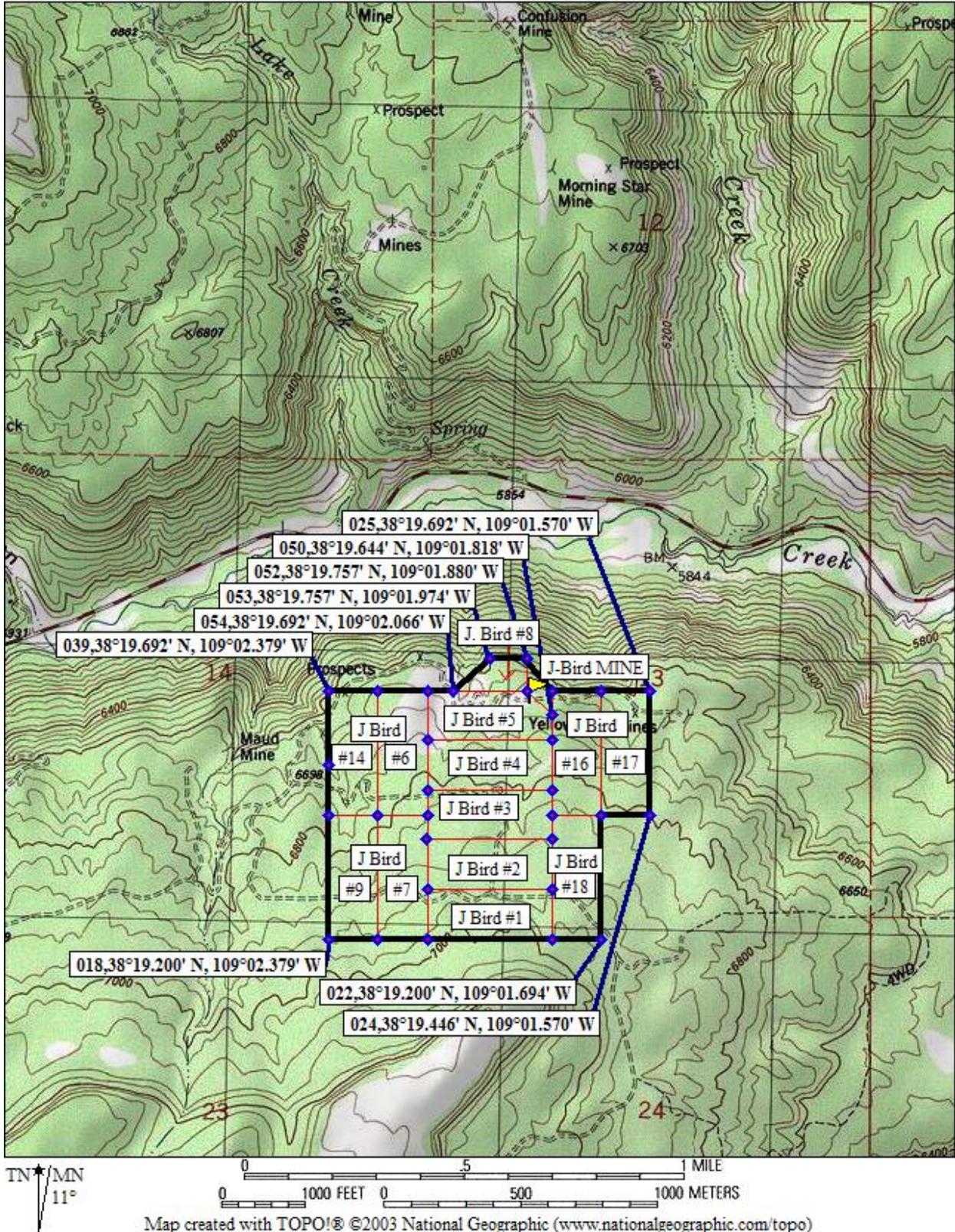
The J-Bird Claims included in this COC#68907 are J-Bird #1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 16, 17, and 18. These claims are located in T. 47 N., R. 20 W., W $\frac{1}{2}$  of Section 13, E $\frac{1}{2}$  of Section 14, N $\frac{1}{2}$ N $\frac{1}{2}$  of Section 23, and NW $\frac{1}{4}$ NW $\frac{1}{4}$  of Section 24, N.M.P.M. in the State of Colorado, County of Montrose.

Owner of claims is Rimrock Exploration and Development, Inc..

Location Map is attached.



TOPO! map printed on 01/18/13 from "J Bird drilling POO BLM.tpo"



### **3.0 SITE BACKGROUND**

The J-Bird Mine is an active mine site BLM COC#68907 and is located on the Yellow Bird Bench, North of Ray Mesa in southwestern Colorado. The mine was permitted in 2005 under State of Colorado Division of Reclamation Mining and Safety (CDRMS) Permit # 2005-050. This area is a part of the Uravan Mineral Belt and has an extensive history of uranium and vanadium ore mining activity that extends from the late 1800s to the present day. All associated mines in the area are high above La Sal Creek with the canyon walls below showing no signs of springs. The mine elevation at the deepest is approximately 6570 feet and the creek level is 720 feet lower at 5850 feet. This and the Historical lack of water in any of the mines place the operation in to the classification of what is called High and Dry.

There are many existing drill roads that are still usable as is. Others need minor repair and clearing to allow access.

Rimrock conducted exploration activities under a BLM, Notice COC # 68883 in 2005-2007 and continued as CDRMS required monitor wells to be drilled in 2010-2011. These Monitor well logs are included in the following pages. All test holes were found to be dry.

The exploration Notice of Intent was closed in 2012.

### **3.1 Monitor Well Drill Logs**

Rimrock Exploration and Development, Inc.

P.O. Box 430  
Nucla CO 81424  
April 26, 2010

J-Bird Mine  
Monitor Well Drill Logs

**JB-MW-1**

Drill date: April 10, 2010 6:30 pm 5 and 1/8 inch diameter

Mine depth plus 20 feet

Depth in feet	Formation type	Color	Moisture Characteristics
0	surface soils	red-brown	damp
3	sandstone	white	dry
5	shale	red	moist-sticky
10	shale	red	dry
15	sandstone	white	dry
27	sandstone	white	dry poor returns /fractured
42	shale	red	dry normal returns
44	sandstone	white	dry
47	shale	red	dry
50	sandstone	lt. brown	damp / sticks to self when compressed
65	sandstone	lt. brown	moist / sticks to self / no dust
66	shale	red	dry
80	sandstone	white	dry
85	sandstone	white	damp
87	sandstone	white	moist
88	sandstone	red-brown	damp
90	sandstone	red-brown	moist
100	shale	red	dry
120	stopped 8:00 pm Hole probed dry. Restart 11:00 am 4-11-10		
120	shale	red	dry dust immediately
125	sandstone	white	dry and hard
128	shale	red	dry
132	sandstone	light red	dry
136	shale	red	dry
138	sandstone	white	dry
140	shale	red	dry
165	sandstone	light red	dry
167	sandstone	white	dry
169	shale	red	dry
182	sandstone	white	dry
201	sandstone	red	dry

Rimrock Exploration and Development, Inc.  
P.O. Box 430  
Nucla CO 81424  
April 26, 2010

## J-Bird Mine Monitor Well Drill Logs

### JB-MW-2

Drill date: April 11, 2010 3:00 pm 5 and 1/8 inch diameter

Mine depth estimated 80 to 95 feet

Depth in feet	Formation type	Color	Moisture and Characteristics
0	surface soils	red-brown	damp
2	sandstone	red	moist/ coarse grain
23	sandstone	tan	damp
30	sandstone	tan	dry
40	sandstone	tan	moist
43	sandstone	tan	dry
45	shale	red	dry
51	shale	blue	dry
54	shale	red	dry
55	shale	blue	dry
56	shale	red	dry
57	sandstone	yellow	dry
58	sandstone	white	dry
64	shale	red	dry
67	shale	blue	dry
68	shale	red	dry
70	shale	blue	dry
71	shale	red	dry
95	sandstone	white	dry
125	sandstone	white/ trace of blue shale	dry
130	shale	red	dry
131	shale	blue	dry
134	shale	red	dry
138	sandstone	red tint	dry,
145	complete loss of circulation		

No sign of moisture on drill rods when removed from hole

5:00 pm April 11, 2010

Hole probed dry at 11:30 am April 12, 2010 / Depth 142 feet

Rimrock Exploration and Development, Inc.  
P.O. Box 430  
Nucla CO 81424  
April 26, 2010

## J-Bird Mine Monitor Well Drill Logs

### JB-MW-3

Drill date: April 11, 2010 5:30 pm 5 and 1/8 inch diameter

Mine depth estimated 98 to 107 feet

Depth in feet	Formation type	Color	Moisture Characteristics
0	surface soils	red-brown	damp
3	shale	blue	sticky
7	shale	blue	damp
11	shale	blue	dry
22	shale	blue	damp
25	shale	red	dry
28	shale	red	moist / sticky
34	shale	red	dry
42	sandstone	white	dry / hard
45	shale	red	dry
50	shale	blue	dry
54	shale	red	dry
67	shale	blue	dry
70	shale	red	dry
73	shale	blue	dry
74	sandstone	white	dry / hard
77	shale	blue	dry
79	sandstone	tan	dry
81	shale	blue	dry
82	shale	red	dry
83	shale	blue	dry
84	shale	red	dry
93	sandstone	tan	dry
105	shale	blue	dry
107	shale	red	dry
122	sandstone	tan	damp / soft
125	sandstone	tan	dry / soft
142	shale	red	dry
143	shale	black	dry
148	sandstone	white	dry
180	sandstone	tan	moist

JB-MW-3 Continued

187	shale	red	dry
197	sandstone	white	dry
202	shale	red	dry
210	sandstone	red	dry
218	shale	red	dry
220	sandstone	white	dry / hard
225	shale	red	dry
240	stopped 7:50 pm		

Hole probed dry. Restart 10:40 am 4-12-10

240	shale	red	dry / returns immediately
245	sandstone	red	dry
255	shale	red	extremely dry
300	sandstone	white	extremely dry
315	sandstone	red	damp
317	sandstone	red	dry
343	sandstone	white	dry
348	shale	red	dry
355	sandstone	white	dry
360	sandstone	red	dry
370	sandstone	white-pink	dry
380	shale	red	dry
385	sandstone	pink	dry
397	sandstone	red	dry
405	sandstone	pink	dry
408	sandstone	brown	damp
410	sandstone	red	moist
420	shale	red	dry
423	sandstone	red	dry
428	sandstone	tan	dry
430	sandstone	pink	damp
432	sandstone	brown-pink	damp
436	sandstone	tan	dry
440	sandy shale	red	dry
470	total depth		dry

No sign of moisture on drill rods when removed from hole  
2:00 pm April 12, 2010

Hole cased to 90 feet to prevent collapse of soft sticky shale.

Rimrock Exploration and Development, Inc.  
P.O. Box 430  
Nucla CO 81424  
August 16, 2011

## J-Bird Mine Monitor Well Drill Logs

**JB-MW-4**

5 and 5/8 inch diameter to 80 feet  
5 and 1/8 inch diameter 80 to 320 feet

Drill date: August 12, 2011  
estimated future mine workings elevation 180 to 190

Depth in feet	Formation type	Color	Moisture Characteristics
0	surface soils	red-brown	damp
2	shale	red	dusty
7	sandstone	tan	dry
21	shale	red	moist-sticky
24	shale	blue	moist-sticky
27	sandstone	brown	dry
29	shale	red	sticky
43	shale	blue	sticky
47	shale	red	sticky
51	Cuttings sticking in hole, unable to drill dry. Injected water at 51 feet and drilled remainder of sticky shale to 80 feet.		
80	sandstone	white	dry/hard
84	shale	red	dry
89	sandstone	conglomerate	dry
115	shale	red	dry
120	shale	brown	dry
122	shale	red	dry
130	shale	blue	dry
132	shale	red	dry
140	sandstone	white	dry/hard
141	shale	red	dry
142	142, End of day 4:00 pm Restart 10:15 am Monday August 15, 2011		
142 to 143 no returns			
143	shale	red	dry
145	sandstone	white	dry /start of samples

JB-MW-4 continued

147	shale	red	dry
160	sandy/shale	red	dry
162	shale	red	dry
165	sandstone	white	dry
167	shale	red/blue	dry
172	sandstone	tan	dry
182	sandstone	red	dry
184	sandstone	tan	dry
186	sandstone	light gray	dry
187	sandstone	tan	dry
193	sandstone	brown rusty	dry
194	shale	blue	dry
195	shale	red	dry
200	sandstone	white	dry
205	shale	red	dry
223	sandstone	red	dry
225	sandstone	pink	dry
230	sandy/shale	white/blue specks	dry
234	sandstone	brown tint	dry
273	shale	red	dry
315	sand	brown	dry

320 Total Depth

1:30 pm August 15, 2011

Steel left in drill hole until 10:30 August 16, 2011

No sign of water on drill pipes when removed from hole

21 hours stand time

Well cased to 140 feet to prevent collapse of soft sticky shales.

#### **4.0 Cultural Clearances**

Cultural clearances have been conducted by the BLM on several occasions for both mining and exploration activities. These surveys have been performed by the Uncompahgre Field Office of the BLM located in Montrose, Colorado. Rimrock will continue to work with the BLM on future drill sites and roads to protect cultural sites, and endangered species.

All new drilling activities in the vicinity of the mine will be done under BLM; COC # 68907 after the notice of the addition to the Plan of Operations for the J-Bird Mine is approved.

## **5.0 SCOPE of EXPLORATION DRILLING**

The surface exploration drilling program is used to identify a mineable resource and expand the resource once identified. Exploration drilling in and nearby the J-Bird Mine CDRMS M-2005-050 permit boundary is conducted in direct support of that mine operation.

The drilling program will consist of approximately 20 holes per year for a total of two hundred test holes. Each test hole will be drilled from the ground surface to the desired depth as the mining operation progresses. The average depth is approximately 180 feet.

Rimrock will construct of up to 4,000 linear feet of new access roadway and the utilize up to 5,280 feet of pre-existing and previously disturbed roadways in the project area.

## 5.1 Surface Exploration Drilling Method

The general methodology for surface exploration drilling by Rimrock is described below.

1. Road access is established to the desired test-hole location. Generally, access to the drill site is over an existing, previously disturbed road surface that was established in the past for mineral exploration or other purposes. The road surface is repaired just enough to permit the passage of the drill rig and support vehicles using a small loader or bulldozer.
2. On occasion a new segment of two-track equivalent roadway may have to be established to access a drill site that cannot be located on previously disturbed ground. The new roadway may be constructed using cut-and-fill, the removal of selected individual trees and brush and/or surface grading. Every effort is made to limit the amount of new disturbance, and subsequent reclamation, required to gain access to the drill site.
3. The drill site is established by grading a 12-foot wide by 30-foot long area (or similar suitable configuration) to a near level ground surface to accommodate the drill truck. Again surface disturbance is limited as much as is possible.
4. Provisions may be made at the drill site to accommodate a 10-foot wide by 10-foot long by 2-foot deep pit (mud pit) designed to contain water from the test hole if water is required for drilling the test hole or if ground water is encountered during the drilling of the hole. Alternatively, an eight to ten foot diameter galvanized stock tank may be kept on hand to function as a containment basin for water from the hole.
5. A truck mounted drill is used to drill a four to six-inch diameter test hole from the ground surface to the desired depth.
6. A water tanker truck, crew service truck, and a utility truck to carry additional drill stem and other support equipment may also be used in support of the drill rig.
7. A geophysical log using a truck-mounted probe system may also be used to evaluate the Geology and Mineralogy of the test hole during and after drilling.

## 5.2 Reclamation of Exploration Disturbances

The following general methodology is used to reclaim surface exploration drilling-related disturbances.

1. After the test hole is completed and evaluated, the drill cuttings are placed back in the drill hole to plug the hole to a depth five (5) feet below the ground surface; a three foot cement or expanding foam plug is placed on top of the backfilled drill cuttings to within two feet of the surface; and the top two (2) feet of the hole is backfilled with native material. Any remaining cuttings will be buried or hauled to the mine waste rock pile

Note: Any drill holes where ground water is encountered will be sealed using bentonite or cement to plug the test hole from a depth 25 feet below the zone of ground water inflow to 25 feet above the inflow zone.

2. Any mud pit that was constructed is dewatered by evaporation, or by pumping any accumulated water into a suitable container for reuse, and the pit is graded to bury any remaining accumulated drill cuttings and conform to the surrounding terrain.

3. The drill site is graded to conform to the surrounding terrain and ripped or disked for seed bed preparation.

4. The access road is graded and disked or ripped where necessary for seed bed preparation.

5. The disturbed areas are seeded with the BLM-specified seed mix for the Club Mesa area, or other suitable seed mix as specified by conditions of approval, and stipulations.

6. The reclaimed areas are monitored for proper vegetation growth, with suitable weed control and reseeding provided as necessary.

### **5.3 Weed Control**

Noxious weeds will be controlled during the Exploration period using the local BLM- approved Weed Control Plan that will be in effect during the operation of the mine. The Weed Control Plan will include:

- a. A thorough weed survey of the reclaimed area each spring until the site is released.
- b. Spraying of any identified noxious weeds using the BLM-approved herbicides at the appropriate rate and during the appropriate time periods.
- c. Ongoing monitoring and additional spraying, as necessary, during the growing season.

### **5.4 Agency Review and Approval**

Expansion of the surface exploration drilling program will be done through the CDRMS; NOI Review and Approval process along with BLM. Both agencies will approve work before it will commence.

### **5.5 Spill Contingency Plans**

All fuel, oils and antifreeze is brought into the exploration sites as day use only. Any spills will be cleaned up and disposed of in proper landfills or hazmat facilities.