

# **PERMIT RA004RE REQUEST FOR MODIFICATION 16-1 ROCKY MOUNTAIN MINE**

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**SECTIONS 33 & 34, T. 21 N., R. 7 E.  
RIO ARRIBA COUNTY, NEW MEXICO**

**February 29, 2016**



**Prepared for:**



NM Mining and Minerals Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505

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**Prepared by:**



Permits West, Inc.  
37 Verano Loop  
Santa Fe, NM 87508

**&**



CR Minerals Company, LLC  
P.O. Box 708  
Ohkay Owingeh, NM 87566

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## BACKGROUND

CR Minerals (CRM) is entering into a contract with the Bureau of Land Management (BLM), Taos Field Office (TFO) to extract and sell overburden aggregate consisting of pumicite from the Rocky Mountain Mine. Pursuant to 19.10.5.505 NMAC, the New Mexico Mining and Minerals Division (NM MMD) requires submission of a Permit Modification to CRM's existing Rocky Mountain Mine Permit RA004RE. The NM MMD Director will determine if the proposed modification meets the requirements of 19.10.5 NMAC.

**Who:** CR Minerals Company, LLC (CRM) owns neither the surface, nor the minerals of the BLM East and BLM West tracts. The Bureau of Land Management (BLM), Taos Field Office (TFO) administers both the surface resources and the minerals of both tracts which comprise the majority of the mine.

Applicant's mailing address: CR Minerals Company, LLC  
P.O. Box 708  
Ohkay Owingeh, NM 87566

**Where:** From the equivalent of Mile Post 190.7 on US 84, go west 6.6 miles on 31-Mile Road (aka, Santa Clara Indian Reservation Road, FS Road 144, and formerly NM 565). Then turn left (south) onto a small dirt road between steel posts directly into the southern project area. The majority of the project area is within Section 34-21n-7e, but also a portion of Lot 13, Section 33-21n-7e.

**What:** Pumicite overburden. Surface mine on ≈349 acres and direct impacts to ≈302 acres.

Historically, pumicite overburden has been stripped and placed in overburden stockpiles prior to the extraction of the pumice product. In this proposed modification, pumicite overburden would be stripped, loaded into haul trucks, and sold as aggregate rather than being stockpiled.

**How:** The top (approximately) 9 inches of soil would be scraped and discretely stockpiled separate from the remaining 6-8 feet of soil-stained or weathered overburden, then interim seeded. Approximately 30-35 feet of the unstained or virgin pumicite would then be stripped, loaded into haul trucks, and sold as aggregate prior to the extraction of the pumice product. The remaining 6-8 feet of subsoil and weathered overburden will continue to be segregated from the topsoil and will be placed in the previously designated overburden stockpiles for use in reclamation.

**When:** Stripping of the pumicite overburden would occur after the top 9 inches of topsoil are removed. The remaining 6-8 feet of subsoil and weathered overburden will continue to be segregated from the topsoil and will be placed in the previously designated overburden stockpiles for use in reclamation.

The unstained or virgin pumicite would be stripped, loaded into haul trucks, and sold as aggregate prior to the extraction of the pumice product.

**Why:** The removal and sale of the pumicite overburden as aggregate will reduce the post-mining surface elevations by approximately 30-35 feet (see proposed modifications to Figures 7, 8 and 9, as attached).

**Relevant Details:** There will be no increase in the daily production rate of pumice or in the annual rates of reclamation at the Rocky Mountain Mine. Maximum land use will remain at ≈349 acres and there will be no change to mine's current footprint. Pumicite overburden will be mined from ≈231.5 acres in the BLM-East parcel. The remaining acreage is not believed to contain pumice, and would continue to be used for stockpiling topsoil, overburden, and marketable material prior to reclamation as outlined in CRM's existing closeout plan for Rocky Mountain Mine Permit RA004RE.



CR Minerals does not anticipate significantly altering or substantially changing any of the elements of the Rocky Mountain Mine's current permit or closeout plan, other than Figures 7, 8, and 9. That is, all proposed changes to the permit and closeout plan's post-mining topography are provided in the form of the plan view (proposed modified Figure 7) and the cross-sectional drawings (proposed modified Figures 8 and 9).

Consistent with the closeout plan in the current Mine Permit RA004RE, reclamation will remain contemporaneous throughout all mine blocks. CR Minerals does not anticipate changing any part of the closeout/reclamation schedule contained in the current permit; and therefore, does not anticipate making any changes to the financial assurance for the current closeout plan at this time.

Pursuant to 19.10.5.506.J.2 NMAC, the total amount of financial assurance for the closeout plan at the Rocky Mountain Mine is currently \$250,930.00. The financial assurance instrument is an Irrevocable Standby Letter of Credit, No. NTS650105, as amended on January 20, 2015, and is in a form that is presently acceptable to the Director.





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### 19.10.5.502 NMAC

#### A. Minimum of 6 Copies

A minimum of 6 copies of this permit application are submitted.

#### B. Availability for Public Inspection

There is no confidential information in this permit application. All information submitted with this application can be made available for public review.

The cultural resources inventory report contains sensitive information and is provided as a separate **Confidential Appendix** to this permit application.

#### C. Signature

I certify that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals responsible for obtaining the information; I believe the submitted information is true, accurate, and complete.

Signed: Ed Dvorak

Printed: Ed Dvorak

Title: Vice President - OPERATIONS

Date: 2/26/2016

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**D. Each Application Shall Contain**

- (1) CR Minerals Company, LLC, P. O. Box 708, Ohkay Owingeh, NM 87566.
- (2) A Rio Arriba County Assessor's Office Property Identification Map of the surface ownership is provided as Figure 10 to this permit modification application.
- (3) CR Minerals Company, LLC, Rocky Mountain Mine Pumice Extraction Environmental Assessment (DOI-BLM-NM-F020-2011-0032-EA) was prepared for the extension of the Rocky Mountain Mine surface and use of Federal minerals and submitted to the TFO-BLM in December 2011. A Finding of No Significant Impact and Decision Record was signed by the TFO Field Manager on December 9, 2011 and is provided in Appendix A of this permit modification application.

CRM is currently working with the BLM TFO to permit the use of the overburden as a Federal mineral through preparation of a Determination of NEPA Adequacy (DNA) pursuant to the National Environmental Policy Act (NEPA) of 1969. CR Minerals recently completed and submitted a Notice of Intent (NOI) requesting renewed coverage for the Rocky Mountain Mine under EPA's 2015 Multi-Sector General Permit (MSGP). This NOI has been accepted by the USEPA, and the following NPDES ID. NMR053267 was assigned. Authorization to discharge under the 2015 MSGP became effective on 2015-10-30. A copy of the USEPA approval and the NOI are provided in Appendix B of this permit modification application.

Prior to proceeding, CRM will ensure that all applicable State and Federal regulations and requirements, including the BLM, TFO Rocky Mountain Mine DNA are satisfied and have been approved.

Additionally, CRM holds "active" mining claims for all land areas within the BLM-East parcel in Sections 33 and 34, T. 21 N., R. 7 E. as evidenced by the BLM Mining Claim Geographic Reports for Sections 33 and 34 that are provided as Figures 11, 12, and 13 to this permit modification application.

- (4) The site assessment previously submitted in CRM's June 1999 Mine Permit Application and Close Out Plan, pursuant to Section 69-36-5 of the Act is referenced here. The following elements of the site assessment were updated and incorporated into the 2011 Permit Revision Package (2011 PRP) and are referenced below:

Vegetation in the project area was previously surveyed from October 5 -9, and on October 12, 2010 by a qualified botanist as part of the 2011 PRP. The survey of the proposed project area was conducted at 40- to 50-foot intervals following a zigzag pedestrian transect. The Plant Survey Report provided in Appendix A of the 2011 PRP supplements existing information for vegetation originally provided as Exhibit 6 in CRM's June 1999 Mine Permit Application and Close Out Plan (Appendix C) and is provided as Appendix C to this permit modification application. Details regarding relative abundance, cover, and production were originally provided as Exhibit 6 in CRM's June 1999 Mine Permit Application and Close Out Plan (Appendix C) and are also provided as Appendix C to this permit modification application.

Wildlife surveys were conducted on September 10, 12, and 16, 2010 by a qualified wildlife biologist as part of the 2011 PRP. Additionally, a one-mile line-of-sight survey was conducted for raptor nests using 10x40 binoculars. The Wildlife Survey Report provided in Appendix B of

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the 2011 PRP supplements existing information for wildlife originally provided as Exhibit 6 in CRM's June 1999 Mine Permit Application and Close Out Plan (Appendix C) and is provided as Appendix D to this permit modification application.

A cultural resource records search and a field inventory were performed on the BLM-East parcel. The inventory was conducted between September 5 and 9, 2010 by Complete Archaeological Service Associates (CASA). Additional fieldwork was also performed by CASA and Cibola Research Consultants on October 12-13, 2010. The results of the inventory are documented in a report maintained in the central files of the Taos Field Office of the BLM.

Because specific information on the nature and location of cultural resources is confidential and proprietary, the report (CASA 10-79) is incorporated by reference into this permit application. The cultural resources inventory report authored by CASA is titled, *Cultural Resource Inventory, CR Minerals Company, LLC, Rocky Mountain Mine Expansion West of Española, Rio Arriba County, New Mexico* (CASA 10-79), and was prepared on Oct. 25, 2010. It is provided as a separate **Confidential Appendix E** to this permit modification application.

- (5) Maps showing all current and existing details are provided in Figures 3, 4, 5 and 6 of the existing Mine Permit RA004RE and are provided to this permit modification application. Provisional maps showing all proposed details of this request for permit modification include Figures 7, 8, and 9 as attached to this permit modification application.
- (6) A description of undisturbed vegetation including a comprehensive list of species is provided in the Plant Survey Report in Appendix A of the 2011 PRP. The report supplements existing information for vegetation originally provided as Exhibit 6 in CRM's June 1999 Mine Permit Application and Close Out Plan (Appendix C) and is provided as Appendix C to this permit modification application. Details regarding relative abundance, cover, and production were originally provided as Exhibit 6 in CRM's June 1999 Mine Permit Application and Close Out Plan (Appendix C) and are also provided as Appendix C to this permit modification application.
- (7) CR Minerals Company, LLC, Rocky Mountain Mine Pumice Extraction Environmental Assessment (DOI-BLM-NM-F020-2011-0032-EA) was prepared for the extension of the Rocky Mountain Mine surface and use of Federal minerals and was submitted to the TFO-BLM in December 2011. A Finding of No Significant Impact and Decision Record was signed by the TFO Field Manager on December 9, 2011 and is provided in Appendix A of this permit modification application.

CRM is currently working with the BLM TFO to permit the use of the overburden as a Federal mineral through the preparation of a Determination of NEPA Adequacy (DNA) pursuant to the National Environmental Policy Act (NEPA) of 1969. CR Minerals recently completed and submitted a Notice of Intent (NOI) requesting renewed coverage for the Rocky Mountain Mine under EPA's 2015 Multi-Sector General Permit (MSGP). This NOI has been accepted by the USEPA, and the following NPDES ID. NMR053267 was assigned. Authorization to discharge under the 2015 MSGP became effective on 2015-10-30. A copy of the USEPA approval and the NOI are provided in Appendix B of this permit modification application.

Prior to proceeding, CRM will ensure that all applicable State and Federal regulations and requirements, including the BLM, TFO Rocky Mountain Mine DNA are satisfied and have been approved.



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- (8) The designated Agent for this permit modification application is:

Ed Dvorak, Vice President - Operations  
CR Minerals Company, LLC  
P.O. Box 708  
Ohkay Owingeh, NM 87566

- (9) Copies of the proposed form of notices will be submitted by CR Minerals, LLC if required under 19.10.9 NMAC.
- (10) A \$1,000 application fee (CR Minerals, LLC Check No. 001583) was submitted to the State of New Mexico Energy, Minerals and Natural Resources Department (NM EMNRD for this permit modification under 19.10.2.201.H NMAC, on February 5, 2016. A copy of the official receipt for the application fee is contained in Appendix F.
- (11) There is no additional information provided for evaluation of the permit application.

**E. Information from Other Permits**

There is no additional information from environmental permits relevant to the application.

**F. Physically Separate but Interrelated Mining Operations**

There are no mining operations other than the Applicant's Rocky Mountain Mine near the project area.  
There are no interrelated mining operations near the project area.

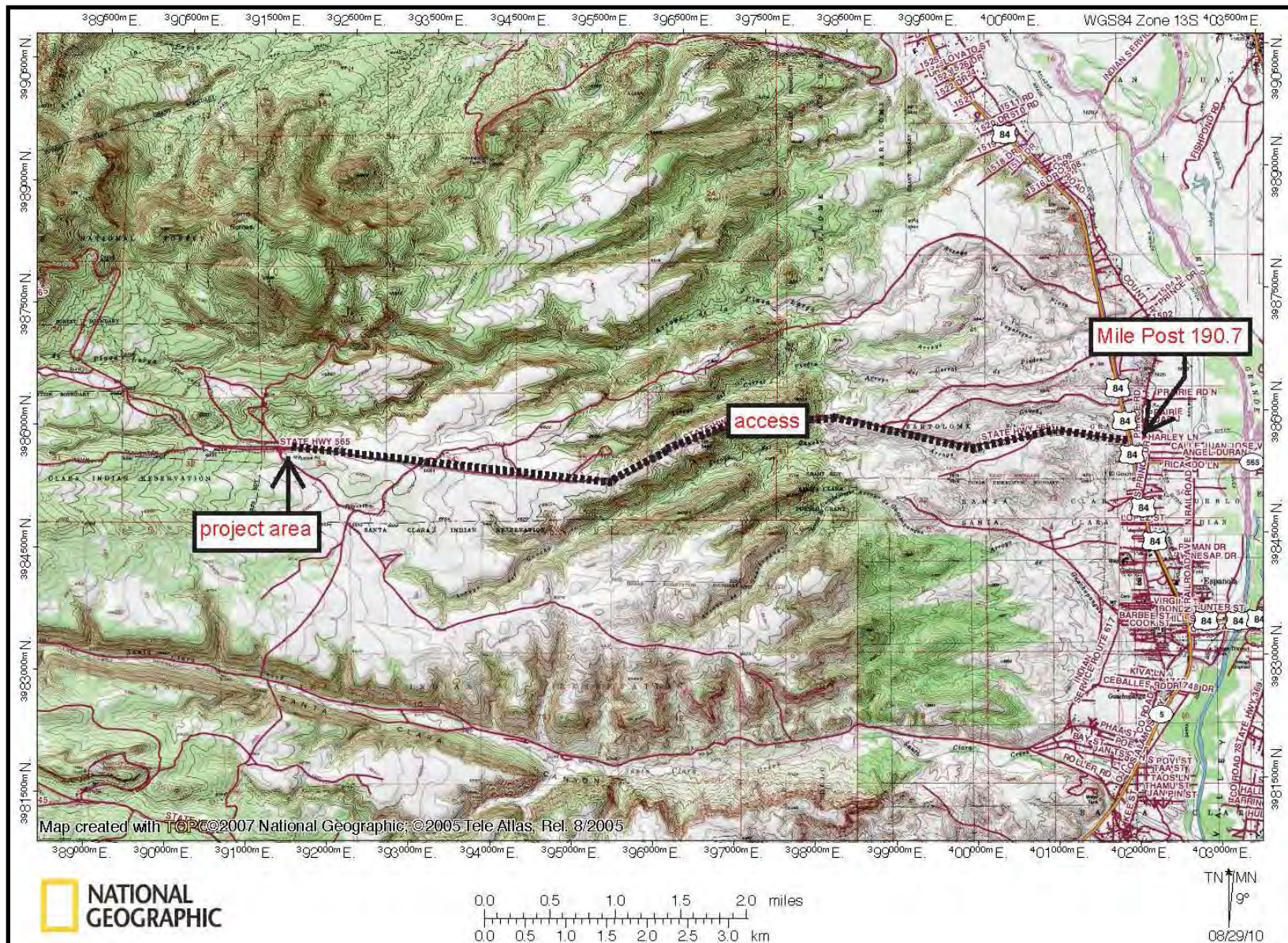


Figure 3. Map of access from U.S. 84/285 along 31-Mile Road.



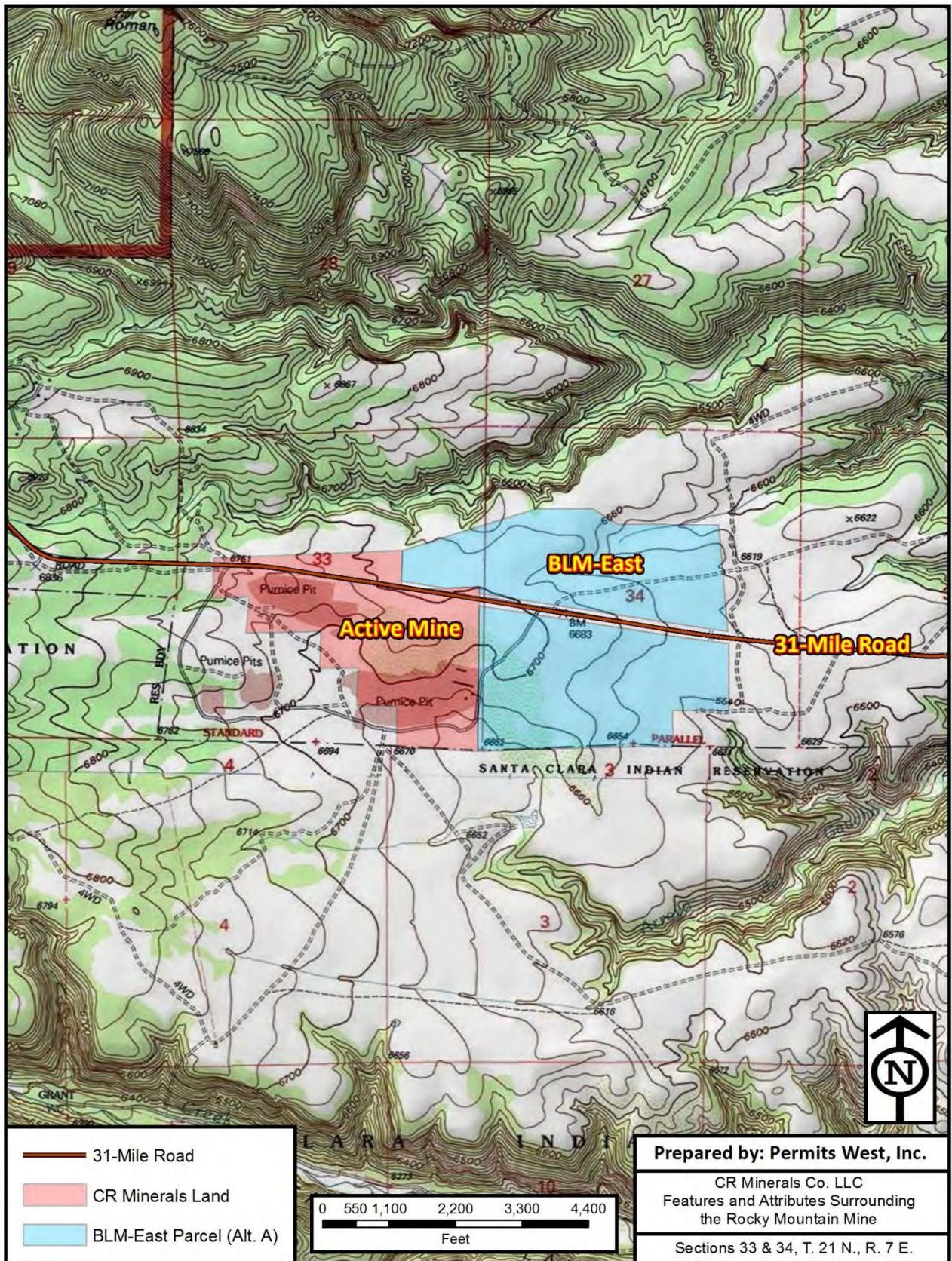


Figure 4. Map of project area, active mine, and vegetation reference area .



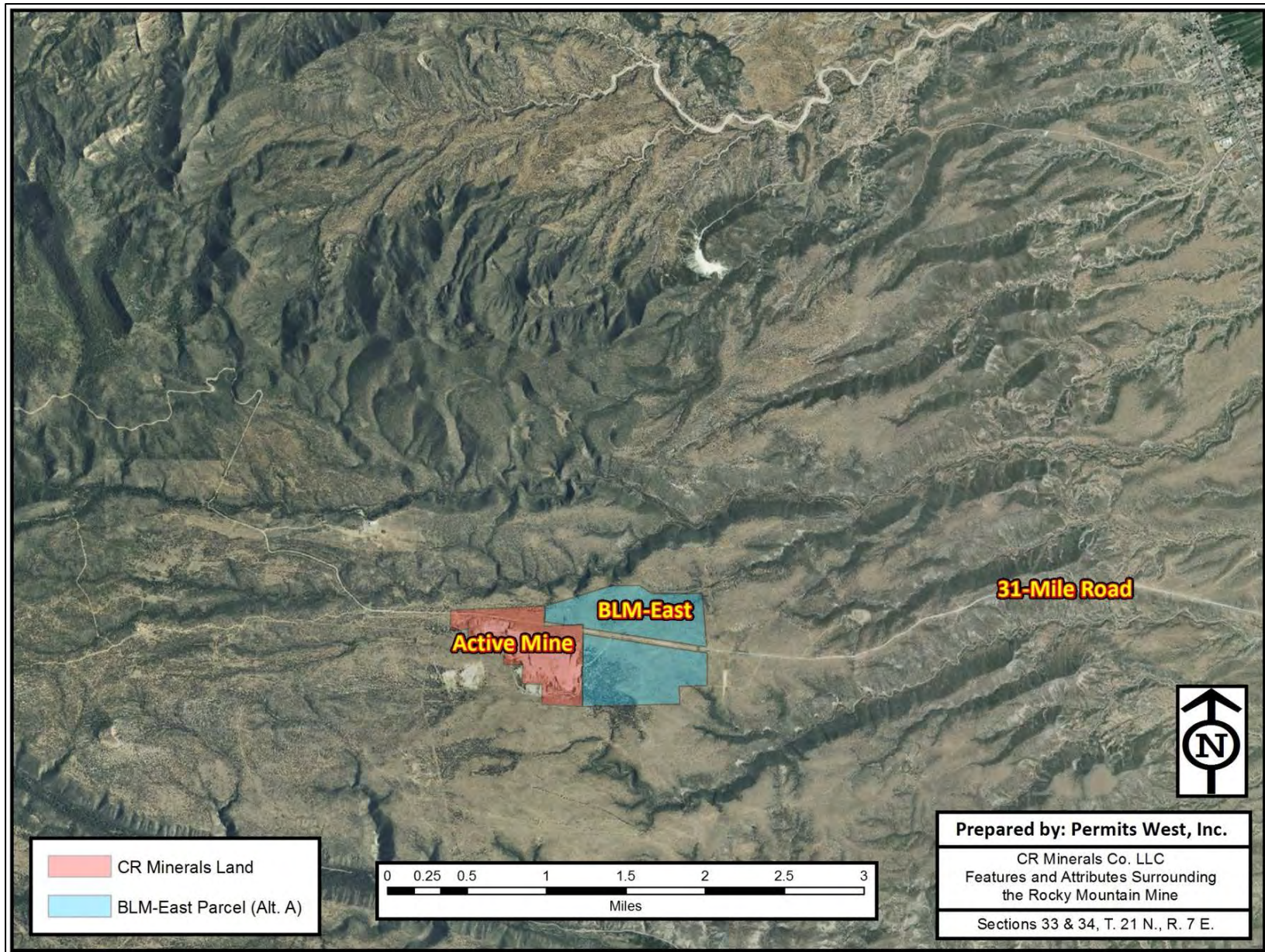


Figure 5. Aerial photo overview of BLM-East parcel relative to active mine.



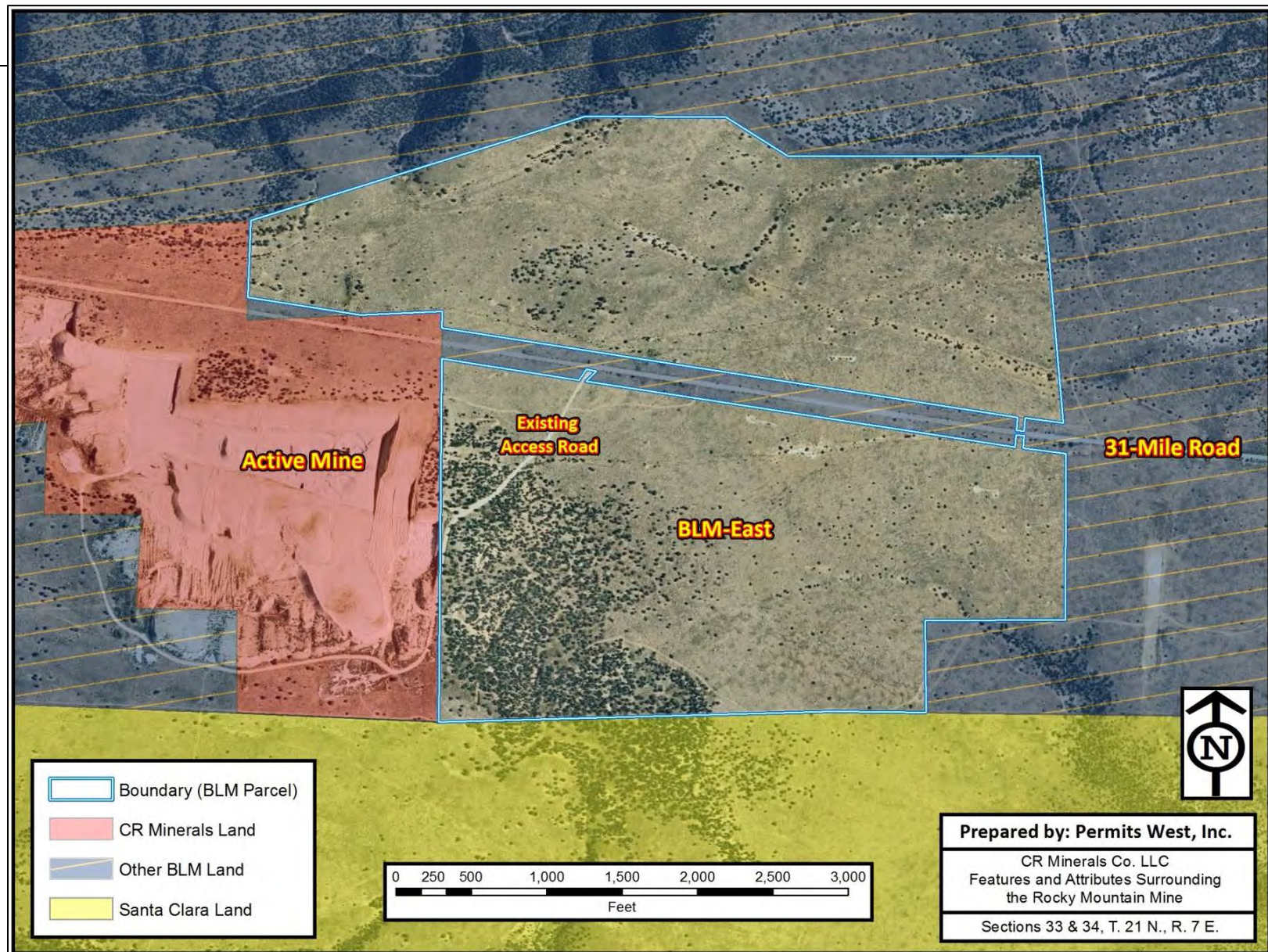
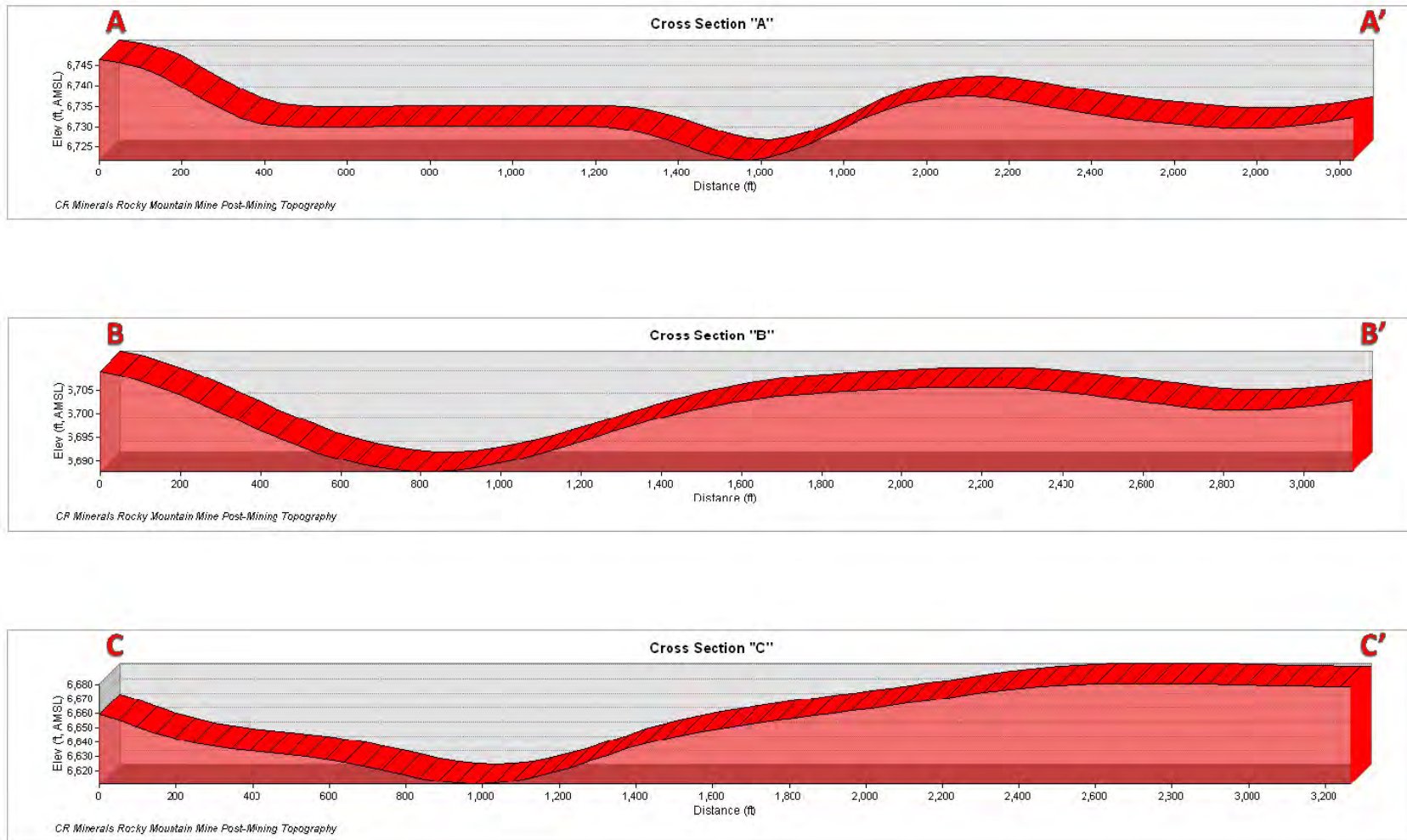


Figure 6. Aerial photo detail and land ownership surrounding BLM-East parcel.

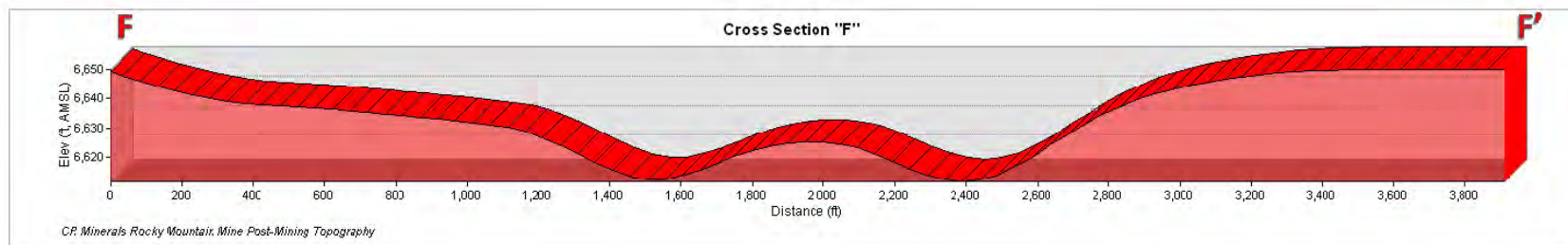
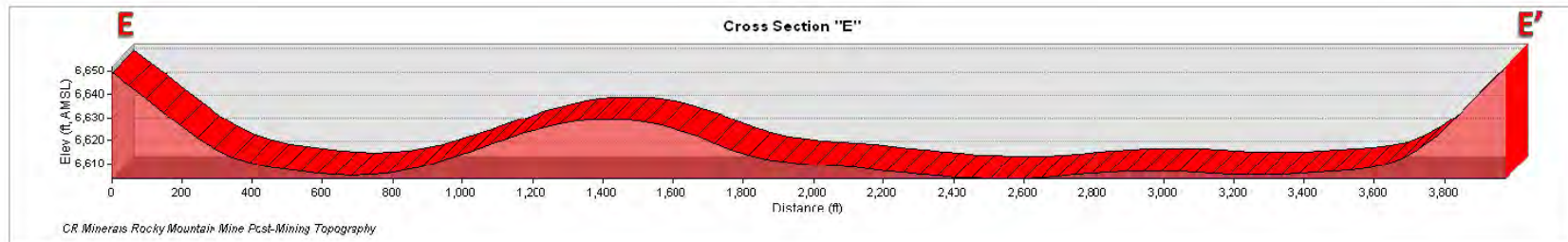
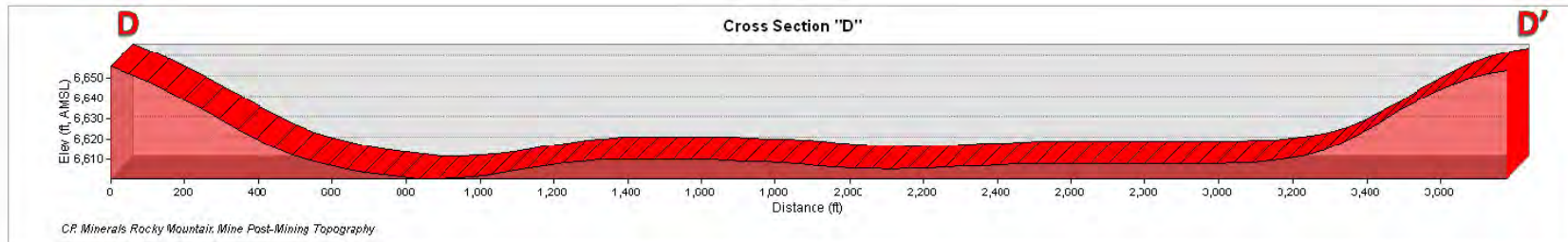








**Figure 8. Cross-sections A, B, and C (from Figure 7)**



**Figure 9. Cross-sections D, E, and F (from Figure 7).**



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UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
MINING CLAIM GEOGRAPHIC REPORT  
LIST OF MINING CLAIMS BY SECTION

Run Date: 08/09/2011  
Page 1 of 1

**MER TWP RNG SEC  
23 0210N 0070E 033**

Serial Num	Quad	Claim Name/Number	Claimant(s)	Lead File	Case		Loc ID	Last Assessment
					Type	Status		
NMMC120205	NW	ESPANOLA NO I	WESTERN MOBILE	NMMC120205	384201	CLOSED	08/28/1946	1992
NMMC120206	SW	ESPANOLA NO II	WESTERN MOBILE	NMMC120205	384201	CLOSED	08/28/1946	1992
NMMC120207	SE	ESPANOLA NO III	WESTERN MOBILE	NMMC120205	384201	CLOSED	08/28/1946	1992
NMMC120208	NE	ESPANOLA NO IV	WESTERN MOBILE	NMMC120205	384201	CLOSED	08/28/1946	1992
NMMC170386	NE	CRM 40	CR MINERALS - NM LLC	NMMC170386	384201	CLOSED	11/12/2003	2004
NMMC170387	NE	CRM 41	CR MINERALS - NM LLC	NMMC170386	384201	CLOSED	11/12/2003	2004
NMMC171015	NE	CRM 41	CR MINERALS - NM LLC	NMMC171015	384201	ACTIVE	11/18/2004	2011
NMMC171016	NE	CRM 40	CR MINERALS - NM LLC	NMMC171015	384201	ACTIVE	11/18/2004	2011
NMMC189416	NW SW	CRM 42	CR MINERALS - NM LLC	NMMC189416	384201	ACTIVE	08/26/2010	2011
NMMC189417	NW SW	CRM 43	CR MINERALS - NM LLC	NMMC189416	384201	ACTIVE	08/26/2010	2011

NO WARRANTY IS MADE BY BLM  
FOR USE OF THE DATA FOR  
PURPOSES NOT INTENDED BY BLM

Figure 11. BLM Mining Claim Geographic Report for Section 33-21n-73.



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UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
MINING CLAIM GEOGRAPHIC REPORT  
LIST OF MINING CLAIMS BY SECTION

Run Date: 08/09/2011  
Page 1 of 2

MER TWP RNG SEC  
23 0210N 0070E 034

<u>Serial Num</u>	<u>Quad</u>	<u>Claim Name/Number</u>	<u>Claimant(s)</u>	<u>Lead File</u>	<u>Case</u> <u>Type</u>	<u>Status</u>	<u>Loc Dt</u>	<u>Last Assessment</u>
NMMC122531	SW	ESPANOLA NO VII	WESTERN MOBILE	NMMC122531	384201	CLOSED	08/28/1946	1992
NMMC167524	SE	CRM 1	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167525	SE	CRM 2	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167526	NE	CRM 3	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167527	NE	CRM 6	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167528	NE	CRM 7	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167529	SE	CRM 8	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167530	NE	CRM 10	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167531	SE	CRM 11	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167532	SE	CRM 12	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167533	NE	CRM 14	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167534	SE	CRM 15	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167535	SE	CRM 16	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167536	NW	CRM 18	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167537	SW	CRM 19	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167538	SW	CRM 20	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167539	NW	CRM 22	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167540	SW	CRM 23	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167541	SW	CRM 24	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167542	NW	CRM 26	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167543	SW	CRM 27	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167544	SW	CRM 28	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167545	NW	CRM 30	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167546	SW	CRM 31	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC167547	SW	CRM 32	CR MIN CORP	NMMC167524	384201	CLOSED	02/03/1998	2000
NMMC169313	SE	CRM 1	CR MINERALS - NM LLC	NMMC169313	384201	CLOSED	09/27/2000	2003
NMMC169314	SE	CRM 2	CR MINERALS - NM LLC	NMMC169313	384201	CLOSED	09/27/2000	2003
NMMC169315	NE	CRM 3	CR MINERALS - NM LLC	NMMC169313	384201	CLOSED	09/27/2000	2003
NMMC169316	NE	CRM 6	CR MINERALS - NM LLC	NMMC169313	384201	CLOSED	09/27/2000	2003

NO WARRANTY IS MADE BY BLM  
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Figure 12. BLM Mining Claim Geographic Report for Section 32-21n-73 (Page 1 of 2).

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UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
MINING CLAIM GEOGRAPHIC REPORT  
LIST OF MINING CLAIMS BY SECTIONRun Date: 08/09/2011  
Page 2 of 2

Serial Num	Quad	Claim Name/Number	Claimant(s)	Lead File	Case		Loc Dt	Last Assessment
					Type	Status		
NMMC169317	SE	CRM 7	CR MINERALS - NM LLC	NMMC169313	384201	CLOSED	09/27/2000	2003
NMMC169318	SE	CRM 8	CR MINERALS - NM LLC	NMMC169313	384201	CLOSED	09/27/2000	2003
NMMC169319	NE	CRM 10	CR MINERALS - NM LLC	NMMC169313	384201	CLOSED	09/27/2000	2003
NMMC169320	SE	CRM 11	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169321	SE	CRM 12	CR MINERALS - NM LLC	NMMC169313	384201	CLOSED	09/27/2000	2003
NMMC169322	NE	CRM 14	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169323	SE	CRM 15	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169324	SE	CRM 16	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169325	NW	CRM 18	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169326	SW	CRM 19	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169327	SW	CRM 20	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169328	NW	CRM 22	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169329	SW	CRM 23	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169330	SW	CRM 24	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169331	NW	CRM 26	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169332	SW	CRM 27	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169333	SW	CRM 28	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169334	NW	CRM 30	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169335	SW	CRM 31	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011
NMMC169336	SW	CRM 32	CR MINERALS - NM LLC	NMMC169313	384201	ACTIVE	09/27/2000	2011

NO WARRANTY IS MADE BY BLM  
FOR USE OF THE DATA FOR  
PURPOSES NOT INTENDED BY BLM

Figure 13. BLM Mining Claim Geographic Report for Section 32-21n-73 (Page 2 of 2).

CRM-Rocky Mountain Mine

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Overburden Modification 16-01, Permit RA004RE






## New Mexico Office of the State Engineer

# Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)										(R=POD has been replaced and no longer serves this file. C=the file is closed)				(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)				(NAD83 UTM in meters)		
WR File Nbr	Sub	basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	q q q			X	Y	Distance				
	64 16 4										Sec	Tws	Rng							
<a href="#">RG 28348</a>		DOM	3	SIRI SINGH SAHIB CORP.	RA	<a href="#">RG 28348</a>				Shallow	3	2	4	29	21N	07E	390929	3986825*		1343

Record Count: 1

### POD Search:

POD Number: RG 28348

### Basin/County Search:

County: Rio Arriba

### UTM NAD83 Radius Search (in meters):

Easting (X): 391506

Northing (Y): 3985612

Radius: 20000

Sorted by: Distance

\*UTM location was derived from PLSS - see Help

The data is furnished by the NM OSE ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

2/29/16 10:43 AM

ACTIVE & INACTIVE POINTS OF DIVERSION

Figure 14. Point of Diversion by location for well RG 28348.

## **Appendix A**

**CRM - Rocky Mountain Mine**

**Overburden Modification**

**16-01**

**Permit RA004RE**

**United States Department of the Interior  
Bureau of Land Management**

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**CR Minerals Company, LLC  
Rocky Mountain Mine  
Pumice Extraction**

**Rio Arriba, New Mexico**

**Finding of No Significant Impact and Decision Record**

**December 2011**

**Attachment: Environmental Assessment  
DOI-BLM-NM-F020-2011-0032-EA**

---

U.S. Department of the Interior  
Bureau of Land Management  
Taos Field Office  
226 Cruz Alta Road  
Taos, New Mexico 87571  
(575) 758-8851





# **FINDING OF NO SIGNIFICANT IMPACT**

## **CR Minerals Company, LLC Rocky Mountain Mine Pumice Extraction**

### **Environmental Assessment DOI-BLM-NM-F020-2011-0032-EA**

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Based on the analysis of potential environmental impacts contained in the attached environmental assessment (DOI-BLM-NM-F020-2011-0032-EA), and considering the significance criteria in 40 CFR 1508.27, I have determined that the CR Minerals Company, LLC Rocky Mountain Mine Pumice Extraction project will not have a significant effect on the human environment. An environmental impact statement (EIS) is therefore not required.



Authorized Officer



Date





# **DECISION RECORD**

## **CR Minerals Company, LLC Rocky Mountain Mine Pumice Extraction**

### **Environmental Assessment DOI-BLM-NM-F020-2011-0032-EA**

#### **Decision**

It is my decision to approve the Proposed Action, Alternative A, as described in Chapter 2 of the attached environmental assessment (EA) (DOI-BLM-NM-F020-2011-0032-EA) and authorize CR Minerals Company, LLC to extend its existing Rocky Mountain Mine pumice extraction operation onto an additional 380.5 acres in T. 21 N., R. 7 E., sections 33 and 34 of Rio Arriba County, New Mexico. This approval is subject to adherence with all details and constraints presented under the Proposed Action in the attached EA.

#### **Land Use Plan Conformance and Consistency**

The Proposed Action has been reviewed and found to be in conformance with the 1988 *Taos Resource Management Plan* (Taos RMP) and its associated decision(s):

- “The objective of the minerals program is to provide the opportunity for development of mineral resources in a manner which minimizes environmental damage and provides for the rehabilitation of affected lands” (p. 2-8)
- “It is the policy of the Bureau to make mineral resources available for disposal and to encourage development of these resources consistent with national objectives for maintaining an adequate supply of minerals at reasonable market prices. At the same time, the BLM strives to ensure that mineral development is carried out in a manner which minimizes environmental damage and provides for the rehabilitation of affected lands” (p. 2-9)
- “Federal lands are the major source of mineral materials . . . for industrial, state, and local projects in Taos, Rio Arriba, and Santa Fe Counties. The Field Office is responsible for the sale, permitting, and inspection and enforcement programs for mineral material activity” (p. 2-9)

In addition, the extension of the Rocky Mountain Mine is found to be consistent with the goals, objectives, and land use planning decisions included in the *Proposed Taos Resource Management Plan and Final Environmental Impact Statement* (Proposed RMP/Final EIS), which when approved would replace the 1988 plan. (The Proposed RMP/Final EIS was released to the public for protest on December 2, 2011.)

#### **Rationale for Decision**



- This decision will provide for the continuity and economic viability of the Rocky Mountain Mine into the future, helping to meet public demand for pumice resources in a manner which minimizes potential environmental effects and provides for the rehabilitation of affected lands. The BLM's purposed and need for this action, as stated in section 1.2 of the EA, will be met.
- As demonstrated by the analysis contained in the EA, the mine extension onto adjacent public lands will not cause significant or unacceptable consequences. All potential resource conflicts and issues have been adequately resolved through project design features and mitigation measures which will be adhered to by CR Minerals Company, LLC as a condition of this approval.
- An adequate range of alternative was considered and evaluated in the EA. In addition to a no action alternative (Alternative B)—which would not meet the purpose and need for the action—the EA analyzed an alternative to reduce the size of the area proposed for mining (Alternative C). The analysis shows that the anticipated effects of Alternative C would be substantially the same as those anticipated under the Proposed Action—that essentially only the acreage disturbed and longevity of the operation would be different. Since the additional acreage included under the Proposed Action did not contain any resources of greater value or importance, the impacts to the various resources on that acreage will not be meaningfully reduced, particularly since the impacts to these resources can be adequately mitigated. Therefore, the Proposed Action is selected over Alternative C.
- An appropriate opportunity for public involvement in the decision making process was provided. On September 14, 2010, a 30-day formal public scoping period was opened. A formal scoping letter was sent out to all appropriate agency and government contacts as well as recipients on CRM's mailing list, soliciting the general public to comment on the scope of the proposed Rocky Mountain Mine extension project. A press release was also issued to area media.

The EA was made available on October 25, 2011 for a 30-day public review and comment period, announced via a press release and on the BLM New Mexico website. One comment letter was received November 14, 2011 from the New Mexico Department of Game and Fish (NMDGF). Recommendations by NMDGR were incorporated into the Proposed Action as design features to be adhered to by CR Minerals Company, LLC.


- As indicated above, the action is in conformance with the current, applicable land use plan, the 1988 *Taos Resource Management Plan*. It is also consistent with the *Proposed Taos Resource Management Plan* anticipated to be approved in early 2012.

### **Opportunity to Appeal**

Any appeal of this decision must follow the procedures set forth in 43 CFR Part 4. Within 30 days of the decision, a notice of appeal must be filed in the office of the Authorized Officer at



Taos Field Office, 226 Cruz Alta Road, Taos, New Mexico 87571. If a statement of reasons for the appeal is not included with the notice, it must be filed with the Interior Board of Land Appeals, Office of Hearings and Appeals, U.S. Department of the Interior, 801 North Quincy St., Suite 300, Arlington, VA 22203 within 30 days after the notice of appeal is filed with the Authorized Officer.

  
\_\_\_\_\_  
Authorized Officer

12/9/2011  
\_\_\_\_\_  
Date

**Attachment**

1. CR Minerals Company, LLC Rocky Mountain Mine Pumice Extraction Environmental Assessment (DOI-BLM-NM-F020-2011-0032-EA), dated December 2011.

10/10/2020 10:10:10 AM



## **Appendix B**

**CRM - Rocky Mountain Mine**

**Overburden Modification**

**16-01**

**Permit RA004RE**

Forwarded Message -----

**Subject:**EPA Multi-Sector General Permit (MSGP) Authorization is Active – Rocky Mountain Mine, NPDES ID: NMR053267, NeT Submission ID: MSGP-4233

**Date:**Sat, 31 Oct 2015 11:02:37 -0400 (EDT)

**From:**[NeT@epa.gov](mailto:NeT@epa.gov)

**To:**[jeff@crminerals.com](mailto:jeff@crminerals.com)

**CC:**[robyn@permitswest.com](mailto:robyn@permitswest.com), [lee.won@epa.gov](mailto:lee.won@epa.gov), [lescure.nasrin@epa.gov](mailto:lescure.nasrin@epa.gov),  
[emily@avanticorporation.com](mailto:emily@avanticorporation.com), [farris.erika@epa.gov](mailto:farris.erika@epa.gov),  
[Christiane@avanticorporation.com](mailto:Christiane@avanticorporation.com), [bius.catherine@epa.gov](mailto:bius.catherine@epa.gov)

2015-10-31

Your Notice of Intent (NOI) requesting coverage for Rocky Mountain Mine, P.O. Box 708 1 miule north of Fairview Lane on US 84/285, Road Ohkay Owingeh NM 87566 under EPA's Multi-Sector General Permit (MSGP) has been accepted and authorization to discharge under the MSGP became effective at the conclusion of your 30-day waiting period, on 2015-10-30.

For tracking purposes, the following NPDES ID has been assigned to your NOI: NMR053267. Attached to this email, you will find a copy of your completed NOI form. To access your NOI in NeT, please visit: [https://cdx.epa.gov/epa\\_home.asp](https://cdx.epa.gov/epa_home.asp).

As you know, the MSGP requires you to have developed a Stormwater Pollution Prevention Plan (SWPPP) prior to submitting your NOI. The MSGP also includes specific requirements for implementing control measures (e.g., minimize exposure, good housekeeping, maintenance, spill prevention and response), conducting self-inspections and visual assessments of your discharges, taking corrective actions, and conducting staff training. You must comply with any specific requirements applicable to your industrial sector(s) in Part 8 and any state/tribal-specific requirements in Part 9 (see <http://water.epa.gov/polwaste/npdes/stormwater/EPA-Multi-Sector-General-Permit-MSGP.cfm>). You are also required to submit an Annual Report in accordance with Part 7.5 of the MSGP that will contain the results from your past year's routine facility inspections, quarterly visual assessments, and corrective actions. Annual Reports must be submitted to EPA through NeT.

The MSGP includes five types of required analytical monitoring, one or more of which may apply to your discharge:

- Quarterly benchmark monitoring (see Part 6.2.1 and Part 8);
- Annual effluent limitations guidelines monitoring (see Part 6.2.2 and Part 8);
- State- or tribal-specific monitoring (see Part 6.2.3 and Part 9);
- Impaired waters monitoring (see Part 6.2.4); and
- Other monitoring as required by EPA (see Part 6.2.5).

Monitoring requirements in the MSGP (i.e., parameters required to be monitored and sample frequency) will be prepopulated on your electronic Discharge Monitoring Report (DMR) in EPA's NetDMR system, which is accessed at <http://www.epa.gov/netdmr/>. Where you have

determined that no monitoring requirements apply to your discharge, there is no need to access the NetDMR system. In order to obtain access to this system, you must complete the electronic signature process. Please refer to the following guidance for information about submitting monitoring reports through NetDMR:

<http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPAs-MultiSector-General-Permit.cfm>.

Please note that this email does not represent a determination by EPA regarding the validity of the information you provided in your NOI. Your eligibility for coverage under this permit is based on the validity of the certification you provided. Your electronic signature on the NOI form certifies that you have read, understood, and are implementing all of the applicable requirements. An important aspect of this certification requires that you have correctly determined whether you are eligible for coverage under this permit.

The 2014 MSGP and additional guidance are available at:

<http://water.epa.gov/polwaste/npdes/stormwater/EPA-Multi-Sector-General-Permit-MSGP.cfm>.

Please contact your EPA Regional permitting authority at [lee.won@epa.gov](mailto:lee.won@epa.gov); [lescore.nasrin@epa.gov](mailto:lescore.nasrin@epa.gov); [emily@avanticorporation.com](mailto:emily@avanticorporation.com); [farris.erika@epa.gov](mailto:farris.erika@epa.gov); [Christiane@avanticorporation.com](mailto:Christiane@avanticorporation.com); [bius.catherine@epa.gov](mailto:bius.catherine@epa.gov) for more information.

This is an automated response; please do not reply to this email.

AcceptedNewNOIRceipt.pdf



# 2015 NPDES Multi-Sector General Permit For Stormwater Discharges Associated With Industrial Activity (MSGP) Forms

United States Environmental Protection Agency  
1200 Pennsylvania Ave, NW Washington, DC 20460

Note: This is a "smart form"; as you fill out the form, additional questions will appear that you will need to answer.

## Permit Information

1. What action would you like to take? \*

File a New Notice of Intent Form

Submission of this Notice of Intent (NOI) constitutes notice that the operator identified in the Facility Operator Information section of this form requests authorization to discharge pursuant to the NPDES Stormwater Multi-Sector General Permit (MSGP) permit number identified in the Permit Information section of this form. Submission of this NOI also constitutes notice that the operator identified in the Facility Operator Information section of this form meets the eligibility conditions of Part 1.1 of the MSGP for the facility identified in the Facility Information section of this form. To obtain authorization, you must submit a complete and accurate NOI form. Discharges are not authorized if your NOI is incomplete or inaccurate or if you were never eligible for permit coverage.

Operator Name (Organization Name) \*

CR Minerals Company, LLC

Operator Name as Noted by the NOI Preparer

CR Minerals Co., LLC

2. Select the state/territory where your facility is located \*

NM

3. Is your facility located on Indian Country lands? \*

☐ Yes

☒ No

4. Are you requesting coverage as a "federal operator" as defined in Appendix A? \*

☐ Yes

☒ No

5. Are you a new discharger or a new source as defined in Appendix A? \*

☐ Yes ☒ No

5a. Have stormwater discharges from your facility been covered previously under an NPDES permit? \*

☒ Yes ☐ No

5aa. Provide your most current NPDES ID (i.e., permit tracking number) if you had coverage under EPA's MSGP 2008 or the NPDES permit number if you had coverage under an EPA individual permit \*

NMR05HP62

6. Do you directly discharge to any of the waters of the U.S. that are designated by the state or tribal authority under its antidegradation policy as a Tier 3 water (Outstanding Natural Resource Water) (See Appendix L)? Your project will be considered to discharge to a Tier 3 water if the first water of the US to which you discharge is identified by a state, tribe, or EPA as a Tier 3 water. For discharges that enter a storm sewer system prior to discharge, the first water of the US to which you discharge is the waterbody that receives the stormwater discharge from the storm sewer system. \*

☐ Yes ☒ No

7. Does your facility directly discharge to a Federal CERCLA site listed in Appendix P? For the purposes of this permit, a permittee discharges to a Federal CERCLA site if the discharge flows directly into the site through its own conveyance, or through a conveyance owned by others, such as a municipal separate storm sewer system. \*

☐ Yes ☒ No

8. Has the Stormwater Pollution Prevention Plan (SWPPP) been prepared in advance of filing this NOI, as required? \*

☒ Yes ☐ No

9. By indicating "Yes", I confirm that I understand that the MSGP only authorizes the allowable stormwater discharges in Part 1.1.2 and the allowable non-stormwater discharges in Part 1.1.3. Any discharges not expressly authorized under the MSGP are not covered by the MSGP and they cannot become authorized by disclosure to EPA and/or a state via this Notice of Intent to be covered by the permit or by any other means (e.g., in the Stormwater Pollution Prevention Plan or during an inspection). If any discharges requiring NPDES permit coverage other than the allowable stormwater and non-stormwater discharges listed in Parts 1.1.2 and 1.1.3 will be discharged, they must be covered under another NPDES permit. \*

☒ Yes ☐ No

10. Master Permit Number

NMR050000

#### A: Facility Operator Information

1. Operator Name (Organization Name) \*

CR Minerals Company, LLC

2. Street \*

P.O. Box 708

3. Supplemental Address

1 miule north of Fairview Lane on US 84/285, Road

4. City \*

Ohkay Owingeh

5. State \*

NM

6. Zip Code \*

87566

7. Facility County or Similar Govt. Subdivision \*

Rio Arriba

8. Phone (10-digits, No dashes) \*

5054282940

9. Extension

10. E-Mail \*

joe@crminerals.com

Operator point of contact information

11. First Name \*

Joe Griego

12. Middle Initial

13. Last Name \*

Griego

14. Professional Title \*

Oerations Manager

#### B: Facility Information

1. Facility Name \*

Rocky Mountain Mine

☒ Facility address same as facility operator address

2. Street/Location \*

P.O. Box 708

3. Supplemental Address

1 miule north of Fairview Lane on US 84/285, Road

4. City \*

Ohkay Owingeh

5. State \*

NM

6. Zip Code \*

87566

7. Facility County or Similar Govt. Subdivision \*

Rio Arriba

Latitude/Longitude for the facility:

8. Latitude (Decimal Degrees) \*

+

36.005220

9. Longitude (Decimal Degrees) \*

-

106.193589

10. Latitude/Longitude Data Source \*

Other

11. Horizontal Reference Datum

WGS84

12. What is the ownership type of the facility \*

Corporation

13. Estimated area of industrial activity at your facility exposed to stormwater (to the nearest quarter acre) \*

517.40

Identify the applicable sector and subsector of your primary industrial activity (See Appendix D) that best represents the products produced or services rendered for which your facility is primarily engaged, as defined in the MSGP, and the 4-digit Standard Industrial Classification (SIC) code or 2-letter Activity Code:

15. Sector \*

SECTOR J: MINERAL MINING AND DRESSING

16. Primary SIC Code \*

1499: Miscellaneous Nonmetallic Minerals

17. Subsector

J2: Miscellaneous Nonmetallic Minerals, Except Fuels

18. Identify the applicable sectors(s) of any co-located industrial activity for which you are requesting permit coverage.

Sector

SECTOR J: MINERAL MINING AND DRESSING

Subsector \*

J2: Miscellaneous Nonmetallic Minerals, Except Fuels

Add Sector

22. Is your facility presently inactive and unstaffed? \*

☐ Yes

☒ No

### C: Discharge Information

3. Identify if the following Effluent Limitation Guideline(s) apply to any of your discharges

40 CFR Part/Subpart: Part 436, Subpart B	Eligible Discharges: Mine dewatering discharges at crushed stone mining facilities (SIC 1422 - 1429)	Affected MSGP Sector: J	New Source Date: N/A	Does your facility have any discharges subject to this effluent limitation guideline? *
				<input type="radio"/> Yes <input checked="" type="radio"/> No
40 CFR Part/Subpart: Part 436, Subpart C	Eligible Discharges: Mine dewatering discharges at construction sand and gravel mining facilities (SIC 1442)	Affected MSGP Sector: J	New Source Date: N/A	Does your facility have any discharges subject to this effluent limitation guideline? *
				<input type="radio"/> Yes <input checked="" type="radio"/> No
40 CFR Part/Subpart: Part 436, Subpart D	Eligible Discharges: Mine dewatering discharges at industrial sand mining facilities (SIC 1446)	Affected MSGP Sector: J	New Source Date: N/A	Does your facility have any discharges subject to this effluent limitation guideline? *
				<input type="radio"/> Yes <input checked="" type="radio"/> No

### Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID *		B. Latitude (Decimal Degrees) *		C. Longitude (Decimal Degrees) *		Lookup Receiving Waters Information	Delete Outfall
001	+	36.020594	-	106.159676		(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)	

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

5. Multiple Receiving Waters were returned for your outfall. Please select the receiving water that is associated with your outfall from this list: \*

### Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) \*

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? \*

☐ Yes ☒ No

3. Has a TMDL been completed for this receiving waterbody? \*

☐ Yes ☒ No

### Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID \*

B. Latitude (Decimal Degrees) *		C. Longitude (Decimal Degrees) *		Lookup Receiving Waters Information (This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)	Delete Outfall
+	36.009286	-	106.140224		

D. Substantially Identical to Any Outfalls Listed Above? \*

☐ Yes ☒ No

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to.  
(You may edit the name of the water of the U.S. that was returned if incorrect.) \*

Arroyo del Gaucho

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? \*

☐ Yes ☒ No

3. Has a TMDL been completed for this receiving waterbody? \*

☐ Yes ☒ No

Add Another Outfall

Provide the following information about your outfall latitude longitude.

5. Latitude/Longitude Data Source *	6. Horizontal Reference Datum
Other	WGS84

7. Does your facility discharge into a Municipal Separate Storm Sewer System (MS4)? \*

☐ Yes ☒ No

8. Do you discharge to any of the waters of the U.S. that are designated by the state or tribal authority under its antidegradation policy as a Tier 2 (or Tier 2.5) water (water quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water) (See Appendix L)? \*

☐ Yes ☒ No

D. Stormwater Pollution Prevention Plan (SWPPP) Information

SWPPP Contact Information

1. First Name *	2. Middle Initial	3. Last Name *	4. Professional Title *
Joe		Griego	Operations Manager
5. Phone (10-digits, No dashes) *	6. Extension	7. E-Mail *	
5054282940		joe@crminerals.com	



8. Your current SWPPP or certain information from your SWPPP must be made available through one of the following two options. Select one of the options and provide the required information. \*

**Note: You are not required to post any confidential business information (CBI) or restricted information (as defined in Appendix A) (such information may be redacted), but you must clearly identify those portions of the SWPPP that are being withheld from public access.**

☐ Option 1: Maintain a Current Copy of your SWPPP on an Internet page (Universal Resource Locator or URL).

☒ Option 2: Provide the following information from your SWPPP.

A. Describe your onsite industrial activities exposed to stormwater (e.g., material storage; equipment fueling, maintenance, and cleaning, cutting steel beams), and potential spill and leak areas. \*

Activities at the facility include pumice extraction, crushing and screening for shipment to lightweight aggregate customers and for shipment as feedstock to the CR Minerals Mill in Ohkay Owingeh, New Mexico for further processing and sale to industrial customers. All industrial activities with the exception of the access road/driveway to the public access are contained within the pit area. Industrial activities include: road maintenance, removal of overburden, rock sorting, rock crushing, waste rock storage, raw material loading, processing materials unloading, raw or waste material transportation, equipment/vehicle maintenance - fueling, equipment/vehicle maintenance - parts cleaning, equipment/vehicle maintenance - fluid replacement, equipment/vehicle maintenance - waste disposal, and reclamation activities. The diesel storage tank is located in a far corner of the pit area and is contained within a plastic lined and bermed area. There are no potential outfalls associated with this source. Equipment/vehicle maintenance is performed within the pit area and all fluids, oils greases are placed in a container, then hauled offsite by a licensed contractor.

B. List the pollutants(s) or pollutant constituent(s) associated with each industrial activity exposed to stormwater that could be discharged in stormwater and/or in any authorized non-stormwater discharges listed in Part 1.1.3. \*

Road maintenance - Dust, total suspended solids (TSS)  
Removal of overburden - Dust, TSS, total dissolved solids (TDS), turbidity  
Rock sorting - Dust, TSS  
Rock crushing - Dust, TSS, TDS, turbidity, fines  
Raw material storage - Dust, TSS, TDS, turbidity  
Waste rock storage - Dust, TSS, TDS, turbidity, pH  
Raw material loading - Dust, TSS, TDS, turbidity  
Processing materials unloading - Diesel fuel, oil  
Raw or waste material transportation - Dust, TSS, TDS, turbidity  
Equipment/Vehicle Maintenance-Fueling Activities - Diesel fuel, oil  
Equipment/Vehicle Maintenance-Parts Cleaning - containerized solvents, oil, grease, and oily rags  
Equipment/Vehicle Maintenance-waste disposal of oily rags, oil and gas filters, batteries, coolants, degreasers, solvents, and spent containers  
Fluid replacement including hydraulic fluid, oil, transmission fluid, radiator fluids, grease, solvents, and spent containers  
Reclamation Activities-Site preparation for stabilization - Dust, TSS, TDS, turbidity

C. Describe the control measures you will employ to comply with the non-numeric technology-based effluent limits required in Part 2.1.2 and Part 8, and any other measures taken to comply with the requirements in Part 2.2 Water Quality-Based Effluent Limitations (see Part 5.2.4.1). \*

All industrial activities with the exception of the access road/driveway to the public access are contained within the pit area. The pit is surrounded by high retaining walls and no potential outfalls have been identified within the pit area. The diesel tank used for refueling is contained within a plastic lined berm and is surrounded by pumice. The pumice itself acts as a sorbent for spill control. The generator is contained within a shed and is not exposed to rain, snow, snowmelt, and runoff. The natural vegaion has been preserved areas not involved in industrial activities. Disturbed areas no longer in use have been vegetated to minimize exposed soils. Haul roads are constructed to minimize runoff from road surfaces.

The area of operations will be kept clean throughout the work day. Actions will include containing and covering garbage, waste materials, and debris in covered containers each day. Pickup and disposal of garbage and waste materials at the site will be performed as covered containers become full or at least once a month.

D. Provide a schedule for good housekeeping and maintenance (see Part 5.2.5.1) and a schedule for all inspections required in Part 4 (see Part 5.2.5.2). \*

Good house-keeping actions will be performed each day.  
Maintenance actions will be performed at least once a week.  
Inspections of the diesel storage tank and plastic lining to the containment area will be inspected at least once a week for leaks and structural integrity.  
All motorized equipment will be inspected each day for fluid leaks (i.e. checked for oil or other fluid leaks beneath the equipment. In addition, spill cleanup material weill be kept readily available and spills and/or leaks will be cleaned up immediately. Driveways will be inspected each day and kept clear of pumice and oil/grease from vehicles.

#### E: Endangered Species Protection

1. Using the instructions in Appendix E of the MSGP, under which endangered species criterion listed in Part 1.1.4.5 are you eligible for coverage under this permit? \*

Criterion A – No listed species or critical habitat are in the action area

2. Provide a brief summary of the basis for the criterion selected in Appendix E (e.g., communication with U.S. Fish and Wildlife Service or National Marine Fisheries Service to determine no species in action area; implementation of controls approved by EPA and the Services). \*

Based on an examination of the U.S. Fish and Wildlife Service's Official Species List generated August 26, 2015 (Consultation Code: 02ENNM00-2015-SLI-0653 August 26, 2015 Event Code: 02ENNM00-2015-E-00771 Project Name: CR Minerals Co. LLC - Rocky Mountain Mine) and a further examination of the Environmental Conservation Online System (ECOS) IPaC webpage and ECOS-generated descriptions for each of the species listed in the Official Species list, there is no suitable habitat for these species within the project action area and the Project likely will have no adverse effect on these species or their designated/proposed Critical Habitats.  
See Attachments 1 and 2, Appendix E)

#### F: Historic Preservation

1. If your facility is not located in Indian country lands, is your facility located on a property of religious or cultural significance to an Indian tribe? \*

☐ Yes ☒ No

2. Using the instructions in Appendix F of the MSGP, under which historic properties preservation criterion listed in Part 1.1.4.7 are you eligible for coverage under this permit? \*

Criterion C - Contacted the SHPO or THPO and received a response regarding measures to mitigate potential effects

#### Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. 40 CFR 122.22 (d)

Certifier E-Mail \*

jeff@crminerals.com

Form Action \*

Approve

## **Appendix C**

**CRM - Rocky Mountain Mine**

**Overburden Modification**

**16-01**

**Permit RA004RE**

---

# **PLANT SURVEY REPORT**

## **FOR**

### **CR MINERALS' PROPOSED**

### **ROCKY MOUNTAIN MINE EXTENSION**

**Sections 33 and 34, T. 21 N., R. 7 E.**  
**Rio Arriba County, New Mexico**



**NOVEMBER 6, 2010**

***PREPARED BY:***

**WINNIE DEVLIN**

**OF**



**PERMITS WEST, INC.**  
**37 VERANO LOOP**  
**SANTA FE, NM 87508**

## 1.0 INTRODUCTION

This report evaluates the potential for disturbance to the following 16 plant species listed as rare for Rio Arriba County, New Mexico (NMRPTC 2007): tufted sand verbena (*Abronia bigelovii*), cyanic milkvetch (*Astragalus cyaneus*), Chaco milkvetch (*Astragalus micromerius*), Pagosa milkvetch (*Astragalus missouriensis*), Arboles milkvetch (*Astragalus oocalycis*), Taos milkvetch (*Astragalus puniceus* var. *gertrudis*), Ripley's milkvetch (*Astragalus ripleyi*), robust larkspur (*Delphinium robustum*), Heil's alpine whitlowgrass (*Draba heilii*), New Mexico stickseed (*Hackelia hirsuta*), small-headed goldenweed (*Lorandersonia microcephala*), Chama blazing star (*Mentzelia conspicua*), Pagosa phlox (*Phlox caryophylla*), Pagosa bladderpod (*Physaria pruinosa*), Arizona willow (*Salix arizonica*) and Clifford's groundsel (*Senecio cliffordii*). The potential for disturbance to Federal-listed plant species (USFWS 2010) was also evaluated.

## 2.0 PROJECT DESCRIPTION

The project area is located on CR Minerals Company, LLC land and on Bureau of Land Management (BLM) land approximately 6-1/2 miles west of Espanola, New Mexico, in Rio Arriba County. The proposed project consists of expanding an existing, active pumice mine. Expansion will total ≈380.5 acres. The proposed project crosses two sections (33 and 34) of T. 21 N., R. 7 E., and lies on the north and south side of 31-Mile Road about 6 miles west of the intersection of FS 144 with US 84/285. Elevations within the project area range from approximately 6,630 to 6,775 feet.

The proposed pumice mine expansion includes two areas west and east of the active mine named BLM-West and BLM-East. 31-Mile Road runs through the middle of the project area and is fenced on both the north and south side. This fenced area, including 31-Mile Road, is approximately 200 feet wide and will not be part of the proposed mine area. Other than the areas surrounding the existing mine and along the roadway, the project area traverses relatively undisturbed terrain.

The soil is a clay loam, sandy in places with areas of pumice pebbles on the surface. For the most part, there are two major plant communities: pinon-juniper/blue grama woodland (*Pinus edulis-Juniperus monosperma/Bouteloua gracilis*) and savanna grassland of the *Juniperus monosperma/bouteloua* series (according to the classification system in Dick-Peddie 2000). In both communities, the predominant shrubs and subshrubs are rubber rabbitbrush (*Chrysothamnus nauseosus*) and broom snakeweed (*Gutierrezia sarothrae*). In addition to blue grama, the predominant grasses are ring muhly (*Muhlenbergia torreyi*) and alkali sacaton (*Sporobolus airoides*). By far the most abundant forb is tarragon (*Artemesia dracunculus*). In the disturbed areas along the road and adjacent to the mine, Russian thistle (*Salsola tragus*) and cheat grass (*Bromus tectorum*) dominate.

In one area immediately west of the existing mine, the substrate is predominantly pumice rather than soil. Here there is very little grass of any species and no pinon or juniper. The predominant plant is Apache plume (*Fallugia paradoxa*).

### 3.0 METHODOLOGY

The proposed project area was surveyed by Winnie Devlin (Ph. D., plant physiology) from October 5 through October 9, and on October 12, 2010. The weather on all of these days was cool in the morning with temperatures warming in the afternoons with a gentle breeze that typically increased in strength in the late afternoons along with increased cloud cover.

The survey of the proposed pumice mine extension was accomplished by zigzag pedestrian transects of 40 to 50 feet in width. Although the emphasis of the survey was to inspect for listed species, all plants were identified to the extent possible in order to provide a thorough description of the environment and to note any State-listed noxious weeds (NMDA 2009) that might occur in the project area.

### 4.0 SURVEY RESULTS

Of the 16 species listed as rare in Rio Arriba County, NM, 14 of the species—tufted sand verbena (*Abronia bigelovii*), cyanic milkvetch (*Astragalus cyaneus*), Chaco milkvetch (*Astragalus micromerius*), Pagosa milkvetch (*Astragalus missouriensis*), Arboles milkvetch (*Astragalus oocalycis*), Ripley's milkvetch (*Astragalus ripleyi*), robust larkspur (*Delphinium robustum*), Heil's alpine whitlowgrass (*Draba heilii*), New Mexico stickseed (*Hackelia hirsuta*), small-headed goldenweed (*Lorandersonia microcephala*), Chama blazing star (*Mentzelia conspicua*), Pagosa bladderpod (*Physaria pruinosa*), Arizona willow (*Salix arizonica*) and Clifford's groundsel (*Senecio cliffordii*)—were not found during the survey due to a lack of potential habitat for any of these species in the project area.

Although there is potential habitat in the project area for the remaining two species listed as rare in Rio Arriba County, NM—Taos milkvetch (*Astragalus puniceus* var. *gertrudis*) and Pagosa phlox (*Phlox caryophylla*)—neither of these species was found during the survey.

There are no Federal listed plant species for Rio Arriba County, New Mexico.

Four State-listed noxious weed species occurred within the project area: cheatgrass (*Bromus tectorum*), Russian olive (*Elaeagnus angustifolia*), salt cedar (*Tamarix* sp.), and Siberian elm (*Ulmus pumila*). Although not abundant in the project area, cheat grass did occur along the roadside, several arroyos, and other disturbed edges. The three noxious tree species were found in erosion control features adjacent to the active mine. The erosion control features periodically hold water. The resulting damp soil is conducive to the three species. All four species are listed as Class C species, "wide-spread in the state", and for which "management decisions...should be determined at the local level, based on feasibility of control and level of infestation" (NMDA 2009).

While not officially listed as noxious weeds, tumbleweed (*Salsola tragus*) and mullein (*Verbascum thapsus*) were also found in disturbed areas.

## 4.1 PLANTS FOUND AT THE PROPOSED PROJECT AREA

### Trees

<i>Elaeagnus angustifolia</i>	Russian olive
<i>Juniper monosperma</i>	One-seed juniper
<i>Pinus edulis</i>	Pinon pine
<i>Pinus ponderosa</i>	Ponderosa pine
<i>Populus sp.</i>	Cottonwood
<i>Salix sp.</i>	Willow
<i>Tamrix sp.</i>	Salt cedar
<i>Ulmus pumila</i>	Siberian elm

### Shrubs, Subshrubs and Vines

<i>Artemisia tridentata</i>	Big leaf sagebrush
<i>Atriplex canescens</i>	Four-wing saltbush
<i>Chrysothamnus depressus</i>	Longflower rabbitbrush
<i>Chrysothamnus nauseosus</i>	Rubber rabbitbrush
<i>Clematis ligusticifolia</i>	Western virgin's bower
<i>Eriogonum microthecum</i>	Slender buckwheat
<i>Fallugia paradoxa</i>	Apache plume
<i>Forestiera neomexicana</i>	New Mexico olive
<i>Gutierrezia sarothrae</i>	Broom snakeweed
<i>Krascheninnikovia lanata</i>	Winterfat
<i>Lycium pallidum</i>	Wolfberry
<i>Rhus trilobata</i>	Skunkbush
<i>Ribes cereum</i>	Wax currant
<i>Tetradymia canescens</i>	Spineless horsebrush

### Cacti and Succulents

<i>Coryphantha vivipara</i> var. <i>arizonica</i>	Arizona pincushion
<i>Cylindropuntia imbricata</i>	Cholla
<i>Echinocereus triglochidiatus</i>	Claret cup cactus
<i>Opuntia phaeacantha</i>	Pricklypear
<i>Opuntia polyacantha</i>	Plains pricklypear
<i>Yucca baccata</i>	Banana yucca
<i>Yucca glauca</i>	Soapweed yucca

### Grasses

<i>Achnatherum hymenoides</i>	Indian ricegrass
<i>Aristida divaricata</i>	Poverty threeawn
<i>Aristida longiseta</i>	Red threeawn
<i>Bouteloua curtipendula</i>	Sideoats grama
<i>Bouteloua eriopoda</i>	Black grama
<i>Bouteloua hirsuta</i>	Hairy grama

*Bouteloua gracilis*  
*Bromus tectorum*  
*Elymus elymoides*  
*Festuca arizonica*  
*Hordeum jubatum*  
*Muhlenbergia torreyi*  
*Munroa squarosa*  
*Pascopyrum smithii*  
*Pleuraphis jamesii*  
*Schizachyrium scoparium*  
*Sporobolus airoides*  
*Sporobolus cryptandrus*  
*Stipa comata*

Blue grama  
Cheatgrass  
Bottlebrush squirreltail  
Arizona fescue  
Foxtail barley  
Ring muhly  
False buffalograss  
Western wheatgrass  
Jame's galleta  
Little bluestem  
Alkali sacaton  
Sand dropseed  
Needle-and-thread

### **Forbs**

*Ameranthus hybridus*  
*Ambrosia acanthicarpa*  
*Ambrosia psilostachya*  
*Arabis fendleri*  
*Artemisia dracunculus*  
*Artemisia ludoviciana*  
*Asclepias asperula*  
*Aster falcatus* var. *commutatus*  
*Astragalus lentiginosus*  
*Astragalus missouriensis*  
*Atriplex argentea*  
*Bahia dissecta*  
*Brickellia eupatorioides*  
*Castilleja integra*  
*Chaetopappa ericoides*  
*Chamaesyce albomarginata*  
*Chamaesyce serpyllifolia*  
*Chenopodium album*  
*Chenopodium berlandieri*  
*Chenopodium fremontii*  
*Chenopodium leptophyllum*  
*Cirsium ochrocentrum*  
*Cleome serrulata*  
*Conyza canadensis*  
*Cryptantha crassisepala*  
*Cryptantha paysonii*  
*Dalea purpurea*  
*Dalea scariosa*

Pigweed  
Annual bursage  
Western ragweed  
Fendler's arabis  
Taragon  
Prairie sage  
Antelope horns milkweed  
Heath aster  
Beakpod milkvetch  
Missouri milkvetch  
Silersscale saltweed  
Bahia  
False boneset  
Foothills paintbrush  
White aster  
Rattlesnake weed  
Thymeleaf spurge  
Common lambsquarters  
Netseed lambsquarters  
Fremont lambsquarters  
Narrow-leaved goosefoot  
Yellowspine thistle  
Rocky Mountain bee plant  
Horseweed  
Thicksepal hiddenflower  
White hiddenflower  
Purple prairie clover  
La Joya prairieclover



<i>Descurainia obtusa</i>	Blunt tansy mustard
<i>Descurainia sophia</i>	Flixweed
<i>Dysphonia graveolens</i>	Fetid goosefoot
<i>Eriogonum cernuum</i>	Nodding buckwheat
<i>Gaillardia pinnatifida</i>	Yellow blanket flower
<i>Helianthus annuus</i>	Annual sunflower
<i>Heterotheca villosa</i>	Hairy golden aster
<i>Hymenopappus filifolius</i>	White ragweed
<i>Hymenoxis richardsonii</i>	Rubberweed
<i>Ipomopsis aggregata</i>	Skyrocket
<i>Ipomopsis laxiflora</i>	Slender trumpet gilia
<i>Lactuca serriola</i>	Prickly lettuce
<i>Lappula occidentalis</i>	Cupseeded stickseed
<i>Lepidium montanum</i>	Pepperweed
<i>Lesquerella fendleri</i>	Fendler bladderpod
<i>Linum lewisii</i>	Blue flax
<i>Machaeranthera canescens</i>	Purple aster
<i>Machaeranthera linearis</i>	Narrowleaf purple aster
<i>Machaeranthera parviflora</i>	Small-flowered tansyaster
<i>Melilotus alba</i>	White sweetclover
<i>Mentzelia multiflora</i>	Many-flowered blazing star
<i>Mirabilis linearis</i>	Narrowleaved four o'clock
<i>Mirabilis multiflora</i>	Giant four o'clock
<i>Monarda pectinata</i>	Plains pagoda plant
<i>Oenothera caespitosa</i>	Stemless evening primrose
<i>Orobanche ludoviciana</i>	Louisiana broomrape
<i>Penellia micrantha</i>	Slimleaf purple mustard
<i>Penstemon angustifolius</i>	Narrowleaf penstemon
<i>Physalis hederifolia</i>	Ivy-leaved groundcherry
<i>Physalis virginiana</i>	Virginia groundcherry
<i>Plantago patagonica</i>	Wooly plantain
<i>Portulaca oleracea</i>	Common purslane
<i>Psilostrophe tagetina</i>	Paper flower
<i>Salsola tragus</i>	Russian-thistle
<i>Senecio riddellii</i>	Riddell's groundsel
<i>Solanum heterodoxum</i>	Melonleaf nightshade
<i>Solanum sarrachoides</i>	Hairy nightshade
<i>Sphaeralcea angustifolia</i>	Narrowleaf globemallow
<i>Sphaeralcea coccinea</i>	Scarlet globemallow
<i>Sisymbrium altissimum</i>	Tumblemustard
<i>Stephanomeria pauciflora</i>	Skeleton weed
<i>Taraxacum officinalis</i>	Dandelion
<i>Thelesperma filifolium</i>	Indian tea

<i>Thelasperma megapotamicum</i>	Cota
<i>Tragapogon dubius</i>	Western salsify
<i>Verbascum thapsus</i>	Mullein
<i>Verbena bracteata</i>	Carpet-verbena
<i>Verbesina encelioides</i>	Cowpen daisy

## 5.0 DISCUSSION

The proposed project will not impact any State or Federal listed plant species.

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CR Minerals Company

Rocky Mountain Mine

Exhibit 6 - Vegetation, Mining Permit Application and  
Closeout Plan, Permit No. RA004RE - June 1999

## VEGETATION

### METHODOLOGY

#### General

The project area was surveyed by a qualified plant biologist on August 19 and 20, 1997 to delineate and sample the vegetation communities present. Vegetation communities were determined based on soils information, aerial photography, and ground truthing. After preliminary community lines were established, five sampling locations were randomly selected within each plant community and were sampled for cover and production.

#### Cover Sampling

The line intercept method was chosen to evaluate species cover within each plant community. This method comprises three basic considerations:

- 1) The sampling unit is a line transect which is visualized as having length and vertical dimension only; lateral dimension, or width, is not considered.
- 2) The direct measurement of the intercept of the plants through which a vertical plane must pass.
- 3) The random basis of the estimate is obtained through randomization in the location of the sampling units.

The setup and data collection involve the following:

Transect locations are determined randomly from a grid system overlay placed

over the most current map showing areas to be sampled. A 100-foot tape, subdivided into 1.0-foot intervals, is then stretched between two points at the position found on the map. The sampler moves along the line, and for each interval, records the plant species found and the distance it covers along that portion of the line intercept. Measurements of individual plants are read to the nearest 0.1 inch. The sampler considers only those plants or seedlings touched by the line or lying under or over it. For floral canopies below eye level, the distance each species covers along the line at ground level will be measured. For canopies above eye level, the distance covered by the downward projection of the foliage will be measured. Multiple vegetation levels are included for cover measurements.

The advantages of this method are that it is objective and relatively accurate (Canfield 1941). Bias is reduced since it is based on actual measurements of the plants growing in randomly located and clearly defined sampling units. It is accurate in mixed plant communities and suited for measuring low vegetation. By direct measurement of small samples, it will obtain estimates of known reliability concerning the vegetation, its composition and ecological structure.

The measurements which are calculated from the line intercept transect are:

$$\text{cover} = \frac{\text{total intercept length, species A}}{\text{total transect length}} \times 100$$

$$\text{relative cover} = \frac{\text{total intercept length, species A}}{\text{total intercept length, all species}} \times 100$$

Herbaceous cover (by species), rock and litter were estimated along the transect to the nearest 1 percent. Shrub and tree species less than 1 foot in height are considered herbaceous cover. Shrub and tree species over 1 foot in height will be counted separately as a different stratum. Five transects will be placed within each community.



### **Production Sampling**

Production measurements will be collected within 0.1 m<sup>2</sup> (20 X 50 cm) frames placed along a 100 foot tape. Setup and data collection involve the following:

Transect locations are determined randomly from a grid system overlay placed over the most current map showing areas to be sampled. A 100-foot tape, subdivided into 1.0-foot intervals, is then stretched between two points at the position found on the map. Five frames are placed on alternate sides of the tape at the 10, 20, 30, 40, and 50 foot marks. Current years growth within the five frames is clipped and weighed to the nearest 0.5 gram. This clipped material will be collected in paper bags and oven-dried to obtain the oven-dry weight. The vegetation will be separated into grass/grasslike, forb, and shrub categories.



Yields are corrected to oven-dried weights before reporting so all figures are reported in pounds of dry matter per acre.

### **VEGETATION COMMUNITY DESCRIPTIONS**

Two vegetation communities were identified within the project area; the pinyon-juniper-blue grama community and the blue grama - broom snakeweed community (PLATE 1). These two communities cover 58.8 percent of the project area. The remaining area is existing mining disturbance including current pits, stock piles, and backfilled areas. A list of all species observed during field reconnaissance is presented in APPENDIX B.






### Pinyon-Juniper-Blue Grama Community

The pinyon-juniper-blue grama community is probably the most dominant vegetation community in New Mexico (Dick-Peddie 1993). This community comprises approximately 20.4 percent of the project area (PLATE 1). The area has moderate coverage of pinyon and juniper with undulating topography.

The soils on this area are in the Espiritu-Wauquie association. Both of these soil series are deep, well drained, medium textured soils. They were formed in alluvium and colluvium derived from igneous rock. These soils have moderate permeability, very rapid surface run-off and low available water holding capacity.



Vegetation within this community was somewhat sparse when compared to the surrounding grassland. The herbaceous stratum was dominated blue grama (*Bouteloua gracilis*) with 11.16 percent cover or 87.1 percent of the relative herbaceous cover (TABLE 3). The other notable herbaceous species were an aster (*Asterace* spp.) and trumpet gilia (*Ipomopsis longiflora*) with 0.90 and 0.48 percent cover or 7.0 and 3.7 percent relative cover, respectively.

The shrub stratum was dominated by broom snakeweed (*Gutierrezia sarothrae*) and prickly pear (*Opuntia* spp.). Broom snakeweed was the most dominant with 3.04 percent cover and 88.4 percent relative cover. Prickly pear accounted for 0.40 percent cover and 11.6 percent relative cover.

The tree stratum was almost exclusively pinyon (*Pinus edulis*) and juniper (*Juniperous monosperma*). Juniper was the most dominant with 5.8 percent cover or 68.7 percent relative cover. Pinyon accounted for the remaining 31.3 percent relative cover with 2.64 percent cover.

TABLE 3. Cover values for the Pinyon-Juniper-Blue Grama Community at the Rocky Mountain Pumice Mine in Rio Arriba County, New Mexico.

Species	% Cover	Relative Cover
<u>Forbs</u>		
<i>Astrer</i> spp.		
Aster	0.90	7.0
<i>Ipomopsis longiflora</i>		
Trumpet gilia	0.48	3.7
<u>Grass</u>		
<i>Bouteloua gracilis</i>		
Blue grama	11.16	87.1
<i>Sitanion hystrix</i>		
Bottlebrush squirreltail	0.08	0.6
<i>Sporobolus cryptandrus</i>		
Sand dropseed	0.20	1.6
Total	12.82	100.0
<u>Shrubs</u>		
<i>Gutierrezia sarothrae</i>		
Broom snakeweed	3.04	88.4
<i>Opuntia</i> spp.		
Prickly pear	0.40	11.6
Total	3.44	100.0
<u>Trees</u>		
<i>Juniperous monosperma</i>		
One-seed juniper	5.60	68.7
<i>Pinus edulis</i>		
Pinyon	2.64	31.3
Total	8.44	100.0



Production in the pinyon-juniper-blue grama community was 709.8 pounds per acre for all lifeforms combined. Grass was the most dominant with 310.6 pounds per acre. Shrubs account for 293.9 and forbs account for 105.3 pounds per acre.

#### **Blue Grama - Broom Snakeweed Community**

The blue grama - broom snakeweed community is the most dominant vegetation community within the project area comprising 38.4 percent of the area (PLATE 1). This community was selected to represent the post-mining reclamation standard since it will best accommodate the post-mining land use of livestock and wildlife grazing. A 3.6 acre reference area was established in the southeast corner of the project area within this community for future success comparisons (PLATE 1).

The soils on this area are in the Orlie fine sandy loam and Oelop fine sandy loam series. Both of these soils are deep, well drained, and medium to coarse textured series. They were formed in alluvium and eolian material derived from sandstone and shale. Both soil series have moderately slow permeability, medium surface run-off, and high available water holding capacity.

Vegetation within this community is considerably more abundant and diverse than the pinyon-juniper-blue grama community. The herbaceous stratum was dominated by blue grama with 22.34 percent cover and 80.8 percent relative cover (TABLE 4). The two most dominant species in the herbaceous stratum following blue grama were bottlebrush squirreltail (*Sitanion hystrix*) and ring muhley (*Muhlenbergia torreyi*) with 2.10 and 1.58 percent cover and 7.6 and 5.7 percent relative cover, respectively.

The shrub stratum was dominated by broom snakeweed with 8.64 percent cover and 903.0 percent relative cover. The next dominant shrub species was immature pinyon pine trees with 0.64 percent cover and 6.7 percent relative cover.

**TABLE 4. Cover values for the Blue Grama-Broom Snakeweed Community at the Rocky Mountain Pumice Mine in Rio Arriba County, New Mexico.**

Species	% Cover	Relative Cover
<u>Forbs</u>		
<i>Astragalus nuttallianus</i> Nuttall loco	0.18	0.7
<i>Helianthus</i> spp. Sunflower	0.10	0.4
<i>Ipomopsis longiflora</i> Trumpet gilia	0.32	1.2
<i>Kochia scoparia</i> Kochia	0.32	1.2
<i>Sphaeralcea coccinea</i> Globemallow	0.02	0.1
<u>Grass</u>		
<i>Aristida longiseta</i> Red three-awn	0.34	1.2
<i>Bouteloua gracilis</i> Blue grama	22.34	80.8
<i>Muhlenbergia torreyi</i> Ring muhley	1.58	5.7
<i>Sitanion hystrix</i> Bottlebrush squirreltail	2.10	7.6
<i>Sporobolus cryptandrus</i> <u>Sand dropseed</u>	<u>0.36</u>	<u>1.3</u>
Total	27.66	100.0
<u>Shrubs</u>		
<i>Gutierrezia sarothrae</i> Broom snakeweed	8.64	90.0
<i>Opuntia</i> spp. Prickly pear	0.18	1.9
<i>O. imbricata</i> Cholla	0.14	1.5
<i>Pinus edulis</i> <u>Pinyon</u>	<u>0.64</u>	<u>6.7</u>
Total	9.60	100.0



Production in the blue grama-broom snakeweed community was 1,931.5 pounds per acre for all lifeforms combined. Grass accounted for 921.1 pounds per acre. Shrubs and forbs accounted for 781.9 and 228.5 pounds per acre, respectively.

## **Appendix D**

**CRM - Rocky Mountain Mine**

**Overburden Modification**

**16-01**

**Permit RA004RE**

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# **WILDLIFE SURVEY REPORT**

## **FOR**

### **CR MINERALS' PROPOSED**

### **ROCKY MOUNTAIN MINE EXTENSION**

**Sections 33 and 34, T. 21 N., R. 7 E.  
Rio Arriba County, New Mexico**



**OCTOBER 1, 2010**

***PREPARED BY:***

**CHARLES BLACK**

**OF**



**PERMITS WEST, INC.  
37 VERANO LOOP  
SANTA FE, NM 87508**

## **1.0 INTRODUCTION**

Threatened, endangered, and special status wildlife surveys were conducted at the proposed Rocky Mountain Mine extension properties on BLM land in Sections 33 and 34, T. 21 N., R. 7 E., Rio Arriba County, New Mexico. The proposed extension project area is located on BLM-administered surface and is approximately 380.5 acres in size. The project area is divided into two parcels, BLM-East (~349 acres) and BLM-West (~31.6 acres). The smaller BLM-West parcel is entirely located in Section 33. The larger BLM-East parcel is located in Sections 33 and 34.

## **2.0 METHODS**

Prior to the field surveys, the following databases were reviewed:

- U.S. Fish and Wildlife Service Listed and Sensitive Species in Rio Arriba County (downloaded and reviewed September 1, 2010)
- New Mexico Department of Game and Fish BISON-M threatened, endangered, and sensitive taxa wildlife species in Rio Arriba County (downloaded and reviewed September 1, 2010)

Refer to the tables below that identify and address the species identified in these databases. Following the database review, the project area was inspected for the potential presence of threatened, endangered, or special status wildlife species.

### **2.1 WILDLIFE**

On September 10, 12 and 16, 2010, Wildlife Biologist Charles Black conducted a pedestrian survey of the proposed site to inspect for the potential presence of threatened, endangered, or special status species. Weather during surveys was clear and warm with daytime highs around 85 F.

The area surveyed consisted of the two proposed BLM parcels. An additional 1.0-mile line-of-sight survey was conducted from the project area for raptor nests. The surveyor used 10x40 binoculars for the line-of-sight survey.

## **3.0 DESCRIPTION OF EXISTING HABITAT**

The project area consists of ~380.5 acres of BLM land. 31-Mile Road runs through the middle of the BLM-East project area and is fenced on both the north and south side of the road. 31-Mile Road runs just north of the BLM-West parcel and is fenced at this boundary. The fenced area, including 31-Mile Road and the right-of-way, is approximately 200 feet wide and is not proposed for future mining.

Terrain throughout the project area is relatively flat to gently rolling. Vegetation is dominated by pinyon (*Pinus edulis*)-juniper (*Juniperus spp.*) woodland and open juniper savanna grassland. Dominant shrubs throughout the site are rabbitbrush (*Chrysothamnus spp.*) and broom snakeweed (*Gutierrezia sarothrae*). Elevations within the project area range from approximately 6,630 to 6,775 feet.



Existing disturbance in the project area includes the existing RMM pumice extraction operation on private lands located in Section 34. 31-Mile Road also exists and cuts across the project area to lands beyond. Grasslands throughout the project area are moderately grazed even though there are no active grazing leases in the area. There are several areas where the fence between Santa Clara Pueblo and adjacent BLM lands has fallen and this is likely the source of access for cattle found on the proposed extension properties from time to time.

## 4.0 THREATENED, ENDANGERED, AND SPECIAL STATUS WILDLIFE SPECIES

### 4.1 FEDERAL T&E, CANDIDATE, AND SPECIES OF CONCERN WITH POTENTIAL TO OCCUR

The following table contains federally listed and candidate species, that are known to or have the potential to occur in Rio Arriba County, New Mexico. The table also lists Federal Species of Concern with potential to occur within the project area.

SPECIES	STATUS*	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR**
<b>MAMMALS</b>			
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	SC	Arid western shrub and pine forest. Maternity colonies in mines, caves, and buildings. Sensitive to disturbance.	S
New Mexican jumping mouse ( <i>Zapus hudsonius luteus</i> )	C	Found close to habitat with free-flowing water, riparian zones, or in wet meadows.	NP
Black-footed ferret ( <i>Mustela nigripes</i> )	E	Open grasslands with year-round prairie dog colonies. Strongly associated with black-tailed prairie dogs.	NP
<b>BIRDS</b>			
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	SC	Rare breeders (NM) in rocky, steep cliff areas, generally near water or mesic canyons. Also migrates statewide, most often near wetland habitats	S
Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	C	Extensive, mature riparian corridors.	NP
Mexican spotted owl ( <i>Strix occidentalis lucida</i> )	T	Rocky canyons in mature montane forests below 9500 feet in elevation.	NP
Interior least tern ( <i>Sterna antillarum</i> )	E	Nests in small colonies on mudflats and sandbars on the lower Pecos River in Southeast New Mexico. Possible as a rare vagrant in wetland habitats Statewide.	NP
Southwestern willow flycatcher ( <i>Empidonax trillii extimus</i> )	E	Breeds in dense stands of willows in riparian corridors with native riparian vegetation, usually in close proximity to surface water or saturated soil.	NP
<b>FISH</b>			
Rio Grande silvery minnow ( <i>Hybognathus amarus</i> )	E	Inhabits variety of habitats in the Rio Grande river with shifting sand or silty bottoms.	NP
Rio Grande Cutthroat trout ( <i>Oncorhynchus clarki virginalis</i> )	C	High elevation, swift-flowing free stone streams	NP

**Status\***

E: Endangered      T: Threatened      C: Candidate      SC: Species of Concern

**Potential to Occur\*\***

K: Known, documented observation within project area.

S: Habitat suitable and species suspected to occur within the project area.

NS: Habitat suitable but species is not suspected to occur within the project area.

NP: Habitat not present and species unlikely to occur within the project area.

## 4.2 STATE OF NM LISTED, CANDIDATE, AND SENSITIVE TAXA WITH POTENTIAL TO OCCUR

The following table contains State of New Mexico listed species that are known to or have the potential to occur in the project vicinity. The table also lists State of New Mexico Sensitive Taxa with potential to occur within the project area.

Species	Status*	Habitat Associations	Potential to Occur**
<b>MAMMALS</b>			
Spotted bat ( <i>Euderma maculatum</i> )	T	This little known bat is presumed the forage in high montane habitats, > 8500.	NP
Pine Marten ( <i>Martes Americana origenes</i> )	T	This member of the weasel family occurs in coniferous woodland in Northern New Mexico generally > 9000 feet	NP
Red fox ( <i>Vulpes vulpes fulva</i> )	ST	This species occurs in a variety of open habitats including deserts, grasslands and prairies.	S
<b>BIRDS</b>			
Bald eagle ( <i>Haliaeetus leucocephalus alascanus</i> )	T	In Northern New Mexico, this species migrates and winters along rivers and lakes, with large trees and snags.	NP
Gray vireo ( <i>Vireo vicinior</i> )	T	Open pinyon-juniper woodland and juniper-grassland savanna	S
Loggerhead shrike ( <i>Lanius ludovicianus excubitorides</i> )	ST	This species occurs in a variety of open habitats including deserts, grasslands and prairies, usually with some shrub component present	S
Bald eagle ( <i>Haliaeetus leucocephalus alascanus</i> )	T	In Northern New Mexico, this species migrates and winters along rivers and lakes, with large trees and snags.	NP
<b>FISH</b>			
Round-tailed chub ( <i>Gila borusta</i> )	T	Riverine habitats	NP

**Status\***

E: Endangered      T: Threatened      C: Candidate      ST: Sensitive Taxa

**Potential to Occur\*\***

K: Known, documented observation within project area.

S: Habitat suitable and species suspected to occur within the project area.

NS: Habitat suitable but species is not suspected to occur within the project area.

NP: Habitat not present and species unlikely to occur within the project area.

## **5.0 SURVEY RESULTS AND DISCUSSION**

No threatened, endangered, or special status wildlife species were observed within or adjacent to the project area during the September 10, 12 and 16, 2010 wildlife surveys.

### **5.1 TOWNSEND'S BIG-EARED BAT**

The project site provides suitable forage habitat for Townsend's big-eared bat. This species occurs in dry grasslands and coniferous and deciduous forests. Foraging habitat includes insect-rich riparian areas, wetlands, forest edges, and open woodland. Summer day and night roosts include caves, old mines and buildings which also provide suitable hibernating sites. No bats or bat sign were observed during the survey. Given the small scale of the proposed disturbance and lack of ideal habitat in the project area, this species will not be adversely impacted by the proposed project.

### **5.2 AMERICAN PEREGRINE FALCON**

No suitable nest structures for this raptor are present anywhere near the proposed project area. The project area is suitable migration habitat for peregrines. Given the small scale of the proposed disturbance, this species will not be adversely impacted by the proposed project.

### **5.3 RED FOX**

The project site is suitable habitat for this nocturnal species. No fox sign or burrows were observed during surveys. It is likely that red foxes occasionally occur within the project area. Given the relatively small scale of the proposed disturbance relative to overall available habitat in the area, this species will not be adversely impacted by the proposed project.

### **5.4 GRAY VIREO**

The project contains areas of suitable habitat for nesting gray vireos. No vireos were observed during surveys, although gray vireos generally vacate their breeding grounds by September 1. If measures outlined in the Recommendations section of this report are followed, this species will not be adversely impacted by the proposed project.

### **5.5 LOGGERHEAD SHRIKE**

The project area contains suitable habitat for Loggerhead shrikes. Shrikes are probably a fairly common breeder and migrant in more shrubby parts of the project area. Given the relatively small scale of the proposed disturbance, no take is anticipated and this species will not be adversely impacted by the proposed project.

### **5.6 MIGRATORY BIRDS**

Migratory birds are protected under the Migratory Bird Treaty Act. Birds protected under the Act include all common songbirds, waterfowl, shorebirds, hawks, owls, eagles, ravens, crows, native doves and pigeons, swifts, martins, swallows and others, including their body parts (feathers, plumes etc.), nests, and eggs. The Act protects migratory birds from a "take". Take is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry

out these activities”. A “take” does not include habitat destruction or alteration, as long as these is not a direct taking of birds, nests, eggs, or parts thereof.

Twenty-one species observed during the wildlife surveys are protected under the Migratory Bird Treaty Act. No take of migratory birds is anticipated from the proposed project.

## **6.0 SPECIES OBSERVED DURING THE SURVEYS**

While the field visits focused on T&E species, observations of non-listed species were also noted. The following lists include all wildlife species observed:

### **6.1 AVIAN SPECIES OBSERVED**

- Red-tailed hawk (*Buteo jamaicensis*)
- American kestrel (*Falco sparverius*)
- Mourning dove (*Zenaida macroura*)
- Barn swallow (*Hirundo rustica*)
- Horned lark (*Eremophila alpestris*)
- Common raven (*Corvus corax*)
- Black-billed magpie (*Pica hudsonia*)
- Bewick’s wren (*Thryomanes bewickii*)
- Blue-gray gnatcatcher (*Poliophtila caerulea*)
- Western scrub jay (*Aphelocoma californica*)
- Western bluebird (*Sialia mexicana*)
- American robin (*Turdus migratorius*)
- Juniper titmouse (*Baeolophus ridgwayi*)
- Yellow-rumped warbler (*Dendroica coronata*)
- Townsend’s warbler (*Dendroica townsendi*)
- Spotted towhee (*Pipilo maculatus*)
- Dark-eyed junco (*Junco hyemalis*)
- Chipping sparrow (*Spizella passerina*)
- Vesper sparrow (*Pooecetes gramineus*)
- Lark sparrow (*Chondestes grammacus*)
- Pine siskin (*Carduelis pinus*)
- Western meadowlark (*Sturnella neglecta*)

### **6.2 MAMMALIAN SPECIES OBSERVED:**

- Rocky Mountain Elk (*Cervus canadensis*)
- Mule Deer (*Odocoileus hemionus*)
- Desert cottontail (*Sylvilagus audubonii*)
- Black-tailed jackrabbit (*Lepus californicus*)
- Coyote (*Canis latrans*)

Mammalian observations tend to be from tracks, scat, and other sign.

### **6.3 REPTILIAN AND AMPHIBIAN SPECIES OBSERVED:**

- Whiptail spp. (*Cnemidophorus spp.*)

### **7.0 RECOMMENDATIONS**

- The project site contains sizeable area of suitable habitat for the State of New Mexico Threatened Gray Vireo. However, this is not the only migratory bird species with suitable habitat in the project area. As such, it is recommended that no tree removal associated with the proposed project be conducted during the gray vireo or any other migratory bird nesting season (March 1-August 1). If this recommendation is followed, it will ensure there will be no deliberate take of gray vireos or other protected migratory bird species.

### **8.0 REFERENCES**

New Mexico Department of Game and Fish. BISON-M threatened, endangered, and sensitive taxa wildlife species in Rio Arriba County (downloaded and reviewed September 1, 2010) <http://www.bison-m.org/reports>.

U.S. Fish and Wildlife Service Listed and Sensitive Species in Rio Arriba County (downloaded and reviewed September 1, 2010) <http://www.fws.gov/southwest/es/NewMexico>

**CONFIDENTIAL Appendix E**

**CRM - Rocky Mountain Mine**

**Overburden Modification**

**16-01**

**Permit RA004RE**



## **Appendix F**

**CRM - Rocky Mountain Mine**

**Overburden Modification**

**16-01**

**Permit RA004RE**

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

EEE0006461

OFFICIAL RECEIPT

Date: 2/5/2016

Received From: CR Minerals



\* E E E 0 0 0 6 4 6 1 \*

One thousand dollars & no/100 Dollars

Center Code	Revenue Code	Amount	Work Order No.
0640	416902	1,000 <sup>00</sup>	

Center Code	Revenue Code	Amount	Work Order No.

State Treasurer Deposit Number \_\_\_\_\_

Total \$ 1,000<sup>00</sup>

Description: Permit Modification  
16-01 for permit No  
KAUAIKE/ROCKY MOUNTAIN  
MINE CR # 001583

Signed: [Signature]

ASD-White Copy / Customer-Yellow Copy / Retained in Book-Pink Copy