

**United States Department of the Interior  
Bureau of Land Management  
San Luis Valley Field Office  
1313 E. Hwy 160  
Monte Vista, CO 81144**

## **Environmental Assessment**

### **King-Manassa Turquoise Mine Plan of Operations**

DOI-BLM-CO-F03-2015-0013 EA

April, 2015



1975



2015

BLM



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## **CHAPTER 1 INTRODUCTION**

### **1.1 IDENTIFYING INFORMATION**

**CASEFILE/PROJECT NUMBER (optional):** COC-077242

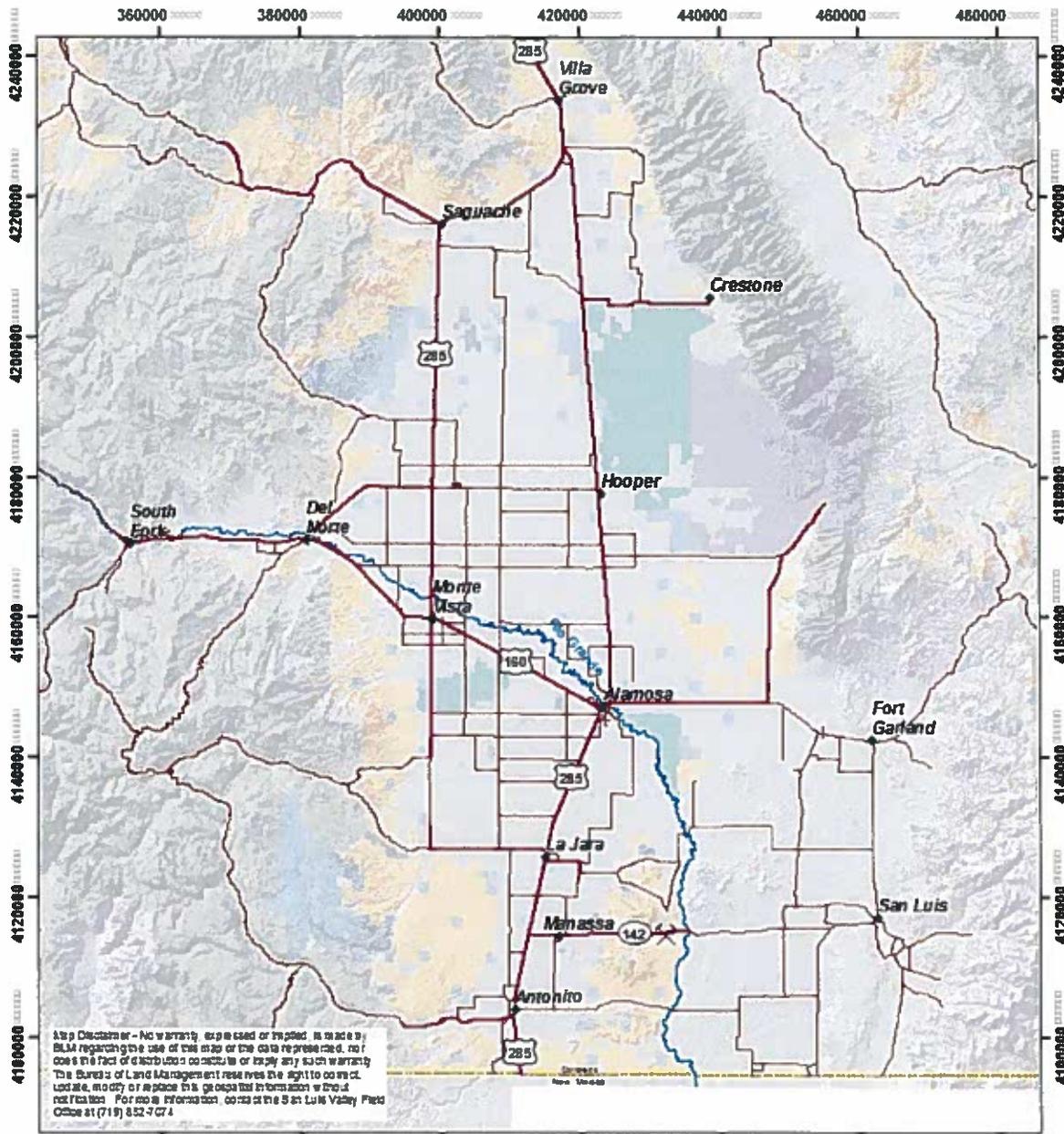
**PROJECT TITLE:** King-Manassa Turquoise Mine Plan of Operations

**PLANNING UNIT:** San Luis Valley Field Office, San Luis Resource Area, Front Range District

**LEGAL DESCRIPTION:** The San Luis Valley Field Office administers lands within the San Luis Resource Area (SLRA). The project area described in this EA includes Public Lands within Conejos County, Colorado. See Map below.

New Mexico Principal Meridian, Conejos County, Colorado  
T. 34 N, R. 11 E., sec. 22, NW1/4, SW1/4.

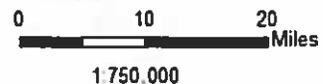
**APPLICANT:** Cordova Turquoise



- Turquoise Mine
- Bureau of Land Management
- National Park Service
- State
- State County City Areas
- US Fish and Wildlife Service
- US Forest Service

# King-Manassa Turquoise Mine Plan of Operation

DOI-BLM-CO-F03-2015-0013 EA  
Conejos County, CO  
San Luis Valley Field Office



## **1.2 INTRODUCTION AND BACKGROUND**

The King Manassa mine site has been mined since at least 1100 AD (Hull, et al. 2014). Turquoise from the site was found at the Aztec Ruins near Aztec, New Mexico dating back to 1100-1280 AD suggesting turquoise from the King-Manassa mine site was part of the Ancestral Puebloan turquoise trade network (Hull et al., 2014). The site was rediscovered in 1890 by I.P. King and his son Charles while prospecting for precious metals. When the site was rediscovered it consisted of a large pit, 50-60 feet deep and 100 feet across and several side adits (Hutchinson, 1974). The mine operated steadily from 1900 until 1950 and intermittently from 1950 to 2010 by the King family. In 2010 Bill King, the great grandson of I.P King, sold the three Lick Skillet claims to Cordova Turquoise. Cordova Turquoise has kept the filings current with the BLM and the State of Colorado and the claims are active. Cordova Turquoise is planning to work the mine waste dumps from the mining since rediscovery of the site.

## **1.3 PURPOSE AND NEED**

The purpose of the Proposed Action is to evaluate the Cordova's proposal to explore, locate, and delineate precious metal and gemstone deposits on its mining claims on public lands, as provided under the General Mining Law of 1872. The need for the action is established by the BLM's responsibility under Section 302 of the FLPMA and the BLM Surface Management Regulations at 43 CFR 3809 (Surface Management) and 43 CFR 3715 (Use and Occupancy Under the Mining Laws) to respond to a plan of operations to allow an operator to prospect, explore, and assess locatable mineral resources on public lands, and take any action to prevent unnecessary or undue degradation of the public lands.

On lands open to location under the General Mining Law of 1872, as amended (Mining Law), the BLM administers the surface resources on public land and the federal subsurface mineral estate under the Mining Law and the Federal Land Policy and Management Act of 1976 (FLPMA). Locatable minerals are those defined as an uncommon mineral variety. Turquoise and gemstones would fall into this category. FLPMA also governs BLM's administration of public land not open to location under the Mining Law.

## **1.4 DECISION TO BE MADE**

The decision to be made by the BLM based on the National Environmental Policy Act of 1969 (NEPA), includes the following alternatives: 1) Approve the Plan with no modifications; 2) Approve the Plan with additional mitigation measures that are needed to prevent unnecessary or undue degradation of public lands or potential impacts to plant or animals species; or 3) Deny the approval of the Plan as currently proposed and not authorize the Project.

## **1.5 PLAN CONFORMANCE REVIEW**

**PLAN CONFORMANCE REVIEW:** The Proposed Action is subject to and has been reviewed for conformance with the following plan

Name of Plan: San Luis Resource Area Resource Management Plan

Date Approved: December 18, 1991

Decision Number/Page: Minerals 1.3 page13

Decision Language: Federal mineral estate on approximately 483,980 acres (90 percent) will be open to entry and location. Mineral entry will be precluded on 1,200 acres within the Pike Stockade/Monte Vista areas, 200 acres of U.S. Forest Service administrative sites and 560 acres of eligible NRHP sites.

In January 1997, the Colorado State Office of the BLM approved the Standards for Public Land Health and amended all RMPs in the State. Standards describe the conditions needed to sustain public land health and apply to all uses of public lands.

Standard 1: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, land form, and geologic processes.

Standard 2: Riparian systems associated with both running and standing water function properly and have the ability to recover from major disturbance such as fire, severe grazing, or 100-year floods.

Standard 3: Healthy, productive plant and animal communities of native and other desirable species are maintained at viable population levels commensurate with the species and habitat's potential.

Standard 4: Special status, threatened and endangered species (federal and state), and other plants and animals officially designated by the BLM, and their habitats are maintained or enhanced by sustaining healthy, native plant and animal communities.

Standard 5: The water quality of all water bodies, including ground water where applicable, located on or influenced by BLM lands will achieve or exceed the Water Quality Standards established by the State of Colorado.

Because standards exist for each of these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in Chapter 3 of this document.

## **1.6 SCOPING, PUBLIC INVOLVEMENT AND ISSUES**

**1.6.1 Scoping:** NEPA regulations (40 CFR §1500-1508) require that the BLM use a scoping process to identify potential significant issues in preparation for impact analysis. The principal goals of scoping are to allow public participation to identify issues, concerns, and potential impacts that require detailed analysis. After initial acceptance of the plan of operations, the BLM is required to make the plan available to the public for comment for 30 days (43 CFR § 3809.411).

**Persons/Public/Agencies Consulted:** Internal scoping was conducted beginning in January of 2015 discussing the issue and brainstorming within the San Luis Field Office and posing questions to other field offices within the state and in other states. Mine inspectors from the Colorado Department of Reclamation and Mine Safety (DRMS) were also consulted. A field

trip was conducted with Interdisciplinary Team (IDT) members May 15 2015 to the site of the Turquoise Mine.

Public scoping was conducted by posting of a legal notice of the proposed Plan of Operations in the Valley Courier by the San Luis Valley Field Office. The notice was published on May 9 2015 notifying the public that the Cordova's Plan of Operations was available for review until June 9, 2015. No comments were received.

Issues Identified: Internal and interagency scoping arose concerns that an EA for this level of mining activity was more than what was necessary and required under NEPA. A Plan of Operations is required when operators are selling mined material (43 CFR 3809.11, 3809.400-3809.434) and a Plan of Operations is required in a designated Area of Critical Environmental Concern (ACEC) (43 CFR 3809.11(3)). An EA or EIS is required for any Mine Plan of Operation (43 CFR 3809.411(3)(ii)). There was also concern that the Plan of Operations, as submitted, did not adequately address Cordova Turquoise's request for Use and Occupancy of the site under 43 CFR 3715. Specifics concerning occupancy and an additional map were then amended to the Plan of Operations.

## **CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES**

### **2.1 INTRODUCTION**

The purpose of this chapter is to provide information on the Proposed Action and Alternatives. Alternatives considered but not analyzed in detail are also discussed.

### **2.2 ALTERNATIVES ANALYZED IN DETAIL**

#### **2.2.1 Proposed Action**

The BLM proposes to permit the Mine Plan of Operations (MPO) at the King-Manassa mine site in Conejos County, Colorado. The Cordova's plan is to process the mine waste dumps by sifting or screening through previously mined waste rock. They propose to use a 10 hp motorized screen to sort through large rocks and smaller piles that accumulated during open pit mining in the 1940-1950's. They plan to operate from April to November each year, several hours per week. The screen will be stored on site, year round. During the mining season, (April to November) they will be using a 9020 B track hoe to move material from the old piles to the screen. After screening the material they will use a 930 Caterpillar with a one yard bucket to move the material into the pre-existing pit (figure 2.3). The track hoe and the caterpillar will be removed from the site at the close of each mining season. Although the amount of material they propose to sift through will not back-fill the entire pit, it will aid in reclamation and a safety hazard of the site. Any mine waste piles that are not moved and screened through will be contoured to original topography. The entrance to the site is currently locked with a gate and signs will be posted to notify the public of the operation. There are approximately 30 acres of previously disturbed area. The Cordova's propose a total area of disturbance of approximately 1.3 acres (figure 2.4).

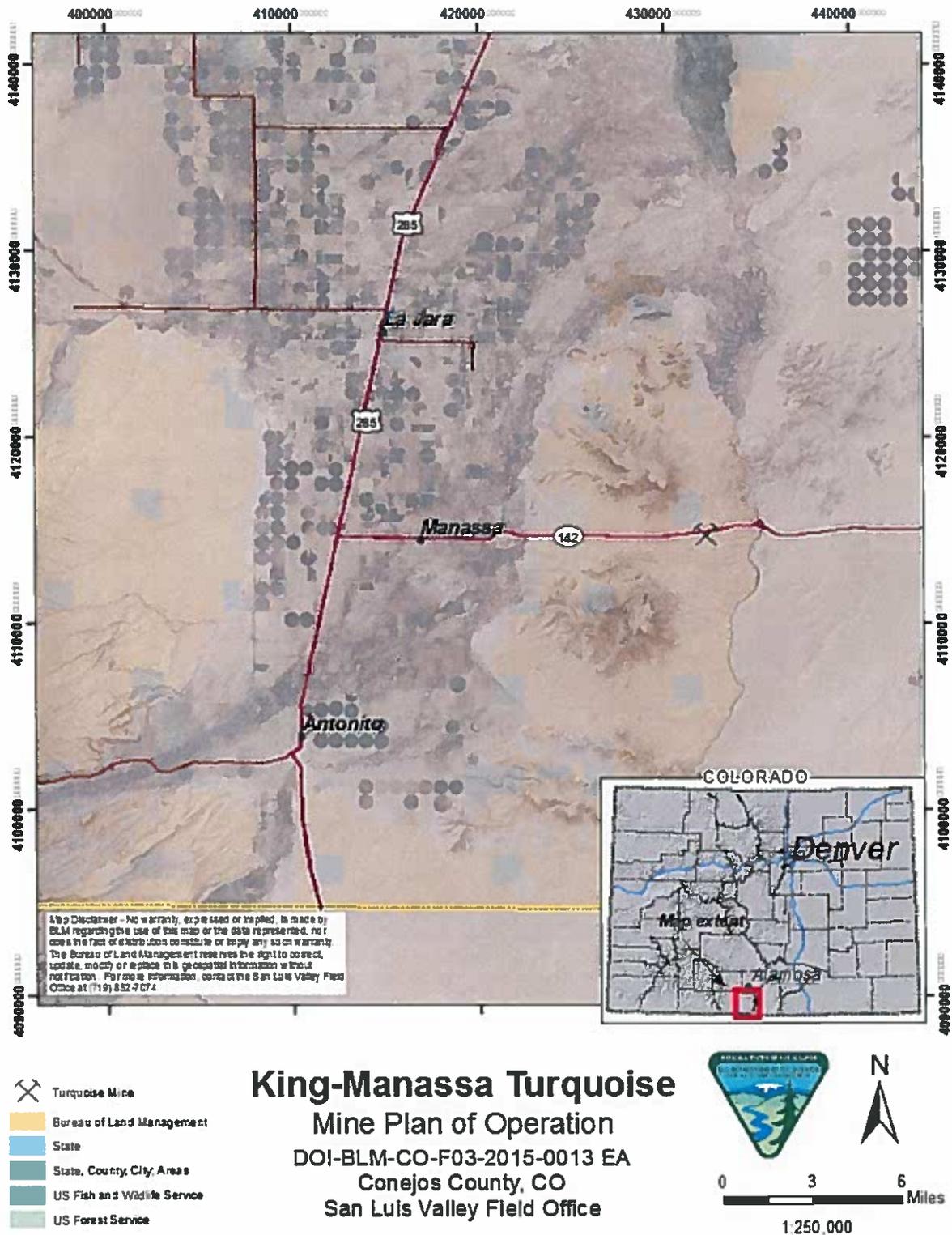


Figure 2.2. Location of the King-Manassa Turquoise mine, Conejos, County Colorado.

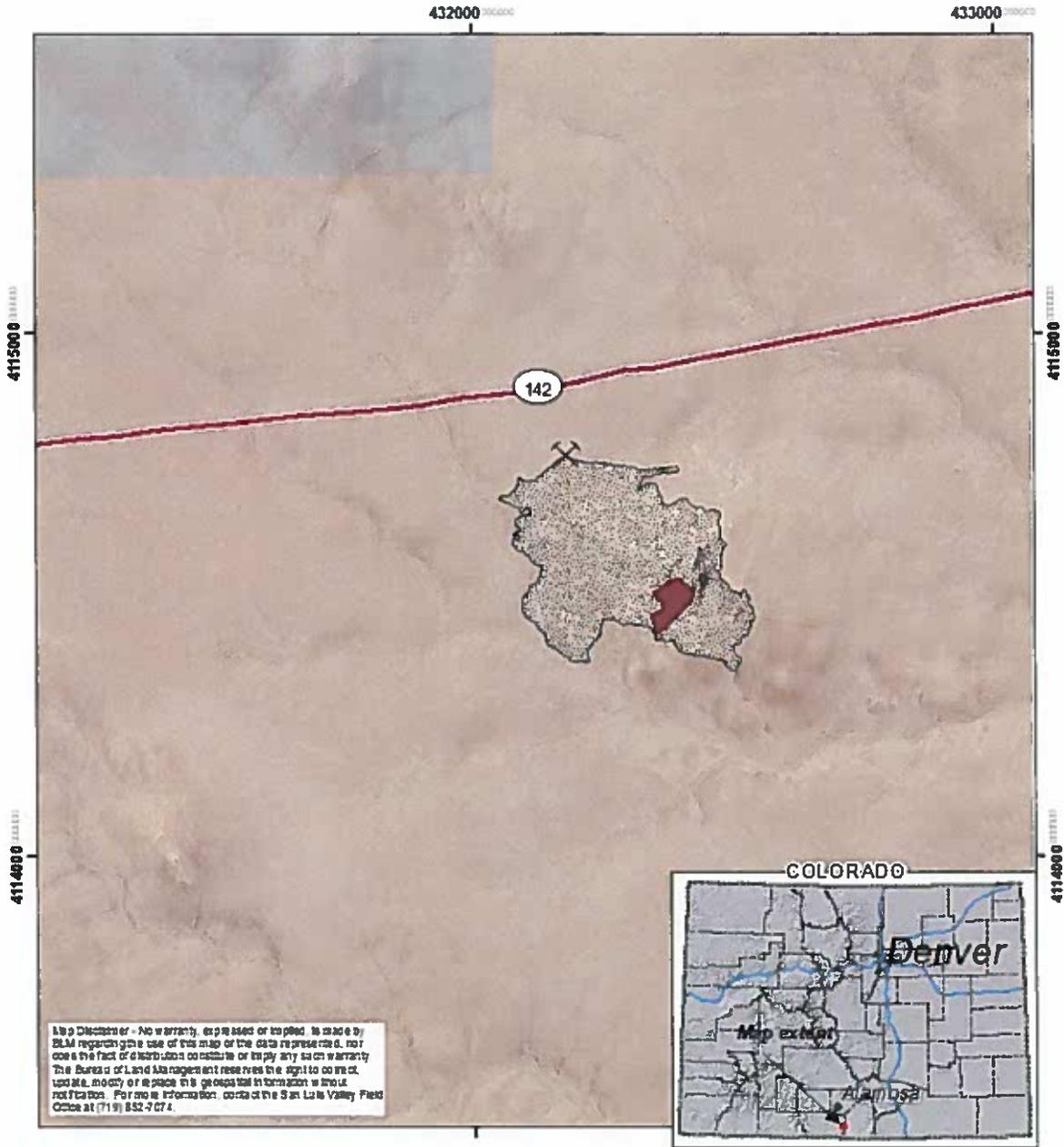


Figure 2.3. Proposed mining operation at site of previously disturbed open pit mine.



Figure 2.4. View south at the previously excavated pit, King Manassa Mine Site.

### 2.2.2 No Action Alternative

Under this alternative, the BLM would not allow the Cordova's to mine turquoise as per the plan of operations submitted. No plan level mining operations would occur.

## CHAPTER 3 AFFECTED ENVIRONMENT AND EFFECTS

### 3.1 INTRODUCTION

This section provides a description of the human and natural environmental resources that could be affected by the Proposed Action and presents comparative analyses of the direct, indirect and cumulative effects on the affected environment stemming from the implementation of the actions under the Proposed Action and other alternatives analyzed.

#### 3.1.1 Interdisciplinary Team Review

The following table is provided as a mechanism for resource staff review, to identify those resource values with issues or potential impacts from the proposed action and/or alternatives. Those resources identified in the table as impacted or potentially impacted will be brought forward for analysis.

<u>Resource</u>	<u>Initial and date</u>	<u>Comment or Reason for Dismissal from Analysis</u>
Socioeconomics Martin Weimer, Front Range District Office (FRDO)	MW, 8/20/15	This action will not result in significant impacts to the socio economics of individuals or of the region. Economic impacts to the claimant should the permit be denied are unknown.

<u>Resource</u>	<u>Initial and date</u>	<u>Comment or Reason for Dismissal from Analysis</u>
<b>Environmental Justice</b> <i>Martin Weimer, FRDO</i>	<i>MW,</i> <i>8/20/15</i>	The proposed action affects areas that are rural in nature. The land adjacent to the mine is open rangeland, as a result, there are no minority or low-income populations in or near the project area. As such, the proposal will not have a disproportionately high or adverse environmental effect on minority or low-income populations.
<b>Noise</b> <i>Martin Weimer, FRDO</i>	<i>MW,</i> <i>8/20/15</i>	All though certain levels of noise will be associated with equipment operation, the site sits in a rural setting away from habitation and no impacts from noise is anticipated.
<b>Special Status Animal Species</b> <i>Joel Humphries</i>	<i>JTH</i> <i>7/21/15</i>	The Proposed Action will have no impacts on Special Status Animal Species.
<b>Wildlife Aquatic and Wetlands, Wildlife Terrestrial, Migratory Birds</b> <i>Joel Humphries</i>	<i>JTH</i> <i>7/21/15</i>	The Proposed Action will have no impacts on Wildlife Aquatic and Wetlands, Wildlife Terrestrial, or Migratory Birds.
<b>Special Status Plant Species; Farmlands Prime and Unique; and Riparian, Invasive Plants</b> <i>Eduardo Duran</i>	<i>END</i> <i>8/26/15</i>	The Proposed Action will have no impacts on Special Status Plants, Riparian, Invasive Plants or Prime and Unique Farmlands.
<b>Air Quality; Soils; Water Quality (Surface &amp; Ground)</b> <i>Negussie Tedela</i>	<i>NHT</i> <i>16/08/15</i>	The Proposed Action will have no additional impacts on soils and air quality. See chapter 3 for water quality.
<b>Range and Forest Management, Vegetation</b> <i>Melissa Shawcroft</i>	<i>MJS</i> <i>7/17/15</i>	Neither the proposed nor the no action alternatives will have any direct, indirect or reasonably foreseeable future cumulative effects on the vegetative, range or forestry resources.
<b>Cultural Resources, Native American Religious Concerns, Paleontology</b> <i>Brian Fredericks</i>	<i>JGB</i> <i>8/10/2015</i>	The entire area encompassed by the mining operations has been determined to be have been destroyed and in 2003 was determined by SHPO to be "officially not eligible" for inclusion on the NRHP therefore neither the proposed action nor the no action alternative will have adverse impacts on historic properties. There are no known Native American Religious Concerns. The standard cultural stipulations for discovery and training should be included in the authorization.
<b>Recreation; Visual Resources; Wilderness, WSAs, ACECs, Wild &amp; Scenic Rivers; Wilderness Characteristics.</b> <i>Sean Noonan</i>	<i>STN</i> <i>6/8/2015</i>	The King Turquoise Mine exists within the San Luis Hills ACEC. None of the special values for the ACEC as described in the 1991 record of decision would be impacted by the proposed action.
<b>Geology/Minerals, Wastes Hazardous or Solid</b> <i>Rebecca Morris</i>	<i>RSM</i> <i>6/5/2015</i>	The proposed action will not have any impacts to hazardous materials. See Chapter 3 for geology/mineral resources.

<u>Resource</u>	<u>Initial and date</u>	<u>Comment or Reason for Dismissal from Analysis</u>
<b>Lands and Realty</b> <i>Leon Montoya</i>	<i>LAM</i> 6/15/2015	The proposed action will not have any impacts to any Lands and Realty authorizations in the area.
<b>Cadastral Survey</b> <i>Sean Hines</i>	<i>SJH</i> 06/25/2015	The proposed action will not have any impacts to Cadastral Survey in the area.
<b>Fire</b> <i>Paul Minow</i>	<i>PSM</i> 7/7/2015	The proposed action will not have any impacts on Fire and Fuels in the area.

Those resources brought forward for analysis include:

- Geologic and Mineral Resources
- Water, surface and groundwater
- Cultural Resources

## **3.2 PHYSICAL RESOURCES**

### **3.2.2 GEOLOGIC AND MINERAL RESOURCES**

**Affected Environment:** The King-Manassa Turquoise Mine is located in Conejos County, 11 miles east of Manassa, Colorado. The site lies between Tertiary basalt capped San Luis Hills within the San Luis Basin. The deposit is hosted in porphyritic dacite of the Hinsdale formation possibly constrained to an extrusive member of the Santa Fe group (Thompson, 1991; Pearl, 1941). It is suspected that the formation of the deposit is related to recirculation of meteoric and geothermal waters during rifting leaching each component of turquoise from surficial rocks and reprecipitating turquoise in fractures and shear zones (Pearl, 1941).

#### **Environmental Effects**

##### **Proposed Action**

**Direct and Indirect Impacts:** Under the proposed action, the Cordova's will move several hundred cubic yards of material over an undetermined period of time.

**Protective/Mitigation Measures:** None recommended

##### **No Action Alternative**

**Direct and Indirect Impacts:** Under the no action alternative, the BLM would not issue a permit under the proposed Plan of Operations. The applicant would be required to submit a new Plan of Operation before conducting activity on their claim. If no activity occurred, the site would undergo reclamation and the unique material from this mine would not be produced.

**Protective/Mitigation Measures:** None recommended

### **3.2.3 WATER (SURFACE AND GROUNDWATER, FLOODPLAINS)**

**Affected Environment:** The King-Manassa mine site is situated within The Puncho arroyo Rio grande 5<sup>th</sup> level and unnamed 6<sup>th</sup> level watershed (Hydrologic Unit Code or HUC: 130100021102). Elevation within these watersheds ranges from approximately 7,440 feet along the Rio Grande to over 9,440 feet in northwest part of the 6th level watersheds. Precipitation varies widely with elevation. Lower areas of the watersheds receive about 8 inches and higher mountain areas receive about 12 inches of precipitation (figure 3.1) with most of the rainfall events occurring in July and August. The King-Manassa mine site receives between 10 and 12 inches of precipitation annually (figure 3.1). Potential evapotranspiration exceeds precipitation on the lowland areas and the reverse is true in the high elevation areas (HRS Water Consultants, Inc., 1987).

There are no perennial/intermittent streams within the proposed disturbance area. The nearest perennial stream, the Rio Grande River, is located about 1.5 miles to the east of the mine site. 8.2 miles of Rio Grande flows within the 6th level watershed. Most of the ephemeral drainages flow west to east and east to west draining into Rio Grande. Most of those streams are dry. The nearest drainage that has a potential to transport mining material to Rio Grande is located near the proposed mine site (figure 3.1).

The Clean Water Act (CWA) requires that chemical, physical, and biological integrity of all waters, stream channels, and wetlands be protected. The main stem of the Rio Grande from the Rio Grande/Alamosa County line to the Old State Bridge east of Antonito (Conejos County Road G) is provisionally listed in the 303 (d) listing due to Aquatic Life impairment. Bodies of water with classified uses that are impaired but unclear whether the cause is attributable to pollutants or pollution will be provisionally listed on the Section 303(d) List. A review of the Colorado 2012 Integrated Water Quality Monitoring and Assessment Report also indicates this segment of Rio Grande is not supporting designating uses for Aquatic Life (Colorado Water Quality Control Division, 2012).

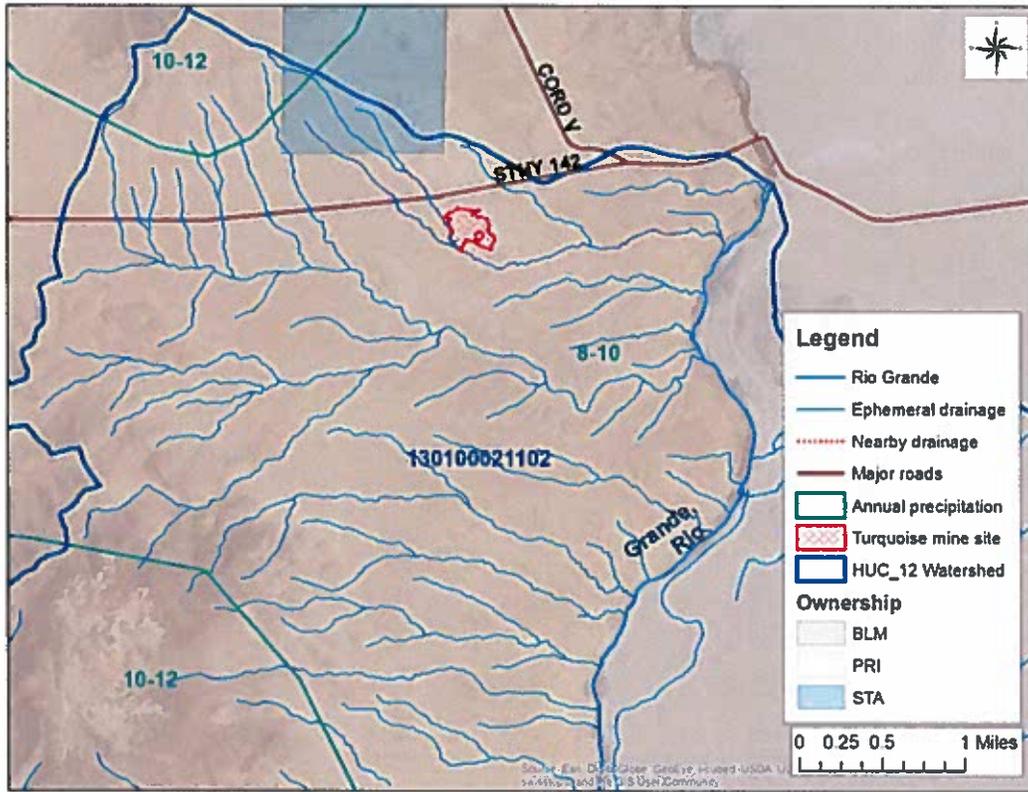


Figure 3.1. Hydrology map of the analysis area



Figure 3.2. Mine waste dumps at the proposed site

## Environmental Effects

### Proposed Action:

The BLM proposes to permit the Mine Plan of Operations at the King-Manassa mine. In this plan the operator will process the mine waste dumps by sifting or screening through previously mined waste rock using a 10 hp. motorized screen to sort through large rocks and smaller piles that accumulated in the past on about 30 acres of disturbed site during open pit mining (Figure 3.2). During the mining season, the operator will use a 9020 B track hoe to move material from the old piles to the screen. After screening the material they will use a 930 Caterpillar with a one yard bucket to move the material into the pre-existing pit. The proposed total area of disturbance is approximately 1.3 acres.

### Direct and Indirect Impacts:

The proposed action will disturb the already stabilized mining dumps. This action would make the material susceptible to transport to the nearby drainage (figure 3.1) and alter the existing limited plant cover. These effects may increase the impact of precipitation and runoff rate and therefore increase erosion/transport potential of the mine waste dumps to the nearby drainage. The Proposed Action will not make measurable changes in stream health, water quality, and watershed condition if proper mitigation measures are taken. There are no roads located down gradient of the proposed disturbed area and no road would contribute sediment to Rio Grande from the mine site.

### Protective/Mitigation Measures:

Protecting water quality and preventing erosion are two main important tasks mine operations must address. Mine operators will be responsible for complying with all local, state, and federal water quality and erosion control regulations as well as providing documentation to the BLM that they have done so. Best Management Practices (e.g., silt fences, wattles, straw bales, berms, or other mechanical sediment control measures) shall be implemented to provide surface stability, erosion control, dissipate runoff energy, and avoid concentrated flow to prevent any sediment load to ephemeral drainage located in the vicinity of the proposed project site, which are tributary to Rio Grande. After completion of screening activities, leveling and stabilizing the disturbed area to flow the natural contour and seeding native vegetation will be required.

Controlling storm runoff and the erosion it causes requires integrated management starting immediately below the disturbance site. No single action will produce permanently effective results. A good system must have many individual components that must function separately but also respond as a unit during a storm event. It will be required to construct berms to divert runoff away from natural drainages to disperse runoff onto a gentle slope at vegetated areas.

Any activities will be suspended when wind speeds exceed a sustained velocity of 20 miles per hour to minimize fugitive dust. Mining equipment will be maintained in good operating condition to ensure that engines are running efficiently. Vehicles and other equipment with emission controls will also be maintained to ensure effective pollutant emission reductions. To minimize production of fugitive particulate matter (fugitive dust) from associated road and mining site, vehicle speeds must not exceed 15 mph or dust plume must not be visible at this speed.

#### No Action Alternative

Under the No Action alternative, the existing condition of the mine site will continue without any change.

#### Direct and Indirect Impacts:

Under No Action alternative, no additional impacts to watershed or stream health would result. Protective/mitigation measures are not required.

#### **Finding on the Public Land Health Standard for Water Quality:**

These impacts have minimal effects on watershed condition and do not appear to have noticeable effects on stream channels and ground and surface water quality upon implementation of Protective/Mitigation Measures listed in this section.

### **3.3 HERITAGE RESOURCES AND HUMAN ENVIRONMENT**

#### **3.3.1 CULTURAL RESOURCES**

Affected Environment: The King Manassa Turquoise Mine Site (5CN31) has been determined not eligible for inclusion on the National Register of Historic Places. Therefore, neither the proposed action nor the no action alternative will have adverse impacts on historic properties. There are no known Native American Religious or Paleontological concerns present. The standard cultural stipulations for discovery should be included in the authorization.

#### Environmental Effects:

##### Proposed Action

Direct and Indirect Impacts: None.

Cumulative Impacts: None.

Mitigation/Residual Effects: None.

##### No Action Alternative

Direct and Indirect Impacts: None.

Cumulative Impacts: None.

Mitigation/Residual Effects: None.

#### Cultural Resource Stipulations:

1. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the permitted mine operator, or any person working on the permitted mine operators behalf on public or Federal land, shall be immediately reported to the Authorized Officer, Field Manager-BLM, Monte Vista, Colorado. The permitted mine operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine the appropriate actions to follow to prevent the loss of significant cultural or scientific values. The BLM will be responsible for the cost of the evaluation. Any decision as to proper mitigation measures to be taken will be made by the Authorized Officer after consultation with the Colorado State Historical Preservation Office.

2. Collection or disturbance of artifacts and other archaeological, historical, and paleontological materials shall not be allowed. Offenders shall be subject to prosecution under the appropriate State and Federal laws.

### **3.4 CUMULATIVE IMPACTS SUMMARY**

No additional cumulative impacts to the project area or the surrounding environment are anticipated since the proposal seeks to rework existing mine waste, confining activities to the footprint of the existing mine.

## **CHAPTER 4 CONSULTATION AND COORDINATION**

### **4.1 LIST OF PREPARERS AND PARTICIPANTS**

<b><u>Name</u></b>	<b><u>Title</u></b>	<b><u>Resource Represented</u></b>
Martin Weimer	<i>Environmental coordinator</i>	Socioeconomics, Environmental Justice, noise
Brian Fredericks	<i>Archaeologist</i>	Cultural Resources, Native American Concerns, Paleontology
Melissa Shawcroft	<i>Rangeland Management Specialist</i>	Range Management, Vegetation, Forest Management
Sean Noonan	<i>Outdoor Recreation Planner</i>	Recreation, visual resources, transportation and access, wilderness study areas, Wild and Scenic Rivers, land with Wilderness Characteristics
Leon Montoya	<i>Realty Specialist</i>	Lands and Realty
Sean Hines	<i>Cadastral Surveyor</i>	Cadastral Survey
Joel Humphries	<i>Wildlife Biologist</i>	Wildlife Terrestrial, migratory birds, special status animals species, wildlife aquatic, wetlands, invasive species
Eduardo Duran	<i>Natural Resource Specialist</i>	Special status plant species, riparian, farmlands prime and unique
Rebecca Morris	<i>Geologist</i>	Geology/minerals, wastes, Hazardous or solid
Negussie Tedela	<i>Hydrologist</i>	Air quality, water quality, surface and ground water, soils

<u>Name</u>	<u>Title</u>	<u>Resource Represented</u>
Paul Minow	<i>Fire management specialist</i>	Fire, Fuels
Doug Simon	<i>GIS Specialist</i>	GIS systems, maps
Brian Garcia	<i>Ranger</i>	Law Enforcement

**4.2 TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED**

Nicolas Sandoval, State of Colorado Mining Law Program Lead

## CHAPTER 5 REFERENCES

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## **Finding Of No Significant Impact (FONSI)**

### **DOI-BLM-CO-200-2015-0013 EA**

Based on review of the EA and the supporting documents, I have determined that the project is not a major federal action and will not have a significant effect on the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects from any alternative assessed or evaluated meet the definition of significance in context or intensity, as defined by 43 CFR 1508.27. Therefore, an environmental impact statement is not required. This finding is based on the context and intensity of the project as described below:

#### **RATIONALE**

**Context:** The project area is located in Conejos County in the southern portion of the San Luis Valley of Colorado approximately 9 miles east of the town of Manassa. The site has been disturbed by historic mining.

Cordova Turquoise has been conducting a similar operation under a Notice of Intent 2010 to 2012. They applied for a Mine Plan of Operations to legally sell mineral specimens as required according to BLM Handbook H-3809-1. The proposed action is located in an area of previous mining disturbance and involves sifting through previously mined material and resulting in no additional disturbance at the site. The operators will work part time and seasonally. The proposed operation provides some reclamation of the excavated pit on site for public safety upon completion of the mining activities. It will also allow for continued production from a mine with a long history of turquoise production.

#### **Intensity:**

I have considered the potential intensity/severity of the impacts anticipated from the Cordova Turquoise Mine Plan of Operation decision relative to each of the ten areas suggested for consideration by the CEQ. With regard to each:

##### **Impacts that may be beneficial and adverse:**

The King-Manassa Turquoise Mine Plan of Operations results in continued supply of turquoise from a mine that has sourced historic turquoise dating back to 1100 AD (Hull et al, 2014).

Reworking the mine will destabilize the waste and has the potential to impact adjacent intermittent drainages should there be a runoff event. The best management practices as described in the EA would help to prevent this type of impact.

##### **Public health and safety:**

Allowing the proposed action will provide signage, gates and reclamation around a previously disturbed area with unmarked high walls and adits providing some ease of concern for public safety provided the mining claims are relinquished.

**Unique characteristics of the geographic area:**

The King-Manassa mine exists within the San Luis Hills ACEC. It has been determined that the project will have no effect on the special values of the ACEC.

**Degree to which effects are likely to be highly controversial:**

There is no significant controversy with the effects of the proposed action, or disagreement or controversy among ID team members or reviewers over the nature of the effects on the resource values on public land by the proposed action.

**Degree to which effects are highly uncertain or involve unique or unknown risks:**

The effects of the proposed action are not highly uncertain and do not involve unique or unknown risks.

**Consideration of whether the action may establish a precedent for future actions with significant impacts:**

This decision is like one of many that have previously been made and will continue to be made by BLM officials. The actions that Cordova Turquoise plans to employ are no different than is practiced by casual use persons who sift through mine tailings elsewhere on public lands. The decision is within the scope of the Resource Management Plan and is not expected to establish a precedent for future actions. The decision does not represent a decision in principle about a future consideration.

**Consideration of whether the action is related to other actions with cumulatively significant impacts:**

Cumulative impacts are considered negligible since all operations are taking place within the confines of the existing disturbance.

**Scientific, cultural or historical resources, including those listed in or eligible for listing in the National Register of Historic Places:**

No eligible sites present

**Threatened and endangered species and their critical habitat:**

None present

**Any effects that threaten a violation of Federal, State or local law or requirements imposed for the protection of the environment:** The proposed action conforms with the provisions of NEPA (U.S.C. 4321-4346) and FLPMA (43 U.S.C. 1701 et seq.) and is compliant with the Clean Water Act and The Clean Air Act, the National Historic Preservation Act, Migratory Bird Treaty Act (MBTA) and the Endangered Species Act.

NAME OF PREPARER: Rebecca Morris

SUPERVISORY REVIEW: Paul Tigan

NAME OF ENVIRONMENTAL COORDINATOR: Martin Weimer

DATE: 8/18/2015

SIGNATURE OF AUTHORIZED OFFICIAL:



Paul Tigan, acting Field Manager

DATE SIGNED: 9/2/2015

APPENDICES:

ATTACHMENTS:

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
SAN LUIS VALLEY FIELD OFFICE**

**DECISION RECORD  
King Manassa Turquoise Mine Plan of Operations  
DOI-BLM-CO-200-2015-0013-EA**

**DECISION:** It is my decision to authorize the Proposed Action as described in the King Manassa Turquoise Mine Plan of Operations Environmental Assessment. Specifically, it is my decision to authorize the Plan of Operations as submitted by Cordova Turquoise to sift through mine rock piles for mineral specimens.

**RATIONALE:** Based on review of the King Manassa Turquoise Mine Environmental Assessment, the proposed action will not result in significant negative effects to the environment, individually or cumulatively with other actions in the general area. The operation will allow for continued production of turquoise from a historical mine site.

**MITIGATION MEASURES\MONITORING:**

**SURFACE AND GROUNDWATER**

- Control of storm runoff and erosion by construction of berms to divert any runoff of stream water away from drainages to vegetated slopes.
- Suspension of mining activities when wind speeds exceed a sustained velocity of 20 miles per hour.
- Maintain mining equipment in good working order and running efficiently

**HERITAGE RESOURCES AND HUMAN ENVIRONMENT**

- Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the permitted mine operator, or any person working on the permitted mine operators behalf on public or Federal land, shall be immediately reported to the Authorized Officer, Field Manager-BLM, Monte Vista, Colorado. The permitted mine operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine the appropriate actions to follow to prevent the loss of significant cultural or scientific values. The BLM will be responsible for the cost of the evaluation. Any decision as to proper mitigation measures to be taken will be made by the Authorized Officer after consultation with the Colorado State Historical Preservation Office.
- Collection or disturbance of artifacts and other archaeological, historical, and paleontological materials shall not be allowed. Offenders shall be subject to prosecution under the appropriate State and Federal laws.

**PROTEST/APPEALS:** This decision shall take effect immediately upon the date it is signed by the Authorized Officer, and shall remain in effect while any appeal is pending unless the Interior Board of Land Appeals issues a stay (43 CFR 2801.10(b)). 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 the San Luis Valley Field Office, 1313 E. Hwy 160 Monte Vista, CO 81144. 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.

[http://www.blm.gov/wo/st/en/prog/planning/news/webguide/document\\_pages/8\\_6\\_program-specific.html](http://www.blm.gov/wo/st/en/prog/planning/news/webguide/document_pages/8_6_program-specific.html)

**SIGNATURE OF AUTHORIZED OFFICIAL:**

A handwritten signature in blue ink, appearing to read "Paul Tigan", written over a horizontal line.

Paul Tigan, acting Field Manager

**DATE SIGNED:**

9/2/2015