

CONSTRUCTION MATERIALS EXTRACTION  
MASTER PLAN  
REPORT

FOR

50 ± ACRE SITE

LOCATED IN

TOWNSHIP 15N, RANGE 7E, SECTION 22,  
SANTA FE COUNTY, NEW MEXICO

Submitted By:

James W. Siebert and Associates, Inc.  
915 Mercer St.  
Santa Fe, New Mexico, 87503

Prepared

For

Rockology LLC  
3601 Pan American Frwy. NE  
Albuquerque, New Mexico 87107

February 2008

## INTRODUCTION

### 1.0 Introduction

Rockology LLC, a New Mexico limited liability company, is proposing a materials extraction area to provide for railroad ballast material and other construction aggregates for the Railrunner Phase 2 (Project No. AC-GRIP-(FTA-NH)-025-4(132)266) that is currently under construction and for subsequent removal of similar material.

#### 1.1 Development Request

A request is submitted for master plan approval to allow for the extraction of construction materials as set forth in Article XI, of the Land Development Code. The material from the site will be used for ballast for the future state-owned railroad to be constructed from the railroad tracks near the bottom of La Bajada Hill to Santa Fe. The notice to proceed from NMDOT to Twin Mountain/HERZOG a Joint Venture is found in Appendix A. The contract between Twin Mountain/HERZOG and H & H Brosious LLC is also found in Appendix A. H & H Brosious LLC is the supplier of material to Twin Mountain/HERZOG for all aggregate requirements for the Railrunner. Rockology LLC will operate the construction material extraction site and provide the material to H & H Brosious LLC. The agreement between H&H Brosious LLC and Rockology LLC is also found in Appendix A.

Subsequent to the Railrunner project, Rockology will supply the same type of construction material for other construction project in the area. This material will serve as base for road construction and larger scale commercial projects.

#### 1.2 Owners of Record

The owner of this 1,360 ± acre tract is Buena Vista, 1160, L.L.C. This tract of land was the subject of a lawsuit and the title was secured through a Deed as the result of a foreclosure on the property. The deed pertaining to this tract of land is found in Appendix B to this report.

#### 1.3 Project Location

The subject site is located south of Interstate 25 and west of Waldo Canyon Road (County Road 57). Figure 1 is a vicinity map which describes the location of this 50 acre parcel of land. The subject 50 acre material extraction site is located within Township 15N, Range 7E, Section 22.

## Vicinity Map

The location for this material extraction site has the following advantages:

- Located in close proximity to the construction of the future railroad alignment.
- Located in an area which does not have existing residential development.
- Located in an area with a history of material extraction including materials used for the construction of I-25.
- Access from site is onto a County Road with limited traffic volumes.
- Mining extraction site is located less than 1/4 mile from public road and .5 miles from I-25.
- Visibility is limited by grading consistent with the contours of the land which fall away from public roads and the distance of the site from public roadways.

#### 1.4 Adjacent Property Owners

The subject site is entirely surrounded by land owned by the Buena Vista, 1160, LLC. Adjoiners to the larger Buena Vista acre parcel are:

To the East: Larry Pepler  
Mesita de Juana de Santa Fe LTD  
Box 447  
Cerrillos, New Mexico 87010

To the South: Happy Valley LTD  
P.O. Box 5033  
Santa Fe, New Mexico 87502

To the North: Martha Harris  
4932 Arroyo Chamisa Rd. NE  
Albuquerque, New Mexico 87111

To the West: Remainder of Buena Vista  
Properties

#### 1.5 Neighboring Uses

The land in the area surrounding the subject tract is vacant. The closest physical features are County Road 57 to the east and I-25 to the north. Waldo Canyon Road (CR57) is located approximately 1/4 mile from the boundary of the subject site. The closest existing use to this application is a sand and gravel mining operation located to the southeast of this site (Waldo Canyon mine site). This sand and gravel mining operation is owned and operated by Espanola Mercantile, Inc.

## 1.6 History of Mining in the Area

Espanola Mercantile, Inc. began its sand and gravel mining operation in the mid 1990's. During the construction of I-25, a mining construction site was established immediately south of the subject tract for the purpose of extracting borrow material and for sand and gravel for making base course and asphalt aggregates for the interstate highway construction.

A gypsum mining and processing plant was located on the Santo Domingo Pueblo to the south and west of this proposed development. A railroad siding was constructed by the Atchison, Topeka and Santa Fe Railroad line for the purpose of loading aggregate ballast material to be used for bedding of the railway. This siding is located to the south and west of this site.

Mining has an extensive history in this area of Santa Fe County.

## **RESPONSE TO LOCATION STANDARDS FOR NEW MINING ZONES**

### **1.7 Response to Location Standards for New Mining Zones**

The following is a response to the location criteria for a new mining zone.

#### *1.7.1 Demonstrated existence of significant mining resources.*

Soils investigations have been taken in the area of the proposed mining site. Basaltic material is encountered to 20 feet. The basaltic material may have greater depth but this is the limit of the excavator used to evaluate the types of material within the proposed mining site. The exceptional hardness of this material makes it well suited to a variety of construction activities, including ballast for railroads, base material for roadway construction.

#### *1.7.2 Use of the land for mining uses is reasonably compatible with other uses in the area affected by the mining use, including but not limited to traditional patterns of land use, recreational uses, and present or planned population centers or urban and metropolitan areas.*

The larger tract of land consisting of 1160 acres comprises the majority of land in the flat area between the La Bajada escarpment and County Road 57 (Waldo Canyon Road). There are no residential dwellings within one mile of this site. Land on the east side of County Road 57 is also vacant. This land has been owned privately for over 100 years and access to the public for recreational or hunting purposes has been restricted. The site and surrounding area is located within the Homestead District, which is the least intensive residential zoning in the County. There are no planned population centers for this area or within several miles of this application.

*1.7.3 A history of significant mining activity in the area, if mining has been conducted in the area (not required for creation of new mining zones).*

Extraction of construction materials began in the immediate area to the south of this site in the early 1970's during the construction of I-25. Approximately one-half mile from the subject site is evidence of an prior extraction pit used for base material to construct the interstate. This material is more sand and gravel in nature than what is proposed for extraction from the Rockology pit. The Waldo Canyon mine is located approximately one-mile to the south and east of this application. This sand and gravel extraction pit has operated continuously since the early 1980's. The gypsum plant on the Santo Domingo Pueblo operated for approximately 20 years before the operations ceased in the 1990's. A rail siding for the Atchison, Topeka and Santa Fe Railroad is located at the bottom of the hill on County Road 57. Apparently this siding was used to provide ballast material for the railroad. The source of the ballast material is unknown.

*1.7.4 The area designated is particularly suited for mining uses, in comparison with other areas of the County, as set forth in Sections 1.2.1, 1.2.2, and 1.2.3.*

The proposed site has several advantages for a mineral extraction site:

- There are no residences within one mile of the site.
- The area in general is unpopulated and the land has been used historically for cattle grazing.
- The distance from I-25 and County Road 57 minimizes the visibility of the site from these roadways.
- There is immediate access to a paved County Road which is located approximately .8 mile from I-25. This roadway has very low traffic volumes and impact to commuters is less at this proposed site compared to other mineral extraction sites in Santa Fe County.
- Mining activity has historically taken place in this area of the County.
- The majority of vehicles that use the road are associated with existing mining activities or the construction of the Railrunner railroad bed.

## **MINERAL RESOURCES**

### **2.0 Mineral Resources**

#### **2.1 Availability**

A soils investigation of the site was conducted using an excavator to determine the type and depth of material. A description of the material found at the site prepared by

Buildology Inc. is found in Appendix C to the report. Basaltic material was found to the limits of the depth that can be achieved by the excavator, or approximately 20 feet. Except for 1'-2' of varying overburden, the basaltic material was relatively constant for the entire depth of 20 feet.

## 2.2 Type of Material

The principal material located within the mineral extraction area is basalt. Physical property testing demonstrates that the material is high quality, meeting soundness and durability specifications. The physical properties as tested are:

Bulk specific gravity:	2.64
Absorption:	1.4 %
L.A. abrasion:	20.9%
Magnesium Sulfate Soundness Loss:	7.1%
Sodium Soundness:	1 – 5%

This information is derived from testing conducted by Steven A. Hooper, P.E. and owner of Buildology, Inc. and Rockology LLC.

## **OPERATIONS PLAN**

### **3.0 Operations Plan**

#### 3.1 Hours of Plant Operation

The maximum hours of plant operation will be in compliance to the air quality permit. The hours of plant operation will typically be 7:00 AM to 5:00 PM for weekdays. Saturday and Sunday plant operations may be necessary due to anticipated weather delays for weekday crushing. Evening or night-time use may be required to meet the Twin Mountain/Herzog construction timelines for completion of the Railrunner from La Bajada to Santa Fe. This time schedule is applicable during the time that material is being provided to the Railrunner project.

#### 3.2 Additional Permits

The following additional permits will be required for the materials processing at this site:

- MSHA
- Blasting
- NMED Air Quality

#### 3.3 Payroll and Revenues

The estimated annual payroll is \$275,000.00.

The estimated annual revenue is \$3,000,000.00

## **MATERIALS PROCESSING**

### **4.0 Materials Processing**

The processing and handling of materials will be accomplished in three segments; pit operations, plant processing and product loading and distribution.

#### **4.1 Pit Operations**

Preparation of the site begins with the removal of natural soil overburden. A scraper and track dozer will be used to remove the overburden to expose the basaltic rock formation. The overburden will be stockpiled outside the excavation cell and will be used as topsoil in the reclamation of the site following completion of mining for each phase.

Rock drilling will follow the removal of overburden, drilled in accordance with the written and approved blasting plan. A licensed and insured blaster will perform the blasting operations in compliance with all regulatory agencies, including Santa Fe County, MSHA, and federal ATF regulations. Blasting will only take place during daytime hours. Times for blasting will be coordinated to insure that regulatory agencies are properly notified. Blasting materials will not be stored on site.

#### **4.2 Plant Processing**

A front-end loader will feed the blasted material into a feed hopper, followed by crushing, screening and stockpiling of finished material. The crusher will be located behind the finished stockpiled materials, in order to minimize visibility from public roadways. Conveyors will be used to deliver materials into different size components. Unusable material is returned to the excavation area for use in reclamation. There will be a limited amount of material that will be returned to the pit for reclamation.

#### **4.3 Product Loading and Distribution**

This component of the operation consists of a front-end loader placing the finished aggregate products into the haul trucks. All trucks will be required to be compliant with New Mexico Department of Transportation and New Mexico Public Regulation Commission requirements. All loads will be weighed to ensure that trucks are within the legal weight limits, and properly covered to secure the load. Each truck will be equipped with cover to protect from materials falling from the truck and dust blowing off the truck.

#### **4.4 Structures**

No permanent structures will be constructed within the proposed project area. Only temporary and portable structures will be placed on the site to serve the mining operation. These structures will include a tool trailer/administrative trailer, screening and crushing equipment and associated belt conveyor systems, water and fuel storage tanks and weigh

scale. Upon termination of the mining activities, these facilities will be removed from the site.

A detailed list of the equipment to be operating at the site during the various stages of operation is provided below:

- Scraper
- Tract Dozer (2)
- Jaw Crusher (J-1175)
- Screener (Chieftain 2100)
- Screener (Tract screen-IT)
- Crusher (1000 Maxtrek)
- Telestacker
- Crusher (2005 Pioneer FR 4240 CC)
- Pre-screener (reclaimer 883)

The detail sheets for this equipment is found in Appendix D to this report.

## **UTILITIES & OUTDOOR LIGHTING**

### **5.0 Utilities & Outdoor Lighting**

#### 5.1 Utilities

No utility service is required for this operation. A generator will provide electric for the crusher.

#### 5.2 Lighting

Lighting will be used at the tool and administrative trailers to provide the necessary security to avoid vandalism at the site. Pole-mounted lights will not exceed 20 feet in height and will have cut-off shields to direct light downward. It is anticipated that lighting will only be needed during the winter months on a limited basis and only in the excavated areas, where visibility is limited from public roads.

## **ENVIRONMENTAL REVIEW**

### **6.0 Environmental Review**

#### 6.1 Air Quality

The air quality plan will comply with the requirements for the permit issued by the New Mexico Environment Department for the crusher that was previously located at another location.

The air quality permit for the crusher that will be used at this site is found in Appendix E to this report. In addition the following actions will be implemented at this site:

- The road to the excavation area will be constructed with crusher fines and dust palliatives will be used on an as needed basis to manage particulates from traffic on the haul road.
- Dust suppression systems will be installed at the processing area and the material transfer sites using atomized sprays.
- Employees will be trained in recording-keeping for daily monitoring of opacity at the site.
- Finished stockpile material will be located in an area that is protected as much as possible from the prevailing winds.

## 6.2 Storm Water/Drainage Management

A grading plan is included as part of the plan set. Disturbance of existing drainage-ways is minimized by the location of the site which is located outside any significant drainage areas. One smaller drainage has been routed around the pit. There is a detention pond at the low site of the area which captures runoff from the graded areas. This pond will discharge onto the natural drainage for the area.

A Storm Water Pollution Prevention Plan (SWPPP), as required by the E.P.A., and Notice of Intent (NOI) will be prepared prior to the issuance of a development permit for this material extraction pit. A SWPPP plan showing the location of the various erosion control measures is included in the plan set.

## 6.3 Archaeological Review

This request is not located within an area of “Historic or Cultural Sites” as designated in the County Land Development Code. It is located within an area designated on Map 8, “Santa Fe County – Archaeological Districts”, as having moderate potential for archaeological sites. An archaeological survey and report was prepared for the mineral extraction site. The report, prepared by Townsend Archaeological Consultants did not find any sites within the perimeter of the subject site. Two copies of the report are transmitted under a separate cover.

## 6.4 Soils

Based on findings from the Natural Resources Conservation Service Soils, NRCS, there is only one type of soils profile associated with the mineral excavation site. This soils type is described below.

110:	Cuerbio Loam	1 -3 Percent Slopes
	<i>Setting</i>	
	Landform:	Mesas and erosional fan remnants
	Position on landform:	Summits
	Subsurface Geology:	Silty alluvium of the Ancha Formation and basalt bedrock of the Cerros del Rio volcanic field
	Shape of areas:	Irregular
	Size of areas:	10 to 300 acres
	Elevation:	5,800 to 6,700 feet
135:	Tsinat Gravelly Loam	1 – 6 Percent Slopes
	<i>Setting</i>	
	Landform:	Mesas
	Position on landform:	Summits
	Subsurface Geology:	Basalt bedrock of the Cerros del Rio Volcanic field
	Shape of Area:	Irregular
	Size of Areas:	100to 300 acres
	Elevation:	6,000 to 6,500 feet
136:	Churipa Very Cobbly Sandy Loam	5 – 15 Percent Slopes
	<i>Setting</i>	
	Landform:	Mesas
	Position on landform:	Beveled summits and shoulders
	Subsurface Geology:	Basalt bedrock of the Cerros del Rio Volcanic field
	Shape of Area:	Irregular
	Size of Areas:	50 to 200 acres
	Elevation:	6,000 to 6,500 feet

## 6.5 Army Corps of Engineers 404 Permit

There is a realignment on a small portion of the off site drainage which is needed to avoid storm water flowing into the pit. County Land Use staff have requested a review from the US Army Corps of Engineers on the need for a 404 permit, given the amount of up-stream drainage from the site. A request for an evaluation has been submitted to the Albuquerque office. Telephone conversations with the Corps of Engineers would

indicate that a 404 permit will not be required. A copy of the letter to the Corps of Engineers is found in Appendix F.

## **WATER, LIQUID & SOLID WASTE**

### **7 Water , Liquid and Solid Waste**

#### **7.1 Water Budget**

Water will be brought to the site through an agreement with the Cohiba Club LLC which is providing water from a well in the vicinity of the La Bajada Village. This agreement for up to three acre feet of water per year is attached as Appendix G. Water from the Cohiba Club LLC well will be used only for dust control purposes. The limited water needed for drinking purposes will be purchased in twenty gallon containers. For potable water ten to twenty gallons will be used on a daily basis for drinking purposes.

The estimated monthly water use for dust control is described on Table 1.

**Table 1  
Annual Use of Non-Potable Water**

<b>Month</b>	<b>Gals./Month</b>
January	80,000
February	80,000
March	80,000
April	80,000
May	80,000
June	80,000
July	80,000
August	80,000
September	80,000
October	80,000
November	80,000
December	80,000
<b>Total</b>	<b>960,000</b>

#### **7.2 Liquid Waste**

Portable toilets will be brought to the site for sanitary purposes for the workers. A specified maintenance period will be included in the contract for service of the portable toilets.

#### **7.3 Solid Waste**

The only solid waste produced on the site will be associated with the trash generated by the workers associated with eating lunch at the plant. This trash, to be placed in bags, will be disposed of at a licensed landfill site.

## **ACCESS & TRAFFIC IMPACTS**

### **8 Access and Traffic Impacts**

Trucks will access the site from I-25 and Waldo Canyon Road. Waldo Canyon Road is currently paved up to the access to the property. The distance from I-25, measured along Waldo Road, to the access point is approximately .8 mile. An access road will be constructed to the site. Top soil from the access road to the site will be stockpiled along with the top soil from the excavation area. A borrow ditch will be cut on each side of the road to manage storm water. Storm water ponds, if necessary, will be created at selected points along the roadway to prevent any increase in historic runoff from the site. The access road to the excavation area will be approximately .3 mile in length. Where possible the access road will coincide with the current access road used to maintain the underground and overhead electric line.

The TMC/Herzog contract with NMDOT requires that most materials be hauled at night in order to provide I-25 lane drops for trucks to safely access the project areas. Hauling requirements will vary according to the construction schedule determined by TMC/Herzog. Approximately 300,000 tons of aggregates will be hauled to the project, which is expected to be completed by the end of 2008.

During maximum operation it is estimated that sixty trucks will haul materials from the site on a daily basis. It is also assumed that at peak capacity, eight persons will be working at the site. A Traffic Site Analysis was prepared by Jorge Gonzalez PE describing the traffic generation and impacts at selected intersections most affected by this mineral extraction operation. The following intersections will operate at a level of service A, which in the highest level of service with the least delays, with the traffic generation from the site.

Proposed site access and County Road 57  
I-25 frontage road and County Road 57  
I-25 eastbound ramp and County Road 57  
I-25 and westbound ramp and County Road 57

Four Traffic Site Analysis reports are submitted under a separate cover.

## RECLAMATION

### 9.0 Reclamation

#### 9.1 Procedure

Reclamation will take place upon completion of the operation. The reclaimed sides of the excavation area will be shaped with cut slopes not to exceed a ratio of one vertical to four horizontal. The stockpiled top soil will be returned to the site and used as a base for the reseeding operations. Where the terrain contours are susceptible to erosion, furrows will be created at appropriate intervals to prevent soil erosion.

The extraction operation will take place in three phases with reclamation taking place at the end of each of the three phases. The areas of reclamation are described on the reclamation plan for each of the three phases of the extraction process.

#### Reclamation Phasing

Phase I	2010
Phase II	2015
Phase III	2020

## 9.2 Revegetation

Reseeding of the area will occur within six months of terminating the extraction process, assuming that six month period coincides with the summer months. A qualified contractor will be responsible for performing the reseeding operation. Seed will be spread on the site according to the following specifications.

**Table 2**  
**Seed Mix**

<b>Botanical Name</b>	<b>Common Name</b>	<b>PLS/ac</b>
Boutelova Gracitus	Blue Grama	2.0 lbs.
Boutelova Cestipendula	Side Oats Grama	4.0 lbs.
Sporobulus Airoides	Alkali Scaton	0.5 lbs.
Hilaria Jamesii	Galleta	4.0 lbs.
Andropogen Scoporium	Little Bluestem	1.0 lbs.
Atriplex Canescens	Fourwing Saltbush	1.0 lbs.
Fallugia Paradoxa	Apache Plume	1.0 lbs.

Fertilizer (23-13-0) shall be applied at a rate of 75 lbs per acre and prairie hay shall be applied at a rate of 1,000 lbs/acre. Hydro seeding will be used where steep slopes prevent the use of a range drill. Hydro seeding will include a binder agent for securing seed, mulch and fertilizer.

Reseeding will occur only during the months of June, July and August for warm season species and October, November and December for the cool season species. Seeded areas will be protected from livestock grazing until a vegetative cover is established.