

**U.S. Department of the Interior
Bureau of Land Management
Royal Gorge Field Office
3028 E. Main Street
Canon City, CO 81212**

ENVIRONMENTAL ASSESSMENT

NUMBER: DOI-BLM-CO-200-2009-0099-EA

CASEFILE/PROJECT NUMBER (optional): COC 073930

PROJECT NAME: Fairplay – Destiny Placer Mine

PLANNING UNIT: South Park Subregion #4

LEGAL DESCRIPTION: Park County, 6th Principal Meridian, T9S, R77W, Section 33

APPLICANT: Destiny Mining, LLC
PO Box 51314
Colorado Springs, CO 80949

ISSUES AND CONCERNS:

1. A small BLM parcel is the site location for a mining proposal that is located adjacent to the City of Fairplay. A public meeting was held in the Fairplay area on September 22, 2009 as part of the analysis of the mine proposal to capture both the socio-economic concerns as well as other environmental issues identified by the public. The public comment period for this scoping process was held from September 22, 2009 through October 23, 2009. These are summarized in Appendix 1.

The following is a list of possible impacts the public has raised regarding the proposed project (Issues warranting further analysis as part of this process will be brought forward in section 2.1.):

- Negative impact to property values
- Excessive noise from mine equipment and associated truck traffic
- Negative impact on water quality and localized aquifer characteristics from water development, whether it involves a well or other mechanism (i.e. purchase)
- Injury to nearby water rights
- Negative impacts to air quality
- Dust generation
- Negative impacts to view shed of local community residents and businesses
- Soil contamination
- Loss of a hiking/ATV/Wildlife viewing area
- Loss of wildlife habitat (primarily winter elk, including a locally known elk named “Tripod”)
- Negative impacts to traffic and access from county roads

- Do not want to see occupancy associated with the mining operations
- Threats to public safety
- Do not feel the mine is of economic benefit, as there are other similar operations within the area
- Desire to use the 80-acre BLM parcel for local community and general public purposes
- Feel that the EA process is not adequate and an EIS is warranted at this time
- Public resistance to the proposal will negatively impact the mining industry
- Actions to foreclose access to scarce mineral reserves could hinder industry economic benefits, as minerals are only where the deposits exist
- Do not want to see the beginning of a bigger mining effort in this area
- Negative impact to tourism in the area

The local interest has been documented in newspaper reports in the Fairplay Flume, the Colorado Springs Gazette and a television report by Fox 31 news. In addition, the public has provided signed petitions and personal letters in both opposition to the mine, as well as support.

A report titled, “Report on the Environmental Setting and Potential Impacts of the Proposed Destiny Gold Mine Located on 80 Acres of BLM Land Near Fairplay, Colorado” was also submitted to the BLM by the recognized No Fairplay Mine Coalition during the public scoping meeting. Although this report provided a general overview of the public’s concerns regarding the mining proposal, the findings could only be considered in the context of public comments and nothing beyond that scope.

2. All issues identified were brought forward for analysis.

INTRODUCTION/BACKGROUND:

A mining proposal was submitted on July 21, 2009 to the Bureau of Land Management (BLM) and the CDRMS for 4.84 acres that is currently under claim by multiple parties in Fairplay, CO. The proposed mining consists of a gold placer operation, as well as sand and gravel. Prior to the mining proposal submittal, an onsite visit was conducted on June 17, 2009. Since the onsite visit, multiple phone conversations and a public scoping meeting have taken place. In addition, the RGFO has established a webpage to better handle communications to and from the public.

The proposed placer and gravel mine is relatively small, by modern standards. The applicant intends to mitigate local concerns to the maximum extent possible during operation and conduct reclamation activities to return the mine area to ranchland and wildlife habitat upon conclusion of mining operations.

BLMs PURPOSE AND NEED:

The proposed action consists of an analysis of a combination placer gold operation with the removal and sale of sand and gravel. The proposed mine area is within an isolated 80 acres of public land (Figures 1 and 2) that has been located under the 1872 Mining Law since late 1993 (placer claim CMC245048). Per these regulations, any mining proposal (plan of operations) submitted is required to be reviewed through the National Environmental Policy Act (NEPA) process. The proposed gold placer operation involves the processing of sand and gravel to remove detrital minerals (such as gold in this case). Due to the nature of this type of mining, the date of the claim locations and the fact that this sand and gravel is not identified as being a valuable mineral deposit, the processed sand and gravel are

not considered tailings. Therefore, the title to the sand and gravel remains in the United States and is subject to sale under the Material Materials Act of 1947.

It is BLM policy to dispose of mineral materials (sand and gravel in this case) in accordance with the Material Materials Act, provided adequate measures are taken to protect the environment and that damage to public health and safety is minimized. Since disposal of mineral materials is discretionary on the part of BLM, no disposals will be made if it is determined by the Authorized Officer that the total damage to public lands and resources would exceed the expected public benefits derived from any proposed disposal.

Based on this regulatory structure, the following actions and alternatives will be analyzed:

1. Proposed Action – combination placer gold and sand and gravel operation
2. No Action Alternative
3. Alternative 1 – placer gold operation only

BLM will determine if the proposed project will result in no significant impacts (either because none exist or if they do exist, they can be adequately mitigated) during the EA process. Results and any mitigation developed through this environmental assessment and resulting decision document will be forwarded to the CDRMS for inclusion into their permitting process. The BLM will require mitigation of probable impacts to a level that prevents unnecessary or undue degradation of the public lands and is consistent with performance standards outlined in 43 CFR 3809.420.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Possible impacts that were summarized in Section 1 of *Issues and Concerns* are being brought forward for analysis in this process, as they will assist in making a reasoned choice about alternatives and/or relate to a potentially significant effect.

1. Proposed Action:

The proposed action has been compiled from information supplied by the applicant in their state 110(2) permit application, additional information provided in response to our letter dated August 4, 2009, an onsite inspection conducted on June 17, 2009 and through verbal consultations with the applicant. The Mining Plan of Operations submitted by the applicant has additional information pertaining to this proposed action and can be found at the Park County Courthouse or on the CDRMS website.

The proposal consists of an operational overview, an outline of preparatory activities, details of the mining operation and anticipated reclamation efforts, which are summarized below.

Operational Overview

The proposal is to establish a gold placer operation that includes sand and gravel operations, which would be a little less than five acres in size. The life of the mine is estimated between 5 and 10 years, which includes four to five month seasonal shutdowns. Hours of operation are anticipated to be 8:00 am until 6:00 pm Monday through Friday and 8:00 am until 2:00 pm on Saturday. Mine depth is estimated at 25 feet, although the total depth of the deposit is estimated at 120 feet. The site and project location are shown below:

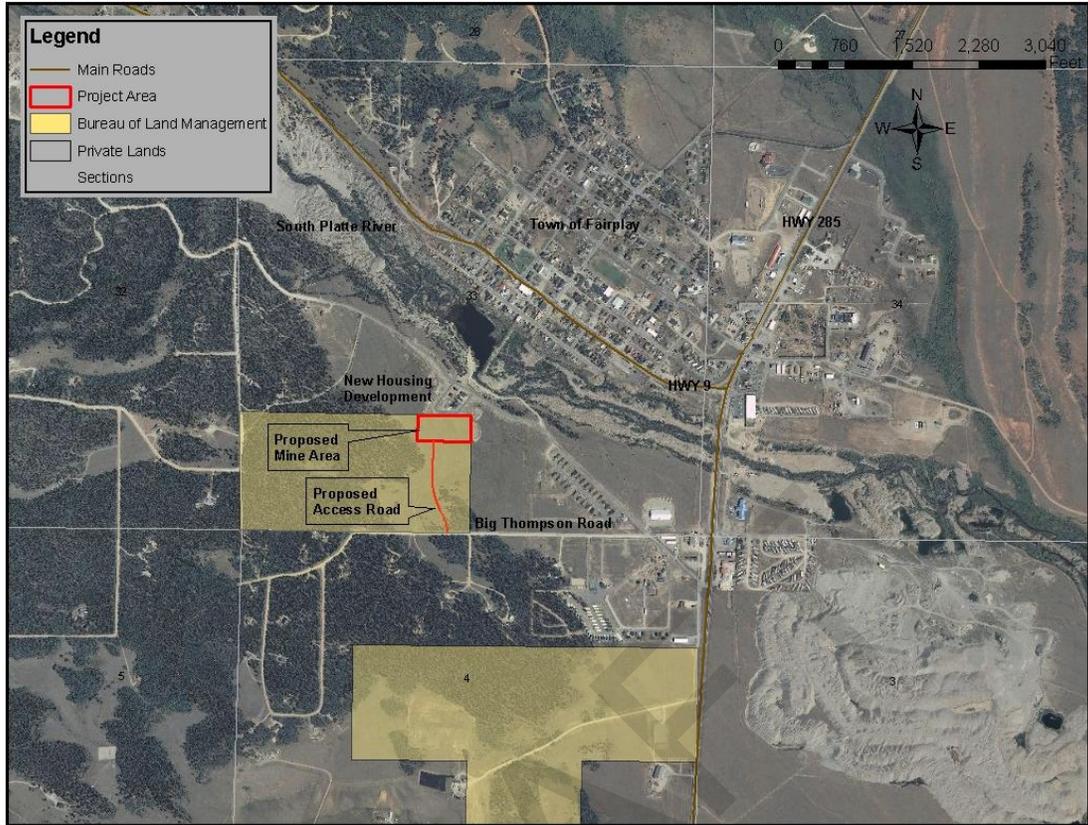


Figure 1: Proposed project area located in T 9 S, R77 W, Section 33. The base map was developed in 2009.

Mining would begin in the northeast corner of the site utilizing 1 to 1 slopes for sidewalls. Initially topsoil would be pushed into a berm around the perimeter of the mine area and seeded and planted as recommended by Natural Resource Conservation Service for stabilization. Processing equipment would then be set up on the western end of the site. Mining would begin on the east side of the site and progress westward. The overall pit area dimensions are estimated at 275 by 250 feet or about 1.5 acres. As material is processed it would be stockpiled in the western portion of the project area for sale or later use in reclamation. The applicant is not anticipating encountering ground water, as based on historic exploratory borings in the site area.



Figure 2: Proposed mine area, as seen from the northeast corner of public lands.

Preparatory Activities

Access to the site will be developed off of Thompson Park Road, which is a Park County public road. The access road to the site is proposed to be approximately 1,050 feet in length by 30 feet wide. An 18" culvert will be installed at the entry point next to the county road. A fence would be constructed around the site area and a gate would be installed at the entry off of Thompson Park Road.

In addition to processing equipment and material stockpiles in the site area, an office material storage area and tool shed, will be located in the southwest part of the site. The office trailer/secondary trailer will house the plant manager or night watchman.

A septic system will be installed at the request of the Park County Environmental Health Department to handle office trailer water (toilet/shower). A permit through the county will be required.

A storm water permit with the State of Colorado will also be pursued as needed, although no runoff is anticipated to leave the site due to grades and perimeter berming.

The only hazardous substances proposed for use with this project are petroleum based products. A fuel tank and used oils stored in 55 gallon drums will be placed in a shallow pit lined with heavy plastic that is designed to hold contents released from all of the containers. These substances will be located in the southwest part of the site. If a spill over 25 gallons in size occurs, BLM and the hazards spill hotline would be contacted. Any contaminated soil would be dug up, stored and disposed of offsite, in accordance with State regulations. No smoking signs will be posted within 50 feet of the lined pit. A diesel generator will be used to run the wash plant and equipment pertaining to the use of washing and screening of gravel. No permitting is required for use of these substances onsite.

The applicant intends to monitor noise levels at the site during full capacity operation of the mine. Noise level information will also be periodically collected by the Mine Safety Health Administration. The operator provided a Noise Assessment that was completed by an engineering company to adequately quantify the potential output levels, while providing mitigation that would meet the needed requirements. This assessment is provided in Appendix 2. It is not anticipated that any permitting will be required for this activity.

Air quality will also be monitored in accordance with the Colorado Department of Public Health and Environment regulations. A permit is anticipated to be required for operation of the generator associated with this operation. In addition, a Fugitive Dust Control Plan will be submitted to the State of Colorado. Dust levels will be also be periodically collected by the Mine Safety Health Administration.

Mining Operation

Material that is excavated would be placed on a grizzly which would separate out the larger material (i.e. >4inch) and the smaller material would be captured on a belt feeder that would run the material over a plate feeder (which evens flow of material) and into a trommel/wash plant. This equipment uses water that is a combination of recycled and other purchased (or possibly well in the future) water to enable washing and separation of finer materials. These finer materials would drop out of the bottom of the trommel and then run through a sluice box

system to extract the gold. Material exiting this sluice box system would then be run through a sand screw, which is designed to separate the water from the sand/small gravel material, minimizing the need for settlement ponds.

The applicant is proposing to use rubber or other material to cushion the sound associated with gravel movement on belts and tables. The applicant is also proposing to use a plastic liner in the trommel to cushion noise.

The larger material exiting the end of the trommel would be run over a shaker screen and separated into two or three sizes of material between 3/8 to 4 inches in size depending upon market needs. A schematic of the operation is shown below in Figure 3. Use of material could range from road base to landscape rock and use in concrete. Figure 4 contains a flowchart that illustrates the flow of mining activities.

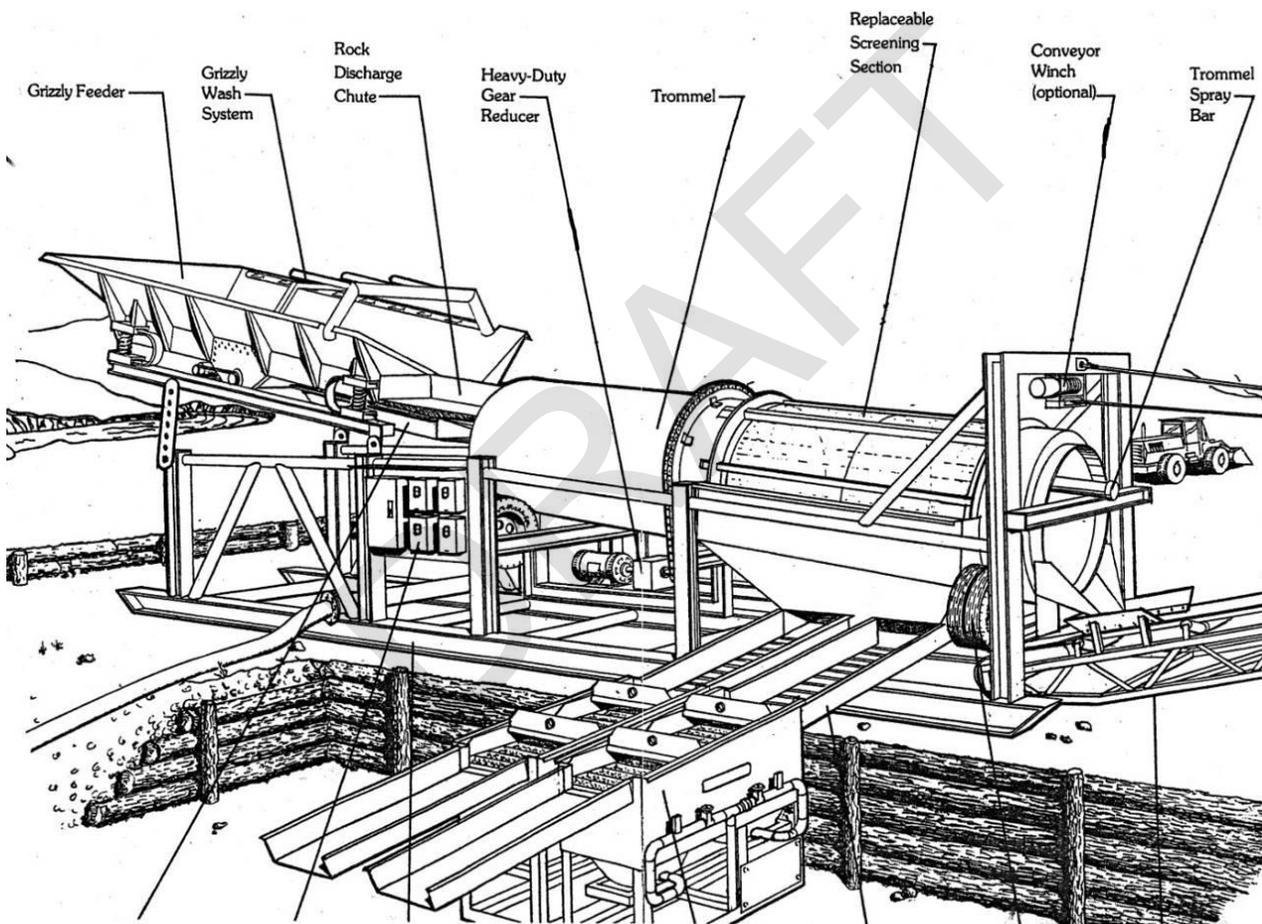


Figure 3: Modified drawing submitted by applicant that illustrates what a typical placer gold/gravel operation would look like. The mine/milling equipment being proposed is expected to look very similar to this illustration. The equipment located below the screening section (and not identified on this illustration) consists of dual sluice boxes.

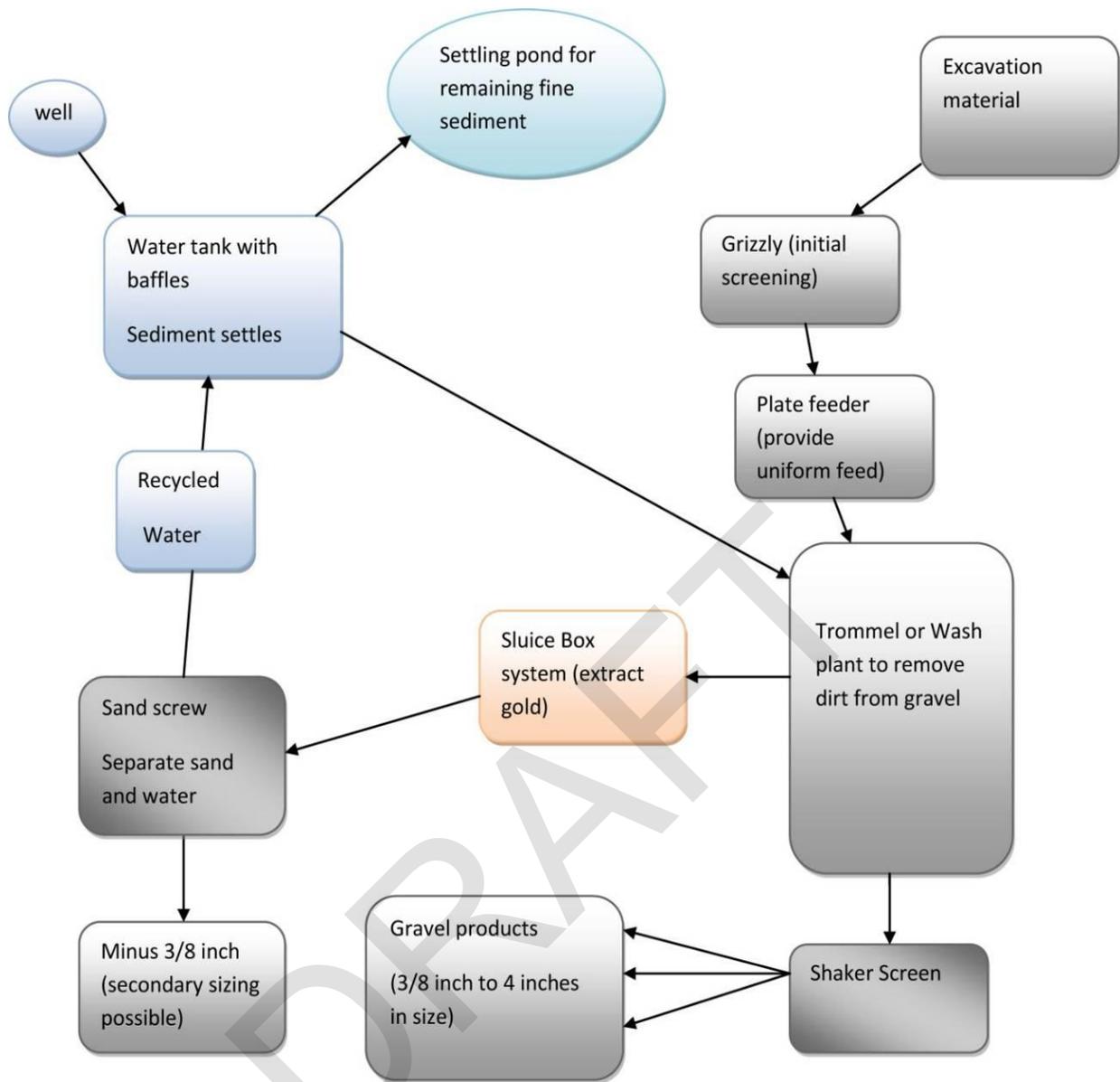


Figure 4: Schematic drawing showing flow of material for Proposed Alternative, which was developed by BLM based on a review of the mine proposal and confirmation with the applicant.

Equipment, including a track hoe and loader, can be expected to be consistently on site for the purpose of excavation and loading of materials. The applicant proposes to have a trash dumpster on site and to keep all trash picked up. Material not being used will be stored in the southwest corner of the permit area.

Initially, water will be hauled into the site and placed in a 1,000 cubic foot holding tank (approx 3,000 gallons) until a permit is obtained from the State of Colorado for well construction. The amount of water being used in this closed circuit system is estimated at 1,000 gallons per minute therefore the system relies heavily on reuse of water. Ground water is not expected to be encountered within the proposed project area and there are no surface streams on the site.

During winter shutdown (proposed as the end of November through the end of April) and extended non-operational times, all rolling equipment will be stored off property. In addition, conveyor belts will be removed from conveyors, fuel tanks will be emptied, and oils will be placed in a shed located in the storage area of the property. The site will be monitored during winter shut downs at least once every two weeks. A sign will be posted at the property entrance with the operator phone number, sheriff's number, and local government office numbers. An adequate fence will be constructed and no trespassing signage will be posted around the pit/operation area to keep out visitors and larger wildlife.

Reclamation

Upon mine completion, all equipment and materials will be removed from the site prior to final reclamation.

Concurrent reclamation, as outlined in 43 CFR 3809.420, would begin when the 25 foot depth is reached and the mining area is 60 feet from the north and east wall (northeast corner of mine area). The pit will continue to be backfilled as it is mined, keeping a distance of approximately 30 feet from the active pit operations. By the time mining is complete in the pit, there would be a 30 foot area left to backfill, which would be graded with a slight slope or flat.

Final reclamation would consist of sloping the sidewalls at a 3 to 1 (horizontal/vertical), followed by fertilizing, mulching, seeding, and application processes as recommended by the Natural Resource Conservation Service and in accordance with the state 110(2) permit. The mine plan includes discussion of the creation of fines as part of mining/milling, which would be stored and utilized in final reclamation. There will also be some materials produced such as cobbles (larger than 4 inch) that will be stockpiled and these waste materials can also be utilized in final reclamation. Final reclamation procedures will also be identified within the State Division of Reclamation, Mining, and Safety 110(2) permit. One procedure clearly identified in the mine proposal is seeding of topsoil stockpiles. Ensuring that these sites are adequately vegetated will assist in ensuring success in final reclamation. The land will ultimately be restored to pre-existing or better than pre-existing conditions in order to provide for future use by multiple user groups, to include recreational.

BLM will be the lead federal agency for conducting the EA and determining if the proposed project will involve significant impacts. CDRMS will retain primary permitting and bonding authority for this proposed action. All information and findings made by the BLM during the EA process will be forwarded to CDRMS for consideration during their permitting process. In this state/federal relationship the BLM will act, in part, as the role of a land owner utilizing the environmental assessment decision as the land owner consent. Local, state, and federal permit requirements may be identified throughout the development of this environmental analysis and/or the state 110 (2) permit process. However, BLM does not enforce other regulations.

2. No Action Alternative:

Under the 1872 Mining Law, the no action alternative cannot be considered by BLM for a proposal of gold placer mining. Under this law BLM has no discretionary authority over the mining of locatable minerals and is limited to only imposing mitigation requirements and preventing unnecessary or undue degradation of the public lands in accordance with 43 CFR 3809 regulation. BLM does, however, have discretionary authority over a proposal for the mining of mineral

materials. If BLM does not approve the contract application for mineral materials (sand and gravel), this may result in similar impacts to the land and environment as in the proposed action, but would not allow the sand and gravel to be disposed of for economic gain.

3. Alternative 1:

An alternative that is reasonable to analyze in this process, consists of only the gold placer mining, since the sand and gravel are considered mineral materials and are subject to the discretionary authority of the BLM. However, if the contract application for mineral materials is not approved by the BLM, the gold mining operation could still move forward under the 1872 Mining Law authority as discussed in the No Action Alternative. Figure 5 contains a flowchart that illustrates the flow of mining activities for this alternative.

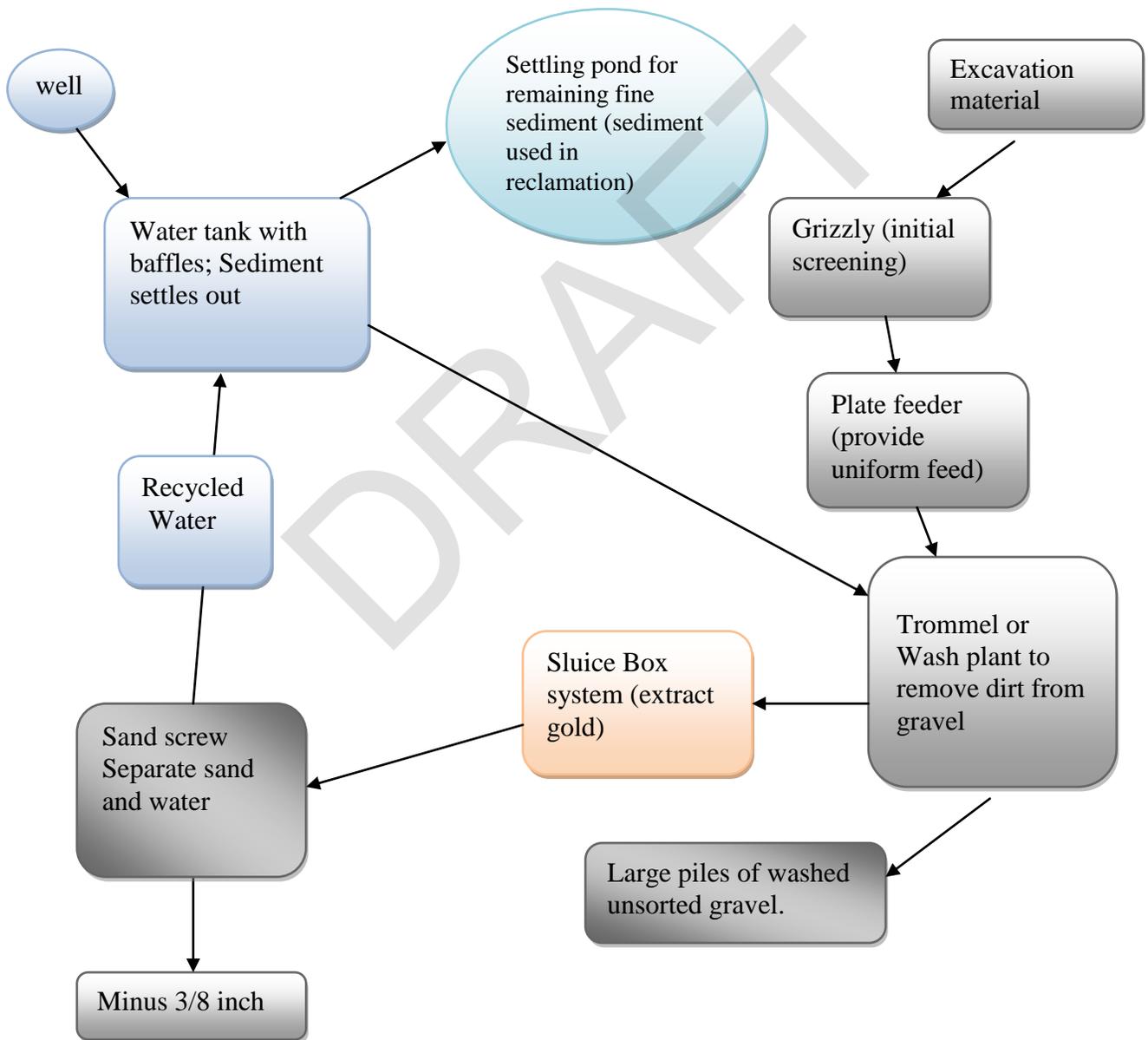


Figure 5: Schematic drawing showing flow of material for Alternative 1, developed by BLM based on a review of the mine proposal and confirmation with the applicant.

Comparisons between Alternative 1 and the Proposed Action (applicant proposal) are as follows:

1. Alternative 1 will require the same amount of excavation as the proposed action.
2. After running the material through the trommel and wash plant, Alternative 1 would not have secondary sorting into sizes ranging from 3/8" to 4". The Proposed Action is to sort this into various sizes and sell and/or give the gravel away free for public uses (i.e. county roads).
3. Gravel material that is excavated can be expected to have a swell factor. The Proposed Action would result in a final land configuration of either pre-mining or slightly lowered relief, as the excess gravel not needed for reclamation would be sold and/or given away. In Alternative 1, little or no material other than gold would be removed and the final land configuration would be of raised relief due the swell factor. In addition, the acreage to store the piles and length of storage during active operation could be greater than what is being identified in the Proposed Action.
4. Secondary screening would be eliminated under Alternative 1, resulting in some reduction of noise. The applicant however, has provided a noise mitigation plan under the Proposed Action. So, there is potential for no differences being noted between the two alternatives.
5. There will be less truck traffic and associated dust generation with Alternative 1. The applicant will be required to implement dust mitigation for all aspects of the operation under both Alternative 1 and the Proposed Action. So there is potential for no differences being noted between the two alternatives.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD:

One of the proposed alternatives suggested during the September 22, 2009 public scoping meeting was to move the proposed mining operation to a different location within the boundaries of the claim. However, due to the physical location of the locatable resource being centered in the northeast portion of the BLM land and associated claim, this alternative could not be considered further because it would most likely be economically infeasible.

PLAN CONFORMANCE REVIEW:

Name of Plan:

Royal Gorge Resource Area, Resource Management Plan (RMP), Record of Decision (ROD)

Date Approved: May, 1996

Decision Number: 4-33/2-4-7

Decision Language:

Areas will be open to mineral entry and available for mineral materials development: administered under existing regulations, limited by closure if necessary and special mitigation will be developed to protect values on a case-by-case basis.

Standards for Public Land Health: In January 1997, Colorado BLM approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities,

threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis.

Standard	Definition/Statement
#1 Upland Soils	Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, land form, and geologic processes. Adequate soil infiltration and permeability allows for the accumulation of soil moisture necessary for optimal plant growth and vigor, and minimizes surface runoff.
#2 Riparian Systems	Riparian systems associated with both running and standing water, function properly and have the ability to recover from major surface disturbances such as fire, severe grazing, or 100-year floods. Riparian vegetation captures sediment, and provides forage, habitat and bio-diversity. Water quality is improved or maintained. Stable soils store and release water slowly.
#3 Plant and Animal Communities	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. Plants and animals at both the community and population level are productive, resilient, diverse, vigorous, and able to reproduce and sustain natural fluctuations, and ecological processes.
#4 Threatened and Endangered Species	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.
#5 Water Quality	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. Water Quality Standards for surface and ground waters include the designated beneficial uses, numeric criteria, narrative criteria, and anti-degradation requirements set forth under State law as found in (5 CCR 1002-8), as required by Section 303(c) of the Clean Water Act.

Table 1: List of approved standards and findings located in specific elements.

AFFECTED ENVIRONMENT / ENVIRONMENTAL EFFECTS / MITIGATION MEASURES:

PHYSICAL RESOURCES

AIR QUALITY

Affected Environment:

Air quality in Park County, Colorado, is relatively clean in comparison to other counties in the US. The county includes no non-attainment designations for National Ambient Air Quality Standards (NAAQS) criteria air pollutants, as regulated by EPA under the federal Clean Air Act (CAA) (<http://www.epa.gov/air/data/geosel.html>). As inventoried by the Colorado Department of Public

Health and the Environment (CDPHE) under CAA regulations, Colorado Ambient Air Quality Standards (CAAQS) emissions for Park County represent a minor fraction of total emissions generated in the state (Table 1).

Location	Carbon Monoxide (CO)	Nitrogen Oxides (NOx)	Particulate Matter (PM10)	Sulphur Dioxide (SO2)	Volatile Organic Compounds (VOCs)	Benzene
Park County	10,935	858	2370	23	13,699	36
Colorado	1,624,432	319,926	286,333	61,081	1,164,051	4566

Table 2: Colorado Ambient Air Quality Standard criteria air pollutant emissions inventory (tons/yr) for Colorado and Park County, Colorado. (CDHPE, 2007)

However, relative to similar neighboring Colorado mountain counties, emission density as measured on a tons per year basis by EPA of carbon monoxide (CO), particulate matter (PM10 or particulate matter with a diameter < 10 microns) or dust, volatile organic compounds (VOC's), and sulphur dioxide (SO2) rate higher within Park County (Figures 6a-e). Based on CDPHE data, most of this CO and PM10 is likely generated from Front Range commuter traffic in the more densely populated northeastern portions of Park County, the latter which feeds daily traffic along the US 285 corridor originating from or traveling to the Denver metropolitan area. Although emissions of CO and PM in Park County are relatively high as compared to neighboring counties, EPA has designated all Colorado counties in attainment of NAAQS standards for these criteria air pollutants.

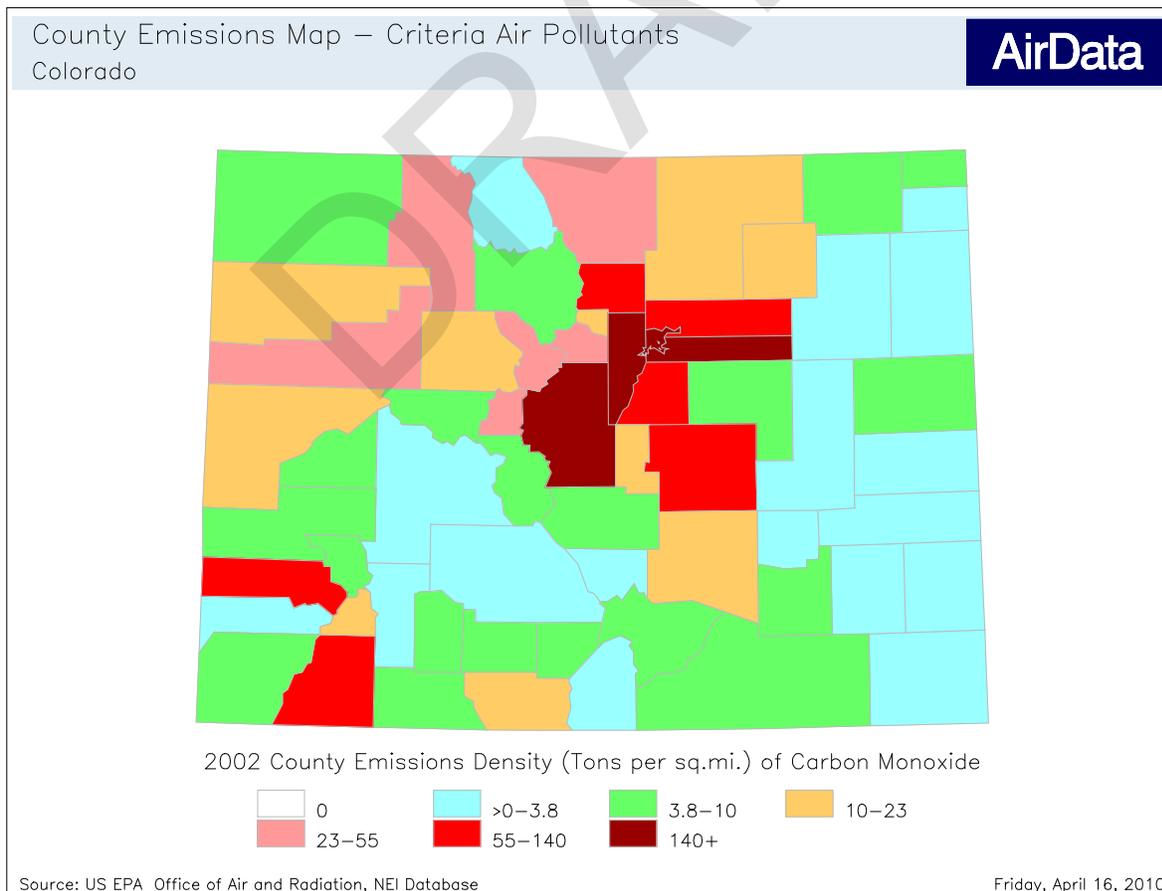
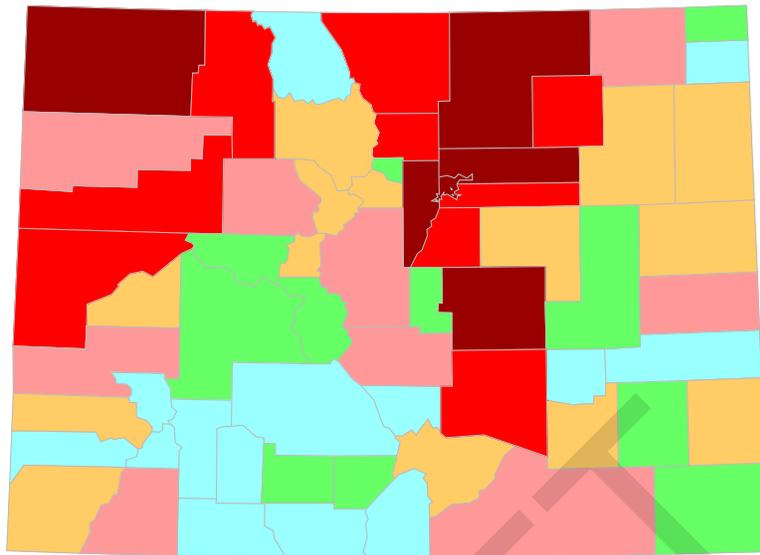


Figure 6a: Colorado county emissions density for carbon monoxide (CO)



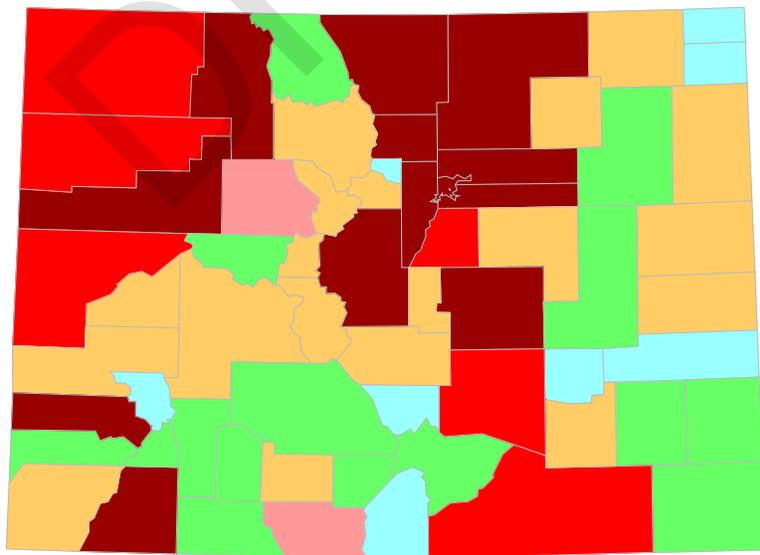
2002 County Emissions (1000 Tons per Year) of Nitrogen Oxides



Source: US EPA Office of Air and Radiation, NEI Database

Friday, April 16, 2010

Figure 6b: Colorado county emissions density for particulate matter (PM10) or dust



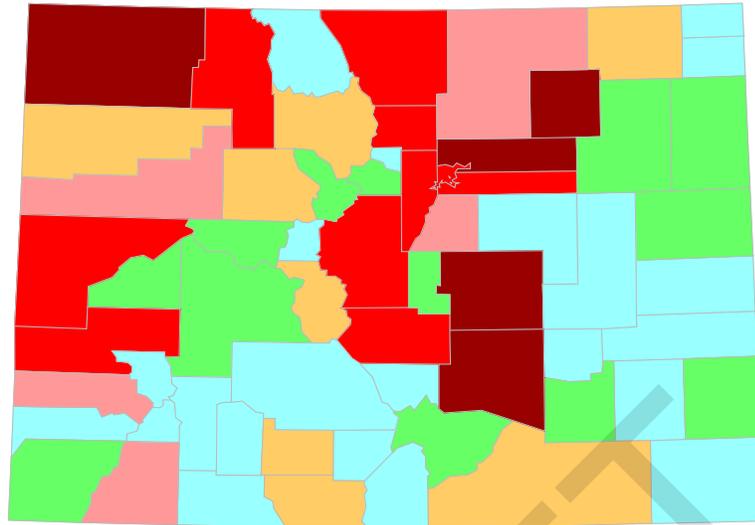
2002 County Emissions (1000 Tons per Year) of Volatile Organic Compounds



Source: US EPA Office of Air and Radiation, NEI Database

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Figure 6c: Colorado county emissions density for volatile organic compounds (VOCs)



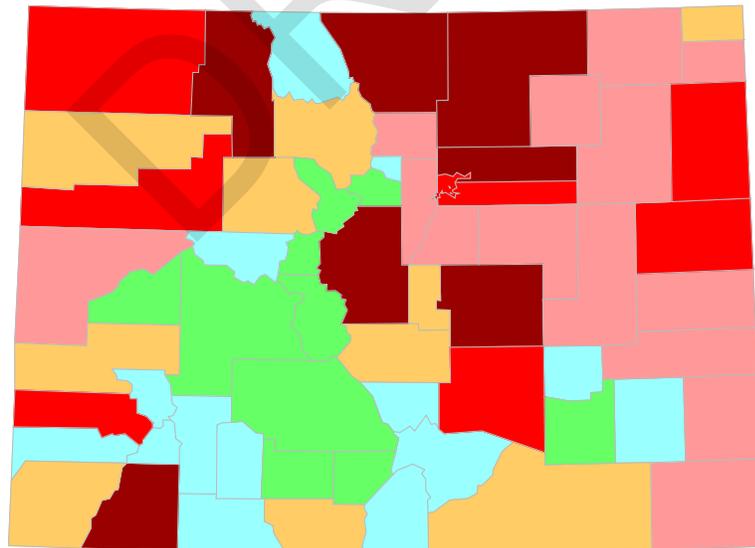
2002 County Emissions (1000 Tons per Year) of Sulfur Dioxide



Source: US EPA Office of Air and Radiation, NEI Database

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Figure 6d: Colorado county emissions density for sulphur dioxide (SO₂)



2002 County Emissions (1000 Tons per Year) of Particulate (size < 10 micrometers)



Source: US EPA Office of Air and Radiation, NEI Database

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Figure 6e: Colorado county emissions density for nitrogen oxides (NO_x)

In compliance with the CAA required State Implementation Plan or SIP for clean air, Colorado participates as a member of the Western Regional Air Partnership (WRAP) whose objective is to control regional haze and attain improved visibility goals in Class I areas designated under the CAA for pristine air quality values. A Class I area is a geographic boundary in which visibility is protected more stringently than under the NAAQS and includes national parks, wilderness areas, monuments, and other areas of special national and cultural significance.

Colorado has nine Class 1 areas managed by the National Park Service and U.S. Forest Service (Figure 7). Park County includes no congressionally designated Class I areas. The Colorado Class I air protection area nearest to the site of the proposed Destiny sand and gravel mine in Park County is the Eagles Nest Wilderness Area in neighboring Summit and Eagle Counties.

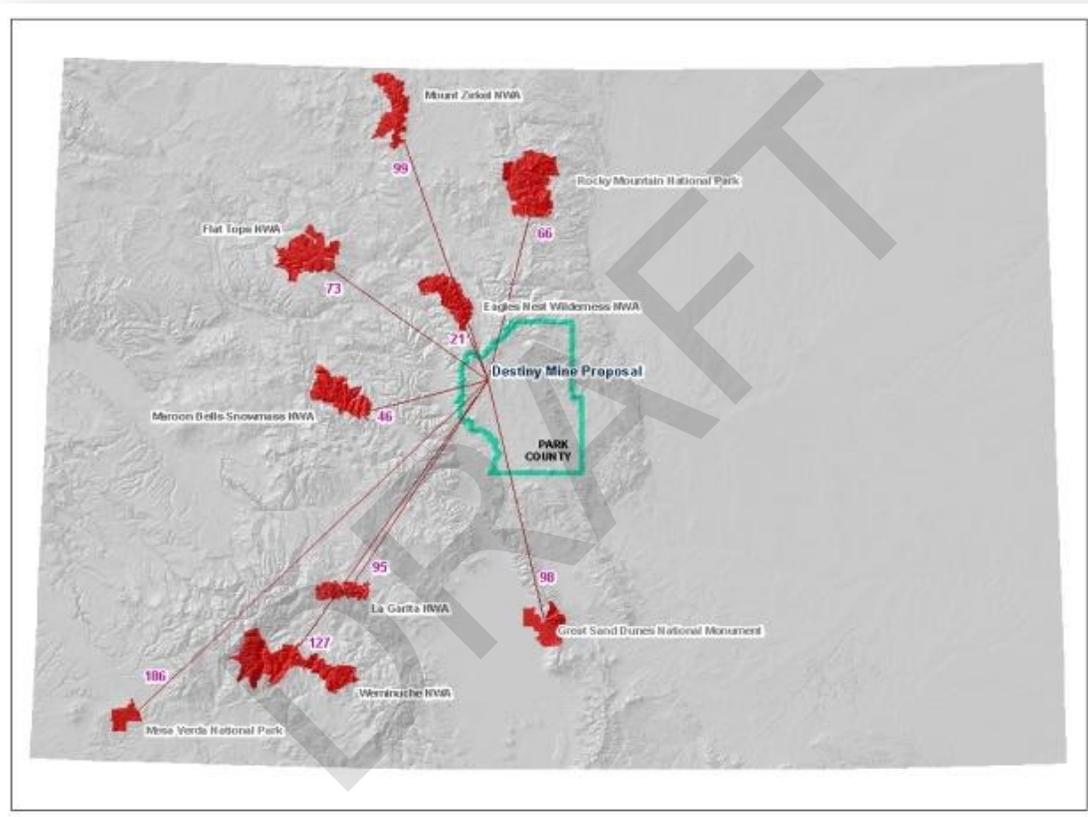


Figure 7: US Clean Air Act Class I air quality areas and relative distance (miles) to the proposed Destiny Mine in Park County, Colorado (Sources: EPA, BLM)

Environmental Effects

The public has expressed concerns about the Destiny Placer Mine proposal including negative impacts to air quality, specifically dust and engine exhaust, including a site location that is adjacent to housing developments south of the town of Fairplay, Colorado. BLM concerns also include maintenance of air quality in and around Clean Air Act (CAA) Class I air quality areas. The primary emission sources of air pollutants that would impact air quality in Park County and the immediate vicinity of the proposed Destiny Placer Mine include the disturbed surface of the mine operation, un-vegetated materials storage piles, operation of a diesel generator, operational vehicle traffic both within the site, as well as travel to the site.

Proposed Action

Direct and Indirect Impacts: The reviewer utilizes worse-case dust emission scenarios, which are typically utilized in environmental analyses, as estimated by the CDPHE based on preliminary Air Pollution Emission Notification (APEN) for a new point source as completed by the applicant (CDPHE, 5/26/2010). Disturbance of the approximately 5 acres/yr and mine operational activities would include direct adverse impacts of approximately 10.69 tons/year of *total particulate matter* on an uncontrolled basis and 2.85 tons/yr on a controlled basis. CDPHE approximates that 4.86 tons/year of PM10 of this total PM estimate would be emitted from the site on an uncontrolled basis, while 1.16 tons/yr would be emitted on a controlled basis in a worst case scenario.

This projected worst-case PM10 estimate approaches the CDPHE threshold of 5 tons/year for uncontrolled PM10, the latter state standard that would trigger requirements for a CDHPE Mining Operations Fugitive Particulate Matter/Control Plan. However, CDHPE's worst-case PM10 estimate for the Fairplay Mine is far below the 50/tons per year State of Colorado threshold that would require a higher level of air quality modeling analysis, controls, and public involvement.

The immediate context of the dust emissions include proximity to <100 homes in rural subdivisions, a popular recreation destination, and the town of Fairplay. Some exposure to fugitive dust suspended in the air, or transported in the air from the mine site during operation hours for people living near or recreating adjacent to the facility will be a direct adverse impact of the proposed action. Indirect impacts beyond the nuisance effects of dust could include aggravation of such health conditions as asthma for those people who suffer the disease and who are exposed to the mine fugitive dust. On a county-level and regional scale, any new particulate matter emission (< 10.69 tons/year total PM) from the proposed Destiny Mine is minute relative to Park County dust emissions, let alone Colorado. The low estimated level of emissions, atmospheric dispersion, and the physiographic separation from the new point source from Class I areas, will result in negligible perceptible degradation to regional haze near any Class I area.

The proposed Destiny mine diesel generator will also generate nitrous oxides (NO_x) and carbon monoxide (CO) as a direct adverse impact. NO_x levels are not presently high in Park County, according to EPA data, while CO levels are relatively high when compared to other counties. CDPHE has estimated that in a worse-case scenario, the proposed Destiny Mine will emit approximately 12.6 tons/year of NO_x and 2.89 tons/year of CO. This CDHPE estimated rate of NO_x emissions from the proposed Destiny Placer mine surpasses the state 5 tons/year NO_x threshold and will require an applicant Air Pollution Emission Notice to the State of Colorado. The estimated CO emission rate does not reach this permitting threshold and neither NO_x nor CO emission estimates approach the 40 tons/year state threshold that would require higher level of analysis, controls, and public involvement. On a county-level and regional scale, again any new NO_x and CO emissions from the proposed Destiny Mine are minute relative to Park County and Colorado.

The reviewer assumes an operational life of the Proposed Destiny mine greater than 5 years. The reviewer also assumes adherence to fugitive dust and engine emissions mitigations discussed below that will be applied to control PM10, CO, and NO_x migration off BLM administered lands.

Based on:

- 1) CDPHE worst case emissions estimates derived from the applicant's APEN filing and
- 2) Relatively low emissions of CAAQS criteria pollutants, specifically dust (PM10), NOx, and CO, below State of Colorado air quality new source thresholds the direct and indirect adverse impacts to air quality and people from the proposed action to permit the mine are considered long-term (for purposes of this NEPA review short-term is considered < 1-yr, medium term 1-5 yrs, and long-term > 5yrs) but moderate to immediate homeowners and people recreating in the adjacent recreation area (if mitigation is not implemented), long-term and minor to Park County, and long-term but negligible to Colorado and Class I areas.

Cumulative Impacts: New air pollutant emissions resulting from a Proposed Destiny Mine in Park County would be cumulative to emissions from the other 546 point sources existing in Colorado and seven sources in Park County (<http://www.epa.gov/air/data/reports.html>). Emissions from the new source will augment total emissions of CAAQS criteria air pollutants in Park County and Colorado but are unlikely to be noticeable on a statewide basis relative to other sources. Dust generation from Destiny Mine (sand and gravel portion of the operation) truck traffic would be cumulative to homeowner, recreational, and other traffic along the unpaved stretch of Big Thompson Park Road. As in direct and indirect impacts, cumulative impacts to air quality resulting from a Proposed Destiny Mine are dependent on mitigation and considered long-term but moderate to immediate for homeowners and nearby recreational users, long-term and minor to Park County, and long-term but negligible to Colorado and Class I areas.

Mitigation/Residual Effects: Clean air is a vital resource to human health and happiness. Reviewer recommended mitigations to reduce adverse air quality impacts and minimize dust and emission drift off of BLM administered lands would result from permitting the Fairplay Destiny Placer Mine are:

1. Wet-processing of material to reduce fugitive dust to neighboring property owners.
2. Utilize standards for stationary diesel engines and use of low-sulphur diesel fuel in the generator, as per CDPHE guidelines.
3. Installation of a wind sock to monitor wind conditions and dust movement to nearby housing.
4. Cooperative curtailment of mining operations if dust stagnates over neighboring subdivisions.
5. Daily summer application of water to exposed road surface to suppress dust.
6. Promotion of car-pooling to reduce dust generation from mine staff vehicle traffic.
7. Mine material movement scheduling to reduce total fugitive dust generation from the operation
8. Scheduled neighbor communication to reduce impacted homeowner and recreation exposure to fugitive dust generated by the mining activity on public land, as needed.
9. A short-term recommended off-site mitigation is mine applicant cooperative dust suppression techniques on un-surfaced county administered access roads (ie, water, MgCl or other)
10. It is recommended that mine operations and vehicle-truck traffic be restricted to operations during Monday-Friday, from 8am-5pm.

11. A long-term recommended off-site mitigation is mine applicant cooperative financing to pave the 1-mile access route to the site to reduce total fugitive dust generation from material and vehicle movement.
12. Compliance with CDHPE requirements if threshold of 5 tons/year for uncontrolled PM10 is exceeded. This would involve preparation of a Mining Operations Fugitive Particulate Matter/Control Plan.

Implementing the recommended mitigations would reduce any adverse residual effects on air quality from Destiny Mine operation. The reviewer recommends that the operator conduct regular visual fugitive dust monitoring at the site during hours of operation as part of the 3809 mine inspection to verify PM10 migration is limited to the BLM administered lands and homeowner protections.

No Action Alternative

Direct and Indirect Impacts: If the proposed Destiny Mine is not permitted there will be no direct or indirect impact to current air quality in Park County, Colorado or near Class I areas.

Cumulative Impacts: None

Mitigation/Residual Effects: None

Alternative 1

Direct and Indirect Impacts: Direct and indirect impacts to air quality that would result from a Destiny mine operation, as described in Alternative 1, are considered similar to impacts and CDPHE permitting requirements as described in the Proposed Action. Assessment is based on similar mine operation hours, total exposed surfaces for dust generation, equipment use and traffic. There is the potential for dust generation to be higher from materials stockpiles in Alternative 1 in comparison with the Proposed Action based on the greater length of time that the disturbed soil surface would be exposed to wind. However, the reduction in total vehicle traffic from the operation, given sand and gravel would not be transported to markets, would result in lower fugitive dust generated on Big Thompson Park road, and thus lower risk of exposure in Alternative 1 vs. the Proposed Action.

Based on data available and the low relative emissions of CAAQS criteria pollutants, specifically dust (PM10), NO_x, and CO, the direct and indirect adverse impacts to air quality and people from the Alternative 1 to permit the mine without sand and gravel sales are considered long-term but moderate to immediate homeowners and people recreating in the adjacent recreation area, long-term and minor to Park County, and long-term but negligible to Colorado and Class I areas.

Cumulative Impacts: Cumulative impacts to air quality are considered the same as in the proposed action.

Mitigation/Residual Effects: Same as Proposed Action

CLIMATE AND CLIMATE CHANGE

Affected Environment:

Climate in the Fairplay, CO assessment area is characterized by frigid winters, moderate to cool summers, light precipitation, occasional heavy winter snowfall, and seasonally strong winds. Meteorological data near the proposed Fairplay Destiny Mine, is collected at Valley of the Sun, Fairplay near to BLM administered lands under study. Weather data are spotty and incomplete for each month of the four year period of measurement. Number of weather day-observations (n) for each statistic for the potential 1334 weather day observations from January 1, 2007 – August 31, 2010 is provided (Table 3). Given station location, weather statistics are considered representative of existing conditions at the project site.

Avg Max Annual Temp (°F)	Avg Min Annual Temp (°F)	Avg Max January Temp (°F)	Avg Min January Temp (°F)	Avg Max July Temp (°F)	Avg Min July Temp (°F)	Wind Speed Max (mph)	Wind Speed Avg (mph)	Gust Speed Max (mph)	Avg Annual Total Precip (°F)**	Avg Annual Total Snowfall (°F)**
43.2	20.2	25.5	6.6	65.7	35.8	7.1	3.1	20.3	15.7	108.2
n = 916	n = 916	n = 75	n = 75	n = 87	n = 87	n = 916	n = 916	n = 916	n = 12	n = 12

Table 3: Select average, maximum, and minimum temperatures and precipitation statistics for the period 2007-2010 Fairplay, Colorado.

* Source: KCOFAIR1, Weather Underground:

<http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KCOFAIRP1>

** Source: High Range Regional Climate Center: <http://www.hprcc.unl.edu/data/historical/1954-1966>

High eastern continental divide Rocky Mountain elevation (9,953 ft) and topographic position down slope from the bounding Mosquito Peaks mountain range drive Fairplay, Colorado climate. Average annual maximum temperature for the station was 43.2 °F for the 4-year period of measurement ranging from 75 °F (7/2/2007) to a low of 0 °F (12/25/2009). Subzero temperature lows were recorded on 75 weather observation days for the four year measurement period, lowest recorded temperature being -24 °F (12/15/2008). Earliest subzero temperature for the 2007-2010 measurement period was 10/26/2009 (-5 °F) and latest 3/20/2010 (-16 °F). Below freezing temperature lows were recorded on 622 of 916 weather day observations virtually year round with only July low measures not falling below 32 °F.

National Oceanographic Atmospheric Agency (NOAA) precipitation statistics for Fairplay, CO are reported by Fizber.com (<http://climate.fizber.com/colorado-city-fairplay-climate.html>). Average annual precipitation reported is 14.44 inches (in) distributed throughout the year with May (3.02 in), July (2.92 in), and August(3.01 in) the wettest months. Average annual snowfall reported is 80.5 inches distributed from October-May.

Wind measurement is conducted at the Valley of the Sun, Fairplay and is considered generally representative of the Fairplay Destiny Mine study area. Annual average wind speed at the Valley of the Sun, Fairplay CO site was 3.1 mph with average maximum wind speed during the four year period (916 observations) was 7.1 mph. Average maximum wind gust speed measured at the site for this period was 20.3 mph with the highest wind gust of 47 mph (1/24/2010) recorded for the 4-year period. Extreme spring and early summer wind events are not uncommon and generate dust storms that degrade air quality and visibility in the planning area. Tornadoes are infrequent in the planning area and commonly weak.

Change in climate, and specifically temperature, associated with the accumulation of greenhouse gases (GHG's) in the Fairplay study area, as well as the rest of Colorado, represent an existing condition that will likely continue into the 21st century based on available information. Temperature trend for the period 1895-2009 for the state of Colorado as a whole is 0.15degF/Decade (NOAA, 2010). Climate

models run by the NOAA project that Colorado will warm by 2.5°F by 2025 and 4°F by 2050, relative to the 1950–1999 baseline (Ray *et al*, 2008). On the other hand, no consistent long-term trends in Colorado for precipitation are present. Changes in Colorado’s water cycle are projected to be the source of many impacts of climate change. For example, in Colorado, between 1978 and 2004, the spring streamflow pulse has shifted earlier by about two weeks with strongest shifts occurring in western and southern Colorado (Clow 2007). Shifts in timing of spring runoff due to rising late-winter and early spring temperatures may be augmented by changes in water flows.

Environmental Effects

Under the proposed action and all action alternatives there will be a minimal net contribution of GHG emissions from BLM lands as a direct impact of fossil fuel combustion from a stationary diesel engine at mine operations.

GEOLOGIC AND MINERAL RESOURCES

Affected Environment:

A major authority on gold placers in Colorado was prepared by Dr. Ben H. Parker, Jr. and is documented in the October 1974 Colorado School of Mines Quarterly. Much of the information provided below originates from this publication.

The area in which the project is being proposed consists of glacial outwash from the Pleistocene, most likely pre-Bull Lake in age. This material is classified as the Fairplay Placer, which directly overlies the proposed mining site. The Fairplay placer is located immediately northwest of the town of Fairplay and extends downstream about four miles, as shown in Figure 8. The area is about 1,500 acres in size, or a little more than two square miles.

Gold in these placers was derived from all the centers of mineralization in the South Platte watershed above Fairplay. These placers are alluvial deposits derived from glacial debris and include both meltwater channel and outwash plain deposits formed during Bull Lake and Pinedale times and modern stream deposits formed by post-Fairplay reworking of outwash gravels. The gold basically came to be here through a series of weathering and transport and deposition by advancing of glaciers, meltwater distribution and alluvial processes. These processes were centered along the course of the South Platte River, which maintains a similar course today. It is concentrated in the lateral and terminal moraines, as well as the outwash plain below Fairplay.

The upper part of this placer was discovered in 1859. Small scale work continued into 1869, when it was reported that each man was taking out \$5 to \$10 per day. Dredging work continued in the upper part of this placer on and off through 1994.

Considerable historic placer mining has occurred in the Fairplay mining district. Figure 8 shows some of the un-reclaimed historic mining disturbances in the vicinity of this project. The Fairplay placer has also been extensively tested in the outwash plain below the moraine, which covers the subject area. This testing was documented in an older report prepared by Parker in 1961 and was used as the basis for developing the maps shown in the Parker report. The gold concentration map was scanned, geo-referenced and is shown in Figure 9.

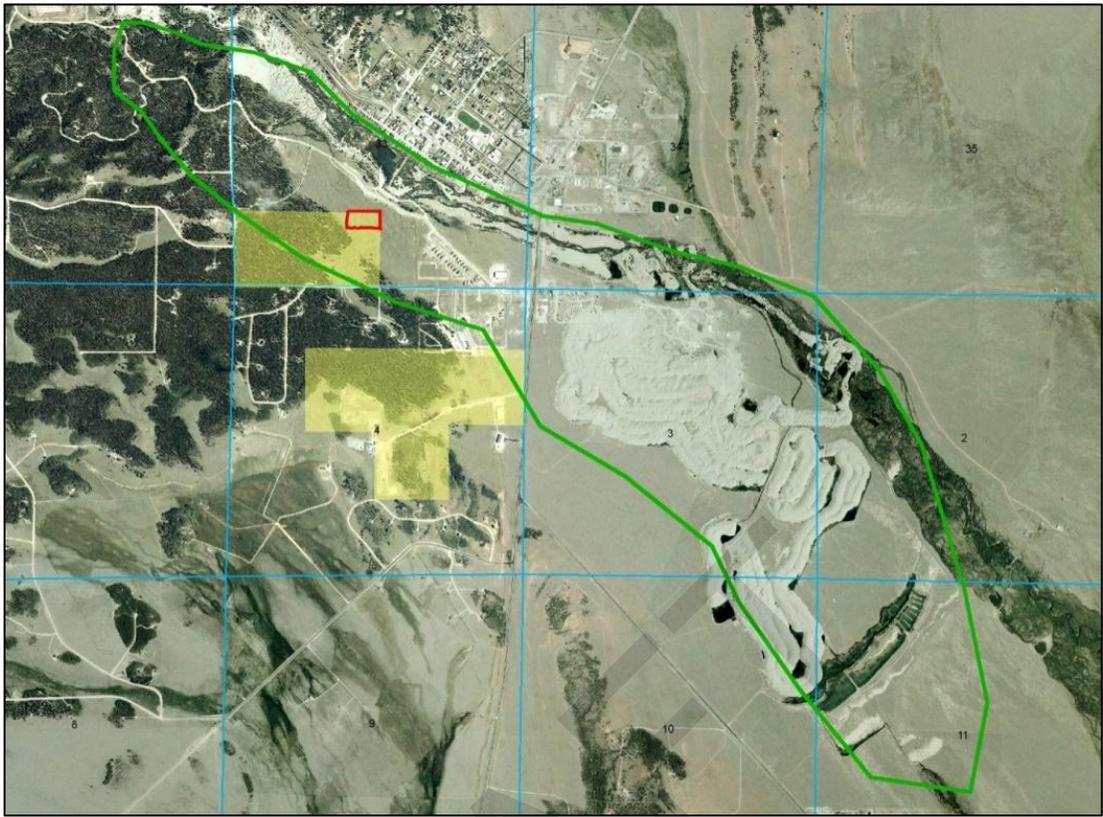


Figure 8: Fairplay Placer delineation in green.

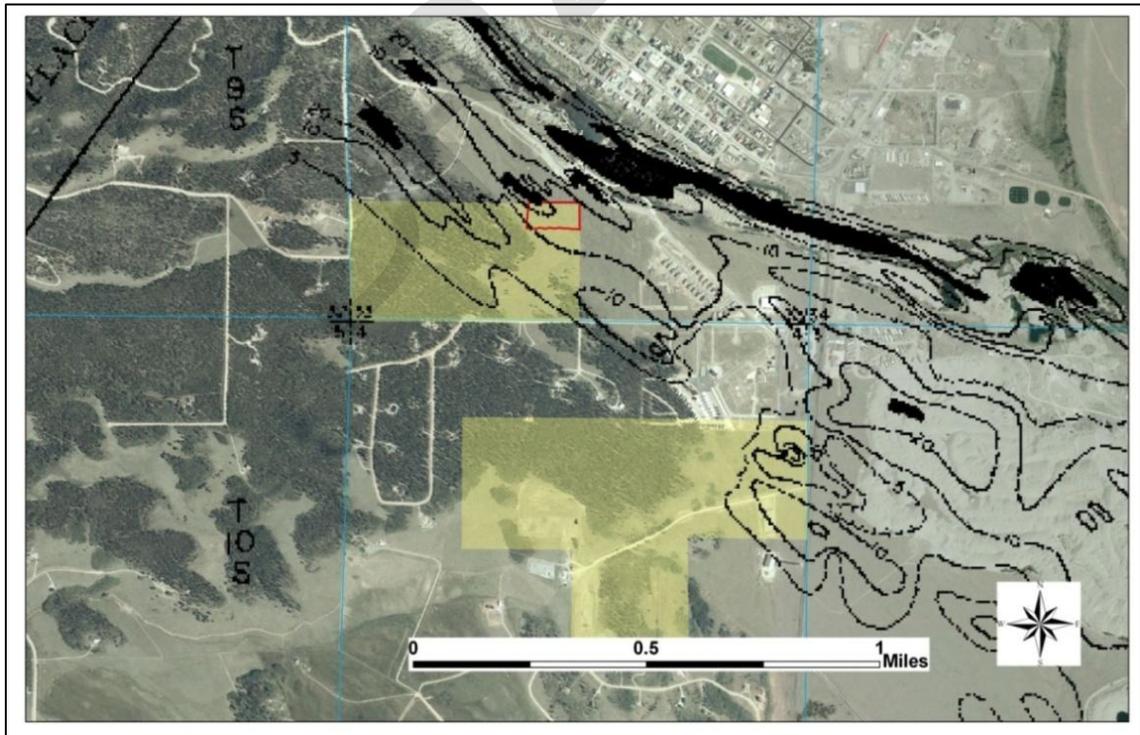


Figure 9: Map shows gold concentration areas in the proposed subject area

Under current conditions, large-scale dredging in the outwash plain and selective mining in the moraines are the only feasible mining methods to be employed at this placer. As is typical, the economics between the commodity prices and operating costs are prime factors in determining if the gold is feasible to mine. If sand and gravel is sold from this operation, it would be helpful in managing the overburden and also likely decrease most operating costs.

The limits of the workable area within the Fairplay Placer are partially known and have been determined within the outwash plain. No workable ground is likely to exist south and east of the NE1/4 of Section 10. To the northwest, a substantial area of good gravel remains in sections 4 and 33 between the dredged area and the toe of the moraine.

A review of this authoritative report would lead to the conclusion that placer gold in paying quantities is probable. Without implementation of a small scale mining operation it would be difficult to prove or disprove this assumption. It is apparent from a review of the geology that any gold deposits are likely to be discontinuous and may occur at one or more levels in a pit.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: Currently, it is anticipated that gold reserves in this area are likely. Therefore, the proposed action would contribute a small amount of gold to the national market. The sand and gravel is more plentiful and therefore mining these materials in addition to the gold would most likely not cause impacts above and beyond the gold operation.

Cumulative Impacts: Currently there are approximately five active mines permitted with CDRMS located within the same local region as the proposed mine (Figure 10). All of these operations are mining sand and gravel, but two of them are also mining gold. Most of the present day mining has been occurring in this area since the early 1980's. Gold is a valuable resource that has is not widespread in its occurrence, which limits the ability of a mining operation to be completely selective in mining locations. Although the gold resources in the United States are only a small portion of global gold resources, any stateside gold extraction helps contribute to the United States supply and global market.

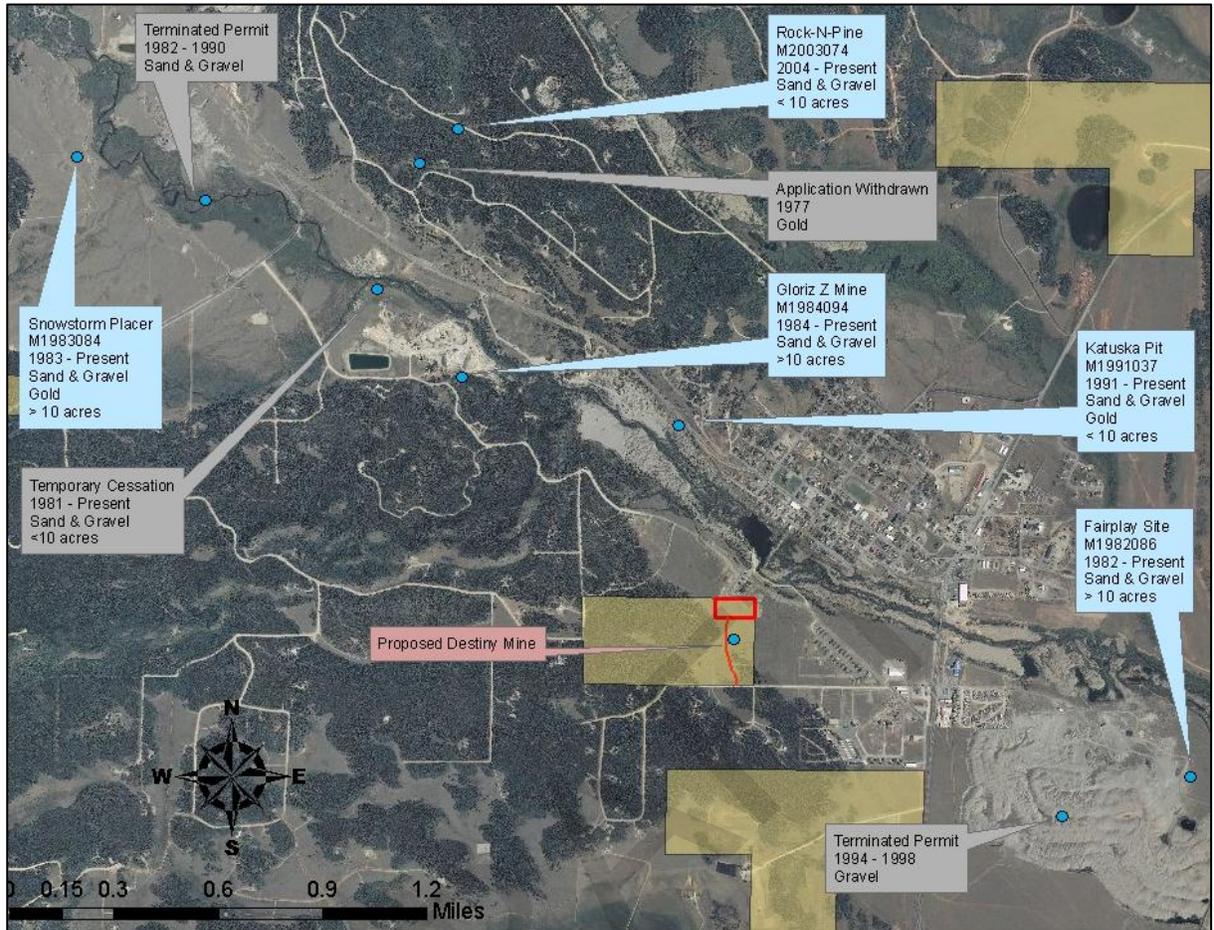


Figure 10: Map shows mine permit activity in surrounding area of the proposed Destiny Mine.

Mitigation/Residual Effects: None

No Action Alternative

Direct and Indirect Impacts: Mining proposals involving locatable minerals are subject to the 1872 mining law, which limits the agency primarily to preventing unnecessary or undue degradation of the public lands through enforcement of the performance standards outlined in 43 CFR 3809.420.

Cumulative Impacts: None

Mitigation/Residual Effects: None

Alternative 1

Direct and Indirect Impacts: If BLM rejects the contract application for mineral materials (sand and gravel), this would result in similar impacts to the land and environment as the proposed action, but would not allow the sand and gravel to be disposed of for economic gain. Gravel material that is excavated can be expected to have a swell factor. The proposed action would result in a final land configuration of similar or lowered relief. This alternative would result in little or no material other than gold to be removed, resulting in a final land configuration that would be of raised relief due the

swell factor. In addition, the acreage to store and timeframe for storage of these piles during active operation could be greater than what is being identified in the proposed action.

Cumulative Impacts: Most of the present day mining has been occurring in this area since the early 1980's due to the viability and accessibility of sand, gravel and gold in this area. Therefore if through the supply and demand process sand and gravel remains a need in this region, it is feasible a mine operation could be initiated in another nearby location to meet this need.

Mitigation/Residual Effects: None

SOILS (includes a finding on Standard 1)

Affected Environment:

The soil type in the proposed area is Hodden sandy loam, 1 to 5 percent slopes. The soil profile is described below;

- A horizon 0 to 4 inches: Sandy loam
- B Horizon 4 to 8 inches: Very gravelly sandy loam
- C Horizon 8 to 12 inches: Very gravelly sandy clay loam

This soil has a very low water holding capacity and the depth to the water table is greater than 80 inches. The erosion hazard of these soils is rated as slight by the NRCS.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: The Proposed Action would allow a mine covering slightly less than five acres to be located on the public lands. This mine would consist of an open pit on approximately 1.5 acres with equipment and materials covering most of the rest. Initially topsoil would be pushed into a berm around the perimeter of the mine area and seeded and planted as recommended by Natural Resource Conservation service for stabilization. These top soils are very shallow, only the top 8 inches should be removed and seeded. The top soil from the access road and any roads inside the 5 acre project site will be stockpiled and seeded.

Cumulative Impacts: The stockpiling and seeding of removed top soil will minimize the cumulative impact to the soil resource in this area.

Mitigation/Residual Effects: The top soil from the access road and any roads inside the 5 acre project site will be stockpiled and seeded.

No Action Alternative

Direct and Indirect Impacts: If no action is taken, the proposal would not be discretionary under the 1872 mining law. The applicant would still be able to proceed with mining on the parcel; however the sale of sand and gravel would not be permitted. Overall, this would have the same effects on soil resources as the Proposed Action, but there would probably be a hill left after reclamation rather than a pit.

Cumulative Impacts: Cumulative impacts under the No Action Alternative would be similar to the Proposed Action.

Mitigation/Residual Effects: Mitigation and Residual Effects would be similar to the Proposed Action.

Alternative 1

Direct and Indirect Impacts: Alternative 1 and associated impacts would be similar to the No Action Alternative.

Cumulative Impacts: Alternative 1 and associated cumulative impacts would be similar to the No Action Alternative.

Mitigation/Residual Effects: Alternative 1 and associated residual impacts would be similar to the No Action Alternative.

Finding on the Public Land Health Standard for Upland Soils: Implementing the Proposed Action will not affect the Land Health Standard for Upland Soils

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: The proposed mine would be located in the Middle Fork of the South Platte River watershed approximately 400 feet southwest and 80 feet above the river itself. The site is in a dry, upland location with no surface water other than the river nearby. Using data from surrounding wells and the local geology, it appears that the major source of groundwater in the area is located in an alluvial aquifer tributary to the Middle Fork of the South Platte at approximately 50 to 75 feet below ground level. Water yields from this aquifer appear to be quite high with yields of 15 gallons per minute common. Most all of the surrounding wells are for domestic use and greater yields may be possible. Due to the close proximity to the river and the typical transmissivity of alluvial aquifers, groundwater recharge is expected to be fairly quick. Water quality in the river is good and has not been identified by the State of Colorado as not meeting water quality standards on the 303(d) or Monitoring and Evaluation Lists. Information on ground water quality is lacking; however, considering its connectivity to the river and use as a domestic water source nearby, its quality is very likely to be good. There are likely deeper confined aquifers below the shallow alluvial aquifer that could be potential sources of water. Little is known of these aquifers due to the easy access to good water near the surface.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: The Proposed Action would allow a mine covering slightly less than five acres to be located on the public lands. This mine would consist of an open pit on approximately 1.5 acres with equipment and materials covering most of the rest. All water used in the operations would be recycled and not allowed to flow on the ground.

To protect surrounding surface water, a berm would be constructed around the site to contain storm water. In addition, this operation is required to comply with the State of Colorado implemented Clean Water Act regulations, which may include the need for a Clean Water Act Phase II Stormwater Permit. This permit requires that a storm water plan be developed and implemented that reduces water pollution to the “maximum extent practicable” in order to protect water quality and aquatic habitat, and ultimately meeting the requirements of the Clean Water Act.

During the life of the mine, groundwater is not expected to be exposed and the applicant plans on leaving at least 10 feet of overburden above the water table undisturbed. This coupled with the operations use of only mechanical means of separating the materials, i.e. no chemicals, there is very little chance of groundwater quality being affected by the mining process itself. A question concerning the possible release of naturally occurring chemicals being released during mining was brought forward in scoping. This concern is minor in this case because the material being mined is not hard rock, or first ever exposed crystalline rock, but rather alluvium. Alluvium has been exposed and weathered over many years as the sediments get deposited by flowing rivers. Acidic mine waste concerns, or other substantial potential changes to naturally occurring compounds within the rock chemistry signature from exposure due to mining operations is likely not measurable. Water soaking into the pit and emerging in a spring or well elsewhere will not be substantially altered chemically to any measurable degree. Sub-surface geo-chemistry interaction upon storm-waters entering the ground water should be similar to that soaking in on native surface soils. The single largest threat to groundwater quality from the proposal is the potential of spills resulting from the everyday use of petroleum products in site operations. The project operations plan and associated permits contain spill containment requirements and mitigation that should protect groundwater from potential releases.

Overall, the Proposed Action would have very little measurable impact to either surface or groundwater if permit stipulations are enforced.

Cumulative Impacts: The Middle Fork of the South Platte watershed above Highway 285 is moderately developed with two towns, several rural subdivisions and a major highway. There are many factors effecting water quality in the watershed starting with historic mining and highway gravel in the headwaters to subdivisions in the lower elevations; however due to its high flow volumes in a headwaters area, water quality is good. The addition of the Proposed Action to these other factors would have an immeasurable effect on the watershed in the future.

Mitigation/Residual Effects: Topsoil (A horizon) and the B soil horizon, or 18 inches depth, whichever is greater, needs to be kept separate from lower soil layers so that there are separate stockpiles of each. Upon reclamation, these layers would then be placed on top so that the soil layers remain in order. The State Division of Reclamation, Mining, and Safety 110(2) permit would further outline reclamation and the BLM should be included in the development of that plan. Residual effects to water quality from the Proposed Action after reclamation completion would be immeasurable from the current conditions as vegetation returns to the site.

No Action Alternative

Direct and Indirect Impacts: If no action is taken, the proposal would not be discretionary under the 1872 mining law. The applicant would still be able to proceed with mining on the parcel; however the sale of sand and gravel would not be permitted. Overall, this would have the same effects on water quality as the Proposed Action, but there would probably be a hill left after reclamation rather than a pit.

Cumulative Impacts: Cumulative impacts under the No Action Alternative would be similar to the Proposed Action.

Mitigation/Residual Effects: Mitigation and Residual Effects would be similar to the Proposed Action.

Alternative 1

Direct and Indirect Impacts: Alternative 1 and associated impacts would be similar to the No Action Alternative.

Cumulative Impacts: Alternative 1 and associated cumulative impacts would be similar to the No Action Alternative.

Mitigation/Residual Effects: Alternative 1 and associated residual impacts would be similar to the No Action Alternative.

BIOLOGICAL RESOURCES

INVASIVE PLANTS*

Affected Environment: South Park is a montane grassland surrounded by mountains in west-central Park County. The vegetation in the project area is grassland, much of it is shortgrass or midgrass. Arizona fescue, mountain muhly, needleandthread, blue grama, and Parry's oatgrass are common.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: The Mountain loam ecological site of the project area is prone to invasion by a wide variety of invasive plants if severe soil surface disturbance occurs. The Proposed Action would allow a mine covering slightly less than five acres to be located on the public lands. This mine would consist of an open pit on approximately 1.5 acres with equipment, office, housing and material storage covering much of the rest.

Cumulative Impacts: This BLM parcel is located in close proximity to a small urban area with many varied uses including, but not limited to, motorized recreation, building developments, livestock grazing, hiking and horseback riding. These activities are expected to continue and increase in the future. Noxious weed infestations in the project area could potentially spread to other areas.

Mitigation/Residual Effects: The site should be monitored for invasive plants prior to and during implementation and for at least five growing seasons after the project area has been rehabilitated. All invasive plants identified by monitoring must be treated as soon as conditions for effective treatment exist (ie. Proper weather and phenological stage for treatment). The proponent will be responsible for monitoring and treatment of invasive plants. Periodic monitoring would be done by BLM staff.

No Action Alternative

Direct and Indirect Impacts: If no action is taken, the proposal would not be discretionary under the 1872 mining law. The applicant would still be able to proceed with mining on the parcel; however the sale of sand and gravel would not be permitted. Overall, this would have the same effects on invasive plants as the Proposed Action, but there would probably be a hill left after reclamation rather than a pit.

Cumulative Impacts: Cumulative impacts under the No Action Alternative would be similar to the Proposed Action.

Mitigation/Residual Effects: Mitigation and Residual Effects would be similar to the Proposed Action.

Alternative 1

Direct and Indirect Impacts: Alternative 1 and associated impacts would be similar to the No Action Alternative.

Cumulative Impacts: Alternative 1 and associated cumulative impacts would be similar to the No Action Alternative.

Mitigation/Residual Effects: Alternative 1 and associated residual impacts would be similar to the No Action Alternative.

*Invasive plants are plants that are not part of (if exotic), or are a minor component of (if native), the original plant community or communities that have the potential to become a dominant or co-dominant species on the site if their future establishment and growth are not actively controlled by management interventions, or are classified as exotic or noxious plants under state or federal law. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES (includes a finding on Std. 4)

Affected Environment: The proposed project has an elevation of about 9,900 feet with an annual precipitation of 16-18 inches. The parcel is dry with only upland vegetation. The project site vegetation is subalpine grassland and the adjacent slopes are lodgepole pine and spruce-fir. The surrounding area is characterized as an exurban environment containing small patches of habitat amongst several dwellings and associated infrastructure. There are no records of any federally listed or BLM sensitive species or their habitat within the project area.

Finding on the Public Land Health Standard for Threatened & Endangered species:

There are currently no records of T&E species or their habitat occurring within the project area. Therefore, implementing the Proposed Action will not affect the Land Health Standard for Threatened & Endangered species.

VEGETATION (includes a finding on Standard 3)

Affected Environment: The site is in a dry, upland location. The dominate vegetation includes prairie junegrass, Arizona fescue, blue gramma, western wheatgrass, bottlebrush squirreltail, mountain muhley, parry oatgrass, elk sedge and sun sedge.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: The Proposed Action would allow a mine covering slightly less than five acres to be located on the public lands. This mine would consist of an open pit on approximately 1.5 acres with equipment and materials covering most of the rest. Initially topsoil would

be pushed into a berm around the perimeter of the mine area and seeded as recommended by Natural Resource Conservation service for stabilization.

These top soils are very shallow, only the top 8 inches should be removed and seeded. The top soil from the access road and any roads inside the 5 acre project site will be stockpiled and seeded. The proposed action will disturb the vegetation on a small area. The reclamation stipulations will be adequate to restore the disturbed area to native plant species.

Cumulative Impacts: The stockpiling and seeding of removed top soil will minimize the cumulative impact to the vegetation resource in this area.

Mitigation/Residual Effects: The top soil from the access road and any roads inside the 5 acre project site will be stockpiled and seeded.

No Action Alternative

Direct and Indirect Impacts: If no action is taken, the proposal would not be discretionary under the 1872 mining law. The applicant would still be able to proceed with mining on the parcel; however the sale of sand and gravel would not be permitted. Overall, this would have the same effects on vegetation resources as the Proposed Action, but there would probably be a hill left after reclamation rather than a pit.

Cumulative Impacts: Cumulative impacts under the No Action Alternative would be similar to the Proposed Action.

Mitigation/Residual Effects: Mitigation and Residual Effects would be similar to the Proposed Action.

Alternative 1

Direct and Indirect Impacts: Alternative 1 and associated impacts would be similar to the No Action Alternative.

Cumulative Impacts: Alternative 1 and associated cumulative impacts would be similar to the No Action Alternative.

Mitigation/Residual Effects: Alternative 1 and associated residual impacts would be similar to the No Action Alternative.

Finding on the Public Land Health Standard for Plant and Animal Communities:

There has been no formal health assessment conducted on the project site. However, based on informal observations it would appear the site is meeting standards for upland vegetation.

WETLANDS & RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: The parcel discussed under any alternative is upland with relatively well-drained soils that does not support wetland development. Riparian wetland resources exist approximately 200 yards north on non BLM land, but wetlands are not present where the mine action is proposed. Seasonal surface water, primarily snowmelt during periods of frozen ground can persist but not for a length of time to support wetland plants.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: There are no direct affects to wetland resource from the proposed action. Overland flow / sheet-water, (particularly associated with frozen ground and rapid snowmelt or extreme thunderstorms) does cross this parcel and potentially could transport, then deposit sediments into watershed floodplain areas without careful planning and designs for storm-water control, or with the removal of substantial vegetation. Storm-water concerns get addressed however in the permitting process site plan development. No additional stipulations are needed for storm water control. Petroleum type spills could also affect distant wetland riparian plants and water sources; however, spills are not anticipated and precautions are in place to stop spill impacts. Failure to address either concern will result in measurable indirect affects to offsite areas.

Cumulative Impacts: There is extensive recent and historic hydrologic and riparian function loss in areas near to the proposal and within in the larger scale watershed. Undesirable accelerated overland flow runoff to streams occurs adjacent to the area of interest here and without storm water Best Management Practices (BMPs), this action would be cumulative to the other watershed perturbations. However, runoff is accounted for in the design and permitting process, so likely other issues will get more attention under this review as protection is possible for riparian health. The positive ability of this public land parcel to offset adjacent disturbance is minimal due to its size as discussed in the proposed action. Similarly, if mined with potential watershed impacts addressed, this parcels contribution to other perturbations is minimal. In addition, BLM experience with unfenced, un-managed urban parcels shows that they often get driven upon, etc, and vegetation is sometimes compromised regardless of any planned action. Unrelated land management issues may arise at this location as local knowledge of this land being public increases as the mining being analyzed has heightened awareness that this land is public.

Mitigation/Residual Effects: Blizzard conditions are common in the proposal area. As such, it is probable that excavated areas will drift in heavily resulting in short term melt-water at volumes greater than anticipated from annual rain gauge averages. Drift snowmelt will be a likely unanticipated source of runoff (also around buildings equipment) through the expected life of this mine. Equipment should not be left in the pit where interaction between ponded storm-water and contaminant sources are possible.

No Action Alternative

Direct and Indirect Impacts: Not disturbing these lands keeps that specific area intact eliminating concerns addressed in the proposed action. However, if no action is taken, the proposal would not be discretionary under the 1872 mining law and gold mining could occur. As such, the applicant would still be able to proceed without the sale of sand and gravel. Overall, this would have the same effects as the Proposed Action, but is really more similar to Alternative 1.

Cumulative Impacts: Similar to the proposed action.

Mitigation/Residual Effects: Similar to the proposed action.

Other Alternative

Direct and Indirect Impacts: This alternative is similar to the proposed action with respect to wetland resources; however large quantities of material would not be removed.

Cumulative Impacts: Similar to the proposed action.

Mitigation/Residual Effects: Similar to the proposed action.

Finding on the Public Land Health Standard for Riparian Systems: No public land wetland or riparian resources will undergo a change in condition from of any alternative. None of the alternatives are likely to affect offsite private land wetland resources in any way either.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: No aquatic wildlife is known to be present on this parcel and no perennial aquatic habitat exists. See also Wetland section for description of seasonal surface waters, but these do not sustain aquatic wildlife communities.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: There are no direct affects to aquatic wildlife populations from the proposed action. Overland flow / sheet-water, (particularly associated with frozen ground and rapid snowmelt or extreme thunderstorms) does cross this parcel and potentially could transport, then deposit sediments into stream areas without careful planning and designs for storm-water control. Storm-water concerns get addressed however in the permitting process site plan development. No additional stipulations are needed for storm water control. Petroleum type spills could also affect distant water quality and aquatic wildlife if they occur, however, spills are not anticipated and precautions are in place to stop spill impacts. Failure to address either concern will result in measurable indirect affects to offsite areas.

Cumulative Impacts: There is extensive recent and historic hydrologic and riparian function loss in areas near to the proposal and within in the larger scale watershed. Undesirable accelerated overland flow runoff to streams is happening from areas adjacent to the area of interest here, and without storm water Best Management Practices (BMPs), this action would be cumulative to the other watershed perturbations. However, runoff is accounted for in the design and permitting processes. Other issues likely will get more attention under this review for importance because protection is possible for riparian health, but potential exists for poor drainage and hazardous spills if there are failures to comply with plans. The ability of this public land parcel to offset adjacent disturbance is minimal due to its size as discussed in the proposed action. Similarly, if mined with potential watershed impacts addressed, this parcels contribution to other perturbations is minimal. In addition, BLM experience with unfenced, un-managed urban parcels shows that they often get driven upon, etc, and vegetation is sometimes compromised regardless of any planned action. Other land management issues may arise as local knowledge of this land being public increases as the potential mining being analyzed has heightened awareness that this land is public. Concerns of changed water chemistry of a cumulative nature have been raised as result of this proposed mine action through public scoping. Specifically: *“What happens when naturally occurring, potentially harmful chemicals are exposed through the processes of open pit mining? This is becoming an issue for aquatic life even now from old mine/tailing sites.”* However, reported in the water quality section, because the material being mined, is not hard rock, or first ever exposed crystalline rock, but rather alluvium, acidic mine waste concerns, or other substantial potential changes to naturally occurring compounds within the rock chemistry signature from exposure due to mining operations is likely not measurable. Water soaking into the pit

and emerging in a spring elsewhere will not be substantially altered chemically to any measurable degree. Sub-surface geo-chemistry interaction upon storm-waters entering the ground water should be similar to that soaking in on native surface soils.

Mitigation/Residual Effects: Blizzard conditions are common in the proposal area. As such, it is probable that excavated areas will drift in heavily resulting in short term melt-water at volumes greater than anticipated from annual rain gauge averages. Drift snowmelt will be a likely unanticipated source of runoff (also around buildings equipment) through the expected life of this mine. Equipment should not be left in the pit where interaction between ponded storm-water and contaminant sources are possible.

No Action Alternative

Direct and Indirect Impacts: Not disturbing these lands keeps that specific area intact eliminating concerns addressed in the proposed action. However, if no action is taken, the proposal would not be discretionary under the 1872 mining law and gold mining could occur. As such, the applicant would still be able to proceed without the sale of sand and gravel. Overall, this would have the same effects as the Proposed Action, but is really more similar to Alternative 1.

Cumulative Impacts: Similar to the proposed action

Mitigation/Residual Effects: Similar to the proposed action

Other Alternative

Direct and Indirect Impacts: This alternative is similar to the proposed action with respect to aquatic resources.

Cumulative Impacts: Similar to the proposed action.

Mitigation/Residual Effects: Similar to the proposed action.

Finding on the Public Land Health Standard for Plant and Animal Communities: No aquatic wildlife communities are directly affected by this action on public land, or anticipated to be so on local private lands.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The proposed project has an elevation of about 9,900 feet with an annual precipitation of 16-18 inches. The parcel is dry with only upland vegetation. The project site vegetation is subalpine grassland and the adjacent slopes are lodgepole pine and spruce-fir. The site is within an area of exurban development containing several dwellings, roads, and infrastructure.

SPECIES DESCRIPTIONS

Elk: The elk is a large cervid whose general body color is pale tan or brown. Generalist feeders, elk are both grazers and browsers. In the northern and central Rocky Mountains, grasses and shrubs compose most of the winter diet, with the former becoming of primary importance in the spring months. Elk tend to inhabit higher elevations during spring and summer and migrate to lower elevations for winter range. During winter, elk form large mixed herds on favored winter range. Elk are found throughout the area of this project.

Mule Deer: Mule deer are medium-sized cervids with conspicuously long ears and a coarse coat. Mule deer occupy all ecosystems in Colorado from grasslands to alpine tundra. They reach their greatest densities in shrublands on rough, broken terrain, which provide abundant browse and cover. In the Rocky Mountains, fall and winter diets of mule deer consist of browse from a variety of trees and shrubs. During midwinter, deer move to lower elevations and forage on more protected south-facing exposures. Mule deer are found in the area in all habitat types. Highest densities are found in mountain shrub and mixed conifer communities at approximately 7,500 feet elevation. Mule deer in the area frequently use wet, hay meadows on private lands, especially in the spring. Deer densities are slowly increasing after several years of below average populations.

Black Bear: A medium-sized bear, this species is Colorado's largest surviving carnivore. Color varies greatly, from black to pale brown and blond. Black bears can survive in practically any habitat that offers sufficient food and cover. In Colorado the species is most common in montane shrublands and forests, and subalpine forests at moderate elevations, especially in areas with well-developed stands of oakbrush or berry-producing shrubs such as serviceberry and chokecherry. The animals also occupy habitats ranging from the edge of the alpine tundra to the lower foothills and canyon country. Black bears are retiring and secretive animals, for the most part, typically staying close to rough topography or dense vegetation that provides escape cover. Black bear populations are difficult to estimate. Black bears are locally common in suitable habitats and occur in all habitat types throughout the area. Highest population densities occur in the montane shrublands.

Mountain Lion: The mountain lion is the largest cat in the United States. Its color is brownish to reddish brown. Colorado individuals are among the largest representatives of the species. Mountain lions inhabit most ecosystems in Colorado and are very common in the Arkansas River valley. They are most common in rough, broken foothills and canyon country, often in association with montane forests, shrublands, and pinyon-juniper woodlands. In Colorado, much of the best mountain lion habitat is at mid elevations, such as the foothills of the Front Range. In these habitats resident deer herds may be relatively sedentary and lions rarely make significant seasonal shifts in home range.

Raptors: A variety of raptor species occur in the project area. The following species have been documented as occurring regularly: golden eagle, prairie falcon, red-tailed hawk, Coopers hawk, sharp-shinned hawk, goshawk and kestrel. The following species rarely occur due to the small amount of suitable habitat: Swainson's hawk, harrier, and osprey. Golden eagles are common in the area and nest in suitable habitats, primarily cliffs and rock outcroppings. Prairie falcons are widespread in the area utilizing cliff and rock habitats. Red-tailed hawks are the most common broad-winged hawk found in the area at all elevations and most habitat types. The forest hawks: Cooper's hawk, goshawk and sharp-shinned hawk occur in smaller numbers on public lands but would be found in forested landscapes.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: Lands adjacent to the project area have been subdivided and contain houses and roads that have fragmented and degraded the surrounding wildlife habitat. Although some species habituate and adapt to an exurban setting and associated disturbance, some do not. As a result, undeveloped areas, both private and public lands, have become increasingly important to wildlife species. Although there is some wildlife use of this parcel during spring and summer, the most use occurs during winter by elk. Elk tend to avoid areas within subdivision development and

disturbance and move between areas that are undeveloped including the BLM parcels in the area (Mark Lamb, CDOW, pers. com.).

The site is within CDOW mapped elk winter range, a polygon that covers approximately 22,950 acres. However, the proposed project would not substantially increase the amount of disturbance to wildlife species in this area during the winter months above what is already occurring on private lands. The mine will not be operational during this time period and the resulting surface disturbance is small; less than 5 acres. There are no other mapped critical big game use areas affected by the proposed project. The proposed project is not within a big game migration corridor or near a high use highway crossing area.

A portion of available habitat may not be utilized by wildlife due to its proximity to the mine and the activity associated with the site when the mine is active. It is not unreasonable to assume that species such as mule deer and elk will abandon habitat within ¼ mile of the mine location during operation, resulting in a 40 acres loss of habitat. Increases in traffic along the public road ways will inherently increase the probability of vehicle-wildlife collisions. Fencing, if in excess of five feet around the mine site, will likely exclude large game from using the area while the mine is not in operation; however, the footprint is relatively small when compared to the surrounding available habitat.

Cumulative Impacts: The project area is located on an 80 acre parcel of BLM approximately ¼ mile from the city of Fairplay and is surrounded by private land. The adjacent private land is subdivided and developed with roads and homes present. It is likely that terrestrial wildlife that is currently present has been habituated to the exurban development; however, the carrying capacity for most species has likely been reduced in the vicinity. Recreational activities (hunting, OHV riding, mountain biking, snowmobiling, etc.) are occurring and are reasonably certain to continue on the adjacent private lands. This project would result in a moderate disturbance in a small area. The proposed action will likely cause an additive negative impact to terrestrial wildlife when viewed in conjunction with activities currently occurring and reasonably certain to occur on adjacent private lands. However, the impact will be minimal when viewed at a landscape scale.

Mitigation/Residual Effects: The winter shutdown period should surround the dates of December 1 to April 30, the time in which elk are most likely to use winter range.

No Action Alternative

Direct and Indirect Impacts: None

Cumulative Impacts: None

Mitigation/Residual Effects: None

Alternative 1

Direct and Indirect Impacts: Same as the proposed action

Cumulative Impacts: Same as the proposed action

Mitigation/Residual Effects: Same as the proposed action

Finding on the Public Land Health Standard for Plant and Animal Communities:

Implementing the Proposed Action will reduce available habitat for terrestrial wildlife by approximately 40 acres while the mine is in operation and 5 acres when it is not. However, at a landscape scale, the proposed action will not affect the Land Health Standard for terrestrial wildlife species.

MIGRATORY BIRDS

Affected Environment: The proposed project has an elevation of about 9,900 feet with an annual precipitation of 16-18 inches. The parcel is dry with only upland vegetation. The project site vegetation is subalpine grassland and the adjacent slopes are lodgepole pine and spruce-fir. The site is within and area of urban development and subdivisions with numerous roads and houses.

The Colorado Bird Conservation Plan identifies 13 vegetation habitat types important to birds in Colorado. The habitat classifications and assignment of bird species to the habitats were developed by Colorado Bird Observatory (CBO) staff along with individuals who contributed to early development of the conservation prioritization scheme. Bird species were assigned to specific habitats based on their restriction to, or strong representation within, that habitat type. Of these 13 habitat categories, 2 are described for this area (mountain grassland and spruce-fir). Bird species typically found in these habitats are described for each habitat type.

Mountain Grassland

Grasslands provide habitat for many species. The severity of the semi-arid climate produces contrasts in vegetation. Grassland birds thus evolved in a shifting landscape mosaic, with access to patches of vegetation in a variety of successional stages and conditions. Species that are typically found in the grassland habitat in the planning area are ferruginous hawk, prairie falcon, upland sandpiper, burrowing owl, Cassin's sparrow, lark bunting, grasshopper sparrow, McCown's longspur, western meadowlark, great-horned owl, golden eagle, common raven, mourning dove and American kestrel.

These are typically grasslands of forest openings and park-like expanses in the montane and subalpine coniferous forests. Although smaller montane grasslands are scattered throughout the Southern Rocky Mountains eco-region, the largest occurrence by far (over a million acres) is on the valley floor of South Park in central Colorado. This ecological system typically occurs between 7,200 and 10,000 feet on gentle to steep slopes, parks, or on lower side slopes. The montane grassland community, Arizona fescue-slimstem muhly (*Festuca arizonica* - *Muhlenbergia filiculmis*), is rated as S3 by the Colorado Natural Heritage Program (CNHP) and is wide spread in the area of this allotment.

These large patch grasslands are intermixed with matrix stands of spruce-fir, lodgepole, ponderosa pine, and aspen forests. In limited circumstances (e.g., South Park in Colorado) they form the "matrix" of high-elevation plateaus. These large patch grasslands are intermixed with forests of spruce-fir, lodgepole, ponderosa pine, mixed conifers, and aspen. Montane and subalpine grasslands are generally interspersed in forest communities as park-like openings that vary in size from a few to several thousand acres.

Spruce-fir

Spruce-fir forests are present at 9,000-12,000 ft in elevation. Engelmann spruce and subalpine fir are

the dominant tree species. Engelmann spruce is found without subalpine fir at the lower elevations, but only on cool, sheltered sites. Lodgepole pine and aspen are often mixed in at lower and middle elevations, and limber pine and bristlecone pine are present at middle and higher elevations. Understory vegetation can vary from sparse to quite dense, perhaps the densest of the conifer forests in this region with the exception of dense Gambel oak under ponderosa pine. Blueberry, shrubby cinquefoil, and Colorado currant are common components.

The avian community in this area has a comparatively large number of seed-eating birds, a reflection of the abundant cone crops available here. Compared to eastern spruce forests, fewer birds of this region are of conservation concern. Birds commonly found in this forest type include the Gray Jay, Mountain Chickadee, Red-breasted Nuthatch, Ruby-Crowned Kinglet, Hermit Thrush, Pine Grosbeak, and Pine Siskin.

Three species are identified as high priority in Spruce-Fir habitats: Boreal Owl, Olive-sided Flycatcher, and Hammond's Flycatcher.

The following birds are listed on the US Fish and Wildlife Service Birds of Conservation Concern (BCC) – 2002 List for BCR 16-Southern Rockies/Colorado Plateau. These species have been identified as species that may be found in the project area, have declining populations and should be protected from habitat alterations.

The golden eagle is a bird of grasslands, shrublands, pinyon-juniper woodlands, and ponderosa pine forests, may occur in most other habitats occasionally, especially in winter. Nests are placed on cliffs and sometimes in trees in rugged areas, and breeding birds range widely over surrounding habitats.

Northern harriers reside throughout Colorado, with highest densities on the eastern plains, mountain parks, and western valleys. These hawks feed on small mammals, birds, reptiles, and amphibians. They hunt by flying low over wetlands, grasslands, shrublands, and croplands.

Prairie falcons nest in scattered locations throughout the state where they inhabit the grassland and cliff/rock habitat types. These falcons breed on cliffs and rock outcrops, and their diet during the breeding season is a mix of passerines and small mammals.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: The proposed project would not substantially increase the amount of disturbance to migratory bird species in this area above what has already occurred on the surrounding private lands from subdivision development and roads. Comparatively, the amount of disturbance is small, less than 5 acres. The mining operation would have some effect initially from noise, dust and mining activity, but resident birds would either become habituated to the disturbance or avoid the area during operation.

Cumulative Impacts: The project area is located on an 80 acre parcel of BLM approximately ¼ mile from the city of Fairplay and is surrounded by private land. The adjacent private land is subdivided and developed with roads and homes present. The loss of habitat for nesting migratory birds will likely continue as future housing development and infrastructure will likely be built in the area. Recreational activities (hunting, OHV riding, mountain biking, snowmobiling, etc.) are occurring

and are reasonably certain to continue on the adjacent private lands. This project would result in a moderate disturbance in a small area. The proposed action will likely cause a slight negative impact to migratory birds when viewed in conjunction with activities currently occurring and reasonably certain to occur on adjacent private lands. However, the impact will be minimal when viewed at a landscape scale.

Mitigation/Residual Effects: The BLM is required by the Migratory Bird Treaty Act to minimize take of migratory birds, including individual birds, active nests, and/or eggs. The proposed action will not likely take adult birds, but vegetation disturbance during the nesting season could take nests or eggs of ground nesting birds. Therefore, the area that will likely be disturbed during the nesting season (May 15-July 15) must have vegetation removed prior to May 15 to discourage nest initiation of ground nesting birds.

No Action Alternative

Direct and Indirect Impacts: None

Cumulative Impacts: None

Mitigation/Residual Effects: None

Alternative 1

Direct and Indirect Impacts: Same as the proposed action.

Cumulative Impacts: Same as the proposed action

Mitigation/Residual Effects: Same as the proposed action.

HERITAGE RESOURCES AND HUMAN ENVIRONMENT

CULTURAL RESOURCES

Affected Environment: A single site, 5PA4410, was recorded during the cultural resources inventory of the area of potential effect [Report CR-RG-10-33 (P)]. At the time of the recording, the site was believed to be eligible for the National Register of Historic Places for its potential to yield information important to history. However, limited testing of the site revealed an absence of intact subsurface deposits. Results of extensive surface recording by experts in historic archaeology also indicated that the function and ethnic affiliation of the associated population originally assigned to the site were not accurate. Therefore, the BLM changed the determination of eligibility for Site 5PA4410 to not eligible for the NRHP. The letter BLM sent to the SHPO regarding this is in Appendix 3. A final determination of no historic properties affected, was made.

TRIBAL AND NATIVE AMERICAN RELIGIOUS CONCERNS

Affected Environment: The mountains of Colorado were inhabited by numerous tribes throughout history. Because of their nomadic cultures, however, mountain populations generally left little evidence of habitation or traditional cultural properties. The area of potential effect was subjected to a

cultural resources inventory [see Report CR-RG-10-33 (P)], and no possible traditional cultural properties or sacred sites were found. There is no other known evidence that suggests the project area holds special significance for Native Americans.

BLM conducted a consultation with the following potentially interested Native American tribes: Apache Tribe of Oklahoma, Cheyenne and Arapaho Tribes of Oklahoma, Cheyenne River Lakota Tribe, Comanche Tribe of Oklahoma, Crow Creek Sioux, Kiowa Tribe of Oklahoma, Northern Arapaho Tribe, Northern Cheyenne Tribe, Northern Ute Tribe, Oglala Lakota Tribe, Rosebud Sioux Tribe, Shoshone Tribe, Southern Ute Tribe, Standing Rock Lakota Tribe, and the Ute Mountain Ute Tribe. No concerns were identified.

PALEONTOLOGICAL RESOURCES

Affected Environment:

The Paleontologic Resources Preservation Act protects paleontological resources on Federal land using scientific principles and expertise. Paleontologic resources are defined as “any fossilized remains, traces, or imprints of organisms, preserved in or on the earth’s crust, that are of paleontologic interest and that provide information about the history of life on earth”.

Paleontologic resources are classified in the Royal Gorge Field Office (RGFO) using a Fossil Yield Potential Classification (FYPC). The RGFO FYPC is a five tiered classification system that ranks the paleontologic importance of Public Lands based on geologic formation descriptions and fossil locations. The geologic formations are classified according to how likely a geologic unit to produce Federally protected fossils based on literature review and the experience of finding fossils in that particular formation or similar formations. Class 1 formations are the lowest ranking and least likely to contain protected paleontologic resources and class 5 being the highest, most important ranking.

The project area contains Pleistocene glacial outwash that is most likely pre-Bull Lake in age. Glacial geologic formations are classified as Class 2 using the RGFO FYPC. Class 2 paleontologic units are sedimentary geologic units that are not likely to contain vertebrate fossils or their traces or scientifically significant invertebrate or plant fossils.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: Class 2 paleontologic units are not likely to contain protected paleontologic resources but there is a small chance that fossils can be present therefore the potential for direct and indirect impacts to fossils may exist. These impacts can be mitigated.

Direct impacts associated with the proposed project would be the loss or destruction of paleontologic resources during excavation of Pleistocene gravels. Indirect impacts associated with the proposed project would include the unauthorized collection of scientifically important fossils from federal lands. Direct and indirect impacts can be successfully mitigated and even potentially construed as beneficial impacts. If these resources happened to be encountered during the implementation of this proposal, the discovery and the scientific information associated with them would be properly excavated and stored in a federally approved facility.

Cumulative Impacts: Potential impacts can be mitigated to be beneficial to paleontologic resources.

Mitigation/Residual Effects: Operators shall not knowingly disturb, alter, injure, or destroy any scientifically important paleontological remains on Federal lands. Operators shall immediately bring to the attention of the authorized officer any paleontological resources that might be altered or destroyed on Federal lands by his/her operations, and shall leave such discovery intact until told to proceed by the authorized officer. The authorized officer shall evaluate the discoveries brought to his/her attention, take action to protect or remove the resource, and allow operations to proceed within 10 working days after notification to the authorized officer of such discovery. The Federal Government shall have the responsibility and bear the cost of investigations and salvage of paleontology values discovered after a plan of operations has been approved, or where a plan is not involved. (43 CFR § 3809.420(b)(8)(i, ii, iii))

No Action Alternative

Direct and Indirect Impacts: None
Cumulative Impacts: None
Mitigation/Residual Effects: None

Other Alternative

Direct and Indirect Impacts: Same as proposed
Cumulative Impacts: None
Mitigation/Residual Effects: Same as proposed

VISUAL RESOURCES

Affected Environment:

Visual Resource Management (VRM) classes along with the corresponding VRM Objectives were established in the Royal Gorge Field Office in 1996 with the approval of the Royal Gorge Resource Area Resource Management Plan (RMP). Visual Resource Management objectives corresponding to the various management classes provide standards for analyzing and evaluating proposed projects. Projects are evaluated using the Contract Rating System to determine if it meets VRM objectives established by the RMP.

The VRM classes established for the project area is Class III. The objective for a Class III area is as follows:

The objective of Class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Front Street in the town of Fairplay was selected as the Key Observation Point (KOP) for determining the level of contrast. This location was chosen because of concerns expressed by the public in regards to visual impacts to the tourism economy along this street. Front Street is located directly across the South Platte River from the project site approximately ¼ mile away and is marketed as a tourist

destination for scenery, history, dining and shopping. There is also a paved walking trail that connects this street with Fairplay Beach, an important local recreation amenity, in which the proposed project is visible from.



Figure 11: View from paved walking trail on Front Street

Environmental Effects

Proposed Action

Direct Impacts: A tourist's view south while visiting Front Street and walking along the sidewalk is mostly obstructed by buildings that house shops and cafes. There are some opportunities for views south, including the paved walking trail to Fairplay Beach, where a visitor's attention would mostly be attracted to the expansive views of the Platte River Valley and the Mosquito Range. There are some homes and other buildings in the middle-ground but are largely drowned out by distance and the large expansive view. The proposed project is located in this middle-ground location and would create moderate and weak levels of contrast. Since the bulk of the operation is planned to occur in the 25' deep pit, the berm and the stockpiles created by the proposed project would be the most visible project elements from the KOP of Front Street. For the first week visual contrasts would be higher as the operations reached the 25' depth but after that visual contrasts would be reduced. The stockpiles would be a dynamic portion of the project based on operations and sales of material and would grow and shrink in size. Trucks hauling material in and out of the project site would also not be screened and would be more visible than the actual pit operation. The operation is proposed for 10 years. After this time the site would be reclaimed and impacts to visual contrasts would no longer occur.

Based on the findings from a site visit and the use of a contrast rating form, a tool used to determine level of impact and most visually contrasting elements, there would be moderate and weak levels of contrast from the proposed project. This level of contrast meets the Class III Objectives for the area as established by the Resource Management Plan.

Indirect Impacts: Indirect impacts on visual resources from this project are associated with the decline in quality of life created by the project along with potential for decrease in housing value and

therefore fall outside of the realm of visual resources and are analyzed under socio-economics which can be found in the *Socioeconomic and Environmental Justice Report* located in Appendix 4.

Cumulative Impacts: None

Mitigation/Residual Effects: In order to further reduce impacts to visual resources and indirectly socio-economics it is recommended that the berm be designed and constructed to mimic nature as opposed to a traditional uniform berm. It is also recommended that the proposed planting include trees found in the area and be placed to appear natural looking to break up the line and form of the berm. These should not be lined uniformly but placed in random natural places to break up the lines. In addition, the Noise Assessment that was finalized in March 2011 recommends keeping operations within the pit to mitigate noise impacts, which would also benefit visual resources.

No Action Alternative

Direct and Indirect Impacts: The No Action Alternative would be similar to Alternative 1 in that placer mining would still be allowed and the same mitigation measures would be recommended including the construction of the berm to screen equipment and buildings from view.

Cumulative Impacts: None

Mitigation/Residual Effects: Same as proposed action.

Alternative 1

Direct and Indirect Impacts: The berm would still be created under this alternative and would result in similar impacts to the proposed action. However, since the sand and gravel would not be sold, stockpiles would likely be larger and more visible from the KOP creating moderate contrasts to the landscape. This level of contrast would meet the Class III Objectives for the area as established in the RMP but at greater levels than the proposed action. Indirect impacts to visual resources would be the same as the proposed action therefore refer to Appendix 3 for the *Socioeconomic and Environmental Justice Report*.

Cumulative Impacts: None

Mitigation/Residual Effects: Same as proposed action.

ENVIRONMENTAL JUSTICE

The detailed analysis of the affected environment and environmental effects pertaining to Environmental Justice can be found in the *Socioeconomic and Environmental Justice Report* located in Appendix 4. The discussion below contains excerpts from this report.

Affected Environment: As determined in the report located in Appendix 4, minority groups do exist in the area, but per the Council on Environmental Quality's Environmental Justice Guidelines for NEPA, they cannot be considered environmental justice populations.

Environmental Effects

Proposed Action

Direct Impacts: Evidence suggests that there is no reason to suspect that any impacts will disproportionately affect minority and low income populations.

Indirect Impacts: Employment and income contributions of the Proposed Action could support employment and income in the area which could benefit area minority and low-income populations.

Cumulative Impacts: None
 Mitigation/Residual Effects: None

No Action

Direct Impacts: None
 Indirect Impacts: None
 Cumulative Impacts: None
 Mitigation/Residual Effects: None

Alternative 1

Direct Impacts: Alternative 1 and associated direct impacts would be similar to the Proposed Action Alternative.
 Indirect Impacts: Alternative 1 and associated indirect impacts would be similar to the Proposed Action Alternative.
 Cumulative Impacts: None
 Mitigation/Residual Effects: None

SOCIO-ECONOMICS

The detailed analysis of the affected environment and environmental effects pertaining to Socio-Economics can be found in the *Socioeconomic and Environmental Justice Report* located in Appendix 4. The discussion below contains excerpts from this report.

Affected Environment: Removal of gold, sand and gravel activities associated with the proposed Destiny Mine has the potential to affect local social and economic conditions. Certain defining features of every area influence and shape the nature of local economic and social activity. Among these is the local population, the presence of or proximity to large cities or regional population centers, types of longstanding industries, predominant land and water features, and unique area amenities. These characteristics influence the relationship between BLM in the project area and local social and economic activity.

Below is a chart that summarizes the defining features of the area in and around the proposed mining activity:

Population	<ul style="list-style-type: none"> • Park county has experienced rates of growth that have exceeded national and state levels • Rates of growth within Fairplay and the larger county census subdivisions have been less than their county over periods where data are available
Long standing Industry	<ul style="list-style-type: none"> • Manufacturing, Professional-scientific & technical services and Construction sectors were the largest components of employment in Park county in 2008 • Within Park County, 24 surface mines are listed as active by the Colorado

	Division of Reclamation, Mining and Safety as of March of 2010
Area Amenities	<ul style="list-style-type: none"> Recreational opportunities, such as ATV use, dispersed camping, wildlife viewing, and hiking
Predominant Features	<ul style="list-style-type: none"> Platte River

Environmental Effects

Proposed Action

Direct Impacts: The proposed mining operation would have multiple effects on social and economic conditions. The primary economic variables affected would be jobs, income, and property values. Based on the report located in Appendix 4, there is likely to be no change in social welfare over the long run, as viewed from a net public benefits perspective.

Indirect Impacts: Based on the report located in Appendix 4, there is likely to be no change in social welfare over the long run, as viewed from a net public benefits perspective.

Cumulative Impacts: It assumed that the effects from past activities have already been absorbed by local communities and are represented in the affected environment. Any change in the social and economic environment as a result of this management alternative would be in addition to other mining activities occurring simultaneously in the region as well as those that could reasonably occur in the future. Each project may have a very small effect on the social and economic conditions of the study area individually; however, cumulatively, they could substantially change the distribution of jobs and income, as well as affect many of the social variables discussed above.

Mitigation/Residual Effects: Socioeconomic effects would occur as a result of changes to the conditions of other resources, such as air quality and noise.

No Action

Direct Impacts: There would be no direct effects on the socioeconomic environment if no action were to take place. Any change in conditions would occur as a natural progression of economic and social activity, thus there is no means of estimating the indirect effects of taking no action.

Indirect Impacts: Any change in conditions would occur as a natural progression of economic and social activity, thus there is no means of estimating the indirect effects of taking no action.

Cumulative Impacts: Given that there are no measurable direct and indirect effects that would occur under the no action alternative, there would also be no measurable cumulative effects.

Mitigation/Residual Effects: None

Alternative 1

Direct Impacts: Alternative 1 and associated direct impacts would be similar to the Proposed Action Alternative.

Indirect Impacts: Alternative 1 and associated indirect impacts would be similar to the Proposed Action Alternative.

Cumulative Impacts: Alternative 1 and associated cumulative impacts would be similar to the Proposed Action Alternative.

Mitigation/Residual Effects: Alternative 1 and associated mitigation effects would be similar to the Proposed Action Alternative.

NOISE

The detailed analysis of the affected environment and environmental effects pertaining to Noise can be found in the *Noise Assessment Report* located in Appendix 2, which was provided by the operator. The discussion below contains excerpts from this report.

Affected Environment: The proposed mine will consistently utilize a backhoe, trackhoe, generator and washplant, which may potentially contribute to an increase in noise for the surrounding area. The type of noise that is being analyzed for this mining proposal is related to the overall noise level for a community and not specific, job related problems. This analysis is intended to achieve an understandable correlation between regional conditions, standards established by regulations and policy and modeled noise measurements.

The main contributors to a community noise problem typically consist of transportation sources, such as airports, railroads and highways. Lake County airport is the closest airport to the proposed operation, at a location southwest of Leadville that is approximately 17 miles due west of the proposed mine site. Leadville is also home to the closest active railroad, however, it is primarily used for tourism and runs on a limited basis throughout the year. Therefore, the most consistent contributing factor of noise currently in the Fairplay area appears to be highways.

The proposed mining operation is located in Park County and centered near the junction of Colorado State Highway 9 and U.S. Highway 285. This area encompasses at least five city-sized streets, with the surrounding Park County area having at least five maintained county roads and multiple networks of subdivision streets and private driveways. In addition, off-highway vehicle use occurs within the 80-acre BLM parcel.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: Noise from the work site was ultimately assessed with respect to the closest residential property. The proposed mining is considered an industrial activity and is located on a BLM parcel of land that is situated within a part of the county that allows for this type of activity. However, based on the adjacent location to residential area in the City of Fairplay, this activity by itself may be considered to generate an unacceptable level of noise. Therefore, mitigation would be required in attempts to lower the noise levels that would be travelling off site.

Cumulative Impacts: Cumulative impacts of increased noise levels could be most noticeable within the immediate surrounding areas, as there are other nearby similar operations already generating noise. For example, noise generation from the off-highway vehicle use that occurs on this BLM parcel is regulated by the State of Colorado, which has set a legal limit of 99 decibels for these types of sources. However, depending on the level of mitigation, the cumulative impacts to these areas may not be significantly increased. It is assumed that the effects from ongoing, similar activities in the area have already been absorbed by local communities and are represented in the affected environment.

Mitigation/Residual Effects: Below is a summary of what was originally proposed by the operator, as well as recommendations from the Noise Assessment:

1. All metal parts of the washplant operation that will come in contact with the rock will be lined with rubber material, in order to minimize the noise generated.
2. Noise emission during pit operations will not exceed 55 dB(A) when measured at the pit boundary. The only exception would be during initial surface soil scraping and storage of that material which will be used during reclamation. The Applicant expects the duration of these activities to be less than one week.
3. Mining will start at the south portion of the pit and move to the north. The initial pit floor will be 25 feet below grade and the mining face will be on a 1 to 1 slope (45 deg). This mine face will be a noise barrier and will reduce the noise from the loader and back hoe to less than 55 dB(A) at the pit boundary.
4. The diesel engine driven electric generator will be set on the pit floor. The mine face will be a noise barrier and the noise level at the pit boundary will be less than 55 dB(A). The existing electric generator may be replaced with one of lower power, which would be quieter than the 350 KW unit currently used by the Applicant.
5. The electric generator, loader and back hoe will be fitted with high performance mufflers. At the present time, some of this equipment is unmuffled.
6. All backup alarms will be of the white noise type and will be adjusted during installation to meet all regulatory requirements.
7. Customer haul trucks that exceed the noise limits specified in CRS 25-1 2-107 may be denied access to the pit until they have been maintained and are in compliance.
8. Noise measurements may be taken once the pit expansion area of the pit is in production to verify compliance with the 55 dB(A) noise limit at the pit boundary. Measurement results will be detailed in a report certified by a Professional Acoustical Engineer registered in the State of Colorado.

All mitigation should reduce levels to an acceptable level of no greater than 55 decibels, as measured at the BLM property boundary that is nearest a residential receptor.

No Action Alternative

Direct and Indirect Impacts: There will be no change from current conditions for this area of Park County, Colorado.

Cumulative Impacts: There will be no change from current conditions for this area of Park County, Colorado.

Mitigation/Residual Effects: N/A

Alternative 1

Direct and Indirect Impacts: Alternative 1 and associated impacts would be similar to the Proposed Action Alternative.

Cumulative Impacts: Alternative 1 and associated cumulative impacts would be similar to the Proposed Action Alternative.

Mitigation/Residual Effects: Alternative 1 and associated residual impacts would be similar to the Proposed Action Alternative.

WASTES, HAZARDOUS OR SOLID

Affected Environment: Since this parcel is surrounded by subdivision development and has a few existing roads, it may have been used for occasional dumping by some in the community. However, these types of solid household waste dumps are unlikely to contain hazardous substances. Based on this description, it is determined that current conditions are presumably free of contamination.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: The proposed project has the greatest potential for release associated with petroleum products and antifreeze. Other projects using heavy equipment usually only have de minimis releases below reportable quantities. These releases are typically associated with fluids transfer, such as what occurs when refueling equipment onsite. Therefore there is potential for multiple de minimis releases that, cumulatively, could result in some contamination of soil and ground water. In addition, storage of large quantities of petroleum products on site could also pose a risk of release.

The proposed project operations plan, that includes permit requirements of The State of Colorado and BLM, takes a reasonable and industry-standard approach to petroleum product management, which should result in a low possibility of a spill. As these scenarios are common practice throughout industry, following existing regulation and best management practices should be adequate to mitigate any potential impacts to any media at or downgradient of the site.

Cumulative Impacts: None are anticipated if all requirements are followed.

Mitigation/Residual Effects: BLM standard stipulations and requirements for hazardous substances and petroleum products should be included in the operating plan and the permitting process for this project. These stipulations are designed to contain any spills and prevent any substantial contamination. They are as follows:

1) Hazardous or regulated substances, including petroleum products, to be used on site must be listed in an operations plan.

2) Use of hazardous substances requires that all appropriate State and Federal Regulations be complied with including, but not limited to, Material Safety Data Sheets (MSDS) on hand and use of necessary Personal Protective Clothing (PPE).

3) On-site disposal or misuse of hazardous substances or Resource, Conservation, Recovery Act (RCRA) regulated wastes, including hydrocarbons, is not authorized. On-site disposal will subject the contractor to at least the cost of reclamation and the appropriate disposal of contaminated soil.

4) Incidental leaks from fittings, gaskets or ruptured hoses will not subject the contractor to remedial requirements. They will be considered to be normal and unavoidable losses and should not result in impacts to the site. Continual leaks will be noted on inspection reports and correction through maintenance required.

5) Maintenance and repair operations that require the draining of engines or hydraulic systems may be conducted on site only if all of the fluids are captured, containerized, and removed from public lands for proper disposal.

6) The contractor will be required to report to BLM and other applicable agencies, any spills of any volume of a "hazardous substance" and any spill with a volume of 25 gallons or more of hydrocarbons. Nothing in this document or in the approval of a Plan of Operations by the BLM authorizes or in any way permits a release or threat of a release of hazardous substances into the environment that will require a response action or result in the incurrence of response costs. All designs, monitoring plans, and procedures required by the Plan of Operations are subject to the requirement of 43 CFR 3809.1(a), in which anyone intending to develop mineral resources on the public lands must prevent unnecessary or undue degradation of the land and reclaim disturbed areas. However, the operator's compliance with such requirement in no way insulates or releases it from any liability or obligations which may arise with respect to its operations under any applicable environmental law, including but not limited to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. 9601 et seq.

As the overburden and process material is proposed for either sale or use in reclamation, no excess will need to be managed as waste either during operations or following final reclamation activities.

No Action Alternative

Direct and Indirect Impacts: None

Cumulative Impacts: None

Mitigation/Residual Effects: None

Alternative 1

Direct and Indirect Impacts: Same as the proposed action

Cumulative Impacts: Same as the proposed action

Mitigation/Residual Effects: Same as the proposed action, except that waste overburden and possibly processed rock will remain onsite, as it will not be allowed to be disposed of under a BLM Mineral Materials contract.

LAND RESOURCES

RECREATION

Affected Environment: The approximately 5 acre project is located within an 80 acre parcel of BLM land that is identified as an extensive recreation management area in the Royal Gorge Resource Area Resource Management Plan and directs that minimal onsite management will be provided to maintain opportunities. The parcel affected by the proposed action is mostly valued for its open space and dispersed recreation opportunities. While the larger 80 acre parcel contains some trails that are used by motorized recreationists, the 5 acre parcel targeted by the proposed project does not have any trails, roads, or other developed recreation sites. The proposed project area is most likely used primarily by nearby residents for casual walking and dog walking with the majority of recreation value being its undeveloped open space characteristics. Other recreation amenities nearby include Fairplay Beach,

managed by the Town of Fairplay, which offers gold panning, nature trails, picnicking, fishing, and an outdoor concert series. This recreation site is approximately 650' away from the proposed project.

Environmental Effects

Proposed Action:

Direct Impacts: For the duration of mining activities, there would be a direct loss of five acres of public land available for public recreation use. There would be no loss of trails, roads or other recreation facilities. Access to the remainder of the 80 acre BLM parcel would still be available in other locations where it is directly adjacent to county roads however, the homeowners in the nearby new subdivision would most likely lose their current access due to the project and land ownership patterns. The undeveloped open space characteristic of the 5 acres would be lost along with the area near the proposed access road. Following the life of the mining operation, the area would be rehabilitated and be available for recreation use similar to or better than current conditions.

Indirect Impacts: Through the proposed action the undeveloped open space characteristic of the 5 acres and the area adjacent to the proposed access road would be transformed into more of an industrial setting including an increase in dust, noise, and traffic. This change in setting would most likely affect not only the direct project area but also the lands directly adjacent to the project where recreation would be less desirable due to the noise and dust. There would most likely be a decline in recreation use from nearby residents. The remainder of the 80 acre parcel would remain unaffected. Mitigation measures identified in the noise, socio-economics, visual resources, and air quality sections would reduce the levels of these indirect impacts to recreation. See the *Socioeconomic and Environmental Justice Report* located in Appendix 3 for indirect impacts to socioeconomics of the area as they relate to recreation resources.

The dust and noise from the proposed action may have indirect impacts to other nearby recreation resources including Fairplay Beach. Mitigation proposed for Noise and Air Quality would reduce these impacts. As the town of Fairplay continues to actively promote tourism for economic development it is anticipated that visitation to Fairplay Beach will increase over time. Effects on air quality and noise are analyzed in those respective sections. It can be extrapolated that impacts identified in these sections would be similar to Fairplay Beach, but at much reduced levels since it's down a steep hill approximately 30 feet below grade of where the project is proposed.

Cumulative Impacts: None.

Mitigation/Residual Effects: Allow for public access from the closest subdivision where the BLM parcel is accessible from the public road or work with a landowner in the area to secure nearby public access to the remainder of the BLM parcel. Incorporate identified mitigations to air quality, noise and visual resources to minimize impacts to recreation resources in the area.

No Action Alternative

Direct and Indirect Impacts: Since the No Action Alternative would still allow for placer mining, impacts would be similar to the proposed action. The stockpiles of waste rock would likely be larger and more visually intrusive leading to an increase in indirect impacts from visual contrasts. See the Visual Resources section for impacts to visual resources.

Cumulative Impacts: None.

Mitigation/Residual Effects: Same as the proposed action.

Alternative 1

Direct and Indirect Impacts: Impacts would be the same as the No Action Alternative.

Cumulative Impacts: None.

Mitigation/Residual Effects: Same as the proposed action.

FARMLANDS, PRIME AND UNIQUE

Affected Environment: There are no prime or unique farmlands involved in the proposed action or the no action alternative.

RANGE MANAGEMENT

Affected Environment: There are no grazing allotments involved in the proposed action, the no action alternative, or alternative 1.

LANDS AND REALTY

Affected Environment: The proposed action is located in an 80 acre parcel of BLM with no current lands withdrawals or reservations. The South Park Land Tenure Adjustment Environmental Assessment approved in 2005, classified the 80 acre parcel the mine would be located in as a disposal parcel. Should the mine be approved, the 5.7 acres the mine and access road would encumber could not be disposed of. The proposed mine could have an effect on the disposal of all or a portion of the 80 acre parcel during the life of the mine. At this time, no proposals are being considered nor have any requests or applications been received for disposal of the parcel.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: The proposed mine and access road could encumber approximately 5.7 acres of public land for the life of the mine.

Cumulative Impacts: None

Mitigation/Residual Effects: The mining operation could decrease the value of the property in the event of a sale in the future. Reclamation of the mine could possibly mitigate the decrease of value.

No Action Alternative

Direct and Indirect Impacts: None

Cumulative Impacts: None

Mitigation/Residual Effects: None

Other Alternative

Direct and Indirect Impacts: Same as the proposed action

Cumulative Impacts: None

Mitigation/Residual Effects: Same as the proposed action

WILDERNESS, AREAS OF CRITICAL ENVIRONMENTAL CONCERN, WILD AND SCENIC RIVERS

Affected Environment: This area does not include any public lands with these special designations or areas with wilderness characteristics or qualities.

HYDROLOGY/WATER RIGHTS

Affected Environment: The proposed mine would be located in the Middle Fork of the South Platte River watershed approximately 400 feet southwest and 80 feet above the river itself. The site is in a dry, upland location that receives approximately 17 inches of precipitation annually. There is no surface water other than the river nearby. Using data from surrounding wells and the local geology, it appears that the major source of groundwater in the area is located in an alluvial aquifer tributary to the Middle Fork of the South Platte at approximately 50 to 75 feet below ground level. Water yields from this aquifer appear to be quite high with yields of 15 gallons per minute common. Most all of the surrounding wells are for domestic use and greater yields may be possible. Due to the close proximity to the river and the typical transmissivity of alluvial aquifers, groundwater recharge is expected to be fairly quick. Water from the proposed well would be appropriated through the state water rights process and would be subject to state water rights laws.

Environmental Effects

Proposed Action

Direct and Indirect Impacts: The Proposed Action would allow a mine covering slightly less than five acres to be located on the public lands. This mine would consist of an open pit on approximately 1.5 acres with equipment and materials covering most of the rest. All water used in the operations would be recycled and not allowed to flow on the ground. No groundwater would be exposed by the operations and it is anticipated that mining would not get closer than ten feet from the water table.

The site would be constructed with a berm around it that would control surface flow off/within the site; therefore surface hydrology would be minimally impacted.

In addition to the mine, the proposal would eventually drill a well to supply water for the operations. It is unknown what volume of water would be required; however, considering that water would be trucked in until the well is complete and the system recycles all water, it is not anticipated that large amounts of water would be needed from the well. The well would be constructed with a state permit and would be required to obtain water rights for the water used. This would protect existing users as the well would most likely have a junior water right. It is assumed that the well would be drilled into the near surface, tributary alluvial aquifer. There is the possibility that it could be drilled deeper into a non-tributary aquifer, either way it would be required to go through the Colorado water courts.

Cumulative Impacts: The South Platte Basin is a fully or over appropriated basin meaning that there is no new water available. The addition of the Proposed Action would further commit more

water in the basin. This would be done through the state water rights process and would most likely require augmentation water be purchased and transferred to the site.

Mitigation/Residual Effects: At the conclusion of mining, the well would need to be plugged, abandoned, and the water rights revert to the BLM or, at the discretion of the BLM, the well and associated water rights would revert directly to the BLM.

No Action Alternative

Direct and Indirect Impacts: If no action is taken, the proposal would not be discretionary under the 1872 mining law. The applicant would still be able to proceed with mining on the parcel; however the sale of sand and gravel would not be permitted. Overall, this would have the same effects on hydrology and water right as the Proposed Action, but there would probably be a hill left after reclamation rather than pre-mining or slightly lowered relief.

Cumulative Impacts: Cumulative impacts under the No Action Alternative would be similar to the Proposed Action.

Mitigation/Residual Effects: Mitigation and Residual Effects would be similar to the Proposed Action but no Right-of-Way would be required.

Alternative 1

Direct and Indirect Impacts: Alternative 1 and associated impacts would be similar to the No Action Alternative.

Cumulative Impacts: Alternative 1 and associated cumulative impacts would be similar to the No Action Alternative.

Mitigation/Residual Effects: Alternative 1 and associated residual impacts would be similar to the No Action Alternative.

OTHER ELEMENTS:

The resources or issues below were dismissed due to their not being present or applicable.

Resource/Issue	Rationale for dismissal
Cadastral Survey	There is a private survey in the area, which is in the mining plan. No monuments within mining area to protect.
Fire	The proposed action will not create or elevate risk factors leading to unwanted wildland fire ignition.
Forest Management	No forest management activities in the area.
Law Enforcement	There are no law enforcement issues associated with this action.

CUMULATIVE IMPACTS SUMMARY:

It is assumed that the effects from nearby mining activity have already been absorbed by local communities and are represented in the affected environment (as based on the longevity of nearby modern day mining coupled with continued growth in the community). However, cumulatively speaking, it appears as though the Destiny Mine would make up a small proportion of total mining activities in the study area. Gold reserves in this area may be limited, but sand and gravel is very

extensive. Construction material extraction directly responds to industry demand and gold extraction is based on market demand, which is currently high.

Air Quality - New air pollutant emissions resulting from a Proposed Destiny Mine in Park County would be cumulative to emissions from the other 546 point sources existing in Colorado and seven sources in Park County (<http://www.epa.gov/air/data/reports.html>). Emissions from the new source will augment total emissions of CAAQS criteria air pollutants in Park County and Colorado but are unlikely to be noticeable on a statewide basis relative to other sources. Dust generation from Destiny Mine (sand and gravel portion of the operation) truck traffic would be cumulative to homeowner, recreational, and other traffic along the un-paved stretch of Big Thompson Park Road. As in direct and indirect impacts, cumulative impacts to air quality resulting from a Proposed Destiny Mine are dependent on mitigation and considered long-term but moderate to immediate for homeowners and nearby recreational users, long-term and minor to Park County, and long-term but negligible to Colorado and Class I areas.

Geology and Mineral Resources - Currently there are approximately five active mines permitted with CDRMS located within the same local region as the proposed mine (Figure 10). All of these operations are mining sand and gravel, but two of them are also mining gold. Most of the present day mining has been occurring in this area since the early 1980's. Gold is a valuable resource that has is not widespread in its occurrence, which limits the ability of a mining operation to be completely selective in mining locations. Although the gold resources in the United States are only a small portion of global gold resources, any stateside gold extraction helps contribute to the United States supply and global market.

Noxious Weeds - This BLM parcel is located in close proximity to a small urban area with many varied uses including, but not limited to, motorized recreation, building developments, livestock grazing, hiking and horseback riding. These activities are expected to continue and increase in the future. Noxious weed infestations in the project area could potentially spread to other areas.

Terrestrial Wildlife - The project area is located on an 80 acre parcel of BLM approximately ¼ mile from the city of Fairplay and is surrounded by private land. The adjacent private land is subdivided and developed with roads and homes present. It is likely that terrestrial wildlife that is currently present has been habituated to the exurban development; however, the carrying capacity for most species has likely been reduced in the vicinity. Recreational activities (hunting, OHV riding, mountain biking, snowmobiling, etc.) are occurring and are reasonably certain to continue on the adjacent private lands. This project would result in a moderate disturbance in a small area. The proposed action will likely cause an additive negative impact to terrestrial wildlife when viewed in conjunction with activities currently occurring and reasonably certain to occur on adjacent private lands. However, the impact will be minimal when viewed at a landscape scale.

Migratory Birds - This project would result in a moderate disturbance in a small area. The proposed action will likely cause a slight negative impact to migratory birds when viewed in conjunction with activities currently occurring and reasonably certain to occur on adjacent private lands. However, the impact will be minimal when viewed at a landscape scale.

Socioeconomics - It assumed that the effects from past activities have already been absorbed by local communities and are represented in the affected environment. Any change in the social and economic environment as a result of this management alternative would be in addition to other mining activities occurring simultaneously in the region as well as those that could reasonably occur in the future. Each project may have a very small effect on the social and economic conditions of the study area individually; however, cumulatively, they could substantially change the distribution of jobs and income, as well as affect many of the social variables discussed above.

Noise - Cumulative impacts of increased noise levels could be most noticeable within the immediate surrounding areas, as there are other nearby similar operations already generating noise. For example, noise generation from the off-highway vehicle use that occurs on this BLM parcel is regulated by the State of Colorado, which has set a legal limit of 99 decibels for these types of sources. However, depending on the level of mitigation, the cumulative impacts to these areas may not be significantly increased. It is assumed that the effects from ongoing, similar activities in the area have already been absorbed by local communities and are represented in the affected environment.

Hydrology/Water Rights - The South Platte Basin is a fully or over appropriated basin meaning that there is no new water available. The addition of the Proposed Action would further commit more water in the basin. This would be done through the state water rights process and would most likely require augmentation water be purchased and transferred to the site.

PERSONS / AGENCIES CONSULTED:

Persons/Public/Agencies Consulted:

- The applicant has contacted the following agencies:
 - Natural Resource Conservation Division regarding reclamation guidelines for topsoil stabilization and vegetation
 - Park County regarding the need for a septic system and county road access
 - Mine Safety Health Administration
 - Colorado State Engineer’s Office regarding possibility of installing a well
- The BLM has contacted the following agencies:
 - Colorado Division of Reclamation, Mining and Safety (CDRMS)
 - Park County
 - Colorado Department of Public Health and Environment

INTERDISCIPLINARY REVIEW:

<u>Name</u>	<u>Title</u>	<u>Area of Responsibility</u>
Hugh Wolfe	Realty Specialist	Realty
Chris Cloninger	Range Management Spec.	Range, Vegetation, Farmland
Matt Rustand	Wildlife Biologist	Wildlife, T&E, Migratory Birds
Dave Gilbert	Fisheries Biologist	Aquatic Wildlife, Riparian/Wetlands
Mike Cassell	Surface Reclamation Spec.	Soils
Stephanie Carter	Geologist	Minerals, Solid/Hazardous Wastes
Tom Grette	Range Management Spec.	Weeds
Steve Cunningham	Law Enforcement Ranger	Law Enforcement
Henry Eichman	Economist, USFS	Socioeconomics, Environmental Justice
Tony Mule	Cadastral Surveyor	Cadastral Survey
Kalem Lenard	Outdoor Recreation Planner	Recreation, Visual, Special Designations
Ken Reed	Forester	Forestry
Ed Skerjanec	Fire Management Officer	Fire
John Smeins	Hydrologist	Hydrology, Water Quality/Rights
Melissa Smeins	Geologist	Paleontology
Joseph Vieira	Renewable Energy Project Mgr.	Air Quality
Martin Weimer	NEPA Coordinator	NEPA
Monica Weimer	Archaeologist	Cultural, Native American
Joshua Wilson	Economist, USFS	Socioeconomics, Environmental Justice

REFERENCES:

*Note that the references used in preparing the individual reports for this assessment are contained within those write-ups and are not listed below.

- *Fairplay Municipal Code*, Colorado Code Publishing Company Publishing Company. 2002.
- *Gold Placers of Colorado*, Quarterly of the Colorado School of Mines. 1974.
- *Noise Abatement*, Colorado Revised Statute, Title 25, Article 12.
- *Noise Abatement and Control*, Code of Federal Regulations, Title 24, Part 51, Subpart B. HUD.
- *Occupational Noise Exposure*, Code of Federal Regulations, Title 30, Part 62. MSHA.
- *Park County Planning Department's Land Use Regulations*, Park County Board of Commissioners. 2009.
- *The Noise Guidebook*, U.S. Department of Housing and Urban Development.
- Clow, D. W., 2007: Changes in the timing of snowmelt and associated runoff in the Colorado Rocky Mountains. *Eos, Trans. Amer. Geophys. Union*, **88**, 52, Fall Meet. Suppl. Abstract GC32A-02.
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- Hurd, B. H., and J. Coonrod. 2007: Climate change and its implications for New Mexico's water resources and economic opportunities. *Prepared for the National Commission on Energy Policy*. New Mexico State University, Las Cruces, NM, 46 pp.
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- Ray, A., J. Barsugli., K. Everyt, et. al., 2008: Climate Change in Colorado – A Synthesis to Support Water Resources Management and Adaptation – *A Report for the Colorado Water Conservation Board*; University of Colorado, Boulder CO, 58 pp
- Clean Air Act; <http://www.epa.gov/air/caa/>; CAA as of 2008; <http://www.gpo.gov/fdsys/pkg/USCODE-2008-title42/pdf/USCODE-2008-title42-chap85.pdf>
- Colorado Department of Public Health and the Environment (CDPHE) - Air Pollution Control Division <http://www.colorado.gov/airquality/>
- EPA Air Data: <http://www.epa.gov/air/data/reports.html>
- EPA (July 1999); Smog - Who does it Hurt? What You Need to Know About Ozone and Your Health; EPA-452/K-99-001; Washington DC; <http://www.epa.gov/airnow/health/smog.pdf>
- Visibility protection for Federal class I areas; Title 42, Chapter 85, Subchapter I, Part C, subpart ii, Section 7491; http://www.law.cornell.edu/uscode/html/uscode42/usc_sec_42_00007491----000-.html

APPENDIX 1

DRAFT

Public Comments

Scoping Meeting and Comment Period during September/October 2009 Fairplay – Destiny Placer Mine EA (DOI-BLM-CO-200-2009-0099-EA)

Below is a summary of comments we received during the public comment period in 2009. The responses to all comments have been incorporated into the analysis of the Fairplay – Destiny Placer Mine EA document.

1. AIR QUALITY – 9 comments were received and are summarized below:
 - a. *Residents will be negatively affected, in terms of quality of life, by dust pollution resulting from increased heavy equipment and truck traffic.*
 - b. *There is no way to buffer nearby residences from dust.*
 - c. *The dust pollution associated with this proposal will cause changes in the elk migration and herd areas.*
2. GEOLOGIC AND MINERAL RESOURCES – 5 comments were received and are summarized below:
 - a. *Minerals are only where the deposits exist and therefore the BLM should avoid taking any action that would foreclose access to scarce mineral reserves.*
 - b. *1872 Mining laws cannot be relaxed or ignored without endangering abilities to make use of natural resources.*
3. SOILS – None
4. WATER
 - a. QUALITY, SURFACE AND GROUND – 4 comments were received and are summarized below:
 - i. *Mining this land would potentially contaminate scarce water resources.*
 - ii. *If our water is contaminated for any reason, people will be without water or drinking water and who will help then?*
 - iii. *What happens when naturally occurring, potentially harmful chemicals are exposed through the processes of open pit mining? Will these chemicals leach into existing water supplies or groundwater? If so, who will reverse it and how can it be rectified?*
 - b. QUANTITY, SURFACE AND GROUND – 7 comments were received and are summarized below:
 - i. *The amount of water required to operate the mine may have an impact on homeowner's wells and the aquifer. What would be the recourse if these wells dried up?*
 - ii. *This proposal might take water illegally from the water table.*
 - iii. *What is the depth of the water table or water aquifer?*
5. BIOLOGICAL RESOURCES
 - a. INVASIVE, NON-NATIVE SPECIES – None
 - b. THREATENED, ENDANGERED, AND SENSITIVE SPECIES – None
 - c. VEGETATION – None
 - d. WETLANDS & RIPARIAN ZONES – None
 - e. WILDLIFE, AQUATIC – 1 comment was received and is summarized below:

What happens when naturally occurring, potentially harmful chemicals are exposed through the processes of open pit mining? This is becoming an issue for aquatic life even now from old mine/tailing sites.

- f. WILDLIFE, TERRESTRIAL – 7 comments were received and are summarized below:
 - i. *The mine site is directly in a migratory path for elk and deer and they bed down in the trees directly across from the entrance to this site.*
 - ii. *If the mine site is fenced, how will that disrupt the wildlife constantly migrating through this area to get to the water/pasture?*
 - iii. *The animals will be endangered by the heavy vehicular traffic.*
- g. MIGRATORY BIRDS – None

6. HERITAGE RESOURCES AND HUMAN ENVIRONMENT

- a. CULTURAL RESOURCES – 1 comment was received and is summarized below:

Archeological evidence of numerous small, old medicine bottle found on the proposed mine BLM land.

- b. TRIBAL AND NATIVE AMERICAN RELIGIOUS CONCERNS – None
- c. PALEONTOLOGICAL RESOURCES – None
- d. VISUAL RESOURCES – 6 comments were received and are summarized below:
 - i. *Negative visual impacts will affect residents, property owners, visitors and town businesses that will see the mine from Front Street.*
 - ii. *The sight pollution associated with this proposal will result in no more elk and deer in the nearby housing areas.*
- e. ENVIRONMENTAL JUSTICE – 1 comment was received and is summarized below:

Punishment for being poor and living in a poorer community because someone can afford to buy BLM land and build a mining operation right next to the community because of the power of money.

- f. WASTES, HAZARDOUS OR SOLID – 3 comments were received and are summarized below:
 - i. *Given the proximity to the South Platte River any leaching of petroleum products and/or chemicals would jeopardize water life as well as groundwater and the aquifer.*
 - ii. *Descriptions of the quantity and disposal methods of waste rock and backfill material are non-existent and/or inconsistent in the application.*

7. LAND RESOURCES

- a. RECREATION – 7 comments were received and are summarized below:
 - i. *This piece of property is used for family recreation, which will be destroyed by the mining operation.*
 - ii. *Having the mining operation on top of the South Platte riverbank would destroy this wonderful recreation area that has taken 20 years to fix up.*
 - iii. *Sport fishermen will find Fairplay’s world class fishing waters at Fairplay Beach and Recreation Area less attractive and enjoyable with an active gold/gravel pit less than 300 yards away.*

- iv. *No details are provided on how the stated post-mining land use of recreation will be achieved.*
 - b. FARMLANDS, PRIME AND UNIQUE – None
 - c. RANGE MANAGEMENT – 1 comment was received and is summarized below:

No explanation is provided of what material will be used to replace the sold product of the mine during the state backfilling procedure, or what will be done with the pit remaining, following reclamation.
 - d. LANDS AND REALTY – 8 comments were received and are summarized below:
 - i. *The property values will suffer devaluation in their values between 30 and 50 percent. The values will plummet during the actual mining stages, but also no amount of reclamation (if and when it ever actually takes place) would ever be able to bring the property back to an acceptable state to be compatible with an urban residential neighborhood, thus permanently harming these values.*
 - ii. *Lower property values will further reduce tax revenues for both Park County and the town of Fairplay.*
 - iii. *Rental properties would become non-existent.*
 - e. WILDERNESS, AREAS OF CRITICAL ENVIRONMENTAL CONCERN, WILD AND SCENIC RIVERS – None
8. NOISE – 8 comments received and are summarized below:
- a. *Associated noise resulting from increased heavy equipment, truck traffic and the mine.*
 - b. *There is no way to buffer the nearby residences from noise.*
 - c. *How will the noise pollution not affect nearby residents and businesses and the whole town of Fairplay?*
 - d. *The noise pollution associated with this proposal will result in no more elk and deer in the nearby housing are and will cause changes in their migration and herd areas.*
 - e. *A crusher will eventually be brought in and the noise level will go up considerably. It will be able to be heard easily within a mile radius and will be disruptive further away than that.*
9. SOCIOECONOMICS
- a. SAFETY – 3 comments were received and are summarized below:
 - i. *What is a reasonable buffer for mining to city lines and residential property lines that has typically been implemented in the past? Because having a working, open pit mine this close to families and children is concerning.*
 - ii. *A lack of a buffer could facilitate rocks being thrown at the mine site and hitting nearby residences.*
 - b. HEAVY TRAFFIC AND ROAD CONDITIONS – 3 comments were received and are summarized below:
 - i. *Do not want heavy traffic on Thompson Park Road and utilizing the only roads in and out of neighborhoods.*
 - ii. *Large trucks tear up dirt roads. What type of weight restrictions are there for the town and county roads? Will this cost the taxpayers to maintain?*
 - c. ECONOMY – 9 comments were received and are summarized below:

- i. *Industrialization so close to the Fairplay business district can only have a negative impact.*
 - ii. *The proposed mine would not employ many locals nor bring much financial gain to the local economy. The detriments would far out-weigh any positives.*
 - iii. *The bulk fuel stored on site would have to be trucked in from outside Park county, providing no economic benefit to local gas stations.*
 - iv. *The Fairplay Beach Recreation Area is very popular with both county residents and out of town visitors. Having an open pit, working mine within 600' of it could easily cause a reduction in visitors here and in the town of Fairplay.*
 - v. *There are already six gravel plants in the immediate area.*
 - vi. *Now that the price of gold and silver have reached an all time high value, the minerals need to be harvested and the economic benefits of the proposed operation need to be considered.*
- d. HOURS OF OPERATION – 1 comment was received and is summarized below:

The hours of operation will affect nearby residents and businesses and the whole town of Fairplay.

10. GENERAL – 7 comments were received and are summarized below:

- a. *An EIS, rather than an EA, should be prepared due to the fact that if this proposal is going forward there will be impacts to the environment and the community, given the location of this mining project and its proximity to local residences and town.*
- b. *How does the current county and city zoning affect this project?*
- c. *Affected and Aggrieved Parties to the proposed mine that have interests that are entitled to legal protection under Title 34 Mineral Resources, Article 32, the Colorado Mined Land Reclamation Act as well as other legal protection rights and remedies, including the Clean Water Act of 1977, the Clean Air Act of 1963, the National Environmental Policy Act of 1969, the Endangered Species Act of 1977 and the National Historic Preservation Act of 1966.*
- d. *A report titled, “Report on the Environmental Setting and Potential Impacts of the Proposed Destiny Gold Mine Located on 80 Acres of BLM Land Near Fairplay, Colorado” suggests that a baseline study and impact assessment be conducted for all natural resource areas of concern.*

APPENDIX 2

DRAFT

**NOISE ASSESSMENT
DESTINY GRAVEL PIT
PARK COUNTY, COLORADO**

March 2011

Prepared by: *Howard N. McGregor*
Howard N. McGregor
Registered Professional Engineer
State of Colorado, # 3928

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I. INTRODUCTION

This noise assessment report was prepared for Destiny Mining, LLC under the direction of Boyd Astemborski and addresses noise emissions associated with the proposed Destiny Gravel Mine and control thereof.

The proposed gravel pit is located in the extreme northeast corner of the eighty acres comprising the S½ of the SW¼ of Section 33, Township 9 South, Range 77 West, 6th Prime Meridian, Park County, Colorado. There is a paved residential road called Tristan Loop eight (8) feet north of the permit boundary. To the north and east of the proposed pit, there is a residential development titled Stone River Filing No. 1. At the present time, there are several residences located to the north of the pit boundary. To the east of the permit boundary none of the plotted sites shown in the Stone River Filing No. 1 have been developed.

BLM land is to the west and south of the pit boundary. The pit is within the BLM boundary.

An access road goes south from the pit and intersects with Thompson Park Road which then goes east and intersects with Platt Drive, which then goes southeast and intersects with Colorado Highway 285.

The proposed Destiny Gravel Pit boundaries and boundary details of surrounding properties are presented on a site map titled "Mining Permit Area Plot" dated March 6, 2007 prepared by Thomas L. Burnett, Land Surveying, LLC, P. O. Box 1953, 351 Hwy 285, Suite 104, Fairplay, Colorado 80440. Noise footprints prepared by Engineering Dynamics Inc. will be overlaid upon these site maps.

On Thursday, March 3, 2001, Mr. McGregor visited the proposed gravel pit and was given an extensive tour of the site by Mr. Boyd Astemborski.

Engineering Dynamics Inc. has prepared noise impact assessment analyses and reports for the surface and underground mining industry since 1972. All of the work reported herein was performed by Mr. McGregor or under his direct supervision. Howard N. McGregor is a registered professional engineer licensed to practice engineering in the State of Colorado. Mr. McGregor holds Colorado Professional Engineer License Number 3928, which was obtained by examination.

This report will show that the proposed operation can meet the BLM requirements which are similar to those of the State of Colorado, Park County and the City of Fairplay noise regulations or ordinances by employing the mitigation measures described in this report.

II. APPLICABLE LAWS, REGULATIONS, ORDINANCES and LAND ZONING

A. Community Noise

Community noise has been addressed by the Federal Government starting with the U. S. Environmental Protection Agency, (EPA) "Noise Control Act of 1972". In concert with that act, state and local governments have enacted laws or ordinances regulating noise emission levels. Furthermore, these laws clearly define measurement methodology and decibel limits in scientific terms. Some laws do, however, include subjective assessments, which are considered outside of rigorous scientific evaluation and for this reason can be highly variable. Subjective assessments or considerations will not be addressed in this report for that reason.

B. State of Colorado Noise Law

Section 25-12-103. Maximum Permissible Noise Levels

§(1) Every activity to which this article is applicable shall be conducted in a manner so that any noise produced is not objectionable due to intermittence, beat frequency, or shrillness. Sound levels of noise radiating from a property line at a distance of twenty-five feet or more therefrom in excess of the dB(A) established for the following time periods and zones shall constitute prima facie evidence that such noise is a public nuisance:

Maximum Allowable Noise Levels		
Zone	7am to next 7pm	7pm to next 7am
Residential	55 dB(A)	50 dB(A)
Commercial	60 dB(A)	55 dB(A)
Light Industrial	70 dB(A)	65 dB(A)
Industrial	80 dB(A)	75 dB(A)

§(2) In the hours between 7:00am and the next 7:00pm, the noise levels permitted in subsection (1) of this section may be increased by ten dB(A) for a period of not-to-exceed fifteen minutes in any one-hour period. This paragraph in the State of Colorado Noise Law has been interpreted to mean that this 10 dB increase can occur once and only once during the daytime hours of 7:00am to 7:00pm and never during the nighttime hours.

§(3) Periodic, impulsive, or shrill noises shall be considered a public nuisance when such noises are at a sound level of five dB(A) less than those listed in subsection § (1) of this section.

Examples

Periodic – pile drivers, impact wrenches, punch presses, jack hammers and compaction equipment.

Impulsive – firearm, fireworks, blasting, high pressure venting.

Shrill – sirens, metal forming, warning devices.

§(5) Construction projects shall be subject to the maximum permissible noise levels specified for industrial zones for the period within which construction is to be completed pursuant to any applicable construction permit issued by proper authority or, if no time limitation is imposed, for a reasonable period of time for completion of project. This section of the law has been interpreted to include mine development as construction. Such construction would include access roads, top soil removal and storage, set up of stationary equipment such as crushers, screens and engine generators, installation of utilities and construction of earthen noise barrier berms.

Section 25-12-104 Action to Abate

The entire section was amended in 2008 and made effective on August 5, 2008. The last sentence of this section now reads:

The court may stay the effect of any order issued under this section for such time as is reasonably necessary for the defendant to come into compliance with the provisions of this article.

C. Park County

A draft of an ordinance titled "Noise Control Ordinance of Park County" is on record. Section 4, Prohibited Acts, § (3) addresses construction noise which is similar to the State of Colorado Noise Law, Section 25-12-103 § (5), But does not specify any noise limits such as A weighted decibels. Section 4 § (3) of the Parks County ordinance is as follows:

(3) Construction. Operating or permitting the operation of any tools or equipment in connection with construction, drilling or demolition work between the hours of 10 P.m. and 7 a.m. the following day or weekdays and between the hours of 10 p.m. and 8 a.m. on weekends, or holidays such that the sound there from creates a noise disturbance, across a residential real property boundary except for emergency; work on public service utilities or rights-of way.

This section of the Park County Noise Control Ordinance could be considered applicable to work occurring during the development of Destiny Gravel Mine, but as mentioned above, there is no measureable noise limit specified, only the words "a noise disturbance" which is highly subjective and difficult to prove.

Section 5 of the Park County Noise Control Ordinance addresses motor vehicle sound pressure levels but does not specify any noise limit in measurable quantities such as A-weighted decibels. In summary; the Park County Noise Control Ordinance is based upon subjective response to noise especially that which would be coming from the Destiny Gravel Mine.

D. City of Fairplay

The City of Fairplay Municipal Code, Article 10, Noise, Sections 10-10-10 thru Section 10-10-100 addresses noise. The code is extensive and details allowable noise limits in terms of accepted acoustical engineering methods. The code is receptor based, that is: the allowable noise limits are for those occurring on the receptor's property irregardless of the zoning of usage of the adjacent or nearby property upon which the noise source is located. This is addressed in Section 10-10-2, Excessive Noise Prohibited, § (a, b, c) which are as follows:

- (a) It is unlawful and a public nuisance for any person to emit or cause to be emitted any noise in excess of the noise level during the time periods as specified in Table A below. In determining whether a violation of this Article is occurring the noise and/or noise source shall be measured at any point along the property line or within the property line, of the receiving oar receptor premises.*
- (b) Periodic, impulse or shrill noises shall be considered a public nuisance when such noises are at a sound level of five (5) dB(A) less than those listed in Table A below.*

TABLE A
Maximum Permitted Noise Levels dB(A)

<i>Use District</i>	<i>7:00a.m. to 9:00p.m.</i>	<i>9:00p.m. to 7:00a.m.</i>
<i>Residential Districts</i>	55	50
<i>Business/Commercial Districts</i>	60	55
<i>Agricultural/Light Industrial Districts</i>	65	55
<i>Public</i>	55	50

(c) In a PUD overlay/zone district, except as otherwise provided for in the approved applicable PUD zoning, the maximum permitted noise level shall be in conformance with the underlying zone district, or that zone district listed in the "Maximum Permitted Noise Levels" table most similar to the PUD district as determined by the Town Administrator. (Ord. 11, 2002 § 1).

An exception is made in Section 10-10-30 § (7) which would be applicable to electrical generation equipment in use at the Destiny Gravel Pit. This section reads as follows:

(7) Any commercial power equipment operating between 7:00a.m. and 9:00p.m.; provided that such equipment does not exceed a noise level of eighty (80) dB(A), when measured twenty-five (25) feet from the property line of the property on which the equipment is being operated; and further provided that between 9:00p.m. and 7:00a.m., such equipment does not exceed the maximum noise levels as specified for the applicable use district in Table A in Section 10-10-20 above.

A second exception regarding back-up alarms is presented in Section 10-10-40 § (1).

(1) *Vehicle horns and audible warning devices. No person shall at any time sound any horn or other audible signal device of a motor vehicle in excess of ten (10) seconds unless it is necessary as a warning to prevent or avoid a traffic accident, or is reasonable necessary to inform or warn of a vehicle presence, inclusive of audible back-up safety warning devices.*

Backup alarms that produce a "white noise" sound are now being used by the mining industry and others. This new method of warning or alerting workers that they are in a hazardous zone behind a piece of equipment, such as a front end loader, meets the requirement of the Mine Safety Health Administration (MSHA) and are now in use at several gravel pits in the Rocky Mountain Region. The "white noise" from these alarms, because of the characteristics of the sound, is not as audible as the older backup beepers. These "white noise" backup alarms will be installed on the mobile equipment operating in the Destiny Gravel Pit.

E. U. S. Bureau of Land Management (BLM)

It has been Engineering Dynamics's experience that when a project such as a mineral extraction site or gas compressor station is located on or adjacent to BLM land that the applicable noise limits are those of the jurisdiction adjacent to or in close proximity to the project. The applicant, Destiny Gravel Pit has been instructed by the BLM that the noise ordinance of the City of Fairplay is applicable and that the project must be in conformance with this ordinance. This requirement has been presented in a letter from Keith E. Berger of the BLM, Royal Gorge Field Office, dated January 21, 2011, reference 3809 (COF020, SSC).

In that letter the following is stated:

It has been determined that a sustained 55 decibel limit for noise at the boundary of operations in closest proximity to a residential dwelling is the criteria that will be used for assessing potential significant noise impacts. This stipulation is a result of extensive reviews of many local regulations and policies, as well as consideration of the established industry strategies for noise mitigation.

This BLM requirement is almost identical to the requirements set forth in the City of Fairplay Municipal Code, Article 10, Section 10-10-10- thru Section 10-10-100.

F. Zoning of Adjacent Land

1. North

The land to the north is a residential development titled the "Stone River Filing No. 1". A residential road called the Tristan Loop abuts to the northern pit boundary along the eastern portion of the northern boundary. Residences are located on Lot 1, 2, 5 and 6. The closest residence is Filing 1, Block 10, Lot 5, John F. Riley. The distance from the pit boundary to the residence is about 75 ft. All other residences to the north of the pit boundary are further away.

2. South

The land to the south of the pit boundary is BLM property and no noise limits have been established. South of the BLM land and south of Thompson Park Road are two properties, both of 4.0 acres. They are:

- Lot 7, Carson/Dianne Gilmer
- Lot 8, Thomas/Mader Teri

3. East
Due east of the pit is Stone River platted residential lots, none of which are currently developed. Because this area is completely undeveloped, it will be assumed in this Noise Assessment that there is no noise limit as there is to the north where there is developed land with occupied residences.
4. West
The land to the west of the pit boundary is BLM property and no noise limit has been established.

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III. ANALYSIS

A. Analysis Method

The analysis method is as follows:

1. The noise emission level of the specific piece of equipment operating in the pit will be established either from manufacturer's published data, actual noise data obtained by E. D. I. on other projects or estimates derived using noise emission data of similar equipment. These noise emissions data are presented in Table 1, "Mining Equipment Inventory, Usage and Noise Emission Levels".
2. The position or positions of the mining equipment within the pit boundary will be determined. For example, the electric generator will be placed at a fixed location whereas the track hoe and loader will be at many positions within the pit boundary.
3. Using the data and information from 1 and 2 above, near the south boundary of the pit, the noise level at the pit boundary will be computed. If the noise level exceeds 55 dB(A), then the amount of noise reduction required will be determined. For example, if we find the noise level to be 65 dB(A) then we know that 10 dB(A) reduction must be made.
4. Noise reduction methods will be designed for each piece of equipment that exceeds the 55 dB(A) limit at the north pit boundary. For example, if the electric generator were to exceed 55 dB(A) even at its planned location in the southern area of the pit, it could be set below grade, which would lower the noise level at the pit boundary.

Table 1
Mining Equipment Inventory
Usage and Noise Emission Levels

Description	Mfg./Model	Power	Noise Level dB(A)@ 100 ft.	References
Electric Generator	Cummins 1710	350 KW	67	
Track Hoe	Proclaim GC 120	FGL514	58	
Loader	Allis Fiatallis-745	200 hp	58	
Conveyors(5)	---	Electric	45	
Stacker	---	15 hp Electric	45	
Trammel Rotating Screen	---	Electric	60	
Water Pump	---	8 hp submersible	40	
Grisley Belt Feed	---	20 hp Electric	45	
Vibratory Screen (4 X 8 ft.)	---	15 hp Electric	60	
Feeder Hopper	---	15 hp Electric	45	

B. Electric Generator

The Electric Generator is a diesel driven unit delivery about 350 KW of power which is equal to about 250 shaft horsepower of the diesel engine. The generator will be located at the south boundary of the pit area and the distance to the nearest residential property line is 300 ft. At this distance the direct line-of-sight noise level will be 57.5 dB(A) or 2.5 dB(A) above the 55 dB(A) noise limit for residential properties. This means that the generator must be located either below grade level or shielded with a noise wall. There is the possibility that a smaller generator will be used at the pit because 350 KW is about twice the electrical power required. An engine/generator of about 200 KW would be 3 dB(A) quieter than the 350 KW unit and the noise level at 300 ft. would be 54.5 dB(A). This dB(A) level is too high because of the additive effect of all the other equipment operating in the pit. Also, a wind from the south would increase the noise level by as much as 5 dB(A). A 10 ft. high noise wall or setting the unit 15 ft. below grade level would provide a minimum of a 5 dB(A) reduction. An additional reduction can be achieved by having the cooling fan end of the engine pointing towards the south, which would reduce the noise going towards the north by 2 or 3 dB(A).

C. Track Hoe and Loader

Both the Track Hoe and the Front End Loader produce 58 dB(A) at 100 ft. when at maximum power with the fan end (the rear end) pointing towards the north. When the loader or track hoe is right at the northern pit boundary and on the surface, the distance to the closest residential property line is 100 ft. and the direct line-of-sight noise level would be 58 dB(A) which is in excess of the 55 dB(A) limit.

This situation is very typical for many surface mining operations when the mobile equipment such as loader and dozer are working at the surface during mine development. When mine development is occurring the noise emission limits are those presented in Colorado Revised Statutes, CRS-25-12-103 § (5) which allows the noise emissions to be those for industrial zones which is 80 dB(A) at 25 ft. beyond the property line. Mine development at the Destiny Gravel Pit would consist of moving the thin layer of top soil to the edge of the pit and forming a berm around the pit. This berm would be no more than 3 ft. in height and is not high enough to reduce the noise from the loader and track hoe. Top soil scraping and construction of the berm around the pit will take about one week at the most, after which the noise level according to the BLM requirements must not exceed 55 dB(A). This can be accomplished by starting mining at the southern portion of the pit and getting the loader and track hoe at least 25 ft. below grade level. The noise reduction calculations using the Maekawa Barrier Equation are:

Source height, 6 ft.

Height above ground of the fan end of the loader or back hoe

Barrier Height, 25 ft.

Height of the face of the pit when starting the mining process. This area of the mine would be the first to be excavated.

Receptor Height, 30 ft.

Ground elevation at pit boundary, same as height of mine face, 25 ft. plus 5 ft. The mine face slope is 1 to 1.

Source to Barrier Distance, 25 ft.

Distance between mine face and loader or back hoe. This is the height above grade on which the noise monitor would be positioned.

Distance from Mine Face to Pit Boundary – 200 ft.

Barrier noise reduction – 16 dB

Line-of-Sight Noise Level at Pit Boundary – 52 dB

Resulting noise level at Pit Boundary – 36 dB(A)

Thus, the noise level of a loader or track hoe working at the southern portion of the pit and 25 ft. below grade level would be 36 dB(A). If both the loader and track hoe were working simultaneously at maximum noise the noise level would be 39 dB(A). Now, lets move the equipment to the most northern portion of the pit where the distance from the top of the mine face to the pit boundary is only 25 ft., then the noise level at the pit boundary would be 53 dB(A) for one loader or track hoe, for both the level would be 56 dB(A). As the pit depth increases the noise level at the pit boundary decreases accordingly. Thus, the noise from the mobile equipment can be kept below 55 dB(A) providing that only the loader or the back hoes are operating when at the northern face of the pit, but not both. Both the loader and back hoe will be fitted with high performance mufflers such as the Donaldson, series M101158, which meets all Original Equipment Manufacturer's requirements. Once the muffler are installed noise measurements will be taken at 100 ft. and the dB(A) levels recorded. Acceptable performance will be if the maximum engine exhaust noise level is less than 58 dB(A) at 100 ft.

D. Conveyors and Stackers

The conveyors and stackers will be located in the central area of the pit and initially at grade level. If all six units were in operation at the same time, the total noise level would be 52 dB(A) at 100 ft. compared to the 45 dB(A) noise level that would be produced by one unit. Once below grade level the noise level at the pit boundary will be reduced due to the reduction provided by the mine pit.

E. Trammel and Vibratory Screen

Each of these units produce a noise level of 60 dB(A) at 100 ft. Combined, they would produce 63 dB(A) at 100 ft. and must be located behind a noise barrier such as a berm when initially at grade level. Once below grade level the mine face will provide noise reduction. For example, locating the trammel and vibratory screen at the center of the pit and at 25 ft. below grade, the noise reduction would be 12 dB(A) and the resulting noise level at the pit boundary would be less than 50 dB(A).

F. Other Equipment

All other equipment has low noise emission levels and will be below grade.

V. CONCLUSIONS AND RECOMMENDATIONS

1. Noise emission during pit operations will not exceed 55 dB(A) when measured at the pit boundary. The only exception would be during initial surface soil scraping and storage of that material which will be used during reclamation. The Applicant expects the duration of these activities to be less than one week.
2. Mining will start at the south portion of the pit and move to the north. The initial pit floor will be 25 ft. below grade and the mining face will be on a 1 to 1 slope (45 deg). This mine face will be a noise barrier and will reduce the noise from the loader and back hoe to less than 55 dB(A) at the pit boundary.
3. The diesel engine driven electric generator will be set on the pit floor. The mine face will be a noise barrier and the noise level at the pit boundary will be less than 55 dB(A). The existing electric generator may be replaced with one of lower power, which would be quieter than the 350 KW unit currently used by the Applicant.
4. The electric generator, loader and back hoe will be fitted with high performance mufflers. At the present time, some of these equipment are unmuffled. One manufacture of high performance mufflers, the Donaldson Co., can provide the required mufflers.
5. All backup alarms will be of the white noise type and will be adjusted during installation to meet all regulatory requirements.
6. Customer haul trucks that exceed the noise limits specified in CRS 25-12-107 may be denied access to the pit until they have been maintained and are in compliance.
7. Noise measurements may be taken once the pit expansion area of the pit is in production to verify compliance with the 55 dB(A) noise limit at the pit boundary. Measurement results will be detailed in a report certified by a Professional Acoustical Engineer registered in the State of Colorado.

APPENDIX 3

DRAFT



United States Department of the Interior

Bureau of Land Management
Royal Gorge Field Office
3028 East Main Street
Cañon City, Colorado 81212
JUN 16 2010

INFORMATIONAL LETTER

In Reply Refer To:
8100 (COF020)(MMW)

Mr. Edward Nichols
State Historic Preservation Officer
Colorado Historical Society
1300 Broadway
Denver, CO 80203

County: Park
Cultural Resources Project Number: CR-RG-10-33 (P)
NEPA Number: DOI-BLM-CO200-2009-0099 EA
SHPO Report Number: PA.LM.R56

In January, 2010, we asked for your concurrence with our determination that Site 5PA4410 is eligible for the NRHP, and that the proposed undertaking (the Fairplay Destiny Placer Mine) would directly affect this historic property. In a letter dated February 3, 2010, the SHPO concurred with our determinations. We subsequently revisited the site with Jon Horn of Alpine Archaeological Consultants, an expert in historic archaeology. Based on Mr. Horn's observations, we felt that additional testing to confirm our determination of eligibility was warranted.

Alpine Archaeological Consultants conducted limited testing at Site 5PA4410 on May 31 and June 1, 2010. They also re-assessed the features previously recorded by the BLM archaeologist, examined the adjacent private land, and after thorough analysis of the extensive surface component, concluded that the site is not the remains of the historic Chinese occupation of Fairplay. Artifacts that appeared to be of Chinese origin were actually Japanese, and most of the dumping on the site appears to have occurred during the 1920s and 1930s, with very few remains of earlier periods. Therefore, BLM agrees with Alpine's recommendation that Site 5PA4410 should not be considered to be eligible for the NRHP.

As a result, we believe that the proposed undertaking does *not* exceed any of the review thresholds listed in Part VIII (C) (2) of the Protocol, and there will be no historic properties affected. We enclose Alpine's testing report, reevaluation forms for 5PA4410, and a revised

copy of the Cultural Resource Survey Management Information Form with our new determination of eligibility.

BUREAU OF LAND MANAGEMENT, ROYAL GORGE FIELD OFFICE

Morion Weiner 6/15/10

BY FIELD OFFICE ARCHAEOLOGIST

DATE

[Signature] 6/16/10

BY MANAGER

DATE

DRAFT



HISTORY  Colorado

RECEIVED
JUL 06 2010

June 29, 2010

Monica Weimer
Field Office Archaeologist
Bureau of Land Management
Royal Gorge Field Office
3028 East Main Street
Canon City, Colorado 81212

Re: Archaeological Testing at Site 5PA4410, Park County, Colorado (CHS #56419)

Dear Ms. Weimer:

Thank you for your correspondence dated June 12, 2010 (received by our office on June 21, 2010) and the documentation regarding the subject site.

Following our review of the documentation provided, we concur that 5PA4410 is **not eligible** for the National Register of Historic Places (NRHP).

Thank you for the opportunity to comment. If we may be of further assistance, please contact Shina duVall, Section 106 Compliance Manager, at (303) 866-4674 or shina.duvall@chs.state.co.us.

Sincerely,


Edward C. Nichols
State Historic Preservation Officer
ECN/SAD

THE COLORADO HISTORICAL SOCIETY

CIVIC CENTER PLAZA 1560 BROADWAY SUITE 400 DENVER COLORADO 80202 www.historycolorado.org

APPENDIX 4

DRAFT

Fairplay – Destiny Placer Mine Environmental Assessment

Socioeconomic and Environmental Justice Report

Prepared by:

Henry Eichman and Joshua Wilson
Economists
TEAMS Planning Enterprise Unit

for:

Royal Gorge Field Office
BLM

July 14, 2010



DRAFT

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Figure 1. Downtown Fairplay (Dallas 1984)

Introduction

Removal of gold, sand and gravel and associated activities on the Fairplay – Destiny Placer Mine has the potential to affect local social and economic conditions. Certain defining features of every area influence and shape the nature of local economic and social activity. Among these are the local population, the presence of or proximity to large cities or regional population centers, types of longstanding industries, predominant land and water features, and unique area amenities. These characteristics influence the relationship between BLM in the project area and local social and economic activity.

Economic effects are examined in terms of employment and income generated from the proposed action. Social effects are examined in terms of amenity and social values. Public scoping comments indicated amenity and social value exists for wildlife, public safety and air, soil and water quality. In addition, other comments noted value in area mining and expressed a community need for material provided by the mine.

Impact Area

In order to accurately portray the relationship between the project area and local social and economic conditions, the geographic scope of analysis must be defined. The economic effects from gold, sand and gravel removal feasibly extend beyond the immediate vicinity of the potential mine. The role of actions under the EA within the larger county must be addressed while not masking potential change within communities in the area. In this manner, the area social and economic characteristics and effects on the social and economic environment are dependent on the extent of the area examined, thus

area information is presented at two geographic scales based on available data: county and census county subdivisions (CCD) (Figure 2). Impacts and characteristics of Park County are presented alongside impacts and characteristics of Fairplay CCD given economic linkages between the County and the CCD containing the project area. Environmental Justice is examined at both the county and CCD level.

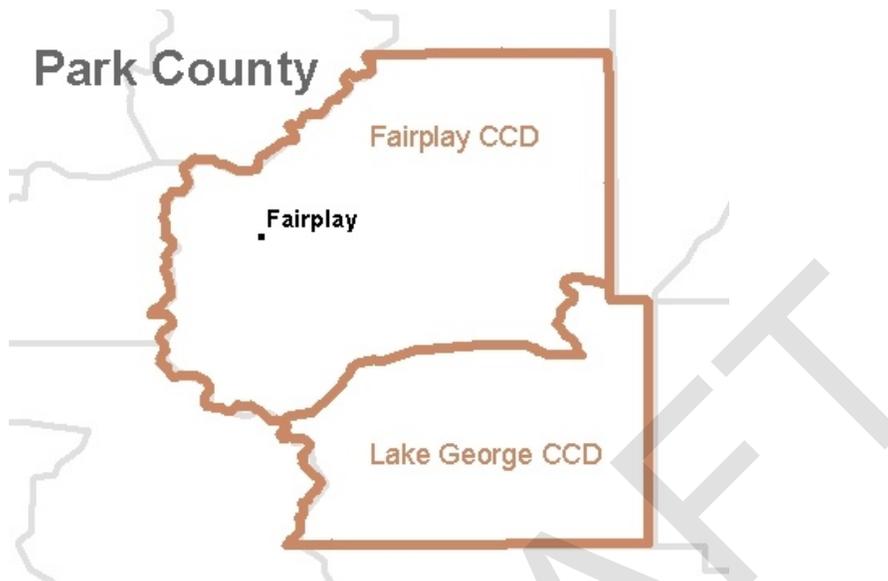


Figure 2. Park County and component CCDs

When we look at the social effects of land management actions, the most critical impacts may be to small, rural communities (USDA 2000, pg 5). Consequently, geographically defined communities are an important and relevant level for social assessment; however, not all social scientists agree that the geographically based community is always the appropriate level of analysis. The Northwest Forest Plan’s Federal Ecosystem Management Advisory TEAM (FEMAT) (FEMAT 1993, pg VII-35) makes the point that this view “only refers to physical or political boundaries and not to the relationships among people who reside within such boundaries.” Consequently, the social and economic relationships extend beyond the immediate vicinity of the project area and county. As a result actions under this EA must be addressed within the larger area while not masking potential change within communities.

Affected Environment



Figure 3. Fairplay, Colorado Post Office (Dallas 1984)

Population Change

Population in Park County between 1969 and 2008 increased by 14,827 people (697 percent) (Figure 4). Growth in the county over this period outpaced the state (124 percent) and the Nation (50 percent). Population within Fairplay CCD increased by 6,243 people (97 percent) between 1990 and 2000 which, in terms of growth, outpaced the nation (13 percent), the state (31 percent) but not Park County (104 percent) over this decade of available data. The town of Fairplay increased by 271 people (70 percent) between 1990 and 2008 which, in terms of growth, again outpaced the nation (21 percent), the state (49 percent) but not the county (135 percent) (US Department of Commerce 2008). Thus, while the county has experienced rates of growth that have exceeded national and state levels, rates of growth within Fairplay and the larger CCD have been less than their county over periods where data are available.

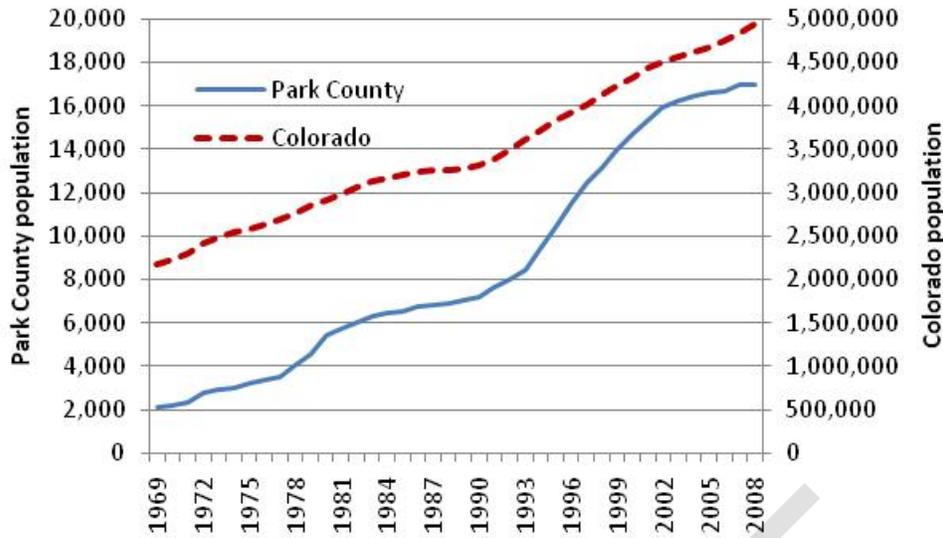


Figure 4. Population Change for Park County and the State of Colorado (US Department of Commerce, 2008)

Employment and Income

Employment within Park County is distributed amongst industry sectors and displayed below in Table 1. The Manufacturing, Professional-scientific & technical services and Construction sectors were the largest components of employment in the county in 2008 (IMPLAN 2008).

Table 1. Area Employment and Labor Income Distribution by Industry Sector, 2008

Sector	Employment		Labor Income	
	Percent	Absolute (full and part-time jobs)	Percent	Absolute (Thousands of dollars)
Ag & Forestry Svcs	0.00%	0.03	0.01%	\$15
Construction	15.30%	607	17.9%	\$23,571
Crop Farming	0.11%	4	0.1%	\$83
Finance & insurance	5.17%	205	2.9%	\$3,810
Fishing- Hunting & Trapping	0.09%	4	0.03%	\$35
Forestry & Logging	1.81%	72	0.05%	\$60
Information	13.09%	520	7.6%	\$10,083
Livestock	2.40%	95	0.2%	\$203
Manufacturing	29.52%	1,172	34.6%	\$45,699
Mining and Mining services	0.40%	16	1.4%	\$1,865
Oil & gas extraction	0.28%	11	0.2%	\$219
Professional- scientific & tech svcs	22.18%	881	27.1%	\$35,759
Real estate & rental	1.24%	49	2.0%	\$2,609
Retail trade	4.20%	167	2.5%	\$3,282

Transportation & Warehousing	3.96%	157	2.9%	\$3,793
Utilities	0.12%	5	0.5%	\$597
Wholesale Trade	0.11%	4	0.2%	\$240
TOTAL	100%	3,970	100%	\$131,923

Source: IMPLAN 2008

The Interior Columbia Basin Ecosystem Management Project identified communities that were specialized with respect to employment. This method is applied here using the ratio of the percent employment in each industry in the region of interest (Park County) to an average percent of employment in that industry for a larger reference area (the state of Colorado). For a given industry, when the percent employment in the analysis region is greater than in the reference area, local employment specialization exists in that industry (USDA Forest Service, 1998). Using this criterion applied with 2006 data¹, Park County can be characterized as specialized with respect to several industries (Figure 5). For industries with available data the three industries demonstrating the most specialization are Forestry, fishing, and related activities, Construction and Other Services (US Department of Commerce, 2006).

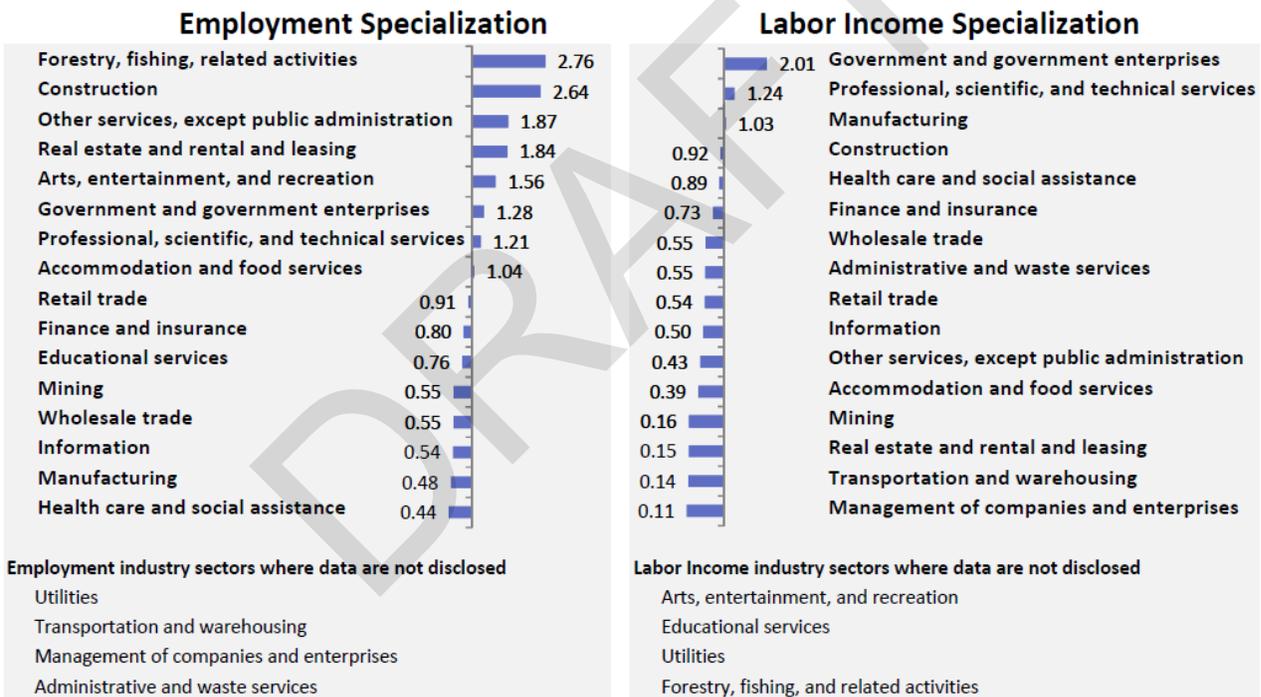


Figure 5. Employment and Income Specialization in Park County Relative to the State of Colorado (US Department of Commerce 2006)

Employment by industry sector is available at the CCD level for the year 2000 and shows that construction (16 percent), Education, health and social services (15 percent) and the retail trade (13 percent) industries are responsible for the three large portion of

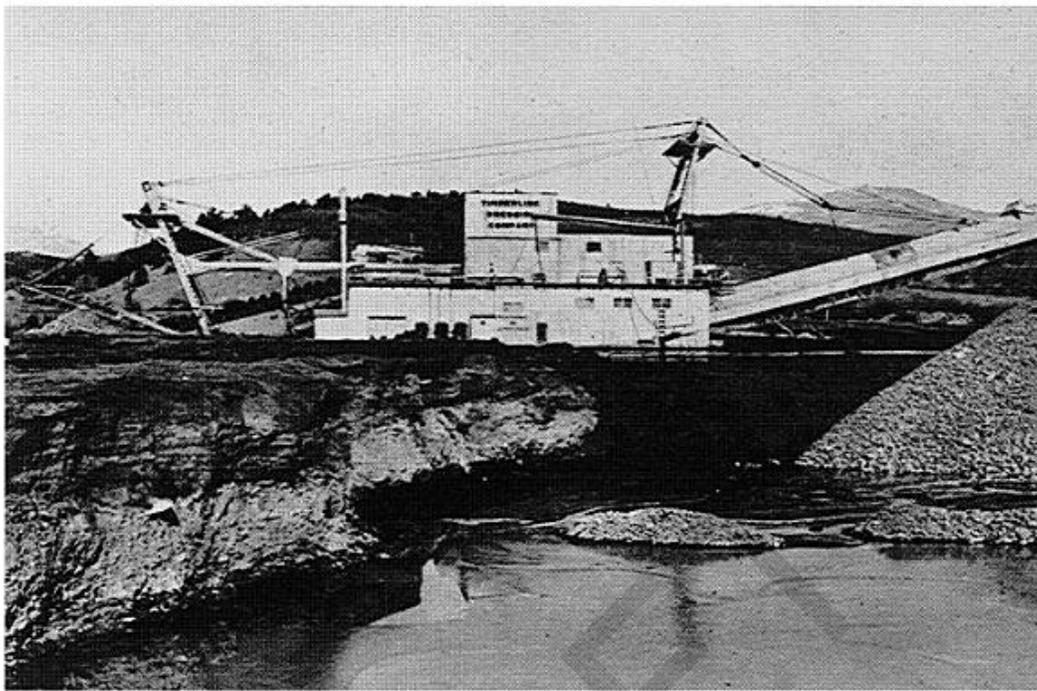
¹ The numbers in Figure 3 are not directly comparable to the IMPLAN numbers in Table 1 since IMPLAN data include farm and proprietor employment in addition to wage and salary employment. Similarly, the IMPLAN data also include estimates for non-disclosures that similarly include farm and proprietor employment in addition to wage and salary employment. In addition the IMPLAN data do not include Government as

employment in Fairplay CCD. Mining was the second smallest sector containing 90 jobs and one percent of total employment in the CCD (US Department of Commerce 2000).

There are three major sources of personal income: (1) labor earnings or income from the workplace, (2) investment income, or income received by individuals in the form of rent, dividends, or interest earnings, and (3) transfer payment income or income received as Social Security, retirement and disability income or Medicare and Medicaid payments. In 2006 labor earnings were the largest sources of income accounting for 79 percent of all income within Park County. Non-labor sources of income, such as (2) investment income and (3) transfer payments, accounted for 12 and 9 percent, respectively (US Department of Commerce, 2006b). Similar to employment, the Manufacturing, Professional-scientific & technical services and Construction sectors were the largest sources of labor income in 2008 within Park County (Table 1) (IMPLAN 2008). Utilizing the same criterion used above to examine employment specialization, the three industries demonstrating the highest degree of income specialization are Government, Professional, scientific and technical services and the Manufacturing sectors (Figure 5).

Mining

Fairplay was founded in 1859 as a gold mining settlement during the early days of the Pike's Peak Gold Rush (Kaelin 1999). After gold was discovered in South Park, the area was flooded with claims, mining camps and small towns. The town of Fairplay owes its name to a group of gold prospectors who were driven to the area by miners who had staked every claim in the Tarryall region. They organized the next strike in a more egalitarian manner and aptly named it "Fair Play" where all prospectors would have an equal chance to stake their claims (Carr 1941 and Kaelin 1999). The Fairplay mining camp prospered, but soon the prospectors' stakes gave way to larger placer and hard-rock mining operations, which flourished for the next thirty years. Other businesses moved in to provide goods and services to the South Park area to the west (Dallas, 1988). Later, hydraulic and dredge mining was introduced and these communities prospered again (Carr 1941).



U. S. Forest Service

PLACER GOLD-MINING DREDGE, FAIRPLAY

Figure 6. Placer Gold Mining Dredge, Fairplay Colorado (Carr 1941)

Within the US gold was produced at about 50 lode mines, a few large placer mines (all in Alaska), and numerous smaller placer mines (mostly in Alaska and in the Western States) in 2009. In addition, a small amount of domestic gold was recovered as a byproduct of processing base metals, chiefly copper. Metric tons of mined gold were estimated at 210 while primary and secondary refined gold production was estimated at 170 and 190 metric tons, respectively. Domestic gold mine production in 2009 was estimated to be 10% less than the level of 2008. The value of domestic gold mine production in 2009 was about \$6.4 billion. The United States Geological Survey estimated uses of domestically produced gold are jewelry and arts (72 percent), electrical and electronics (7 percent), and dental and other uncategorized uses constituted the remaining 21 percent (Department of Interior 2010).

In 2008, Colorado ranked 4th among the states in gold production. The largest mine in Colorado is the Cresson mine which produced more than 258,000 ounces of gold in 2008. The total value of gold, molybdenum and silver production within the state in 2008 was \$1.5 billion (Colorado Mining Association 2009).

Within Park County 24 surface mines are listed as active by the Colorado Division of Reclamation, Mining and Safety as of March of 2010. 16 of these operations produce both sand and gravel, another two mines produce just gravel and three other mines produce just gold (the three remaining mines produce borate, gemstones and peat). One gravel operation also reports production of gold while one of the sand and gravel operations also reports gold production (State of Colorado 2010).

From 1970 to 2000, estimated mining employment as a share of total employment went from 1.5 to 0.8 percent in Park County. Over this period estimated mining income as a share of TPI increased from 0.1 to 4.2 percent (US Department of Commerce 2000b). In the year 2006, average annual mining wages in the county were \$38,056 which was more than 20 percent higher than the average wage for all private and public sector (\$29,984) (US Department of Commerce, 2006c). Data presented in Table 1 shows that the Mining and Mining services sector made up 0.4 percent of employment and 1.4 percent of labor income in Park County in 2006 (IMPLAN 2008).

Amenity and Social Values

The value of resource goods traded in markets can be obtained from information on the quantity sold and market price of sand, gravel or gold however; markets do not exist for some resources, such as recreational opportunities and environmental services affected by actions under this EA. Discussing their value is important, since without estimates, these resources may be implicitly undervalued and decisions regarding their use may not accurately reflect their true value to the area. Because these recreational and other values are not traded in markets, they can be characterized as non-market or amenity values. Recreational opportunities within the project area include activities such as ATV use, dispersed camping, wildlife viewing, and hiking (Recreation section – pg 30 of EA). Other public scoping comments indicated amenity and social value exists for wildlife, public safety and air, soil and water quality. In addition, other comments noted value in area mining and expressed a community need for material provided by the mine. Area residents have expressed concern regarding the potential effects to these values on scenery, air quality, noise, and consequently their property values from an active mining claim adjacent to their homes. This range of values indicates where shared values exist and where values may conflict. The information will enable agency staff to address concerns and ensure that actions either address their values or explain why they will not or cannot (USDA 2009).

Environmental Justice

Executive Order 12898 requires Federal agencies to “identify and address the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” According to the Council on Environmental Quality’s (CEQ) Environmental Justice Guidelines for NEPA (1997) “minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.....a minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above stated thresholds.” Thus, the ethnic and racial composition of Colorado, Park County, and the CCD surrounding the potential mining activity (Figure 2) are of interest. The shares of 2000 population by race and ethnicity are displayed in Table 2 below.² In the year 2000, the share of population described as white was greater than the state in Park County and Fairplay CCD. In Fairplay CCD the shares of Asians,

² Race and ethnicity shares do not add to 100 percent because Hispanics can be of any race.

those identifying with some other race, and Hispanics were slightly greater than Park County in 2000 (US Department of Commerce 2000c). Since the difference in shares between the different geographies is small it is safe to say that these differences cannot be considered “meaningful” as defined by the CEQ. Thus, it is safe to say that while minority groups exist in the area, they cannot be considered environmental justice populations.

Table 2. Population by Race and Ethnicity (2000)

	White	Black or African American	American Indian & Alaska Native	Asian	Native Hawaiian & Other Pacific Islander	Some other race	Two or more races	Hispanic (of any race)
Colorado	82.8%	3.8%	1.0%	2.2%	0.1%	7.2%	2.8%	17.1%
Park County	95.1%	0.5%	0.9%	0.4%	0.03%	1.2%	1.8%	4.3%
Fairplay CCD	95.0%	0.5%	0.9%	0.5%	0.02%	1.3%	1.8%	4.4%

Source: US Census Bureau, 2000 SF1 Tables P7 and P8

In addition to race, concentrations of people living under the poverty level are of interest when considering the Environmental Justice implications of the Proposed Action. CEQ guidance on identifying low-income populations states “agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.” In 1999 shares of the population living below poverty in Fairplay CCD (4.4 percent) was less than shares in Park County and the state (5.6 and 9.3 percent, respectively) (US Department of Commerce 2000d). Thus, the Census data indicate that low income populations, as defined by CEQ, do not exist within the impact area.

Environmental Consequences

Methodology for Analysis

The analysis of economic effects considers market and non-market values in the discussion and analysis below. As discussed above, non-market values, such as the value of recreation experiences and ecological services, by their nature are difficult to quantify. Direction provided in the Land Use Planning Handbook (Appendix D; pages 6, 7 and 10) suggests the use of benefit transfer to evaluate the effects of these non-market values. In the absence of quantitative information for other non-market values and social effects, they are discussed qualitatively here and in other parts of the EA.

The effect on residential property values is also difficult to quantify. There are no methods available that allow for an accurate estimate of changes in property values that would result under action alternatives. However, there is substantial evidence in related literature that suggests mining negatively impacts property values. Also, there is evidence that nearby natural amenities and high scenic quality improve property values. Therefore, for the purposes of this report, previous studies are used to estimate the direction of change to property values that would result from action alternatives.

The analytical technique used by the BLM to estimate employment and income impacts is "input-output" analysis using the IMPLAN Pro software system. Input-output analysis (Miernyk, 1965) is a means of examining relationships within an economy both between businesses and between businesses and final consumers. It captures all monetary market transactions for consumption in a given time period. The resulting mathematical representation allows one to examine the effect of a change in one or several economic activities on an entire economy, all else constant. This examination is called economic impact analysis. IMPLAN translates changes in final demand for goods and services into economic effects, such as labor income and employment of the affected area's economy. The IMPLAN modeling system requires one to build regional economic models of one or more counties for a particular year. The regional model for this analysis uses 2008 IMPLAN data for Park County.

The economic impacts to the local economy affected by the treatments proposed are measured by estimating the employment (full- and part-time jobs) and labor income generated by the removal of sand, gravel and gold from the project area. The direct employment and labor income benefit employees and their families and therefore directly affect the local economy. Additional indirect and induced multiplier effects (ripple effects) are generated by the direct activities. Together the direct and multiplier effects comprise the total economic impacts to the local economy (Table 3). The multiplier effects tied to the material removal were estimated using IMPLAN. Potential limitations of these estimates are the time lag in IMPLAN data and the data intensive nature of the input-output model.

No Action

Direct and Indirect Effects

There would be no direct effects on the socioeconomic environment if no action were to take place. Any change in conditions would occur as a natural progression of economic and social activity, thus there is no means of estimating the indirect effects of taking no action.

Cumulative Effects

Given that there are no measurable direct and indirect effects that would occur under the no action alternative, there would also be no measurable cumulative effects.

Proposed Action

For the purposes of this specialist report, only one action alternative is analyzed in detail. This alternative would include mining for gold as well as sand and gravel. Restricting the mine to only a gold operation, noted as Alternative 1 in the EA document, is feasible; however, impacts to visual quality would be greater. Materials from the sand and gravel operation would be used to mitigate visual impacts. Therefore, gold mining along with a sand gravel operation is the most reasonable alternative for analytical purposes.

Direct and Indirect Effects

The proposed mining operation would have multiple effects on social and economic conditions. The primary economic variables affected would be jobs, income, and property values. The impact to jobs and income was modeled using 2008 IMPLAN data and the level of proposed mining activities. It is assumed that mining would produce 200 ounces of gold and 20,000 cubic yards of sand and gravel per month. The inputs required to operate the mine include labor and capital. Therefore the mine would generate economic activity in form of jobs and the purchase of local goods as inputs to production. IMPLAN tracks the inter-industry purchasing patterns associated with mining and allows for an estimate of the total impact to jobs and labor income in the study area. As reported in Table 3, a total of 4.5 jobs and \$394,342 of labor income would be generated from the mining operation. The majority of jobs and income would exist in the mining sector. Three jobs in that sector would be those directly operating the mine. However, the local purchase of inputs to production would generate additional activity in other sectors, which results in the remaining employment and income.

Table 3: Impact to Jobs and Income in Park County

	Employment	Labor Income
Agriculture, Forestry, Fishing & Hunting	0.005	44
Mining	3.059	337,559
Utilities	0.028	3,434
Construction	0.031	1,218
Manufacturing	0.857	36,002
Wholesale Trade	0.004	213
Transportation & Warehousing	0.107	2,591
Retail Trade	0.049	744
Information	0.226	3,941
Finance & Insurance	0.114	1,717
Real Estate & Rental	0.113	6,879
Professional Scientific & Technical Services	0.000	0
Total	4.591	394,342

Source: IMPLAN 2008

In addition to changes in jobs and income, it is also likely that the proposed mining activities would impact residential property values near the site. There is no method available for estimating the true impact to property values; however, evidence suggests that mining operations tend to have a negative effect on home prices in adjacent neighborhoods. Boxall et al. (2004) researched the effect of oil and natural gas mining on rural residential property values. Although the mining operation proposed under this alternative is different, the effects on visual quality and amenity values, as well as restrictions in access, would be similar. The findings suggest that property values are negatively correlated with mining activity. It is unlikely that mining activity would have no effect on, or improve, residential property values; therefore it is assumed that a negative correlation exists with Destiny Mine and the value of nearby homes during its active life. Boxall (2004) only indicate a direction of change in property values, where as Kiel and McClain (1993) suggest that there is a time component that affects the degree of change in home prices resulting from an undesirable land use. Their research suggests

that during the operational life of a disamenity original homeowners realize a net loss in property value. However, they also report that “if after the adjustment is complete the facility is regarded as innocuous, prices will rebound and the total change in social welfare will be zero. In this case, however, a substantial transfer of welfare may have occurred from buyers to sellers” (Kiel and McClain, 1993). Therefore from a net public benefits perspective, there is likely to be no change in social welfare over the long run. This is likely to be the case of the Destiny Mine. Initial losses in property value would be re-gained after operation concludes, and it may be the case the reclamation efforts leave the site more visually and aesthetically valuable than under its current state. This could even result in upward pressure on nearby residential property values in the long-run.

However, evidence suggests that in the near-term property values would be negatively impacted by the mining operation. The degree to which is unknown. There are no studies that accurately depict the state of affairs at this specific site, therefore, citing a benefits transfer from other studies would be unreliable. Currently the site is open to recreation use and accessible by nearby residents. The proposed mining site consists of 4.84 acres out of an 80 acre BLM parcel zoned for mining. The proposed mining site would be closed to public access which could generate some negative externalities. Those externalities include those discussed above such as, loss of access, scenic quality, noise, dust and increased commercial traffic. Through proper management many of these effects are mitigatable.

As discussed above, mining has a long history in Park County. Substantial evidence of past and present mining operations exists around the proposed site. In addition to remnants from mining operations, residential developers have left rock piles and holes disturbing the immediate landscape. There are currently five homes adjacent to the proposed site; however, it appears that only one is occupied. Residents of these homes would be most affected by mining activities. Concealing the mining operation by landscaping with native grasses and trees would reduce the visual effects to nearby property owners. Additionally, building a trail around the mine to other open areas would allow for continued multiple use access by residents. This would help mitigate any negative impacts to social values occurring from closing the site to recreational use. Commercial traffic would enter through the south access road and would not affect roadways for the homes adjacent to the mining site. There is a home located near the south access road that would experience increased truck traffic, but the operator has agreed to move the entrance to the access road away from their driveway to mitigate traffic conflicts.

The air quality analysis estimates the impacts to air quality resulting from the proposed action. It is anticipated that long-term and moderately adverse impacts would occur to immediate homeowners, long term and minor impacts to Park County, and long-term but negligible impacts to Colorado, relative to the existing conditions. It is likely that realized socioeconomic effects from changes in air quality would occur within close proximity to the mining site. At the time of this analysis, occupancy rates of nearby homes are low; however, any adverse impacts realized by existing homeowners would increase the socioeconomic costs associated with this alternative. Such costs could include further reduction in property values and increased risk for health problems; however, there is no reliable data that allows for a quantitative analysis of those costs. Given that the nearby residential neighborhood is sparsely populated, adverse impacts would be minor in relation to the entire study area; however, those impacts could be very

costly to those directly affected. If implementation of the proposed action were to occur, efforts should be made to mitigate the impacts to air quality as much as possible. Potential mitigation measures are presented in the air quality report. If properly implemented, the mitigation measures would decrease the total cost associated with the mine. In addition to air quality, noise may also impact the socioeconomic environment.

An analysis was also done to estimate the effects of noise emitted from mining operations. An increase in noise could negatively impact nearby property owners and residents. These impacts could include a decrease in amenity values, property values and quality of life. As reported in the noise analysis, the Colorado State established noise limits for residential areas are 55db (A) from 7:00 a.m. to 7:00 p.m. and 50db (A) from 7:00 p.m. to 7:00 a.m. The proposed mining operation would emit noise from several types of equipment, including a front end loader, track hoe, bull dozer, washplant, generator, and dump truck. The total noise level and timing of operation for many of these equipment types is unknown. However, the front end loader alone exceeds the state noise limit for residential areas. Operation of other types of equipment would further increase the noise level that nearby residents would be exposed to. It is assumed that this would negatively impact socioeconomic conditions; but the degree to which is currently unknown. The noise analysis recommends mitigation measures to reduce noise to acceptable levels. If successful, this would limit the negative impacts experienced by nearby residents.

Ultimately, it would be the reduction of amenity values discussed above that would make nearby homes less desirable to live in, which would place downward pressure on property values. Restricted access, lower visual quality, and increases in noise, dust and traffic all tend to reduce the aesthetic quality and amenity values realized by nearby residents during the life of the mine. If proper measures are taken to mitigate these effects, then the effects on property values could be negligible. However, in the event that such effects are not properly mitigated, then nearby property owners could experience a decrease in the value of their homes.

Cumulative Effects

The cumulative effects of the proposed action include the total change in social and economic conditions that would result from the development of this mine in conjunction with the direct and indirect effects of other present and reasonably foreseeable activities being conducted in Park County. It assumed that the effects from past activities have already been absorbed by local communities and are represented in the affected environment. Any change in the social and economic environment as a result of this management alternative would be in addition to other mining activities occurring simultaneously in the region as well as those that could reasonably occur in the future. Each project may have a very small effect on the social and economic conditions of the study area individually; however, cumulatively, they could substantially change the distribution of jobs and income, as well as affect many of the social variables discussed above. There are currently 24 active mining permits in Park County. Acreages for the permits range from 3.39 to 260. Commodities currently being mined include: sand, gravel, gold, silver, peat, gemstones, and borrow material for construction. The only application currently under review that would allow additional mining activity in the Park County is that for the Destiny Mine being evaluated in this document (State of Colorado, 2010). Estimating the economic and social impact for each one of these activities is

outside the scope of this analysis. However, cumulatively speaking, it appears as though the destiny mine would make up a small proportion of total mining activities in the study area.

Environmental Justice

Data examined above indicate that environmental justice populations, as defined by CEQ, are not present in the impact area. While minority and low-income populations may exist in the area, the alternatives are not expected to have a disproportionately high and adverse human health or environmental effects on these communities. Evidence suggests that there is no reason to suspect that any impacts will disproportionately affect minority and low income populations. In addition, employment and income contributions of the Proposed Action could support employment and income in the area which could benefit area minority and low-income populations.

Mitigation

In the case of the Destiny Mine, socioeconomic effects would occur as a result of changes to the conditions of other resources. For example, a decrease in air quality, visual characteristics and recreational opportunities would reduce the amenity values experienced by nearby residents; which consequently would impact quality of life and property values. However, the source of those impacts is the condition of the underlying resources, e.g. air quality. Implementing mitigation measures for those resources would also limit the socioeconomic effects associated with the mine. Therefore no specific mitigation measures for the social or economic environments are recommended.

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