



United States Department of the Interior



BUREAU OF LAND MANAGEMENT

Yuma Field Office
2555 East Gila Ridge Road
Yuma, AZ 85365
www.az.blm.gov

Decision Record
For
PROPOSED REOPENING OF THE COPPERSTONE MINE
AZA 035202
DOI-BLM-AZ-C020-2010-0015-EA

Decision

The environmental assessment DOI-BLM-AZ-C020-2010-0015-EA, evaluates the Bonanza Exploration Inc. proposal for reopening the Copperstone mine as an underground gold mining and flotation mill project within the disturbed footprint of the previously operating mine. Bonanza Exploration (Project) has identified approximately 1.1 million tons (MT) of recoverable gold-bearing ore at a reported average grade 0.302 ounces per ton of gold. The Project proposes mining and milling approximately 450 tons per day of ore and producing between 35,000 to 55,000 ounces of gold per year for 7 to 10 years. The estimated yearly mine through-put is approximately 158,000 tons per year. Ore will be drilled and blasted from underground workings, transported to a crushing/grinding circuit, and then run through a small flotation mill. Concentrate from the flotation mill will be trucked to an independent mill, most likely in Nevada, for final processing. Waste rock from underground operations will be disposed of within the open pit left by previous mining. Tailings from the milling operations shall be placed within a lined tailings pond on top of the waste rock left by previous mining.

The following Federal lands will be affected:

Gila and Salt River Meridian, La Paz County, Arizona,
T. 6 N., R. 20 W.,
sec. 11, lots 3 (within), 4 (within), 5 (within),
E $\frac{1}{2}$ NE $\frac{1}{4}$ (within), E $\frac{1}{2}$ SE $\frac{1}{4}$ (within), and SW $\frac{1}{4}$ SE $\frac{1}{4}$
(within);
sec. 12, N $\frac{1}{2}$ (within), S $\frac{1}{2}$ (within);
sec. 13, N $\frac{1}{2}$ (within);
sec. 14, NE $\frac{1}{4}$ (within).

The proposed mine area described is approximately 126.9 acres, aggregate.

An authorization letter to begin mining operations will require an approved reclamation bond and all required State of Arizona permits.

In addition, this mining operation will use Federal lands/BLM-managed lands that are currently encumbered by the following authorized rights-of-way issued pursuant to Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776; 43 U.S.C. 1761):

AZA 32504 - issued to Arizona Public Service for a power line;
AZA 32505 - issued to Patch Living Trust for an access road;
AZA 32506 - issued to Patch Living Trust for a water line.

Major Laws Pertinent to the Decision

The Clean Air Act as amended (42 U.S.C. 7401, *et seq.*), Clean Water Act of 1977 (33 U.S.C. 1251, *et seq.*), Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703, *et seq.*), Endangered Species Act of 1983, as amended (16 U.S.C. 1531), General Mining Law of 1872 (17 Stat. 217), and the Federal Land Policy and Management Act (43 U.S.C 1701 *et seq.*).

Rationale for Decision

The rationale for my decision can be supported with the Proposed Reopening of the Copperstone Mine Environmental Assessment DOI-BLM-AZ-C020-2010-0015-EA and the Finding of No Significant Impact. This decision is in conformance with the January 2010 Yuma Field Office Approved Resource Management Plan (ARMP) and Record of Decision (ROD).

Bonanza Exploration Inc. has a legal right to develop and extract locatable minerals from the site as established by the 1872 Mining Law. These minerals will help to satisfy the national demand for these minerals, and help to stimulate the local economy.

Public Involvement

On December 1, 2009, a public scoping meeting was held in Quartzsite to give the local public an opportunity to learn about the Project, make comments and identify potential issues. About the same time a letter was sent to all of the local Indian Tribes to let them know that BLM was beginning the NEPA process for the project and initiating the Tribal consultation process. On June 30, 2010, the final draft environmental assessment was posted on the internet for public comment for 30 days. No public comments were received. At the same time the local Tribes were notified by letter about the posting and comment period. The CRIT located in Parker requested a project briefing which was given to their Tribal Council on August 3, 2010.

Management and Mitigation Consideration

- The facility will be a zero discharge facility with all wastewater water either recycled or evaporated within the tailings facility. All mine water created from pumping of the underground mine is anticipated to be used in the mill with make-up water coming from existing well water or recycled water.
- All hazardous substances will be transported by commercial carriers in accordance with the requirements of Title 49 of the CFR. Chemicals and materials will be stored away from areas of public access and process solutions would be contained and fenced (chain link fence around process facilities).
- Chemical and solution storage on proposed Project will comply with State requirements. Tanks and vessels would be placed on a plastic or concrete-lined containment surface

with interior sumps to route any spilled solutions to lined collection areas. All hazardous material storage tanks will have secondary containment sufficient to hold at least 125 percent of the volume of the largest tank in the containment area.

- Prior to start up, Bonanza will prepare a Spill Prevention Control and Countermeasure (SPCC) Plan, Emergency Response and Contingency Plan, Stormwater Pollution Prevention Plan (SWPPP), and Fire Plan. The Emergency Response and Contingency Plan will establish procedures for responding to accidental spills or releases of hazardous materials to minimize health risks and environmental effects. The plan will include maintaining safety, cleanup and neutralization actions, emergency contacts, internal and external notifications to regulatory authorities, and incident documentation.
- The area surrounding active mining Project area will be fenced and signed to alert the public of the active mining status and hazards associated with entering the fenced area. The mine currently maintains and will continue to restrict access within the current mine fenced area due to public safety issues within the currently fenced areas.
- Reclamation will be completed in accordance with the BLM approved MPO. All reclamation will be conducted as soon as practical as disturbed lands and facilities are identified as no longer needed for operation of the mine.
- As necessary, Bonanza will control invasive non-native weeds occurring within the boundary of the proposed Project. Any reseeding activity will exclusively use certified seed, weed-free straw, and any equipment from outside the area would be cleaned prior to use.
- Banded Gila Monster habitat is present in the area surrounding the Project. To avoid potential impacts to Banded Gila Monsters, construction workers will be advised of appropriate BLM approved procedures to follow should a Gila Monster be encountered in the Project area.
- Should future exploration/mining activities expand outside of the existing Copperstone Mine footprint all workers involved in that activity shall receive cultural sensitivity training and all sites within the expansion will be flagged and avoided. The BLM shall maintain marking of cultural sites to prevent future damage to those sites.
- Fugitive dust generated from construction and mining activities shall be controlled by the permittee in accordance with local rules, ordinances, and BLM stipulations. Staging areas and surface mining zones shall be watered regularly to minimize fugitive dust.
- All heavy equipment operations shall be restricted to the existing Copperstone Mine footprint and road rights-of-way unless authorized by BLM in writing.
- During construction, stormwater pollution prevention measures shall be taken as required by the Clean Water Act. An AZPDES permit must be obtained from the ADEQ before any construction activities begin. These measures shall address the handling of solid waste and on-site refueling.

- Burning of trash shall not occur on BLM land unless specific permission is granted by BLM.

Standard Stipulations

- Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.
- If in connection with operations under this authorization, any human remains, funerary objects, sacred objects or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (P.L. 101-601; 104 Stat. 3048; 25 U.S.C. 3001) are discovered, the holder shall stop operations in the immediate area of the discovery, protect the remains and objects, and immediately notify the authorized officer. The holder shall continue to protect the immediate area of the discovery until notified by the authorized officer that operations may resume.
- The holder shall protect all survey monuments found within the project area. Survey monuments include but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, the holder shall immediately report the incident, in writing, to the authorized officer and the respective installing authority if known. Where General Land Office or Bureau of Land Management right-of-way monuments or references are obliterated during operations, the holder shall secure the services of a registered land surveyor or Bureau cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the *Manual of Surveying Instructions for the Survey of Public Lands of the United States*, latest edition. The holder shall record such survey in the appropriate county and send a copy to the authorized officer. If the Bureau cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monument, the holder shall be responsible for the survey cost.
- The operator shall clean all heavy equipment (power or high pressure cleaning) of all mud, dirt and plant parts prior to moving equipment onto public lands.
- The operator shall identify a road maintenance program which will include monitoring for noxious weeds. If the operator identifies any noxious weeds the operator shall notify the authorized officer immediately. A treatment program shall be identified and the operator shall be responsible for weed abatement.

Monitoring

Yuma Field Office staff will conduct compliance inspections during construction activities and throughout the life of the mine to ensure compliance with the terms and conditions of the authorizations and the approved mining plan of operation and occupancy.

3809 Appeal Language

Pursuant to 43 CFR 3809.800(a), you may ask the Arizona State Director to review this decision. If you request State Director review of this decision, your written request must be a single package that includes a brief written statement explaining why BLM should change its decision and any documents that support your written statement (see 43 CFR 3809.805(a)). This decision will remain in effect during the period of State Director review unless a stay is granted by the State Director (see 43 CFR 3809.808(a)). Requests for State Director Review must be sent to the BLM, State Director Review, C/O Yuma Field Office, 2555 East Gila Ridge Road, Yuma, Arizona 85365-2240. When you submit your request for State Director review, you may also request a meeting with the State Director (see 43 CFR 3809.805(b)).

If you have requested a State Director review, you may terminate this review by filing an appeal with the Interior Board of Land Appeals (IBLA) during the 30 days immediately following the date of receipt of the original decision. If you have requested a State Director review and the State Director decides not to review the decision in your case, you may appeal to IBLA. An appeal to IBLA must be taken during the 30-day period following the date the State Director decides not to review the decision. If the State Director does not make a decision within 21 days of your request, you should consider your request for State Director review declined and you have 30 days following that 21-day period in which you may appeal the original decision to IBLA (see 43 CFR 3809.806). You may also appeal an unfavorable decision resulting from the State Director review. If appealing an unfavorable decision from a State Director's review, you have 30 days from the date that you receive or are notified of that decision to appeal to IBLA.

You may also file an appeal directly to IBLA and bypass completely the State Director review (see 43 CFR 3809.800(b)). If you wish to bypass State Director review and appeal directly to IBLA, your appeal must be filed within 30 days of the date you received this decision.

Any appeal taken with IBLA must be in accordance with 43 CFR 4.400, *et seq.* If you decide to appeal, your Notice of Appeal (NOA), must be filed in writing and in accordance with Form 1842-1 (enclosed) at the Yuma Field Office, 2555 East Gila Ridge Road, Yuma, Arizona 85365-2240, and with Office of the Solicitor (Department of the Interior, Office of the Field Solicitor, Sandra Day O'Connor U.S. Court House #404, 401 West Washington Street SPC44, Phoenix, Arizona 85003-2151).

The required Statement of Reasons (SOR; see 43 CFR 4.412) may be filed with the NOA or, if not, it must be filed with the IBLA, Office of Hearings and Appeals, U.S. Department of the Interior, MS 300-QC, Arlington, VA 22203, within 30 days after the NOA was filed (see also required service at 43 CFR 4.413).

The decision, signed by the Field Office Manager, will remain in effect during the appeal unless a stay is granted. If you wish to file a petition pursuant to regulations 43 CFR 4.21 for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, or for a stay pursuant to 43 CFR 3809.808(b) during a State Director review, the petition for a stay must accompany your notice of appeal or with your package requesting State Director review. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted. Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision shall show sufficient justification based on the following standards:

Standards for Obtaining a Stay

1. The relative harm to the parties if the stay is granted or denied,
2. The likelihood of the appellant's success on the merits,
3. The likelihood of immediate and irreparable harm if the stay is not granted, and
4. Whether the public interest favors granting the stay.

The Proposed Action will have no effect on the President's Energy Policy and a Statement of Adverse Energy Impact is not required.

s/Karen Reichhardt for James Shoaff
James T. Shoaff
Field Manager

October 20, 2010
Date



United States Department of the Interior



BUREAU OF LAND MANAGEMENT

Yuma Field Office
2555 East Gila Ridge Road
Yuma, AZ 85365
www.az.blm.gov

FINDING OF NO SIGNIFICANT IMPACT
For
PROPOSED REOPENING OF THE COPPERSTONE MINE
AZA-035202
DOI-BLM-AZ-C020-2010-0015-EA

The Bureau of Land Management (BLM), Yuma Field Office, has analyzed a proposal to reopen the Copperstone Mine. Bonanza Exploration Inc. wants to conduct underground mining and milling operations on active Federal mining claims under their control. The mining authorization will be issued under the authority of 1872 Mining Law and the Federal Land Policy and Management Act, as amended (Public Law 94-579) (FLPMA). Applicable regulations for this proposal are contained within 43 CFR 3809 and 43 CFR 3715. The proposed Action and the No Action Alternative are described within the attached Environmental Assessment (EA) No. DOI-BLM-AZ-C020-2010-0015-EA.

The EA is tiered to and in conformance with the January 2010 Yuma Field Office Approved Resource Management Plan (ARMP) and Record of Decision (ROD). The above referenced documents may be viewed at the Yuma Field Office during normal business hours.

The proposed action will assure that no significant adverse impacts will occur to the human environment in the following areas: Air Quality, Global Warming/Climate Change, Cultural Resources, Hazardous Material, Human Health and Public Safety, Lands & Realty Management, Mineral Resource Management, Native American Religious Concerns, Non-native Invasive Species, Recreation, Surface Protection, Visual Resources, Water Quality - Drinking and Ground, Wildlife, Wild Horse and Burro Management.

The proposed action does not significantly affect energy supply, distribution, and/or use and therefore a Statement of Adverse Energy Impact is not required.

On the basis of the information contained in the EA, and all other information available to me as is summarized above, it is my determination that the Proposed Action does not constitute a major Federal Action affecting the quality of the human environment. Therefore, an Environmental Impact Statement is unnecessary and will not be prepared.

s/ Karen Reichhardt for James Shoaff
James T. Shoaff
Yuma Field Manager

October 20, 2010
Date

**ENVIRONMENTAL ASSESSMENT
DOI-BLM-AZ-C020-2010-0015-EA
AZA 035202**

PROPOSED REOPENING OF THE COPPERSTONE MINE

Prepared By:

**Bureau of Land Management
Yuma Field Office
2555 East Gila Ridge Road
Yuma, AZ 85365-2240**

October 2010

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1. INTRODUCTION/PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

This environmental assessment (EA) was prepared to analyze Bonanza Exploration Inc.'s (Bonanza) submitted *Mine Plan of Operations and Reclamation Plan Permit Application* (MPO) for the proposed Reopening of the Copperstone Mine (Project) to the Yuma Field Office (YFO) of the U.S. Bureau of Land Management (BLM). The MPO was serialized as BLM case file AZA 035202. The accepted (as technically complete) MPO can be found in Appendix A of this document.

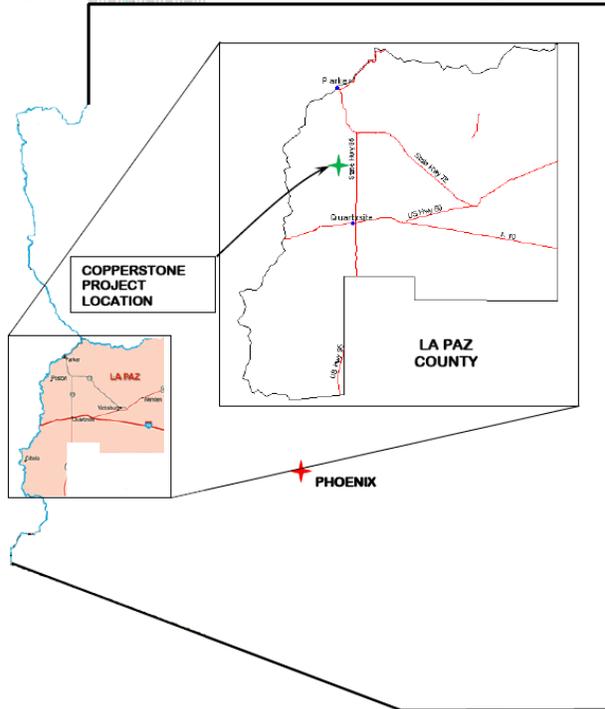
This EA would assist the BLM in project planning and ensure compliance with the National Environmental Policy Act (NEPA) by making a determination as to whether any significant impacts could result from the analyzed actions. If in following the analysis in the EA, the BLM determines that this Project has significant impact, an Environmental Impact Statement (EIS) would be prepared prior to the Project going forward. If the EA discloses that no significant impacts would result from the Project proposed, a Decision Record that includes a Finding of No Significant Impacts (FONSI) may be signed and the selected alternative approved.

1.2 BACKGROUND

The proposed Project is located in the northeastern part of the Dome Rock Mountains, approximately 9.5 miles north of the Town of Quartzsite, La Paz County, Arizona, at elevations ranging between 725 and 900 feet above mean sea level. See Figure 1-1 for general site location.

The Project area consists of approximately 126.9 acres, aggregate located in the Gila and Salt River Meridian, La Paz County, Arizona, T. 6 N., R. 20 W., sec. 11, lots 3 (within), 4 (within), 5 (within), E $\frac{1}{2}$ NE $\frac{1}{4}$ (within), E $\frac{1}{2}$ SE $\frac{1}{4}$ (within), and SW $\frac{1}{4}$ SE $\frac{1}{4}$ (within); sec. 12, N $\frac{1}{2}$ (within), S $\frac{1}{2}$ (within); sec. 13, N $\frac{1}{2}$ (within); sec. 14, NE $\frac{1}{4}$ (within). Detailed description of the unpatented claims can be found in the MPO located in Appendix A. Bonanza holds two State of Arizona mineral leases (109953, 109954) totaling approximately 1,338 acres on Arizona State lands in sections 6 and 7 of Township 6 North, Range 19 West (T. 6 N., R. 19 W.) GSRM. Detailed description of the leases can be found in the MPO located in Appendix A.

Figure 1-1: General Vicinity Map – Copperstone Project, La Paz County, Arizona



The Copperstone operation was originally operated as an open pit mine by Cyprus Mining Corporation (Freeport) from 1987 to 1992 and consisted of an open pit, ore crushing facility, cyanide heap leaching and vat leaching gold recovery facilities, a tailings impoundment, a reclaim solution pond, waste rock dumps, and inert construction debris solid waste disposal facilities

Reported production at the previous mining operation was 447,000 ounces of gold from 5,880,017 tons of ore grading 0.086 ounces/ton of gold. A mine closure plan was implemented in 1995, and completed in accordance with the requirements prevailing Mining Plan of Operations and Aquifer Protection permit.

Remaining from past mining by Cyprus at Copperstone is a large open pit, extensive tailings and waste rock piles, and some infrastructure including offices, water wells and water lines, power lines, and maintenance facilities. See Figure 1-2 for in-place facilities.

Figure 1-2: Copperstone In-Place Infrastructure



From the previous mining efforts, the reclaim solution pond is the only remaining facility to be closed. The reclaim pond continues to collect, store, and evaporate effluent from the closed heap leach and tailings impoundment. In 2008, Cyprus Copperstone Gold Corporation initiated Amendment LTF 42953 to APP P-100229 and prepared an EA (AZ-320-2008-022) for the development of a passive wetland treatment system. This system is designed to manage any further effluent that may drain from the existing heap leach and tailings impoundment.

1.3 PURPOSE AND NEED

The purpose of the Project is for Bonanza to explore, develop, and recover the gold from mineral reserves located within mining claims located on BLM land.

The mining activities proposed for public lands are subject to review and approval by the BLM pursuant to the Federal Land Policy and Management Act (FLPMA) and subsequent surface management regulations (43 Code of Federal Regulations [CFR], Subpart 3809). The activities, and their approval by the BLM pursuant to FLPMA, constitute a Federal action and are thus subject to the National Environmental Policy Act (NEPA).

The BLM has determined that an EA, in accordance with NEPA, must be prepared in order to determine if any additional environmental concerns, interests, resource values, or circumstances in the vicinity of the Project are identified that would be affected by this proposal.

The EA was prepared in conjunction with the BLM, which is the lead agency with respect to compliance with NEPA and its implementing regulations. The EA considers the potential effects to the quality of the natural and human environment based on the impacts to public lands that may result from implementation of the Project.

1.4 ISSUES AND CONCERNS

A public scoping meeting was conducted in Quartzsite in December 2009. The following issues and concerns were identified at the meeting and in letters and documents received by BLM or identified internally by BLM specialists:

- Air Quality – Dust issues from direct operations of the Project.
- Water Quality - Contamination of ground water.
- Cultural Resources – inventory and evaluation of cultural resources and potential impacts.
- Reclamation – use of native and locally-collected or locally-adapted species in the reclamation seed mix;
- Invasive non-native species – prevention of the introduction or spread of invasive weeds or other unwanted exotic species, and development of an invasive species management plan.
- Vibration from underground blasting,
- Visual Resources Management.

1.5 LAND USE PLAN CONFORMANCE STATEMENT

The January 2010 Yuma Field Office (YFO) Approved Resource Management Plan (RMP) and Record of Decision (ROD) identifies all of these lands as open to locatable minerals, subject to certain environmental controls indicated in the plan. Under the Section 2.19.2 Mineral Resource Management portion of the ARMP, BLM supports mineral exploration and development on public lands in keeping with BLM's multiple-use mandate. Unless otherwise restricted, all Federal mineral estates administered by the YFO within the planning area are available for orderly and efficient development of mineral resources.

Locatable minerals include metallic minerals such as gold, silver, copper, lead, zinc, and uranium; and non-metallic minerals such as allunite, asbestos, barite, gypsum, and mica; and uncommon varieties of stone (43 CFR 3800). The proposed Project is in conformance with the following decisions found in the Yume Field Office ARMP and ROD (2010).

Desired Future Conditions for Locatable Minerals in the ARMP includes the following:

- MI-011: Public lands are available for exploration, location, and development of mining claims in accordance with existing mining laws unless withdrawn or segregated from entry.
- MI-012: Operations authorized by the mining laws do not cause unnecessary or undue degradation of public lands.

Management Actions for locatable minerals in the YFO ARMP and ROD include:

- MI-014: Require notices when mechanized equipment is used for exploration or processing and cumulative disturbance is five acres or less.
- MI-015: Require a mining plan of operations in accordance with 43 CFR 3800 for operations including, but not limited to:
 - Where disturbance is greater than five acres or where bulk sampling will remove 1,000 tons or more of ore;
 - In the California Desert Conservation Area designated by the California Desert Conservation Area plan as “controlled or limited” use areas;
 - In designated ACECs or currently withdrawn or reserved lands where the mining claim predates the withdrawal or reservation;
 - In Closed OHV Management Areas; and
 - In lands or waters known to contain Federally listed threatened or endangered species or in proposed or designated critical habitat.
- MI-018: Assess all mining plans of operations for potential impacts to Sonoran desert tortoise habitat on a case-by-case basis. Adverse impacts to desert tortoise will be mitigated to the extent allowable in BLM 3809 regulations.

1.6 RELATED ENVIRONMENTAL IMPACT STATEMENTS (EIS), ENVIRONMENTAL ASSESSMENTS (EA), AND OTHER RELEVANT DOCUMENTS

The following is a list of previous environmental assessments, permits, plan of operations, and cultural documents associated with the Copperstone project:

- 1986 - Mine Plan of Operations – AZA 023307
- 1987 - Arizona Aquifer Protection Permit - APP P-100229
- 1986 - ADWR Well Completion - 55-514526
- 1987 - ADWR Well Completions - 55-514525, 55-517883
- 1991 - Arizona Air Permit - 74011-94
- 1994 - ADWR Well Completion - 55-542106 (MW-257)
- 2000 - Mine Plan of Operations - Decline in Pit Bottom - AZA 030765
- 2006 - APS Right-of-Way AZA 032506
- 2006 - Class III - Archeological Survey - BZM-AZ-320-2005-035
- 2006, 2007 - Plan Of Operations - Resource Drilling - AZA 033604

2. PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

Bonanza proposes reopening the Copperstone mine as an underground gold mining and flotation mill project within the disturbed footprint of the previous mining operation. Recent exploration activities have confirmed or identified approximately 1.1 million tons (MT) of recoverable gold bearing ore at an average grade 0.302 ounces/ton of gold. The Project proposes mining and milling approximately 450 tons per day of ore and producing between 35,000 to 55,000 ounces of gold per year for 7 to 10 years. The estimated yearly mine through-put is approximately 158,000 tons per year.

Mining of the ore and waste is anticipated through conventional underground mining techniques using blasting, loading and haulage through the existing open decline located near the bottom of the existing pit area. Waste rock would be blasted, transported by haul truck out of the underground mine, and dumped in the existing pit bottom to allow for partial back filling of the bottom of the existing open pit mine area. Ore would be transported by haul truck from the pit area to the mill for crushing and processing.

Ore would be processed by gravity concentration and conventional flotation. The gold concentrates from the milling operations would be shipped off site to a properly permitted secondary processor located in Nevada or Arizona. Tailings generated by the new mining activities would be impounded north of the old leach pad/tailings area within a newly built lined impoundment. A new lined solution collection facility would be built for reclaim water collection and would eliminate the co-mingling of solutions from the old and new facilities.

The 43 CFR 3715 and 3809 regulations provide for the BLM management of surface disturbance associated with mineral exploration and development. All occupancy of mining claims must meet the requirements of 43 CFR 3715 which require a mining claim occupancy determination and occupancy authorization from BLM. All surface disturbing activities greater than 5 acres will require an approved plan of operations and authorization letter from the BLM. The plan of operations and occupancy determination are contained within the Mine Plan of Operations (MPO) contained in Appendix A of this document.

Several types of plans will be prepared prior to start up. These plans will include a Spill Prevention Control and Countermeasure (SPCC) Plan, an Emergency Response and Contingency Plan, a Stormwater Pollution Prevention Plan (SWPPP), a Fire Plan, and others. These plans will identify emergency preparedness and emergency contact protocols for any conceivable situation.

The facility is currently designed as a zero discharge facility with all wastewater water either recycled or evaporated within the tailings facility. All mine water created from pumping of the underground mine is anticipated to be used in the mill with make-up water coming from existing well water or recycled water. BLM requires full compliance with all applicable Federal, State, and local laws, regulations, and policies to protect both surface and groundwater.

All hazardous substances would be transported by commercial carriers in accordance with the requirements of Title 49 of the CFR. Shipments of hazardous substances would originate from cities such as Phoenix and Tucson and would be transported via State Highway 95. Chemicals and materials would

be located away from areas of public access and process solutions would be contained and fenced (chain link fence around process facilities).

Chemical and solution storage on proposed Project would comply with state requirements. Tanks and vessels would be placed on a plastic or concrete lined containment surface with interior sumps to route any spilled solutions to lined collection areas. In addition, all hazardous material storage tanks would have secondary containment sufficient to hold at least 125 percent of the volume of the largest tank in the containment area.

Prior to start up, Bonanza would prepare an Emergency Response Plan that establishes procedures for responding to accidental spills or releases of hazardous materials to minimize health risks and environmental effects. The plan includes maintaining safety, cleanup and neutralization actions, emergency contacts, internal and external notifications to regulatory authorities, and incident documentation.

The mine workers and contractors for Bonanza would receive mandatory MSHA training with respect to mine hazards, as well as task-specific training related to their primary jobs. Visitors and vendors would receive site-specific training and hazard warning prior to being granted access.

The area surrounding the proposed active mining Project area would be fenced and signed to alert the public of the active mining status and hazards associated with entering the fenced area. The mine currently maintains and would continue to restrict access within the current mine fenced area due to public safety issues within the currently fenced areas. Bonanza has proposed further fencing and berming, as necessary, for public safety and to prevent access into the active mine area.

Explosives use would be in accordance with Alcohol, Tobacco, and Firearms (ATF) laws, rules, and regulations and would be kept in fenced areas under lock and key not accessible to the general workforce or the public.

BLM requires that the proposed operator has the responsibility for ensuring that all operations are properly permitted with the appropriate agencies, and that the operations are in compliance with all mobile and stationary source guidelines.

The Arizona Office of Air Quality (OAQ) within the Arizona Department of Environmental Quality (ADEQ) has jurisdiction over air quality aspects of mining and mine production and would require an Air Quality Permit Application.

Groundwater quality in Arizona is regulated by the ADEQ. Mining operations such as the proposed Project that could contaminate groundwater must obtain an aquifer protection permit (APP) from the ADEQ. An APP typically specifies the design, operation, monitoring, closure, and reclamation of the disturbed area. Engineering controls on facilities to contain process solutions and minimize impacts on ground water are given by the ADEQ.

Wells drilled for water supply, ground water characterization, or ground water monitoring are permitted through the Arizona Department of Water Resources (ADWR).

Reclamation would be completed in accordance with the MPO. As necessary, Bonanza would control invasive species noxious weeds occurring within the boundary of the proposed Project. Any reseeding

activity would exclusively use certified seed, weed-free straw, and any equipment from outside the area would be cleaned prior to use.

Banded Gila Monster habitat is present in the area surrounding the Project. To avoid potential impacts to Banded Gila Monsters, construction workers would be advised of appropriate BLM approved procedures to follow should a Gila monster be encountered in the Project area.

Further details of the proposed action can be found in the Appendix A, Mine Plan of Operations.

2.2 NO ACTION ALTERNATIVE

In accordance with BLM guidelines (H-1790-1, Chapter V), this EA evaluates the No Action Alternative. The objective of the No Action Alternative is to describe the environmental consequences that would result if the proposed Action is not implemented. The No Action Alternative forms the baseline from which the impacts of all other alternatives can be measured.

Under the No Action Alternative, Bonanza would not develop the proposed Project. Bonanza would continue exploration and reclamation under the existing Notices.

2.3 ALTERNATIVES REVIEWED BUT ELIMINATED FROM CONSIDERATION

In the process of developing the proposed Action, Bonanza reviewed and eliminated the following alternatives based on various environmental, cultural, operational, and economical constraints in relation to the placement and construction of facilities.

These alternatives included:

1. Use of cyanide processing as the primary processing for the Bonanza ore.

The use of cyanide was eliminated as a recovery agent due to the sensitivity of cyanide to the environment and a near equivalent recovery using flotation.

2. Development and operation only of an underground mine; all gold ore would be processed at a permitted off-site facility.

Facilities were unavailable or non-existent where the ore could be economically sent and processed.

3. AFFECTED ENVIRONMENT

This section includes descriptions of the affected physical, biological, and human resources in the Project area taken from data gathered during field investigations, previous operations, Resource Management Plans, BLM and other agency files, contact with BLM and other Federal, State, and local agency resource personnel, and review of the literature.

The Project area covers the northeastern part of the Dome Rock Mountains, which consist of a schist and gneiss intruded by several generations of plutonic rocks. Unconformably overlying these rocks are Paleozoic carbonate and clastic strata. Deposits of quartz latite welded tuff are extruded onto the Paleozoic units.

The region has hot summers and mild winters. The Project area temperatures are estimated from 1908 to 2007 Quartzsite data with minimum temperatures usually occurring in December, averaging 36.7°F with maximum daily temperatures usually occurring in July, and averaging 108.8°F. Approximately 110 days per year have temperatures over 110°F. Average annual precipitation for the Quartzsite area is approximately 5.01 inches (in) per year.

3.1 AIR QUALITY

As directed by the Federal Clean Air Act, the U.S. Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) for six “criteria” pollutants at Title 40, CFR, Part 50 (40 CFR Part 50). EPA adopted these standards to protect the public health (primary standards) and the public welfare (secondary standards). The six pollutants of concern are carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter with an aerodynamic diameter less than 10 microns (PM₁₀), sulfur dioxide (SO₂), and Hazardous Air Pollutants (HAPS). States are required to adopt standards that are at least as stringent as the NAAQS. The Arizona Department of Environmental Quality (ADEQ) has adopted ambient air quality standards that are identical to the NAAQS. The Project is not within a non-attainment area.

The Clean Air Act established the Prevention of Significant Deterioration (PSD) Program. The PSD regulations divide the attainment areas into three areas of air quality. Class I areas, such as national parks and some wilderness areas, have pristine air and almost no increases in air pollution are allowed. Class II areas allow moderate development, and Class III areas allow extensive development. For visibility and related impacts in Class I areas, the impact area of an emitting source is set by ADEQ regulation at 100 kilometers. The impact area for Class II and III areas is 50 kilometers. The closest Class I area is greater than 100 kilometers from the Project Area.

The existing air quality in the area of the lands is considered good to excellent.

3.2 CULTURAL RESOURCES

Several cultural resource surveys have been conducted over the years in the immediate vicinity of the proposed project (Quillian 1984, Cypress Metals 1986, Rodgers 1989, Ezzo and Harrison 2004, and O’Hara and Ezzo 2006). These surveys have identified six archaeological sites in the general area of the project. They are listed below with a brief description.

Table 3-1: Brief Description of Project Archaeological Sites

Site Number	Site Type	Within Current Project Footprint
AZ R:3:4 (BLM)	Prehistoric Lithic Scatter	Yes
AZ R:3:5 (BLM)	Prehistoric Lithic Scatter	Yes
AZ R:3:3 (ASM)	Prehistoric Lithic Scatter	No
AZ R:3:4 (ASM)	Prehistoric Artifact Scatter	No
AZ R:3:5 (ASM)	Prehistoric Campsite	No
AZ R:3:6 (ASM)	Prehistoric Lithic Scatter	No

As noted in the table, four of the sites identified in the surveys are located outside of the proposed project footprint. These sites were identified in areas of new drilling and potential expansion that currently fall outside of the proposed project. Of the remaining sites located within the current project footprint, AZ R:3:4 (BLM) could not be relocated due to inaccurate UTM locations and AZ R:3:5 (BLM) was tested in 1986 and completely destroyed by previous mining activities at that time.

Therefore, there are no known sites that maintain any integrity within the immediate footprint of the proposed project.

3.3 NOXIOUS WEEDS

Invasive species and noxious weeds are species that are not native to the area that can cause ecological and economic problems if they become established in specific areas. The YFO ARMP in Appendix 2B Table 5 identified the known invasive species and noxious weeds. Of those species, two are of main concern - Sahara Mustard and Buffelgrass.

Sahara mustard (*Brassica tournefortii*) is an invasive non-native annual weed that is common in the Sonoran Desert. It is most common in wind-blown sand deposits and in disturbed sites such as roadsides and abandoned fields. In the Project area, Sahara mustard is common within the dune complex .

Buffelgrass (*Pennisetum cilare*) is a fire prone and shrubby grass introduced from the African savannah. Buffelgrass grows in dense stands that can crowd out native plants, and creates a fire regime in the desert that never existed before. This potentially leads to devastating fires that can convert the ecologically rich Sonoran Desert into a more monotypic exotic grassland environment. Buffelgrass spreads aggressively by seed and establishes itself readily in areas that have been disturbed. Once established in the disturbed areas the invasive grass can then move into native desert habitats on hillsides and along drainages.

3.4 NATIVE AMERICAN RELIGIOUS CONCERNS

The proposed Project was evaluated for traditional cultural properties and cultural resource sites. The level of evaluation of the Area of Potential Effect (APE) was commensurate with the size and scope of the

undertaking. Additionally, the BLM sent a letter initiating consultation with 14 Native American tribes with a goal of addressing any concerns and identifying any traditional cultural properties. There was no ethnographic information found or presented to indicate a potential for traditional cultural properties or any other significant prehistoric sites in this area.

3.5 WASTE-HAZARDOUS MATERIALS

There are currently no hazardous materials within the proposed Project area.

3.6 WATER RESOURCES

Water resources include both surface water and groundwater. The groundwater resource is managed by the Arizona Department of Water Resources (ADWR). BLM works in cooperation with ADWR to develop groundwater resources to provide water to BLM grazing lease holders, mineral operators, and to some recreational sites.

The proposed Project is located within the La Posa Plain sub-basin of the Parker groundwater basin. The La Posa Plain sub-basin is an internal basin that is separated from direct impact by flow in the Colorado River (BLM 2006). Based on geological characteristics and hydrogeologic conditions, two water-bearing formations have been defined in the region, the Holocene-age Older Alluvium and the bedrock of the pediment. In the vicinity of the Project, groundwater does not occur in the alluvium but rather occurs only within the underlying bedrock.

There are no wetlands or riparian areas within the Project area. The nearest areas having wetland vegetation are along the Colorado River approximately 13 miles to the west of the Project area. Cyprus Copperstone Gold Corporation initiated the development of a passive wetland treatment system. This system is designed to manage any further effluent, within a artificially created wetlands, that may drain from the existing heap leach and tailings impoundment.

No ephemeral washes occur in or adjacent to the Project. The closest surface drainage is the Tyson Wash which is located approximately 5 miles to the southwest of the Project.

3.7 HUMAN HEALTH AND SAFETY

The proposed action site is currently fenced with a watchperson present in part to protect the public from hazards left behind by past mining and more recent exploration activities. Hazards existing at Copperstone include that of a large open pit, waste facilities, an old heap leach pad and tailings facility, miscellaneous buildings and storage facilities, and electrical facilities.

The current hazards are that of a typical mining operation and include but are not limited to: traumatic injury from driving over steep embankments, slipping or falling on uneven ground or slippery surfaces, encountering high voltage electricity, and the potential exposure to solutions while not wearing proper personal protective equipment.

3.8 GEOLOGIC RESOURCES

The proposed Project is estimated to contain gold reserves of approximately 1 million tons of rock with a grade of 0.302 ounces/ton of gold.

The Copperstone fault is the principal host for gold mineralization on the Copperstone property and strikes about N 30° to 60° W and dips from 20° to 50° NE. The fault zone ranges from 45 ft to 180 ft in width with characteristic fault gouge, multi-phase breccia textures, shear fabric, and intense fracture sets developed in a quartz latite porphyry.

In the quartz-latite porphyry rocks, specularite-hematite-chlorite is introduced with banded amethyst-quartz veins. Gold is found with amethyst and white quartz.

3.9 SOILS

There is limited or no soil in the Project area. All soil was either removed or displaced during previous operations.

The soils found directly outside the Project area belong to the soil order Aridisols (soils commonly found in dry environments that are low in organic matter and rich in deposited salts) and suborder Orthids (soils that are light colored, contain little organic matter, and have at least one diagnostic subhorizon) (BLM 2006). Soils in the Project area are light brown, predominantly fine-grained sands and silty sands that readily form sand dunes. They have a hyperthermic (hot) soil temperature regime and an aridic (dry) soil moisture regime. The soil type is likely Rositas sand (BLM 1986). Whether non-irrigated or irrigated, these soils have poor to very poor potential for rangeland or wildlife habitat. The sandy texture of the soil limits recreation development, and there is a high hazard of blowing soil.

Sensitive soils in the YFO planning area include desert pavement, cryptobiotic (biological) soil crusts, stabilized sand dunes, and wetland soils. Sensitive soils are significant because of their susceptibility to erosion and their roles in supporting plants and wildlife. No sensitive soils, as described in the YFO ARMP and ROD were observed at the Project area. Sand that has accumulated around scattered shrubs was observed to exhibit a thin crust of slightly cemented nature.

3.10 VEGETATION RESOURCES

The proposed Project area (127 acres) has extremely limited or no plant growth associated with it due to past mining practices.

The area around the Project supports a creosotebush-bursage community (BLM 2006), which is the most common plant community in the YFO planning area (BLM 1986). This community is characterized by sparse cover of shrubs dominated by creosotebush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), triangle-leaf bursage (*Ambrosia deltoidea*), ocotillo (*Fouquieria splendens*), white ratany (*Krameria grayi*), and jumping cholla (*Opuntia fulgida*). The understory is typically sparse but may be seasonally abundant with ephemerals (BLM 2006).

No plant species listed by the U.S. Fish and Wildlife Service as threatened, endangered, or candidate species are known to occur in the YFO planning area or in La Paz County (U.S. Fish & Wildlife Service (USFWS) 2006). One BLM-sensitive species, the scaly sandplant (*Pholisma arenarium*), is known to occur in La Paz County (SEINet 2007). This species is endemic to sand dunes and may be present on sand dunes in the vicinity of the Project area. Because the proposed Project is completely contained within a previously disturbed area, this species would not be expected to occur there. Many plant species on the Arizona Native Plant Law list are widely distributed throughout the YFO planning area.

The Project is not located in any YFO Vegetation Management Area or other area where vegetation use is restricted. The Project is located in the Sonoran Desert Scrub Fire Management Unit in an area classified as YFO Fire Regime Group “barren” and YFO Fire Risk Condition Class “non-vegetation”. At least one fire occurred within approximately 3 miles of the Project area between 1980 and 2003 (BLM 2006).

3.11 WILDLIFE RESOURCES

The proposed Project is located within a YFO Dunes Wildlife Habitat Management Area (BLM 2010). Neither sand dunes nor caves occur on the proposed Project area proper. No riparian, wetland, or aquatic wildlife habitats are present in the vicinity of the proposed Project area, and, therefore, no wildlife species that are restricted to these habitats occur there.

Of the special habitat features (cliffs, sand dunes, snags, springs, reservoirs, rivers, marshes, lakes, and islands) and key habitat features (riparian habitats, sand dunes, mountain ranges, wildlife watering sites, braided-channel floodplains, and valley desert wash woodlands, abandoned mines, and natural caves) that are present in the YFO planning area, only sand dunes and the Project underground mine occur in the vicinity of the proposed Project area. Sand dunes, a sensitive and unusual habitat in the low deserts of the planning area, host a variety of wildlife species, many of which, including Mojave fringe-toed lizard (*Uma scoparia*), occur in no other habitat (BLM 2006). The Mojave fringe-toed lizard has been recorded in the vicinity of the Project.

Five of the six Federally protected animal species listed by the USFWS as occurring in La Paz County are restricted to riparian or aquatic habitat, none of which occurs at the proposed Project area or in the immediate vicinity. Only the Federally threatened bald eagle may occasionally visit the Project area as a transient.

There are four additional special status animal species (BLM-sensitive and/or state-listed) that occur within the vicinity of the proposed Project. The California leaf-nosed bat previously occupied the underground portion of the mine, but has since been excluded from using that habitat. The Mojave fringe-toed lizard is not likely to occupy the proposed Project area due to the absence of suitable sand dune habitat. The banded Gila monster may occur within the Project area, and the peregrine falcon may visit the area at times. None of these species is now known to use the proposed Project area specifically.

Special habitat features used by bighorn sheep, including lambing grounds and migration corridors, are not present in the vicinity of the Project (BLM 2006).

Abandoned mines and natural caves that are particularly important to bats for roosts and maternity colonies do not occur. The existing mine adit has a sealed roll-up door precluding entrance of wildlife into the mine.

3.12 WILD HORSE AND BURRO MANAGEMENT

The Project area is not located in any Wild Horse and Burro Herd Area or Herd Management Area (BLM 2010). No wild horses or burros have been observed in the Project area or previously been inventoried in the area.

3.13 LAND USE AND ACCESS

Land uses in the area include widely dispersed recreation and mineral exploration. There are three rights-of-way in the area; an existing road (AZA 032505), a distribution line (AZA 032504), and a water line (AZA 032506) that end at the minesite. Public access to the area is via Arizona Highway 95 from Quartzsite, Arizona, to an unnamed gravel road approximately 9.5 miles north of Quartzsite. The gravel road extends approximately four miles to the mine main entrance. There are no other legal accesses to the Project area.

3.14 RECREATION

The amount of open space for recreation on and adjacent to the Project lands is abundant. The identified location is in an area which has a prescribed Recreation Management Allocation classification of Extensive Recreation Management Area (ERMA). An ERMA is defined as “an area that emphasizes the traditional dispersed recreation use of public lands. ERMA’s have an undeveloped character that allows visitors to escape crowds, rely on their own skills and equipment for recreational pursuits, and freedom from stricter regulations. All lands that are not within a designated Special Recreation Management Area revert to the ERMA category. BLM actions in ERMA’s are limited to custodial actions and therefore do not require an implementation-level plan”.

3.15 AESTHETICS - NOISE AND VISUAL

Noise

Because of the remote location, there are no known noise issues currently affecting the Project.

Visual

BLM establishes visual management objectives in the Approved Resource Management Plan (RMP) in conformance with the land use allocations made in the plan. These area-specific objectives provide the standards for planning, designing and evaluating future management actions. The Project area is within the Visual Resource Management Class III. Class III lands are managed to retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate.

The visual impacts from past mining have been considerable. From the key observation point of the Copperstone Mine Road/Arizona Highway 95 a Visual Contrast Rating Worksheet was completed. The contrast rating included the existing mine waste dumps, power line, and main road. All other facilities are hidden by the waste facilities or are located within the existing pit. See the Visual Contrast Rating Worksheet in Appendix B.

3.16 SOCIAL AND ECONOMIC VALUES

The Copperstone Project is located in an unincorporated area of La Paz County, Arizona, approximately 9.5 miles north of the Town of Quartzsite and 18 miles south of Parker. The Project is located entirely within BLM managed land. The Colorado River Indian Reservation is located approximately 1 mile to the west of the Project boundary. The Colorado River Indian Tribes' (CRIT) Tribal offices are located within the Town of Parker.

Population

The area in and around the Project has limited to no population.

Employment

In general, approximately 7,000 persons were employed in La Paz County, with an unemployment rate of 6.9 percent (BLM 2006). The civilian labor force for the Town of Quartzsite was 633 persons, with an unemployment rate of 5.3 percent (Quartzsite, Arizona 2007). The median household income in 1999 was around \$26,000 (BLM 2006). Low-income populations are present within La Paz County, with approximately 14 percent of households below the poverty threshold (BLM 2006), and within the Town of Quartzsite, with approximately 8 percent of families and 13 percent of individuals below the poverty threshold (BLM 2005).

Schools

The community of Quartzsite has an elementary school and a high school. School enrollment in the high school is 95 with enrollment in the elementary school of 106 (2008).

Health Care Services

Health care services in Quartzsite are provided through three medical centers, year round ambulance services, pharmacy, and medivac helicopter. The La Paz Regional Hospital hosts emergency care facilities, family medicine, women's health, pediatrics, D.O.T. physicals, occupational health, STD/HIV education and screening, family planning, urgent care and 24 hour emergency care, lab, x-ray, prescription dispensary, periodic screenings for children and adults, well-child care and immunizations, prenatal and newborn care, chronic illness management, health education, and a Flight-for-Life to a Phoenix hospital.

Fire Protection

Fire protection in Quartzsite is provided by the Quartzsite Fire Department. Fire protection extends to an approximately twenty-mile radius in all directions around Quartzsite. The department has one pumper, one 4,400 gallon capacity tanker, one 1958 International reserve truck, and one fully-equipped rescue vehicle.

Water and Sewer

Water and sewer for the Project is provided on site.

Electrical Services

Arizona Public Service (APS) provides the electrical services to Quartzsite and surrounding communities.

3.17 GLOBAL WARMING

Global warming is the build-up of green-house gases in the atmosphere creating climate change.

The proposed Project is not within any non-attainment area. There are currently no items within the project site that effect, cause, or would change global warming.

4. ENVIRONMENTAL CONSEQUENCES

This section of the EA describes the direct and indirect impacts to the affected environment that have the potential to occur if the proposed Action or Alternatives are implemented.

The alternatives that were eliminated from consideration included the use of cyanide processing and off-site processing. Cyanide was eliminated from use because the recovery of gold using flotation was similar to that of cyanide. Processing off-site was eliminated because a suitable facility could not be found.

4.1 ENVIRONMENTAL CONSEQUENCES - PROPOSED ACTION

4.1.1 AIR QUALITY

As part of the Class II Air Quality Permit Application, ADEQ requested Bonanza to conduct air dispersion modeling analysis to demonstrate that emissions of criteria pollutants CO, NO₂, SO₂, and PM₁₀ from the proposed facility would not cause or contribute to a violation of any applicable National Ambient Air Quality Standards (NAAQS). O₃ and HAPS were not included in the modeling due to no expected emissions of these two criteria pollutants.

Based on the air modeling completed for the Class II Air Permit, emissions from the proposed Project would not cause or contribute to a violation of the applicable NAAQS standards for CO, NO₂, SO₂ or PM₁₀. As a result, direct impacts to air quality from the proposed Project would be minimal.

Because the access road is not modeled as part of the air quality permit, dust from the road may have a minimal impact on the surrounding environment. Dust typically causes soiling, visual issues, and respiratory discomfort. Because the road has been in place for over 20 years no further environmental effects are expected from continued use of the road.

Impacts to the human environment should be minimal due to the remoteness of the project site.

4.1.2 CULTURAL RESOURCES

Based on the accepted MPO, no new disturbance outside the proposed Project is expected other than potential core drilling. Further drilling outside the disturbed area would require a new BLM Drilling Permit and associated environmental review.

Because the proposed Project is only on previously disturbed land, there would be no environmental consequences from the proposed Project to cultural resources within the proposed Project area.

4.1.3 NOXIOUS WEEDS

Implementation of the proposed Project may result in an expansion of invasive species outlined in the YFO ARMP Appendix 2B, Table 5. In the Project area, two species are of particular concern: Sahara Mustard or Buffelgrass.

4.1.4 NATIVE AMERICAN TRADITIONAL VALUES

BLM initiated consultation with 14 Native American Tribes with a letter dated January 5, 2010, describing the project and inviting the Tribes to comment on issues of concern to the Tribes. Another letter was then sent to the Tribes on June 22, 2010 inviting them to review the draft Environmental Assessment and submit further comments. This consultation resulted in a number of comments from the Tribes and a meeting to discuss the project with council members of the Colorado River Indian Tribes. The concerns expressed in the meeting and the comments received during consultation were all carefully considered and addressed in this document and no impacts to Native American traditional values are anticipated.

4.1.5 WASTE - HAZARDOUS MATERIALS

As described in the MPO, operation of the proposed Project would involve the transportation, handling, storage, use, and disposal of the following materials:

- Diesel fuel, gasoline, oils, greases, anti-freeze, and solvents used for both underground and surface equipment operation and maintenance;
- Flotation chemicals (xanthates, dithiophosphates, glycols), flocculants, lime, and antiscalants used in mineral extraction processes;
- Ammonium nitrate and high explosives used for blasting in the underground mine; and
- Various chemicals used in the assay laboratory.

Potential impacts to the environment include accidental release of materials during transportation to and from the Project site or from the use, handling, and storage at the site.

4.1.6 WATER RESOURCES

No perennial surface water resources exist within the immediate vicinity of the Project area. Residual impacts to permanent surface water resulting from the proposed Project are not likely due to the distance and topographic isolation. Because no riparian/wetland, ephemeral washes or other waterways areas occur within the Project area, no impacts to waters of the U.S. would occur from the proposed Project.

Waste rock and tailings characterization does not indicate a potential for the leaching of contaminants from the waste rock.

Ground water is isolated and generally flows from the west to the east. The groundwater drawdown resulting from the proposed water use at the Project (approximately 100.8 million gallons annually) would be localized near the underground mine and in-place water wells. No other water users are close enough to the underground or water wells to be impacted.

Reclamation that would be performed following mine closure would further reduce any potential for impact on water resources.

4.1.7 HUMAN HEALTH AND SAFETY

The current and proposed facilities have been designed to minimize the need for visitors to drive or walk in hazardous areas. Most visitors, vendors and salespeople would come and go from the administration

building or an administrative area within the warehouse/receiving building located near the entrance of the facility.

The entire facility would be fenced and bermed to minimize unauthorized access into the site and working areas.

Due to the remote location of the Project, there would be no impact from vibration.

Due to the depth of the Project, and requirement to leave an appropriate crown pillar, there would be no impact from subsidence.

4.1.8 GEOLOGIC RESOURCES

The proposed Project would have a beneficial effect on mineral exploration and development.

Geologic and mineral resources within the Project area would be directly impacted by the relocation of approximately 1.0 million tons of processed ore and 1.0 million tons of waste rock. In addition, approximately 300,000 ounces of gold would be extracted from the gold-bearing ore.

4.1.9 SOILS

Because the proposed Project is using only pre-disturbed land for development of this Project, direct impacts to soils would be limited or non-existent. Any soil that is encountered within the areas of the proposed use would be salvaged and redistributed during reclamation of the mine facilities.

As the entire proposed Project is being completed within previously disturbed areas that have no soils or the soil has been disturbed or removed by previous operations, there would be no further soil impact to the Project area.

4.1.10 VEGETATION

There would be no direct impact to vegetation as the entire 127 acres of disturbance is on pre-disturbed nonvegetated land.

No special status plant species were observed on the Project area. Therefore, no impacts to any special status plant species are anticipated due to the implementation of the proposed Project.

Upon cessation of mining activities, Bonanza would scarify the proposed Project area to allow for the revegetation of the areas.

4.1.11 WILDLIFE

Because the facilities would be on predisturbed land, the proposed Project construction and operation activities would not result in the modification of surface soil properties, natural topography, or the displacement of the majority of wildlife species inhabiting the Project area.

Mortality among species of birds, reptiles and rodents is expected to be limited in the Project area because of the current lack of habitat within the proposed Project area. Large mammal species such as

jackrabbits, coyotes, and kit foxes, would likely evacuate the Project area when mining activities begin. The majority of birds occupying or using the Project area would disperse once mining activities begin.

Migratory birds such as ducks and geese may land in the tailings pond area. No mortality of migratory birds is expected due to the low quantity of chemical use with the processing facility.

Bats have been excluded from the mine by use of a sealed roll-up door.

Construction and operation of the Project on previously disturbed lands are not likely to adversely impact Federally listed or BLM-sensitive animal species.

4.1.12 WILD HORSE AND BURRO MANAGEMENT

The proposed project would not impact wild horse and burro management.

4.1.13 LAND USE AND ACCESS

Access to the Project area would continue to use the authorized road right-of-way, AZA 032505, (public) access from Arizona State Route 95 to the mine main gate. The mine access road enters and exits Arizona State Route 95 via a controlled access point. As most of the traffic on the mine access road is currently mine exploration activity, the proposed Project is expected to increase traffic on both the mine access road and Arizona State Route 95. This expected increase in traffic should not impact public traffic on Arizona State Route 95 due to the modification of Arizona State Route 95 for the mine access road at this intersection.

Area surrounding the proposed Project area is open to recreational use as outlined in the YFO ARMP and ROD. No change to access is anticipated because of the proposed action.

The proposed Project would not impact the current land uses or rights-of-way.

4.1.14 RECREATION

The area surrounding the proposed Project area is open to public recreation as identified in the YFO and ARMP and ROD.

The proposed Project area is currently fenced, and recreation is prohibited inside the fenced areas due to safety issues. The proposed Project would not impact the current dispersed recreation use.

4.1.15 AESTHETICS NOISE & VISUAL

Visual

The change to the characteristic landscape due to the proposed Project should be minimal as the proposed Project would be situated behind, in, or on top of the existing disturbance. The Project would only minimally change the existing visual character of the existing features as the new waste facility will be built on top of the existing waste dumps and made of the same material as the existing waste facility.

There will only be a weak degree of contrast change as the waste facility is increased in height. No other direct visual or further aesthetic impacts have been identified.

Noise

Because all mining would be underground, the ground would buffer most if not all of the blasting noise. There may be some minor noise from the small haulage vehicles coming out of the pit. The project would meet all existing State and local noise regulations.

As the area is very remote and the nearest neighbors are miles from the Project, there would be no impact of noise from the mine.

4.1.16 SOCIAL AND ECONOMIC VALUES

Overall, the development of the proposed Project is likely to have positive socio-economic impacts in the local area. The increased payroll, state and county taxes, and indirect employment effects are much needed in this region of the state.

Population

In that Quartzsite and Parker are communities that are predominately winter visitor communities (people from the colder climates living in Arizona in the winter), the development of the proposed Project is likely to cause minimal or no noticeable change to the populations around the Project area. While it is the intent of Bonanza to hire from the local workforce, there may be some positions for which the desired skills are not likely to occur in the local communities. No impact to the population has been identified.

Employment

The employment of up to 90 people at the mine from the Quartzsite/Parker area would represent a much needed increase in employment for La Paz County. In addition, the indirect jobs would also increase employment in the area. Unemployment is over fifteen percent in some of the surrounding communities; therefore any increase in employment would benefit the county as well as the local communities.

The proposed Project would have a positive impact resulting in increased stability and profitability of domestic companies.

The practical utilization of these lands would have a positive effect in the generation of jobs and revenues to the Federal, state and local economies.

Housing

As the maximum influx number of outside workers is expected to be less than 10, the local housing markets of Quartzsite, Parker, Blythe and other areas would likely be able to absorb the small influx of workers and their families. Being that the area has huge trailer areas for winter visitors, there are sufficient spaces in the mobile home and RV parks around the area. No impact on housing is expected.

Schools

Due to the intent to use the local workforce to the extent possible, the increased demand for school services is not anticipated to be great. In that any outside workers would disperse into the local school systems and be of different grades and levels, no class is expected to increase more than a couple of students. No impact on schools is expected

Health Care Services

Because a majority of workers are expected to be local, private health care services are likely to be able to absorb any minor increased demand. No impact on health care services is expected.

Fire Protection

The proposed Project would not have an adverse impact on the existing fire protection services. Training for the proposed Project for fire suppression may actually provide an increase in the number of trained personnel for the local Volunteer Fire Departments.

Water and Sewer

Both Quartzsite and Parker already see substantial influxes of people in the winter months. The small influx of outside personnel is not likely to have any impact on the water and sewer services.

Electrical Services

An existing power line already exists and has sufficient power to supply the proposed operation. This power use would not have an effect on the existing facilities in Quartzsite or Parker.

4.1.17 GLOBAL WARMING/CLIMATE CHANGE

The proposed Project would not provide a significant footprint of gasses that are the potential cause of Global Warming. The potential impact of greenhouse gasses such as carbon dioxide, carbon monoxide, and sulfur dioxide are controlled by the Air Quality division of ADEQ. As a majority of the operation would use line power, there would only be approximately 15 fossil fuel based moving pieces of equipment. All vehicles would use the latest pollution controls and meet all standards as required by ADEQ and other government agencies. The expected carbon dioxide output per year from the mine use of 400,000 gallons of diesel fuel is approximately 4,400 tons or less than 0.00001 percent of the total US output (year 2000). The emissions of CO₂ and SO₂ are well below NAAQS standards.

No impact to greenhouse gas emissions or global warming is expected due to the proposed action.

4.2 ENVIRONMENTAL CONSEQUENCES - NO ACTION ALTERNATIVE

Under the No Action Alternative, the mine would not be developed. The relocation of geologic materials, particulate emissions to the atmosphere, use of water and resulting local drawdown of the water table, potential for noxious weed establishment, disturbance to wildlife and their habitats, potential impacts to special status species, visual resource impacts, partial backfilling of the pits, and socio-economic impacts would not occur. The area would remain in its current environmental and socio-economic status.

Benefits to the local and regional economy would not occur under this alternative.

Benefits such as partial backfilling of the pit, final berm development, and building removal would not occur.

4.3 MONITORING

Monitoring beyond the normal compliance monitoring conducted by the permitting agencies would include the following:

- Monitoring for noxious weeds required by the YFO;
- Monitoring of air quality as per the Air Quality Permit;
- Monitoring for water quality as required in the Aquifer Protection Permit;
- Regular BLM inspections to assure Bonanza is complying with the appropriate mining laws and regulations and BLM stipulations.

4.4 MITIGATIONS AND STIPULATIONS

If the proposed Project is accepted, the BLM would require the following mitigations and stipulations:

- The facility will be a zero discharge facility with all wastewater water either recycled or evaporated within the tailings facility. All mine water created from pumping of the underground mine is anticipated to be used in the mill with make-up water coming from existing well water or recycled water.
- All hazardous substances will be transported by commercial carriers in accordance with the requirements of Title 49 of the CFR. Chemicals and materials will be stored away from areas of public access and process solutions would be contained and fenced (chain link fence around process facilities).
- Chemical and solution storage on proposed Project will comply with state requirements. Tanks and vessels would be placed on a plastic or concrete lined containment surface with interior sumps to route any spilled solutions to lined collection areas. All hazardous material storage tanks will have secondary containment sufficient to hold at least 125 percent of the volume of the largest tank in the containment area.

- Prior to start up, Bonanza will prepare a Spill Prevention Control and Countermeasure (SPCC) Plan, Emergency Response and Contingency Plan, Stormwater Pollution Prevention Plan (SWPPP), and Fire Plan. The Emergency Response and Contingency Plan will establish procedures for responding to accidental spills or releases of hazardous materials to minimize health risks and environmental effects. The plan will include maintaining safety, cleanup and neutralization actions, emergency contacts, internal and external notifications to regulatory authorities, and incident documentation.
- The area surrounding active mining Project area will be fenced and signed to alert the public of the active mining status and hazards associated with entering the fenced area. The mine currently maintains and will continue to restrict access within the current mine fenced area due to public safety issues within the currently fenced areas.
- Reclamation will be completed in accordance with the BLM approved MPO. All reclamation will be conducted as soon as practical as disturbed lands and facilities are identified as no longer needed for operation of the mine.
- As necessary, Bonanza Inc. will control invasive species noxious weeds occurring within the boundary of the proposed Project. Any reseeding activity will exclusively use certified seed, weed-free straw, and any equipment from outside the area would be cleaned prior to use.
- Banded Gila Monster habitat is present in the area surrounding the Project. To avoid potential impacts to Banded Gila Monsters, construction workers will be advised of appropriate BLM approved procedures to follow should a Gila Monster be encountered in the Project area.
- Should future exploration/mining activities expand outside of the existing Copperstone Mine footprint all workers involved in that activity shall receive cultural sensitivity training and all sites within the expansion will be flagged and avoided. The BLM shall maintain marking of cultural sites to prevent future damage to those sites.
- Fugitive dust generated from construction and mining activities shall be controlled by the permittee in accordance with local rules, ordinances, and BLM stipulations. Staging areas and surface mining zones shall be watered regularly to minimize fugitive dust.
- All heavy equipment operations shall be restricted to the existing Copperstone Mine footprint and road rights-of-way unless authorized by BLM in writing.
- During construction, stormwater pollution prevention measures shall be taken as required by the Clean Water Act. An AZPDES permit must be obtained from the ADEQ before any construction activities begin. These measures shall address the handling of solid waste and on-site refueling.
- Burning of trash shall not occur on BLM land unless specific permission is granted by BLM.

Standard Stipulations

- Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.
- If in connection with operations under this authorization, any human remains, funerary objects, sacred objects or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (P.L. 101-601; 104 Stat. 3048; 25 U.S.C. 3001) are discovered, the holder shall stop operations in the immediate area of the discovery, protect the remains and objects, and immediately notify the authorized officer. The holder shall continue to protect the immediate area of the discovery until notified by the authorized officer that operations may resume.
- The holder shall protect all survey monuments found within the project area. Survey monuments include but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, the holder shall immediately report the incident, in writing, to the authorized officer and the respective installing authority if known. Where General Land Office or Bureau of Land Management right-of-way monuments or references are obliterated during operations, the holder shall secure the services of a registered land surveyor or Bureau cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the *Manual of Surveying Instructions for the Survey of Public Lands of the United States*, latest edition. The holder shall record such survey in the appropriate county and send a copy to the authorized officer. If the Bureau cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monument, the holder shall be responsible for the survey cost.
- The operator shall clean all heavy equipment (power or high pressure cleaning) of all mud, dirt and plant parts prior to moving equipment onto public lands.
- The operator shall identify a road maintenance program which will include monitoring for noxious weeds. If the operator identifies any noxious weeds the operator shall notify the authorized officer immediately. A treatment program shall be identified and the operator shall be responsible for weed abatement.

4.5 CUMULATIVE EFFECTS ANALYSIS

Cumulative effects are described for those resources for which the proposed Project creates direct or indirect impacts, as these impacts would add to the cumulative total impact for the respective resources. Resources for which no impacts are identified are not discussed in the context of cumulative effects.

This section analyzes the potential cumulative impacts from past, present, and reasonably foreseeable future Projects, combined with the proposed Project within a cumulative assessment area. Cumulative impacts have been defined as “The impact which results from the incremental impact of the action, decision, or Project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (BLM 1990).

For this analysis, the cumulative assessment area has been defined as the central La Posa Plain. This generally covers an area approximately 10 miles in diameter around the proposed Project and includes the current Copperstone Mine area, parts of Arizona Highway 95, parts of the electrical corridor along Arizona Highway 95, parts of the CRIT Reservation, and recreational locations developed within the area. The time frame of these effects is approximately 10-20 years.

4.5.1 Description of Interrelated Projects

The BLM has determined that the primary activities that would contribute to cumulative impacts in the cumulative assessment area for the proposed Project would include past, present, and reasonably foreseeable future mineral exploration, development, and expansion activities, administrative land use activities, combined with the proposed Project. The following sections describe past, existing, and reasonably foreseeable future actions in the cumulative assessment area.

4.5.2 Past Actions

The proposed Project area originally consisted of a BLM approved open pit mine, ore crushing facility, heap leaching and vat leaching facilities, a tailings impoundment, a reclaim solution pond, waste rock dumps, inert construction debris solid waste disposal facilities, development of an utility corridor (power, water, road), and Arizona Highway 95 road access. Approximately 2,500 tons per day of ore was mined, crushed, and leached on site. The total disturbance footprint of the previous operation including the utility/road corridor is estimated to be 727 acres, with all acreage on Federal lands managed by the BLM. A significant portion of the previous disturbance and facilities still remain.

Table 4-2: Interrelated Disturbance within the Cumulative Assessment Area

Past Disturbance	Acres of Disturbance
Notice Level Exploration/Historic Mining	10
Copperstone Mine	695
<i>Subtotal</i>	<i>705</i>

Existing Disturbance	
Paved and Unpaved Roads	10
Administrative Land Uses (Rights-of-Way)	12
<i>Subtotal</i>	<i>22</i>

<i>Total Past Action Disturbance</i>	<i>727</i>
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4.5.3 Existing Actions

There are no current mining activities or wind farms within the analysis area. The following are existing actions within the current analysis area:

Passive Wetlands

A passive wetlands treatment facility was authorized on July 2, 2009 to reduce effluent draining from the existing tailings impoundment, the only remaining facility from the previous mining operations (Cyprus). A total of approximately 10 acres of disturbance is expected.

Right-of-Way Corridor

The existing right-of-way corridor along Arizona State Route 95 includes a high tension power line. The rights-of-way from Arizona Highway 95 to the mine are identified as rights-of-way AZA 032504 (APS), AZA 032505 (Patch Living Trust), and AZA 032506 (Patch Living Trust).

The total current disturbance of the right-of-way corridor from Arizona Highway 95 to the mine is approximately 12 acres.

Recreation

Recreation is currently allowed around the Project area and as identified by the YFO ARMP and ROD. Although areas south of Quartzsite have extensive recreational benefit and use, the analysis area has minimal recreational value due to lack of access, significant gravel cover over the bedrock, and no water. The lack of access limits motorized travel, the lack of water limits the amount of animals and vegetation available, and the amount of gravel cover minimizes rock hounding activities. During the operation of the proposed Project, the surrounding areas would remain open to recreational activities.

4.5.4 Reasonably Foreseeable Future Actions

The reasonably foreseeable future actions include continuation or expansion of mineral exploration, recreation, and administrative land uses. Approximately 60 acres of disturbance on both predisturbed and undisturbed land are projected for expansion and exploration activities of the proposed Project.

Reasonably Foreseeable Future Disturbance	Disturbance
Mine Expansion	130
Mineral Exploration Activities	20
Administrative Land Uses	10
<i>Total</i>	<i>160</i>

Mine Expansion

Expansion of the proposed operation past its current 7 to 10 year operation to as many as 15 years is a strong likelihood given the current level of exploration. The mine expansion would continue to operate within the current area of disturbance with the only expansion of land required to meet underground mine air requirements and future exploration. The tailings facility requirements would be expanded to meet the longer production requirement. The estimated expansion would be approximately 130 acres of previously disturbed area and allow for the construction of a new tailings facility.

Solar Energy

The potential for concentrating solar power tower technology (Quartzsite Solar Energy, LLC) to be developed approximately 5 miles to the southeast of the project may require the use of large tracts of land and require the use of large amounts of water depending on the cooling technology it may require. The BLM has started the development of an EIS for a project. The facility would build a large central tower and an array of mirrors around the central tower. If the concentrating solar power tower technology right-of-way application is authorized an amendment to Western Area Power Administration's transmission line would also be required.

Arizona Highway 95 Expansion

Expansion of Arizona Highway 95 to four lanes south of Quartzsite is currently under review. As part of this expansion, expansion of the highway to four lanes north of Quartzsite becomes a possibility over the next 10 years.

4.5.5 Cumulative Impacts

The proposed Project would result in the reopening of the Copperstone mine north of Quartzsite, Arizona within the current area of disturbance.

Disturbance within the Project area would likely add cumulative short-term impacts in the Project vicinity, including impacts to vegetation and wildlife, visual resources, and localized air quality. Reclamation would occur at the end of mining operations, which would aid in the long-term recovery of the Project area. Implementation of the proposed Project is therefore not expected to result in further adverse cumulative impacts within the Project area.

Cumulative effects also include the effects of future State, local, Tribal or private actions that are reasonably certain to occur in the Project assessment area. Future projects in the Project assessment area would potentially create a cumulative impact on visual characteristics, water resources, air quality, and potential housing availability.

Visual characteristics would be degraded by the continual construction of new projects that affect the view of the skyline and change the general outline of the landscape. Water resources can be cumulatively affected due to the expansion of need and the ultimate draw-down of the aquifer from overuse. Air quality can be cumulatively impacted through expansion of emissions from the construction and operation of new projects or the expansion of recreational and road activities in the area. Housing can be impacted through a large influx of new people settling into the area to work and maintain new projects.

Administrative controls of fugitive dust and water management will be required to minimize local and regional impacts. Housing concerns will need to be identified with local planning officials to ensure that local facilities are not overwhelmed and proper community planning is developed.

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Appendix A

Copperstone Mine Plan of Operations

Appendix B

Copperstone Visual Contrast Rating Worksheet