

**ENVIRONMENTAL ASSESSMENT
DOI-BLM-AZ-C020-2010-0018-EA
AZA-30026**

**A PROPOSED COMPETITIVE SALE OF SAND, GRAVEL,
ROCK, AND BOULDERS AT THE EHRENBERG WASH PIT**

**SECTION 13, TOWNSHIP 3 NORTH, RANGE 22 WEST
GILA AND SALT RIVER MERIDIAN**

LA PAZ COUNTY, ARIZONA

Prepared for

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May 2011

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Chapter 1.0

INTRODUCTION

This environmental assessment (EA) was prepared to analyze a proposed Bureau of Land Management (BLM) Arizona State Office competitive sale of sand, gravel, rock, and boulders in the Yuma Field Office (YFO) and is a site-specific analysis of potential impacts that may result from the implementation of the chosen plan. The proposed *Plan of Operations* (PO) by Mineral Aggregate Recycling Services, Inc., (MARS) outlines the proposed activities of expanding the existing Ehrenberg Wash pit should the competitive sale be approved. This EA will assist the BLM in project planning and will 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 outlined in the PO (MARS 2010; see Appendix A). If, in following the analysis in the EA, the decision maker determines that this project has a significant impact, an environmental impact statement (EIS) would be required prior to the project going forward. If the EA discloses that no significant impacts would result from the proposed project, a Record of Decision that includes a Finding of No Significant Impacts (FONSI) may be signed and the selected alternative approved.

1.1 BACKGROUND

A competitive sand, gravel, rock, and boulder (rock product) sale is proposed on approximately 20 acres of public land located within Township 3 North, Range 22 West, Section 13, Gila and Salt River Baseline and Meridian, La Paz County, Arizona. The location of the proposed project site is adjacent to the existing 40-acre MARS rock product mine currently operating under the mineral material contract AZA-34192 and Conditional Use Permit AZA-30026 (Figures 1, 2, and 3). The site is located approximately 3 miles southeast of Ehrenberg, Arizona, on federal land administered by the BLM. The existing pit is operating under a General Air Quality Emissions Control Permit for Crushing and Screening Plants issued by the Arizona Department of Environmental Quality (ADEQ).

MARS submitted a PO to the BLM that will be used to assess the impacts of the competitive sale and proposed Ehrenberg Wash pit expansion on the natural and human environment. 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 proposed competitive sale, proposed mining activities, and their approval by the BLM pursuant to FLPMA, constitute a federal action and are thus subject to 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 for the proposed competitive mineral materials sale and pit expansion.

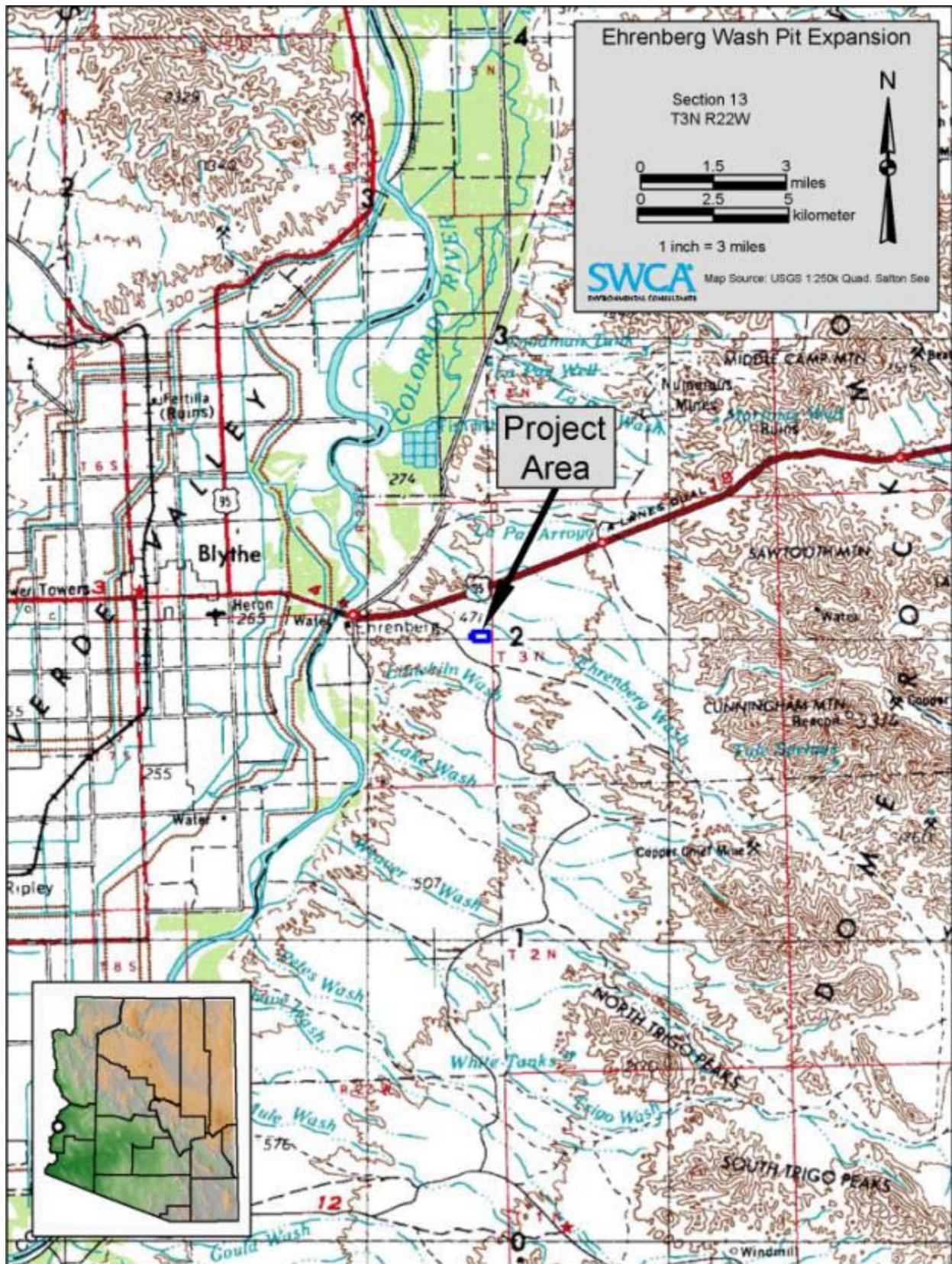


Figure 1. General location of the project area.

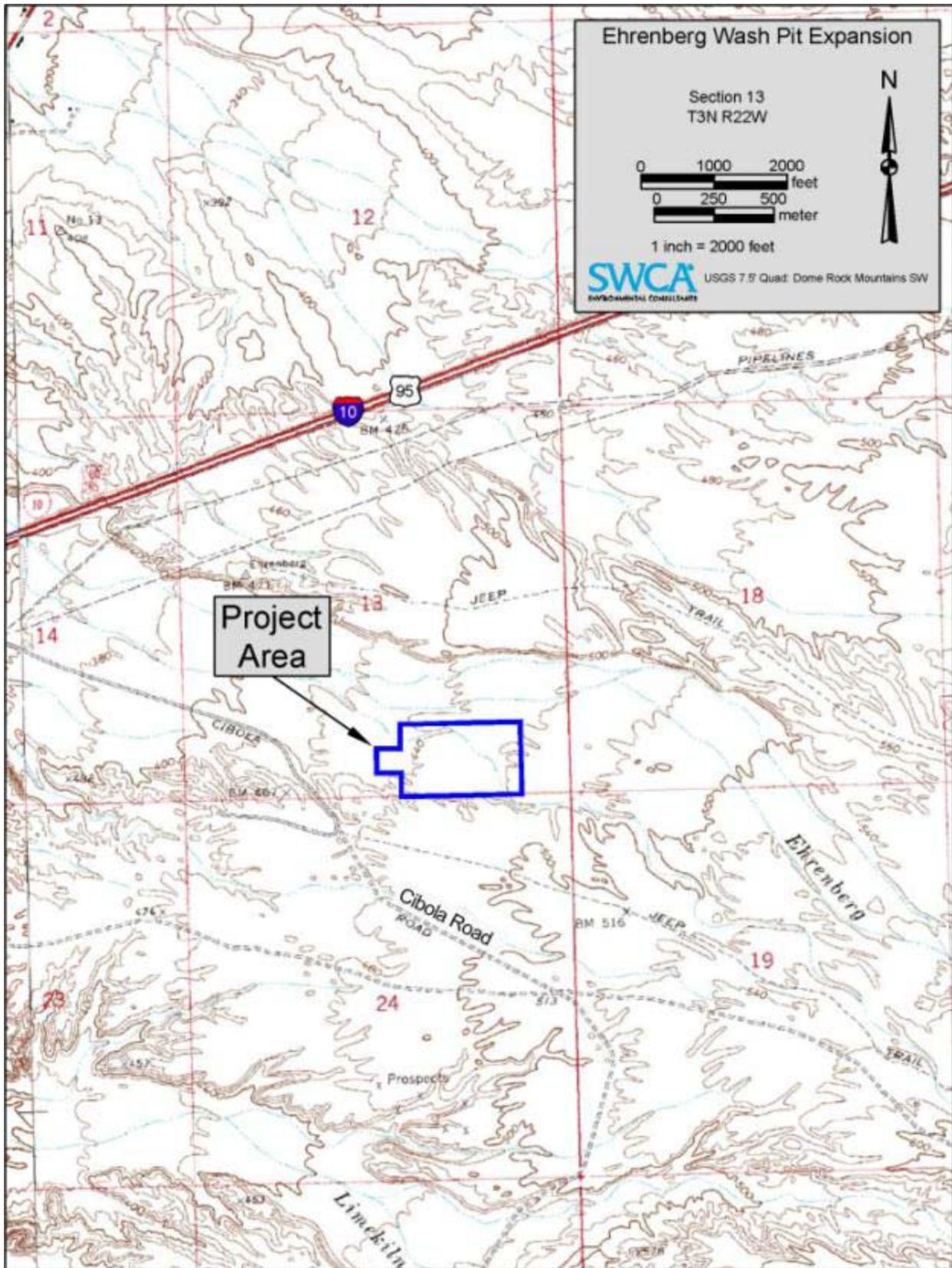


Figure 2. Project area location.

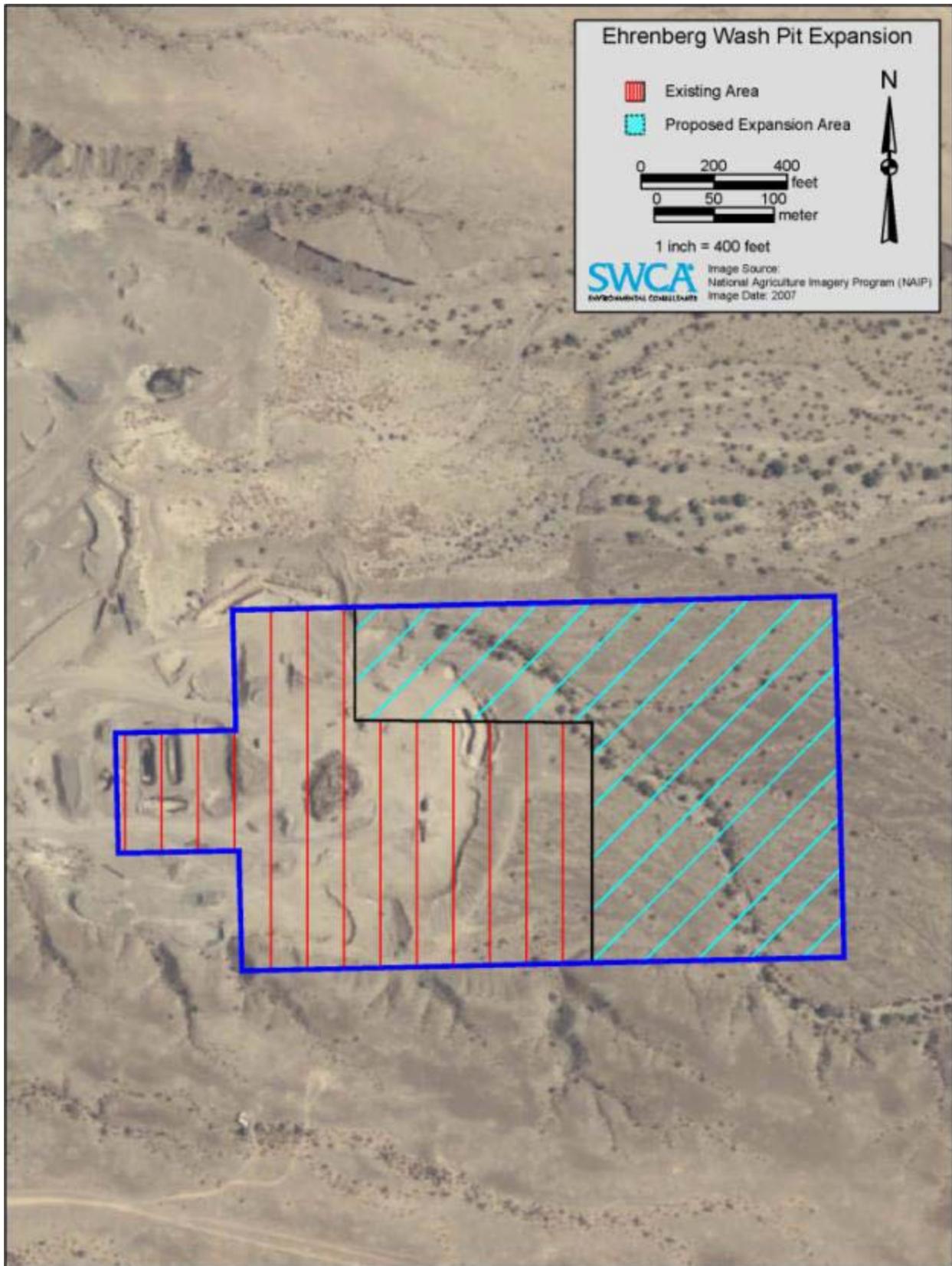


Figure 3. Project area on aerial photograph.

1.2 PURPOSE AND NEED FOR ACTION

This EA will assist the BLM in evaluating and considering whether the Proposed Action can be completed in an environmentally sound manner and whether the Proposed Action is consistent with BLM policies. Pursuant to NEPA (40 CFR 1502.13), this EA has been prepared to provide sufficient evidence and analysis for: 1) determining whether to prepare a more detailed EIS or 2) issuing a FONSI.

MARS, pursuant to the FLPMA, has previously disclosed their plans for the project PO to the BLM YFO. The purpose of the project is to allow for the sale of mineral materials at the Ehrenberg Wash community pit in northwestern La Paz County, Arizona. The underlying purpose of this EA is for BLM to identify potential environmental effects that implementation of the project as proposed in the project PO, or any reasonable alternatives to the project, may have on the existing environment.

The underlying need for the project is to meet demand for rock products in La Paz County and Blythe, California, and the reduced quantity of minable mineral materials within the existing Ehrenberg Wash pit mine. The estimated need for mineral materials for this area is 30,000 tons per year.

The BLM YFO will decide whether to issue a FONSI or require additional environmental analysis.

1.3 CONFORMANCE WITH LAND USE PLANS

The YFO's 2010 Resource Management Plan (RMP) directs land use for public lands under the jurisdiction of the BLM, including the proposed pit expansion area. Under Section 2.19, Mineral Resource Management, the BLM's policy is to "make mineral materials available to the public and local governmental agencies whenever possible and wherever it is environmentally acceptable." Mineral materials include the rock products that are proposed for competitive sale in this EA. Under Salable Minerals, Section 2.19.3 of the RMP, five community mineral materials pits are identified for salable purposes. The Ehrenberg South community pit proposed for expansion in this EA through the competitive sale of mineral materials is identified as one of the five approved community mineral materials pits for up to 100 acres of salable mineral materials extraction. The intent of identifying the five community pits is to limit the need to permit additional pits within Wildlife Habitat Management Areas (WHA) by encouraging continued appropriate use of the existing community pits. Expanding the existing 40-acre pit by 20 acres would conform to the RMP land use plans and would support the continued use of community pits while limiting the need to permit new pits in WHAs. Section 2.19.3 identifies the following land use directions for Desired Future Conditions, Management Actions, and Administrative Actions that are applicable to the project area:

The Desired Future Conditions for Salable Minerals under the RMP include:

- MI-019: The disposal of saleable minerals does not cause unnecessary or undue degradation of public lands.
- MI-020: Public lands remain available for disposal of mineral materials at the discretion of the authorized officer.

The Management Actions for Salable Minerals under the RMP include:

- MI-021: Authorize mineral materials operations on a case-by-case basis to facilitate infrastructure development.
- MI-022: Conduct a site-specific environmental analysis for the implementation of each community pit.

- MI-023: Authorize no salable mineral materials permits within: (1) Category I and II desert tortoise habitat, (2) the Colorado and Gila River Riparian WHA, (3) the Limitrophe CMA, or (4) Areas of Critical Environmental Concern (ACECs).
- MI-024: Allocate five community pits totaling a maximum of 700 acres (~5,000,000 yards) in Ehrenberg South, NE Quartzsite, Dateland, Brenda, and Hart. If site-specific environmental analysis reveals the community pit will have an adverse or significant impact on resources, the footprint of the proposal may be modified or reduced to avoid or minimize impacts. If impacts to resources cannot be sufficiently avoided or mitigated during site-specific analysis, the proposed community pit will not be implemented.
- MI-025: Limit salable mineral materials permits within the Desert Mountains WHA by making appropriate use of community pits.
- PL-007: Areas with Low Paleontological Sensitivity. Assessment or mitigation for proposed land use authorizations in areas with low paleontological sensitivity will not be required except in very rare circumstances.

Administrative Actions for Salable Minerals under the RMP include:

- AA-317: Coordinate with the U.S. Bureau of Reclamation to locate and preserve adequate mineral materials to accommodate project needs.
- AA-319: Monitor minerals activities consistent with BLM policies, including periodic field inspections that ensure compliance with applicable laws, regulations, and site-specific authorizations. Findings for each inspection are documented and placed in the case file. The number of sites inspected and the number of sites in compliance will be reported in the Annual Planning Update Report and Summary.

1.4 RELATED EISS, EAS, AND OTHER RELEVANT DOCUMENTS

This EA is tiered to the YFO RMP that was drafted to direct management of Federal surface and mineral estates in compliance with BLM's planning regulations (Title 43 CFR 1600) under the authority of the FLPMA. The RMP met the requirements of the NEPA, the *Council on Environmental Quality Regulations for Implementing the NEPA* (40 CFR 1500–1508), and the requirements of BLM's *NEPA Handbook* 1790-1, and was subsequently approved with a Record of Decision in January 2010.

Chapter 2.0

PROPOSED ACTION AND ALTERNATIVES

This chapter describes the Proposed Action and No Action Alternative.

2.1 PROPOSED ACTION

The Proposed Action is the approval for the competitive sale of rock product at Ehrenberg Wash and the expansion of the existing 40-acre open pit by 20 acres as outlined in the MARS PO. The project would produce up to 30,000 tons of rock product per year for the duration of ten years. Approximately five to ten 25-ton truck loads of rock product would be shipped per day, and up to 30 deliveries per day during peak demand. The mine would continue to employ three full-time employees.

Expansion into the previously undisturbed land would include clearing of vegetation and stockpiling of topsoil. Open-pit mining of the rock product would be conducted by wheel loaders to a depth of 25 feet and all walls would be contoured to 2:1 slopes. Blasting would not be required to extract the rock product. New access roads would not be necessary because the existing access road, Cibola Road, would be adequate for expanded operations. The extracted mineral materials would be crushed and screened on site at the existing materials crusher and stockpiled in a designated area. The facilities' electrical needs would be met by a portable generator and water needs would be met by an on-site well. Water trucks would spray water on roadways and stockpiles to suppress dust. Cibola Road, haul roads, and the process area would be periodically maintained (i.e., graded and/or bermed) to control surface damage and allow for safe travel.

Proposed reclamation efforts would occur concurrently with mine operations and after mining operations have ceased. Concurrent reclamation efforts consist of placing stockpiled topsoil on exposed slopes. Post-operations reclamation efforts consist of grading the edges of the pit and covering the pit with salvaged topsoil or unusable fine materials. The reclaimed pit area will be contoured to imitate the landscape of adjacent land and facilitate natural revegetation. Haul roads will be ripped and scarified to facilitate natural revegetation. All equipment, facilities, fencing, and debris would be removed from the site and site-specific grading would be conducted to restrict erosion. The reclamation cost for the existing mine and proposed expansion is estimated to be \$25,000 and would be paid for by MARS. Per BLM policy, MARS would be required to post reclamation bonds proportional to the amount of new surface disturbance of the Proposed Action.

2.2 NO ACTION ALTERNATIVE

The No Competitive Sale Alternative (No Action) would involve the denial of the competitive sale of rock product at Ehrenberg Wash. Because the competitive sale would not go forward, the proposed expansion of the existing Ehrenberg Wash pit would not occur. Rock product mining would continue to occur at the existing 40-acre pit until all feasibly extractable rock products were mined out and the disturbed areas reclaimed. Depending on market demand fluctuations, MARS estimates that mining activities will cease at the existing pit in two to five years based on the remaining extractable mineral materials. At that time, the demand for rock products would need to be satisfied by locating new sources of material, and including the possibility of transporting material from other parts of Arizona and California.

2.3 ALTERNATIVE CONSIDERED BUT DISMISSED

An alternative to the Proposed Action that was considered is the approval of the competitive sale of rock products at a different location than the Ehrenberg Wash pit. A specific location was not analyzed for environmental constraints and potential impacts, but the mine would be in the vicinity of Ehrenberg in order to satisfy the market demands of the Ehrenberg/Blythe area. This alternative was dismissed because the environmental impacts of constructing a new rock product mine would be greater than the impacts of the proposed Ehrenberg Wash pit expansion. For example, the footprint of a new mine would disturb more natural ground than the proposed Ehrenberg Wash pit expansion because new access roads, facilities, and stockpiling locations would be required. Furthermore, a new rock product mine would deviate from the YFO RMP's land use direction of utilizing existing community pits for mineral materials.

Chapter 3.0

AFFECTED ENVIRONMENT

This chapter characterizes the current condition and trend of elements in the human and natural environment that would be affected by the Alternatives. The following resources concerns and issues were identified by the internal BLM scoping process:

- Air Quality
- Climate Change
- Cultural Resources
- Environmental Justice/Socioeconomics
- Hazardous Materials
- Human Health and Public Safety
- Invasive and Non-native Species
- Lands Use and Realty
- Minerals
- Migratory Birds
- Native American Religious Concerns
- Paleontological Resources
- Recreation
- Soils
- Threatened or Endangered Species
- Travel Management
- Visual Resources Management
- Vegetation and Wildlife
- Wilderness Concerns

3.1 GENERAL SETTING

The project area is located on the western bajada of the Dome Rock Mountains. The Dome Rock Mountains are located approximately 6 miles to the east, the Colorado River is 3.5 miles to the west, Interstate 10 is located 1 mile to the north, and Limekiln Wash is 1.3 miles to the south of the project area (see Figure 1). The soils are part of the Ligurta-Cristobal complex, which is characterized by deep, gravelly, moderately fine-textured loam derived from volcanic and calcareous sedimentary rocks (Barmore 1980). Project area elevation ranges between 420 and 460 feet above mean sea level.

The climate of the area is arid, and temperatures in the area are typical of desert climatology. Long-term meteorological data has been established by the Western Region Climate Center from the Ehrenberg 2 E, Arizona, monitoring site. The site's annual average maximum temperature is 87.8 degrees Fahrenheit (°F) (monthly range of 66.9°F to 108.1°F) and the annual average minimum temperature is 61.4 °F (monthly range of 42.6°F to 81.8°F).

Precipitation in the area is sparse and is limited primarily to rainfall that occurs mainly during the monsoon season, from July through early October. Large amounts of warm, moist air moving from the Gulf of Mexico can create heavy thunderstorms across Arizona. The annual average precipitation at the Ehrenberg 2 E, Arizona, monitoring site is 4.74 inches with a monthly range of 0.03 inches to 0.95 inches.

3.2 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 lead. States are required to adopt standards that are at least as stringent as the NAAQS. The State of Arizona has adopted ambient air quality standards that are identical to the NAAQS. The Ehrenberg Wash pit is within an attainment area for all criteria pollutants and operates under an ADEQ General Air Quality Emissions Control Permit for Crushing and Screening Plants.

The existing rock product mining operations emit diesel and PM₁₀ emissions. Diesel emissions emanate from haul trucks and the portable generators used to power the facilities. PM₁₀ emissions consist of fugitive dust that emanates from trucks traveling on the dirt access and haul roads, extraction and crushing operations, and dry stockpiles in windy conditions. Efforts currently employed to reduce diesel and dust emissions include enforcing speed limits on dirt roads and periodically spraying dirt roads, process areas, and accessible working stockpile faces. The current operations are in compliance with air quality standards.

3.3 CLIMATE CHANGE

Climate change refers to the shifts in Earth’s long-term (decades to millennia) weather patterns as a result of changes to the concentrations of greenhouse gases in Earth’s atmosphere. A greenhouse gas is a gas that traps heat when emitted into Earth’s atmosphere. Greenhouse gases emitted from the project area consist of truck and portable generator exhaust.

3.4 CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as implemented at 36 CFR Part 800, requires Federal agencies to take into account the effects of their undertakings on historic properties (i.e., cultural resource sites that are eligible for listing on, or are listed on, the National Register of Historic Places [NRHP]). A database records search and a Class III field survey by qualified archaeologists were undertaken to determine the presence of cultural resources within the project area.

3.4.1 Database Search

A Class I database search was conducted by SWCA Environmental Consultants (SWCA). The AZSITE System, which includes records from the Arizona State Museum, Arizona State University, and the BLM, was searched for previously conducted surveys and previously recorded sites in the project area and within a 1-mile radius of the project area. The records housed at the BLM Yuma Field Office were also consulted on June 17, 2010, prior to fieldwork. Finally, the National Park Service National Register

Information System database was also consulted for NRHP-listed properties within 1 mile of the project area. The records search indicated that 19 archaeological surveys have been conducted within 1 mile of the project area and that 11 archaeological sites have been documented within a 1-mile radius of the project area. The records search also indicated that four previously documented projects have overlapped the current project area and that no archaeological sites were documented during those projects.

3.4.2 Field Survey

SWCA conducted a Class III pedestrian field survey for cultural resources on June 17, 2010. The survey was conducted under BLM Cultural Use Permit No. AZ-000411. The BLM was the lead agency on the project, and work was conducted under BLM Cultural Resources Project Record BLM-AZ-320-2010-106. Two qualified archaeologists surveyed 40 acres, including approximately 20 acres of the existing mine that will be reclaimed and the 20 acres proposed for pit expansion. The survey resulted in the identification of two isolated occurrences of prehistoric affiliation and no new or previously recorded archaeological sites. In-field recording has exhausted the research potential of the two isolated occurrences.

3.5 ENVIRONMENTAL JUSTICE AND SOCIOECONOMICS

3.5.1 Environmental Justice

Title IV of the Civil Rights Act of 1964 and related statutes ensure that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal assistance on the basis of race, color, national origin, age, sex, or disability. Executive Order 12898 on Environmental Justice directs that programs, policies, and activities not have a disproportionately high and adverse human health and environmental effect on minority and low-income populations. La Paz County has minority and low-income populations; however, no concentrations of these groups are located on or near the Ehrenberg Wash pit.

The Ehrenberg Wash pit is located 3 miles southeast of Ehrenberg, Arizona, and the Arizona–California state line. La Paz County is a sparsely populated county with some 20,000 residents and a land area of 4,500 square miles. According to the latest census, the county population grew rapidly over the past ten years (U.S. Census Bureau 2009). The population of La Paz County increased 42 percent from 1990 to 2000, about the same rate as the state as a whole.

Per capita income in La Paz County was \$22,100 in 1999, which was 88% of the per capita income for the state as a whole. Per capita earnings, calculated by dividing earnings from jobs located in the county by the resident population, were only 65% of Arizona per capita earnings. Since many residents work outside the county, however, mean earnings by place of residence were somewhat higher, at about \$13,600 per resident, or 81% of mean earnings in the state.

Therefore, the analysis did not identify any disproportionate impacts to low income or minority segments of the population. Because the nearest private lands are 2 miles northwest of the project area, and the proposed operation is relatively small in scale, protected populations are not anticipated to be adversely impacted by the Proposed Action.

3.5.2 Socioeconomic Resources

The Ehrenberg Wash pit is located approximately 3 miles southeast of the towns of Ehrenberg, Arizona, and Blythe, California. The closest residences to the project area are located 2 miles northwest of the existing mine. The Ehrenberg and Blythe communities provide the closest public services including schools, health care, public safety, and fire protection. Public utilities are not provided to the Ehrenberg Wash pit. Electricity is produced on-site by diesel generators and water is provided by an on-site well.

The mine currently employs up to three employees during extraction and crushing operations and one employee when these operations are not active.

3.6 HAZARDOUS MATERIALS

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund), provides a federal "Superfund" to clean up uncontrolled or abandoned hazardous waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. EPA is authorized to implement CERCLA in all 50 states and U.S. territories. Superfund site identification, monitoring, and response activities in states are coordinated through the State environmental protection or waste management agencies. The Superfund Amendments and Reauthorization Act of 1986 reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definitions clarifications, and technical requirements were added to the legislation, including additional enforcement authorities (EPA 2009). No chemicals subject to the Superfund Amendments and Reauthorization Act in amounts greater than 10,000 lb and no extremely hazardous substances, as defined in 40 CFR 355 (National Archives and Records Administration 2009), in threshold-planning quantities would be used in the project area.

Diesel fuel and machine lubricants are the primary hazardous materials present at the existing MARS pit site. Diesel fuel is brought in daily by a service truck; therefore, on-site fuel storage is not present. Chemicals are not used for crushing and screening operations. No hazardous materials concerns in the proposed 20-acre expansion area were identified during a site visit.

3.7 HUMAN HEALTH AND PUBLIC SAFETY

Typical hazards of a mining operation include but are not limited to traumatic injury from large equipment, getting entangled in machinery, driving over steep embankments, slipping or falling on uneven ground or slippery surfaces, encountering high-voltage electricity, being exposed to chemicals or reagents while not wearing proper personal protective equipment, and being exposed to loud noises while not wearing hearing protection. The Ehrenberg Wash pit is periodically inspected by the U.S. Mine Safety and Health Administration (MSHA) and the Arizona State Mine Inspector (ASMI) to ensure compliance with all applicable safety regulations.

Because of these hazards, it is important to protect the public from interfacing with the mine operations. Visitors are not permitted to enter the operations area unless they have been briefed on safety procedures and protocol. Consequently, access to the area surrounding active mining is signed to alert the public of the active mining status and hazards associated with entering the area.

The current mine workers receive mandatory MSHA safety training and annual refreshers with respect to mine hazards, as well as task-specific training related to their primary jobs. As a part of the MSHA training, all employees are trained in proper emergency response, incident reporting and general health and safety issues.

3.8 INVASIVE, NON-NATIVE SPECIES

According to the *Biological Evaluation of the Ehrenberg Wash Pit Expansion in La Paz County, Arizona*, three non-native species were observed in the undisturbed portions of the proposed project area: prickly Russian thistle (*Salsola tragus*), Asian mustard (*Brassica tournefortii*), and Mediterranean grass (*Schismus* sp.) (SWCA 2010). Vegetation in the disturbed portions of the project area is sparse and includes prickly Russian thistle and Asian mustard. All three of these species are included in the YFO RMP list of invasive, non-native species that are known to occur in the planning area or could be introduced in the planning area.

3.9 LAND USE AND REALTY

Land use in the area includes rock product mining at the existing Ehrenberg Wash pit and dispersed recreation. The 20-acre parcel proposed for the pit expansion is public land administered by the BLM. The existing mine has access to Interstate 10 from Cibola Road and the parcel proposed for expansion has physical access from the existing mine.

Existing rights-of-way occur adjacent to the area but do not run through the existing mine or proposed project area. There are no right-of-way corridors, sites, or renewable energy authorizations within or near the project site. The YFO RMP identifies 10 designated corridors, none of which occur within 5 miles of the project site (BLM 2010a).

3.10 MINERALS

There are three basic types of federal energy and mineral resources: leasable, locatable, and salable, as defined by federal laws, regulations, and legal decisions. The project area lies within an area designated by the BLM as having high potential for salable mineral materials, moderate to high potential for locatable metallic materials, and moderate potential for locatable non-metallic minerals (BLM 2008). Salable mineral materials extraction occurs for rock product at the existing Ehrenberg Wash pit site and is identified in the YFO RMP as one of five community pits for salable mineral materials in the BLM Yuma District (BLM 2010a).

3.11 MIGRATORY BIRDS

Two bird species were observed during this evaluation: ash-throated flycatcher (*Myiarchus cinerascens*) and lesser nighthawk (*Chordeiles acutipennis*); however, no active nests were observed in the project area (SWCA 2010). Ash-throated flycatcher and lesser nighthawk are protected under the Migratory Bird Treaty Act of 1918 (MBTA), which provides federal protection to all migratory birds, including feathers, nests, and eggs. The MBTA (Title 16, Chapter 7, Subchapter II) prohibits the “pursuit, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or eggs of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof...”. The ensuing Executive Order 13186, signed January 10, 2001, by President Clinton, “directs executive departments and agencies to take certain actions to further implement the (Migratory Bird Treaty Act).”

In order to relocate or alter any MBTA-protected nests, it will be necessary to obtain a permit from the U.S. Fish and Wildlife Service (USFWS) to maintain compliance with the MBTA. However, Section 1 of the Interim Empty Nest Policy of the USFWS, Region 2, states that if the nest is completely inactive at the time of destruction or movement, a permit is not required in order to comply with the MBTA. If an active nest is observed before or during construction, measures should be taken to protect the nest from destruction and to avoid a violation of the MBTA.

3.12 NATIVE AMERICAN RELIGIOUS CONCERNS

The American Indian Religious Freedom Act of 1978 established national policy to protect and preserve for Native Americans their inherent right of freedom to believe, express, and exercise their traditional religions, including the rights of access to religious sites, use and possession of sacred objects, and freedom to worship through traditional ceremonies and rites. Specific Native American religious concerns, if any, will be identified as a result of the NHPA Section 106 cultural consultation.

3.13 PALEONTOLOGY

Occurrences of paleontological resources are closely tied to the geologic units (i.e., formations, members, or beds) that contain them. The probability for finding paleontological resources can be broadly predicted from the geologic units present at or near the surface. Therefore, geologic mapping can be used for assessing the potential for the occurrence of paleontological resources.

According to the Arizona Geologic Survey (2000), the observed geologic unit for the proposed pit expansion is an early Pleistocene to latest Pliocene surficial deposit. This unit is not likely to contain vertebrate fossils or scientifically significant non-vertebrate fossils because they contain sedimentary eroded geologic units that are generally very young in age.

3.14 RECREATION

The YFO RMP identifies the proposed project area as being within the Ehrenberg-Cibola Recreation Management Zone (RMZ) of the Colorado River Corridor Special Recreation Management Area. The objective of this RMZ is to “maintain the wide range of water-based and off-highway-vehicle-based recreational opportunities for the public’s enjoyment” (BLM 2010a). Cibola Road provides access to off-highway vehicle (OHV) recreation roads within the Ehrenberg-Cibola RMZ; however, no water-based or OHV-based recreational activities occur at or immediately adjacent to the existing mine and proposed expansion area.

3.15 SOILS

Soil within the existing mine was removed during the rock product excavation and stored as a specially designated stockpile for future reclamation use. The majority of the soil present at the proposed expansion area is categorized as the Ligurta-Cristobal complex and Antho sandy loam (Barmore 1980). Ligurta-Cristobal complex soils consist of a very gravelly loam surface layer. The subsoil varies from clay loam to extremely gravelly sandy clay loam. Permeability is moderately slow. Antho sandy loam soils consist of sandy loam to fine sandy loam with gravelly sandy loam in some areas. Permeability is moderately rapid.

3.16 THREATENED AND ENDANGERED SPECIES

The Endangered Species Act of 1973, as amended, establishes a national program for the conservation and protection of threatened and endangered species of plants and animals and the preservation of their habitats. Section 7 of the ESA requires federal agencies to consult with the USFWS to ensure that the actions they authorize do not jeopardize the continued existence of a federally listed threatened or endangered species.

The USFWS 2010 list of federally listed, proposed, candidate, and conservation agreement species which may occur in La Paz County was reviewed. The USFWS identifies seven species of plants and animals that are threatened or endangered that may occur in La Paz County. The project area does not occur within any designated critical habitat for federally listed species.

3.17 TRAVEL MANAGEMENT

The Ehrenberg Wash pit and proposed expansion area is within the Ehrenberg-Cibola Travel Management Area and is designated as being limited to OHV use. "Limited to OHV use" is defined as limiting OHVs to existing roads, trails, and drivable washes; cross-country travel is not permitted. The Ehrenberg Sandbowl Open OHV Area can be accessed from Cibola Road approximately 2 miles southwest of the project area.

Delivery trucks use Cibola Road to access Interstate 10 and their delivery destinations. Approximately five to 10 deliveries are made during hours of operation Monday through Friday. During peak demand times, up to 30 truck deliveries per day can occur. The paved segment of Cibola Road is maintained by La Paz County. Maintenance of the dirt segment of Cibola Road from the existing mine to the paved segment is voluntarily provided by MARS and consists of grading and periodic watering.

3.18 VISUAL RESOURCE MANAGEMENT (VRM)

FLPMA identifies "scenic values" as one of the resources for which the public lands should be managed (43 United States Code [USC] 1702), and states that public lands will be managed in a manner which will protect the quality of the scenic values of these lands (43 USC 1701). In response to this mandate, the BLM has developed the Visual Resource Management (VRM) system. The scenic values of all public lands has been inventoried and classified into VRM Classes I through IV, with Class I landscapes allowing little to no impact to scenic values, and Class IV landscapes allowing major impacts to scenic values. Surface activities are subject to the objectives of the VRM classification restrictions.

According to the YFO RMP, the Ehrenberg Wash pit and proposed expansion area are inventoried as a VRM Class III landscape. The objective of VRM Class III landscapes is to partially retain the existing character (i.e., line, form, color, and texture) of the landscape, and the level of change to the characteristic landscape should be moderate. No residences have a view of the mining facilities and the facilities are not visible from heavily traveled roads, such as I-10 to the north.

3.19 VEGETATION AND WILDLIFE

The project area is in the Lower Colorado River Valley (LCRV) subdivision of the Sonoran Desertscrub biotic community (Brown 1994). Vegetation in the undisturbed upland portions of the project area includes creosote bush (*Larrea tridentata* var. *tridentata*), burrobrush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), foothill paloverde (*Parkinsonia microphylla*), desert ironwood (*Olneya tesota*),

saguaro (*Carnegiea gigantean*), ocotillo (*Fouquieria splendens*), and plantain (*Plantago* sp.). Other species include silver cholla (*Cylindropuntia echinocarpa*), diamond cholla (*C. ramosissima*), barrel cactus (*Ferocactus* sp.), wolfberry (*Lycium* sp.), pepperweed (*Lepidium* sp.), and sandmat (*Chamaesyce* sp.). Xeroriparian species observed along ephemeral washes include catclaw acacia (*Acacia greggii* var. *greggii*), foothill paloverde, desert ironwood, desert lavender (*Hyptis emoryi*), white ratany (*Krameria parvifolia*), and wolfberry. Of these plant species identified in the project area, the following table (Table 1) presents those that are protected under the Arizona Native Plant Law (Arizona Revised Statutes §3-904) by the Arizona Department of Agriculture (ADA).

Table 1. Plants Observed within the Project Area that are Protected under the Arizona Native Plant Law

Species	Category of Protection
Barrel cactus (<i>Ferocactus</i> sp.)	SR
Desert ironwood (<i>Olneya tesota</i>)	SA, HR
Diamond cholla (<i>Cylindropuntia ramosissima</i>)	SR
Foothill paloverde (<i>Parkinsonia microphylla</i>)	SA
Ocotillo (<i>Fouquieria splendens</i>)	SR
Saguaro (<i>Carnegiea gigantea</i>)	SR
Silver cholla (<i>Cylindropuntia echinocarpa</i>)	SR

Salvage Assessed (SA)—These plants have a significant value if salvaged.

Salvage Restricted (SR)—These plants are subject to damage by theft or vandalism.

Harvest Restricted (HR)—Permits required to remove plant by-products (fuel wood).

In addition to the threatened and endangered species discussed above, the BLM priority species list (provided in Table E-1 in Appendix E of the BLM YFO RMP; see BLM 2010a, 2010b) including 15 mammals, 271 birds, and 10 plant species was also reviewed. Two priority bird species were observed in the project area: lesser nighthawk and ash-throated flycatcher, which both receive protection under the MBTA. BLM Sensitive or Priority species that may occur in the project area include California myotis (*Myotis californicus*), cave myotis (*Myotis velifer*), western pipistrelle (*Pipistrellus hesperus*), big brown bat (*Eptesicus fuscus*), hoary bat (*Lasiurus cinereus*), spotted bat (*Euderma maculatum*), Townsend’s big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*), Mexican free-tailed bat (*Tadarida brasiliensis*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), mule deer (*Odocoileus hemionus*), western burrowing owl (*Athene cunicularia hypugaea*), and Yuma mountain lion (*Puma concolor browni*) (BLM 2010b). Although there are no potential bat roost sites in the project area, bats could potentially use the area for foraging. Numerous nongame migratory birds and some game bird species may also occur in the project area.

Another species that may occur in the project area is the Sonoran desert tortoise (*Gopherus agassizii*). The Sonoran desert tortoise is currently listed as an Arizona Species of Concern. However, the USFWS published a 90-Day Finding responding to a petition to list Sonoran desert tortoise as a distinct population segment under the ESA and designate critical habitat. The final decision will be made in the USFWS’s twelve-month finding, due out later this year. Some of the species above are BLM Sensitive. Although these species may occur in the project area, impacts would not likely result in a trend toward federal listing.

Many other wildlife species typical of the LCRV subdivision are likely present in the vicinity of the proposed project area. Mammals likely present in the area include coyote (*Canis latrans*), black-tailed

jackrabbit (*Lepus californicus*), desert cottontail rabbit (*Sylvilagus audubonii*), Merriam's kangaroo rat (*Dipodomys merriami*), round-tailed ground squirrel (*Spermophilus tereticaudus*) desert pocket mouse (*Perognathus penicillatus*), and Arizona pocket mouse (*Perognathus amplus*). Birds likely in the area include turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), Gambel's quail (*Callipepla gambelii*), white-winged dove (*Zenaida asiatica*), mourning dove (*Zenaida macroura*), greater roadrunner (*Geococcyx californianus*), lesser nighthawk (*Chordeiles acutipennis*), and common raven (*Corvus corax*). Reptiles in the area likely include zebra-tailed lizard (*Callisaurus draconoides*), desert spiny lizard (*Sceloporus magister*), western (or tiger) whiptail (*Cnemidophorus tigris*), and Western diamondback rattlesnake (*Crotalus atrox*).

3.20 WILDERNESS CONCERNS

The project area contains no designated wilderness areas or wilderness study areas. The New Water Mountains Wilderness Area is the nearest designated wilderness area and is located approximately 10 miles to the east of the proposed pit expansion. Thus, analysis of wilderness concerns has been eliminated from further consideration in this document.

Chapter 4.0

ENVIRONMENTAL IMPACTS

4.1 INTRODUCTION

Chapter 4 discusses the environmental impacts that the implementation of the Proposed Action and No Action Alternative may have on the existing environmental conditions. The impact analysis is based on the inventory results and standard operations as outlined in the PO, combined with the professional judgments of the principal investigator for each resource. Minimal environmental impacts to the natural and human environments are anticipated from the Proposed Action.

4.2 AIR QUALITY

4.2.1 Proposed Action Alternative

Regulated air pollutant emissions that would occur as a result of the proposed Ehrenberg Wash pit expansion include diesel exhaust and PM₁₀. Diesel exhaust would continue to be emitted from haul trucks and the portable generator used to power the facilities. All machinery and vehicles would be properly muffled and maintained to State emission standards. Diesel exhaust would not be expected to increase as a result of the Proposed Action because the truck deliveries would continue at the current frequency and the use of the portable generator to power the facilities would not increase. PM₁₀ emissions in the form of fugitive dust would continue to emanate from trucks traveling on the dirt access and haul roads, extraction and crushing operations, and dry stockpiles in windy conditions.

BLM determines that the 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 within the ADEQ has jurisdiction over air quality aspects of rock product mining. Permitting will involve estimating emissions and analyzing the control technology to be used at the emission points. Written into the project permit will be operating conditions that describe the allowed conditions.

The MARS PO for the pit expansion calls for continued speed limit enforcement on all dirt roads and periodically spraying water on dirt roads and stockpiles to reduce fugitive dust emissions. Spray bars would be installed at several points on the crushing equipment to further reduce fugitive dust emissions.

Impacts to air quality would not be expected to exceed the current levels because the proposed expansion would not increase the frequency of truck deliveries or increase overall mining activities. If the sale of rock product is approved, the duration of the Ehrenberg Wash pit mine's impact on air quality would increase by ten years.

4.2.2 No Action Alternative

Under the No Action Alternative, the proposed mineral materials competitive sale would not be approved and the proposed Ehrenberg Wash pit expansion would not occur. Mining operations and associated air quality impacts would continue at the existing pit until all minable material is extracted and reclamation activities have ceased. In comparison to the Proposed Action, the duration of the air quality impacts from the mine under the No Action Alternative would be reduced by ten years.

4.3 CLIMATE CHANGE

4.3.1 Proposed Action Alternative

The proposed pit expansion would not increase the existing amount of greenhouse gases emitted by mining operations at the Ehrenberg Wash Pit but would increase the duration by ten years. Stationary diesel equipment consists of a portable generator to power the crushing and screening operations and other facilities. Haul trucks would also continue to use diesel fuel.

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 Air Quality Division within the ADEQ has jurisdiction over present and future sources of air pollution. Because of the small size of the project, no significant greenhouse gas emissions are expected.

4.3.2 No Action Alternative

The No Action Alternative would not affect climate change.

4.4 CULTURAL RESOURCES

4.4.1 Proposed Action Alternative

The Class III survey of the existing facilities and proposed expansion area resulted in the discovery of two isolated occurrences. In-field recording exhausted the research potential of the two isolated occurrences and SWCA recommends a finding of “no historic properties affected” for the current proposed pit expansion. However, if previously undocumented buried cultural resources are identified during ground-disturbing activities, all work in the immediate vicinity of the discovery should stop until the find can be evaluated by a professional archaeologist.

4.4.2 No Action Alternative

No cultural resources would be impacted under the No Action Alternative.

4.5 ENVIRONMENTAL JUSTICE AND SOCIOECONOMIC RESOURCES

4.5.1 Proposed Action Alternative

No minority or low-income populations would be impacted by the Proposed Action. Socioeconomic resources such as utilities, schools, health care, public safety, and fire protection would also not be impacted by the Proposed Action. Due to the remote location of the existing mine and proposed expansion area, the facilities and pit cannot be seen from any populated areas and noise from mining operations does not reach populated areas.

According to the MARS PO, the proposed mine expansion would enable MARS to continue to employ up to three full time employees for an additional ten years. The continued employment would be considered an economic benefit of the mining operation.

4.5.2 No Action Alternative

Under the No Action Alternative, employees currently working at the Ehrenberg Wash pit would no longer be able to work at the mine after all minable rock product is excavated (in approximately two to five years) and the facilities reclaimed. The No Action Alternative would not affect minority or low-income populations and socioeconomic resources.

4.6 HAZARDOUS MATERIALS

4.6.1 Proposed Action Alternative

Hazardous materials concerns would continue to be diesel fuel and machine lubrications under the Proposed Action Alternative. The MARS PO states that no on-site fuel storage would occur and the crushing facilities would continue to be a chemical-free process. Refuse containers would be used for the collection of hazardous waste material and periodically transported to approved disposal sites. No environmental impacts would be anticipated from hazardous materials as a result of the Proposed Action Alternative.

4.6.2 No Action Alternative

The No Action Alternative would not affect hazardous materials.

4.7 HUMAN HEALTH AND PUBLIC SAFETY

4.7.1 Proposed Action Alternative

Due to the isolated location of the Ehrenberg Wash pit, the Proposed Action Alternative would not impact human health and public safety. In order to ensure public safety, the MARS PO would require the continuation of safety measures currently employed at the mine and the continuation of staff training per MSHA and ASMI regulations.

4.7.2 No Action Alternative

The No Action Alternative would not affect human health and public safety.

4.8 INVASIVE/NON-NATIVE SPECIES CONCERNS

4.8.1 Proposed Action Alternative

Implementation of the Proposed Action may result in an expansion of invasive species to previously disturbed and undisturbed areas. Washing of vehicles and equipment before entry into the proposed project area may prevent the spread or introduction of invasive, non-native species.

The BLM coordinates with local governments to conduct an active program for control of invasive species. Washing of vehicles and annual monitoring and spraying, along with site-specific mitigation, are applied as approval conditions for authorizations of surface-disturbing activities to prevent the spread or introduction of invasive, non-native species.

4.8.2 No Action Alternative

The No Action Alternative would not affect invasive and non-native species concerns.

4.9 LAND USE AND REALTY

4.9.1 Proposed Action Alternative

The Proposed Action would expand the existing land use of salable mineral material mining. The Proposed Action would also support the YFO RMP's objective to encourage appropriate mineral materials mining at existing community pits in order to reduce the need for new mineral materials mines in undisturbed areas, especially WHAs. No rights-of-way would be impacted.

4.9.2 No Action Alternative

Under the No Action Alternative, the existing land use of a community mineral materials pit would not be expanded and mineral materials development would cease after all feasible mineral materials are extracted from the existing pit. The No Action Alternative would not be consistent with the YFO RMP's land use objective to encourage appropriate mineral materials at existing community pits. As demand for rock product continues and supply from the existing Ehrenberg Wash pit is reduced, additional pits at other locations would be required to satisfy local demand.

4.10 MINERALS

4.10.1 Proposed Action Alternative

The Proposed Action would have a beneficial effect on salable mineral materials development because the 20-acre expansion site would be offered for competitive sale. According to the MARS PO, up to 30,000 tons of rock product would be extracted per year and made available to the local market.

4.10.2 No Action Alternative

The No Action Alternative would not comply with the BLM's policy to manage lands for multiple uses including salable mineral materials development on suitable lands.

4.11 MIGRATORY BIRDS

4.11.1 Proposed Action Alternative

The Proposed Action is not likely to have a measurable effect on migratory bird populations and is not likely to result in a trend for any species toward federal listing or loss of viability. The contractor would comply fully with the stipulations outlined in the MBTA during implementation of this project.

4.11.2 No Action Alternative

The No Action Alternative would not affect migratory birds.

4.12 NATIVE AMERICAN RELIGIOUS CONCERNS

4.12.1 Proposed Action Alternative

The Proposed Action is located adjacent to the Colorado River floodplain, which is a landscape of traditional importance to many Native American tribes. BLM has initiated coordination and consultation with six tribes. Any tribal input received will be incorporated into the final environmental assessment.

4.12.2 No Action Alternative

The No Action Alternative would not affect Native American religious concerns.

4.13 PALEONTOLOGY

4.13.1 Proposed Action Alternative

Based on the observed geologic unit present in the proposed expansion area, the proposed expansion of the Ehrenberg Wash pit would not likely impact paleontological resources. If paleontological resources are discovered during ground-disturbing activities, work in the immediate vicinity should halt until a qualified paleontologist can evaluate the find.

4.13.2 No Action Alternative

No paleontological resources would be impacted by the No Action Alternative.

4.14 RECREATION

4.14.1 Proposed Action Alternative

The area surrounding the proposed pit expansion is open to limited recreational use as outlined in the YFO RMP. The expanded mine operations would expand the public exclusion area of the existing 40-acre mine by 20 acres. There are no water-based or OHV-based recreational activities supported by the

proposed expansion area, therefore, no significant impacts would be anticipated as a result of the implementation of the Proposed Action.

4.14.2 No Action Alternative

Recreation would not be impacted by the No Action Alternative.

4.15 SOILS

4.15.1 Proposed Action Alternative

The approval of the mineral materials sale and construction of the pit expansion would result in the disturbance and alteration of undisturbed native soil and underlying minerals. Impacts to native soil and minerals would result from the clearing of protective vegetation, excavation of materials, and the associated loss of soil productivity in undisturbed areas. According to the PO, disturbed topsoil would be stockpiled separately from the rock product stockpiles. As areas in the pit expansion become mined out, the stockpiled topsoil would be used to reclaim the area and facilitate revegetation. Scarification of project areas during reclamation would reduce impacts to soils over the long term.

4.15.2 No Action Alternative

The No Action Alternative would not impact soils because the Ehrenberg Wash pit would not expand into the currently undisturbed 20 acres.

4.16 THREATENED AND ENDANGERED SPECIES

4.16.1 Proposed Action Alternative

The Proposed Action would have no effect on threatened and endangered species. As the project site does not provide suitable roost sites, aquatic habitat, or riparian habitat for any of the seven species listed for La Paz County (bald eagle [*Haliaeetus leucocephalus*], bonytail chub [*Gila elegans*], roundtail chub [*G. robusta*], razorback sucker [*Xyrauchen texanus*], southwestern willow flycatcher [*Empidonax traillii extimus*], yellow-billed cuckoo [*Coccyzus americanus occidentalis*], and Yuma clapper rail [*Rallus longirostris yumanensis*]; see BLM 2010b), the proposed project would have no effect on any threatened or endangered species. Furthermore, no impacts to designated critical habitat for any federally listed species will occur.

4.16.2 No Action Alternative

The No Action Alternative would not impact threatened and endangered species.

4.17 TRAVEL MANAGEMENT

4.17.1 Proposed Action Alternative

Access to the project area would continue from Interstate 10 and Cibola Road under the Proposed Action. The proposed pit expansion will not increase existing truck use on Cibola Road; however, trucks would continue to make deliveries from the Ehrenberg Wash pit for an additional ten years should the competitive mineral materials sale and MARS PO be approved.

4.17.2 No Action Alternative

The No Action Alternative would not affect travel management.

4.18 VISUAL RESOURCE MANAGEMENT

4.18.1 Proposed Action Alternative

Surface activities in the proposed parcel are subject to VRM Class III restrictions. Surface activities subject to these restrictions are the proposed 20-acre pit expansion area and reclamation activities for the entire mine. During operations, the expanded pit would result in a change to the existing visual character by removing vegetation and topsoil and extracting mineral materials up to 25 feet deep. However, these changes are anticipated to be minor when compared to the context of the existing materials pit. The visual character of the facilities, and stockpile areas of rock product and topsoil would continue to be located at their existing locations and therefore would be unchanged.

Concurrent and post-operations reclamation activities would partially mitigate the impacts of the expanded pit to the visual setting. Cuts and banks would be contoured to blend with the natural setting and disturbed areas would be resurfaced with stockpiled topsoil or crusher fines. All reclaimed surfaces would be graded to limit soil erosion and facilitate revegetation and re-establishment of appropriate drainage patterns. These reclamation activities would ensure that the post-operations mine would conform to the Class III VRM objective to partially retain the visual character of the landscape.

Staff from the YFO visited the project site to conduct a visual contrast rating of the Proposed Action and surrounding area on November 3, 2010. The rating was conducted from the key observation point of Cibola Road, approximately a 0.5 mile from the project area. The visual contrast rating confirmed that the Proposed Action, including mitigation measures outlined in the PO, would meet the visual management objectives for VRM Class III areas because the “expansion of the pit will not introduce any new visual elements that will contrast with the existing landscape” (BLM 2010c; Appendix B).

4.18.2 No Action Alternative

The No Action Alternative would maintain the current visual setting at the proposed pit expansion site. Reclamation of the existing pit after operations would occur after the pit has extracted all feasible mineral materials and the reclaimed site would be consistent with the Class III VRM objective to partially retain the visual character of the landscape.

4.19 VEGETATION AND WILDLIFE

4.19.1 Proposed Action Alternative

Prior to commencement of this project, the ADA Notice of Intent to Clear Land form will be completed and submitted to the ADA at least 60 days prior to vegetation-removal activities. If native plants will be salvaged and replanted in the project area, then the applicant will include this information with the Notice of Intent to Clear Land form at the time of its submittal and request salvage permits.

Existing vegetation within the undisturbed portion of the project site would be removed during surface-disturbing activities of the Proposed Action. Reclamation efforts consist of placing stockpiled topsoil on exposed slopes that would not be mined. The reclaimed pit area would be contoured to match the landscape of adjacent land and facilitate natural revegetation. Wildlife within the proposed project area would be displaced during proposed project activities and then would be anticipated to return to the project area following reclamation and subsequent natural revegetation of the area.

Development of the proposed project site could impact potential foraging habitat for two BLM sensitive bat species: cave myotis and the pocketed free-tailed bat. Based on the abundance of similar habitat types within the surrounding areas, impacts would not be anticipated to adversely impact these species on a regional basis. Additionally, although it is possible that the project could impact another BLM sensitive species, western burrowing owl, it is not likely to result in a trend toward federal listing or loss of viability. Similarly, although potential impacts may occur to numerous wildlife species as outlined in Section 3.19 above, impacts would not likely result in a trend toward federal listing.

4.19.2 No Action Alternative

No impacts to vegetation and wildlife would occur under the No Action Alternative.

4.20 CUMULATIVE IMPACTS

This section analyzes the potential cumulative impacts from past, present, and reasonably foreseeable future projects, combined with the Proposed Action. Cumulative impacts on the environment results from incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

Existing environmental conditions in the vicinity of the Proposed Action reflect changes brought about by long-term occupancy and use. Ongoing or planned activities that may contribute to cumulative impacts include nearby rock product operations, transportation projects, private land use activities, and administrative land use activities. Resources for which no impacts are identified are not discussed in the context of cumulative effects.

For this analysis, the cumulative assessment area is defined as approximately 20 miles in diameter around the proposed MARS expansion site, but includes rock product mines that exist outside the 20-mile assessment area to serve as a regional-level analysis for this activity. The time frame of these effects coincides with the ten-year life of the proposed pit expansion.

The Proposed Action would result in expanding mining operations at the Ehrenberg Wash pit in western La Paz County. Surface disturbance associated with this project under this EA would allow for

approximately 20 acres to be disturbed adjacent to the existing 40 acres of disturbance at the Ehrenberg Wash pit. New disturbance would add cumulatively to short-term impacts in the project vicinity, including impacts to soils, vegetation and wildlife, visual resources, and localized air quality. Reclamation efforts would occur concurrently with mining operations which would aid in the long-term recovery of the project area. If the MARS PO is approved, all reclamation efforts would be paid for by the MARS through their existing reclamation bonds and any additional bonds for the expanded area as required by the BLM. When combined with the impacts of past, present, and reasonably foreseeable actions identified below, implementation of the proposed project would not be expected to result in adverse cumulative impacts.

4.20.1 Description of Interrelated Projects

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 rock product mining activities, private development, agriculture, and 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.

4.20.2 Past Actions

The existing MARS rock product mine started operating in 1997 and has nearly mined out its current 20-acre salable mineral lease. The only other rock product activity within 20 miles of the project area is an approximately 10-acre materials pit used by the Arizona Department of Transportation (ADOT) for road maintenance activities. Other major activities that have occurred within 20 miles of project area are residential and commercial development primarily in Blythe, California, and Quartzsite, Arizona, and, to a lesser extent, in Ehrenberg, Arizona. Agriculture around Blythe, California, has occurred in the region for many years. In connection with the regional development of the area, highway and road construction, including Interstate 10, has occurred throughout the analysis area.

Impacts associated with these past actions include a localized reduction of air quality where surface top soils are disturbed, reduction of air quality as a result of increased vehicle emissions and travel on unpaved roads, reduction of native vegetation and wildlife habitat, and changes to the regional visual character from natural desert to small urban and rural communities.

4.20.3 Existing Actions

The ADOT materials pit is currently operating within 2 miles of the Proposed Action and MARS is continuing to extract the last of the available salable materials in the 20-acre pit. Commercial, residential, and agricultural land uses continue to exist in Blythe, California, Ehrenberg, Arizona, and Quartzsite, Arizona within the 20-mile analysis area. Road maintenance and improvement projects are occurring on Interstate 10 and local roads on an as-needed basis. MARS is supplying rock product to three solar power facilities currently being constructed in California within 20 to 25 miles of the Proposed Action.

On a regional level, the YFO RMP identifies five community pits for the production of rock products, including the MARS pit, for a total of 700 acres and the extraction of approximately 5,000,000 cubic yards of rock product material within the jurisdiction of the YFO. However, the four other pits identified in the YFO RMP are not within 20 miles of the Proposed Action. Also on a regional level, The Bureau of Reclamation utilizes rock product from approximately 21 quarries along the lower Colorado River. The rock product from these quarries is used primarily to maintain dirt roads under the jurisdiction of the

Bureau of Reclamation. The closest quarry to the Proposed Action is the Hart Mine #1 Quarry near Cibola, Arizona, over 20 miles to the southwest.

Impacts associated with these existing actions include localized reduction of air quality as a result of ground-disturbing activities, vehicle emissions, and travel on unpaved roads. Reductions in native vegetation and wildlife habitat and changes to the existing visual character would only occur if the actions increase the size of the existing development.

4.20.4 Reasonably Foreseeable Actions

Cumulative effects also include the effects of future state, local, tribal, and private actions that are reasonably certain to occur in the project area. Reasonably foreseeable future actions include continuation or expansion of rock product mining and administrative land uses. Current commercial, residential, and agricultural land uses in the surrounding communities are expected to continue as well. The BLM is not aware of any specific activity that is reasonably certain to occur on these lands. Impacts associated with future foreseeable actions include localized reduction of air quality during ground-disturbing activities, reductions in native vegetation and wildlife habitat, and localized changes to the visual character at future project areas.

Chapter 5.0

CONSULTATION AND COORDINATION

The following persons and agencies were contacted or consulted during preparation of this EA:

Federal

U.S. Department of the Interior, Bureau of Land Management, Yuma Field Office:

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Ron Morfin, VRM, Wilderness Specialist
Joe Raffaele, Recreation Specialist
Jeffrey Young, Biologist
John Hall, Invasive and Non-Native Species Specialist

U.S. Fish and Wildlife Service

State

Arizona Game and Fish Department

Tribal

Colorado River Indian Community
Fort Mojave Indian Tribe
Hopi Tribe
Yavapai-Prescott Indian Tribe
Pueblo of Zuni

Chapter 6.0

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Appendix A

MINERAL AGGREGATE RECYCLING SERVICES, INC., PLAN OF OPERATIONS

Appendix B

VISUAL CONTRAST RATING WORKSHEET
