

**Final Environmental Assessment**  
Picacho Study Area Exploration Drilling Project  
Imperial County, California



U.S. Department of the Interior  
Bureau of Land Management  
El Centro Field Office  
1661 South 4<sup>th</sup> Street  
El Centro, CA 92243

Environmental Assessment: CA-670-2009-19

Case File # CACA-049911

**October 2012**

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## Appendices

**Appendix A: USCorp Plan of Operations, Under separate cover**

**CONFIDENTIAL Appendix B: Cultural Resource Survey Report (Pigniolo and Dittmer 2009) Under separate cover**

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**UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

**CALIFORNIA**

**EL CENTRO FIELD OFFICE**

**EA #:** CA-670-2009-19

**Case File #:** CACA 049911

**Project Name:** Picacho study area exploration drilling project.

**BLM Contact Person:** Efe Erukanure, Geologist, El Centro Field Office. 760-337-4412

**Legal Description and Map Name:**

Township 14 South, Range 21 East, Section 3. San Bernardino Meridian (SBM)

Township 13 1/2 South, Range 22 East, Sections 31 and 32. SBM

**Maps:**

- Bureau of Land Management Surface Management Map- Yuma DAG
- Ogilby 7.5-minute U.S. Geological Survey topographic quadrangle, Imperial County, California.

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## **CHAPTER 1: INTRODUCTION**

### **1.1 Project Description**

In April 2008 USCorp (Applicant, herein) submitted a Mine Plan of Operations for proposed Picacho Study Area Exploration Drilling Project (“Project”, herein). As proposed, the Project would involve conducting exploration activities, specifically to drill exploratory holes upon land managed by the Bureau of Land Management (BLM) with the stated purpose of sampling and mapping the underlying strata for mineral potential, in accordance with 43 CFR 38.09.

The proposed project, encompassing approximately 36 acres of land managed by the BLM El Centro Field Office, is located approximately 20 miles northwest of Yuma, Arizona on unpatented lode claims (Figure 1). The proposed project would involve drilling up to 80 drill holes along existing roads in the area over a period of months upon approval by the BLM. Drilling would be done using a four to six inch reverse circulation rotary drill and the depth of each drill hole would vary from about 100 to 500 feet. An area extending 40 inches in each direction from each surveyed drill point will be considered a drill site. Each drill location for this proposed project would be made up of several drill sites clustered in same area. The entire proposed project is located within public lands managed by the BLM (Figure 2).

### **1.2 Purpose and Need**

The Federal Land Policy and Management Act of 1976 (FLPMA) (43 U.S.C 1732) establishes a unified, comprehensive, and systematic approach to managing and preserving public lands in a way that protects "the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." BLM regulations at 43 CFR 3809 were developed to prevent unnecessary or undue degradation and require operators mining on BLM lands to submit a Plan of Operation and obtain BLM approval before conducting operations (43 CFR 3809.11 (A)). The BLM’s purpose is to review the Plan of Operation submitted by USCorp and issue a decision approving or withholding the operation. In accordance with the rights of entry and use under the mining Law and the requirements in the regulations at 43 CFR 3809, the BLM must review the plan of Operations to determine whether it is adequate to prevent unnecessary or undue degradation. The BLM may approve the Plan of Operation as submitted; approve it subject to changes or modification necessary to meet the performance standards of the 3809.420 and prevent unnecessary or undue degradation, or disapprove/withhold approval of the Plan of Operation because it would result in unnecessary or undue degradation. This Environmental Assessment (EA) addresses the application for a drilling permit allowing for exploration drill only.

The need for the proposed project, as proposed by USCorp, would be to confirm, supplement, and complement the past exploration work by at least three previous companies (Newmont Mining Corp., Homestake Minerals, Santa Fe Minerals, and others) and to provide industry standard mineral resource data that would be used to define possible gold resources. Data obtained as a result of the proposed project would be used by USCorp in future decision planning to identify methods to access and develop potential resources.

The BLM's need is to review the Plan of Operation submitted by USCorp and issue a decision approving or withholding the operation. In accordance with the rights of entry and use under the mining Law and the requirements in the regulations at 43 CFR 3809, the BLM must review the plan of Operations to determine whether it is adequate to prevent unnecessary or undue degradation.

### **1.3 Conformance with Land Use Plans**

*California Desert Conservation Area Management Plan 1980, as amended (CDCA):*

The BLM El Centro Field Office manages public land in accordance with the CDCA Plan which provides a framework for managing and allocating resources on BLM land by setting guidelines for mineral exploration and development to occur while preserving natural and cultural resources. It was written to meet the requirements of FLPMA and the National Environmental Policy Act of 1976 (NEPA) for comprehensive land-use planning for public land.

The BLM has classified lands within the proposed project area as being open to mineral development. These lands are designated as Multiple Use Class (MUC) and Limited (L), and provide for the continued use of classified areas for mineral development, among other goals. As described in the CDCA Plan, it is the policy and responsibility of the BLM to ensure that surface disturbing mining operations will be regulated to prevent undue degradation of public lands. Chapter 2, Multiple Use Classes (MUC) of the CDCA Plan states that MUC-L "... protects sensitive, natural, scenic, ecological, and cultural resource values.... Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished" (pg. 13). The amended CDCA Plan also states that MUC guidelines would be revised to conform to 43 CFR 3809 modification.

All alternatives would be consistent with the CDCA Plan and MUC designation.

BLM has reviewed the Applicant's Plan of Operation and found it to be in compliance with the guidelines and policies of the CDCA Plan and the regulations at Title 43, Code of Federal Regulations Subpart 3809 as stated: "Surface Management." The road/trail network is located

in an area open to mineral entry and has been extensively used for past mineral exploration and localized lode and placer mining operations.

*Northern and Eastern Colorado Desert Coordinated Management Plan (NECO):*

The BLM developed NECO to designate routes of travel and protect the desert tortoise, among other objectives (BLM, 2002). The NECO plan is an amendment to the 1980 CDCA Plan and the proposed project area falls within the boundaries of land designated to be managed using the NECO plan. .

*Mining and Minerals Policy Act of 1970 (MMPA):*

The BLM's policy is to make mineral resources available for location and development in accordance with MMPA, which requires the Federal government (including the BLM) to facilitate mineral development to meet national, regional, and local needs. The Geology, Energy and Minerals (G-E-M) section of the CDCA Plan describes management guidelines for minerals on BLM-administered land.

#### **1.4 Relationship to Statutes, Regulations, or other Plans.**

Exploratory activities are conducted on public land under the authority of the General Mining Law of 1872 (30 USC 22, et seq) and are to be in conformance with the requirements of the FLPMA to prevent “unnecessary or undue degradation to public lands and resources”, and specific to the CDCA, to “...protect the scenic, scientific, and environmental values of the public lands of the California Desert Conservation Area against undue impairment, and to assure against pollution of the streams and waters within the California Desert Conservation Area”. (FLPMA; 43 USC 1701, 1732, 1781). Regulations implemented pursuant to the FLPMA incorporate these requirements at 43 CFR 3809, and define unnecessary or undue degradation and undue impairment to mean conditions, activities, or practices that:

- (1) Fail to comply with one or more of the following: the performance standards in Sec. 3809.420, the terms and conditions of an approved plan of operations, operations described in a complete notice, and other Federal and state laws related to environmental protection and protection of cultural resources;
- (2) Are not “reasonably incident” to prospecting, mining, or processing operations as defined in Sec. 3715. 0-5 of this chapter; or
- (3) Fail to attain a stated level of protection or reclamation required by specific laws in areas such as the California Desert Conservation Area, Wild and Scenic Rivers, BLM-administered

portions of the National Wilderness System, and BLM-administered National Monuments and National Conservation Areas.

All alternatives are consistent with the National Historic Preservation Act (NHPA), the Clean Air Act, the Clean Water Act and the Endangered Species Act. Government-to-government consultation between BLM and Native American Tribes is required for all action alternatives.

The proposed project would be located within federally threatened desert tortoise habitat. The BLM has consulted with the U.S. Fish and Wildlife Service (FWS) on small mining and exploration projects and received a Programmatic Biological Opinion (Programmatic BO) that would apply to this proposed project (USFWS, 1994). The FWS was notified of the Project on June 18, 2009. The FWS, through a correspondence on December 12, 2009, concurred with the BLM's determination that the proposed project falls within the definition of actions covered by the Small Mining BO.

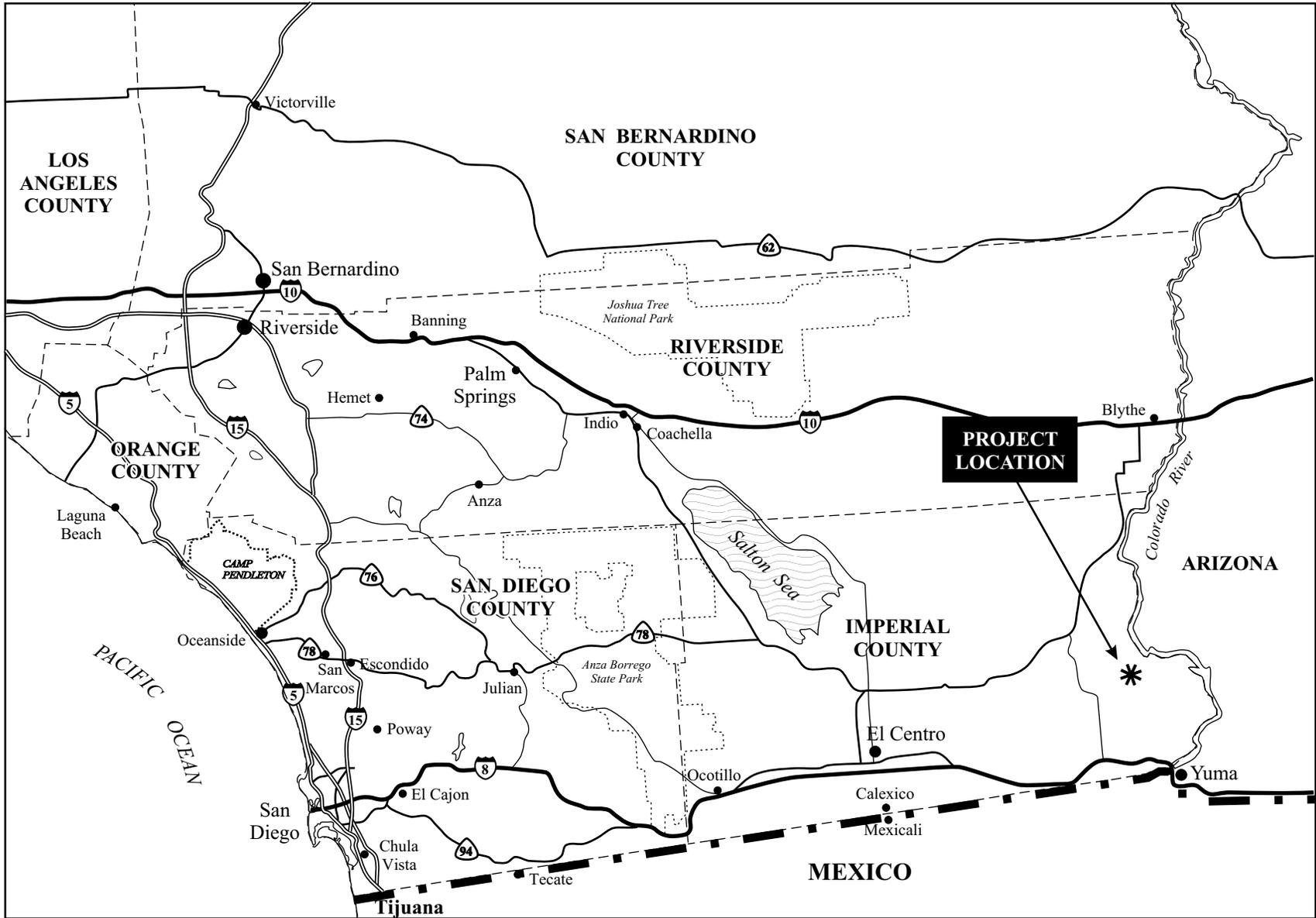


Figure 1  
Regional Location Map



# Picacho Exploration Drilling Program

BLM  
El Centro Field Office  
EA # CA-670-2009-19

ARIZONA



## Legend

- Project boundary
- Limited Route of Travel
- Open Route of Travel
- Land Status**
- AGENCY**
- Bureau of Land Management
- US Forest Service
- National Park Service
- Bureau of Reclamation
- US Fish and Wildlife Service
- Military
- Other Federal
- State
- County/State/Regional
- Private/Other
- BLM Wilderness
- Area of Critical Environmental Concern
- Reservations and Rancherias
- Perennial Water Bodies
- BLM Field Office Boundary

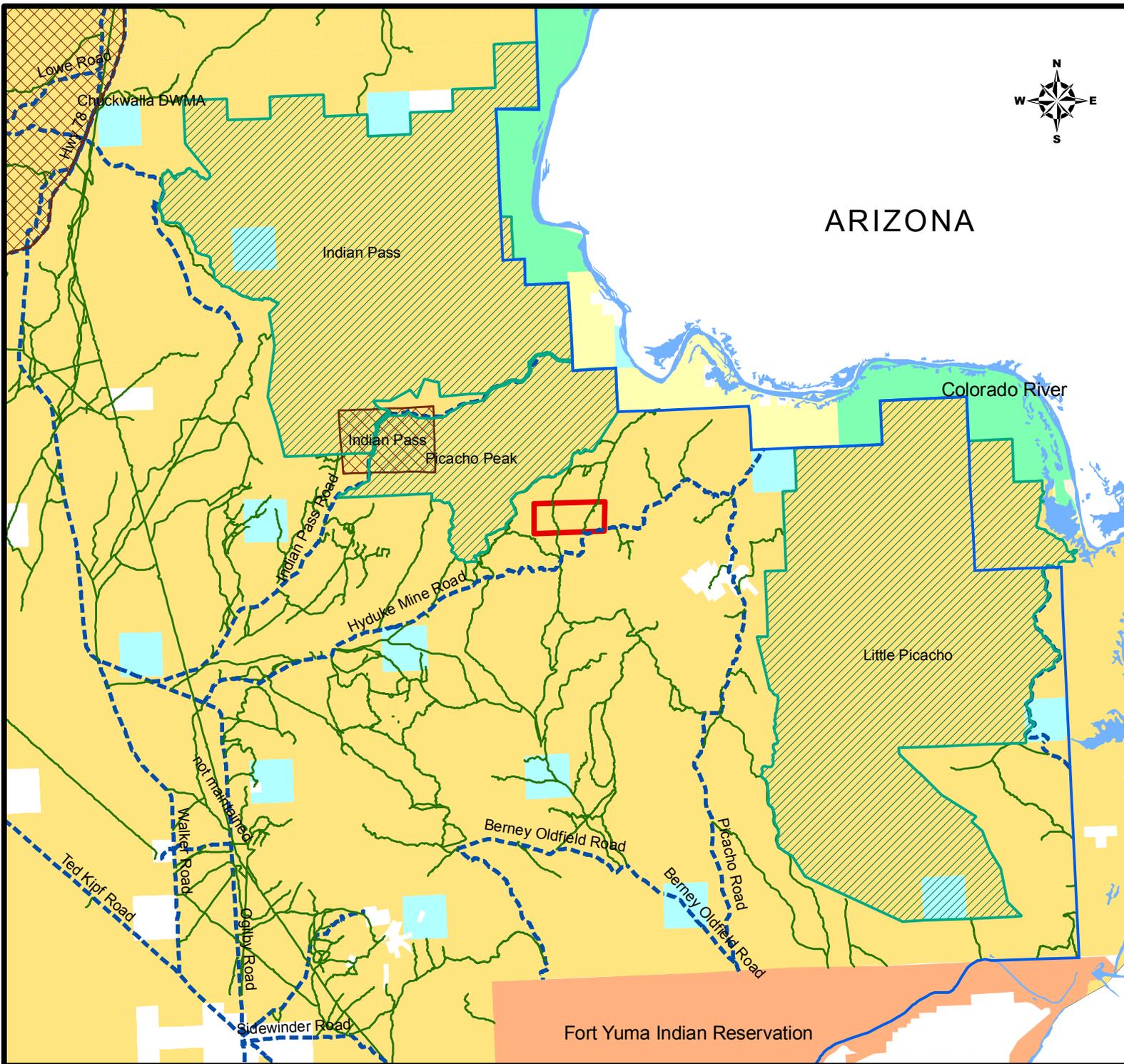


Figure  
Land Status of  
Project Area

0 1.25 2.5 5 7.5 10 Miles

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

### **2.1 Alternative A: Proposed Action**

#### **2.1.1 General Description**

The proposed action is located in eastern Imperial County, California, approximately 47 miles northeast of El Centro, California and 20 miles northwest of Yuma, Arizona (Figure 1) and on unpatented lode claims owned by Southwest Resource Development, Inc. a wholly owned subsidiary of USCorp, located at 4535 W. Sahara, Suite 200, Las Vegas, Nevada 89102. The proposed action, which is within the BLM's Yuma Surface Management map, is located in portions of Sections 31 and 32, Township 13 South, Range 22 East and Sections 31 and 32, Township 13 and ½ South, Range 22 East, San Bernardino Baseline & Meridian (SBB&M), entirely on public lands administered by the BLM as shown on Figure 4.

Access to the proposed project area is from Ogilby Road via Interstate 8 from the south or from State Route 78 from the north. The general area of the proposed action is approximately 8.5 miles from the intersection of Ogilby Road and Hyduke Mine Road. The proposed action would utilize a network of BLM designated routes of travel that extend from Hyduke Mine Road. The area of potential effect (APE) is approximately 67 acres. Surface disturbance under the proposed action would affect approximately 37 surface acres, including an existing route system. The approximate width of all in the proposed action ranges from 13 feet to 20 feet.

Alternative A, as proposed, would authorize the applicant to conduct an exploratory program which would involve drilling up to 80 drill holes (Figure 3). This alternative would utilize approximately 15 linear miles of the existing road and trail network and would not involve the construction of any new roads. The proposed project would utilize BLM designated open roads and other existing routes which do exist as part of the previously disturbed environmental condition at the proposed project location. Project activities would be confined to previously disturbed areas and would use existing roads and pads left on the property by previous operators in the late 1980s and 1990s.

The original 2008 Plan of Operation proposed exploratory drilling of 90 holes; however, the number of drill holes has been reduced to a maximum of 80. Holes were eliminated in order to avoid sensitive sites discovered during the archaeological surveys conducted for this proposed test drilling project (see section 3.2.10).

Drilling activities would occur on a schedule utilizing intervals of ten consecutive days of work separated by four day intervals. Drilling activities would generally occur in ten-hour shifts between 6:00 a.m. and 4:00 p.m., daily; however workday schedules may vary, depending upon the availability of drilling equipment.

Drilling operations would utilize the following:

1. A “buggy” (trailer) type reverse circulation drill rig (air drill and compressor) utilizing low impact tires and a narrow footprint so as to allow the unit to be transported on the existing road network. Either one of two rigs will be used, see specifics below:
  - i. Canterra Buggy Rig (22 feet long, 9 feet wide and weighs 9 tons)
  - ii. Longyear LF70 Drill Rig (23 feet long, 7 feet wide and weighs 11 tons)
2. A water truck,
3. A pipe truck,
4. Up to 3 ancillary vehicles (e.g. pickup trucks)
5. A crew truck for personnel transport to the site
6. A travel trailer to be used temporarily for personnel at the proposed drill sites.

The drill rig and service truck would be left on site during periods of non-operation. A watchman would occupy the trailer at the drill sites.

A maximum work area of 10 foot (ft.) by 40-ft. for each proposed drill location oriented along existing routes would be required to conduct operations within the operating and safety parameters of the drilling and ancillary equipment. All drilling operations would be located within six feet of the centerline of the existing road bed. Also included within this area is a 40-ft. long buffer corridor within which the drill rig may move in the case that a particular area cannot be drilled. This 40-ft. area would also contain pits necessary to collect and contain fine slurry from drilling operations.

Drilling would be conducted using a four to six inch reverse circulation rotary drill. Individual holes drilled would vary in depth from about 100 to 500 ft. Drilling activities are projected over a seven month period, assuming a maximum depth of 500 ft. for all 80 drill holes, with the drill rig drilling 300 ft. per day for a 10 hour work day.

Soil samples would be collected from drill holes along five-foot intervals. Core samples would be split in halves, weighed, and placed in 50-pound rice bags. Samples would then be transported to assay labs for processing.

Dust control would include additive-free water palliatives such as rig-mounted bag houses and tank trucks with spray bars. Necessary dust control permits would be obtained from Imperial County and the State of California prior to any activity occurring on site. The required dust

permit will be determined by the Imperial County Air Pollution Control District. All machinery would be CARB (California Air Resources Board) certified.

Water would be hauled in from the operator's licensed well located approximately 17 miles from the proposed project area. Portable toilet facilities would be provided for site personnel. Potable water would be provided from off-site commercial sources. No septic or wastewater treatment systems would be required.

Fuel would be trucked in as needed and delivered directly to the drilling rig. Support trucks would be serviced and fueled off site. Plastic underlayment and absorbent mats would be deployed during fueling and during any maintenance activities to prevent soil contamination.

Since all drilling would be restricted to existing roads, the only vegetation that would be disturbed would be seasonal grasses and small shrubs that have taken root in the roadway.

### **2.1.2 Access Roads**

Access to the proposed project area would utilize BLM- designated NECO open routes of travel (Figure 2). The main BLM route leading into the project area from the south is BLM Route 686. Project personnel would also use an existing route network which will be restored to condition prior to this proposed action.

No new road construction is proposed. Drill holes would be located within six feet of the centerline of existing routes to minimize new surface disturbance. Equipment, including trucks, trailers, and a camping trailer, would be parked adjacent to these routes in designated parking areas. These areas would be consistent with the NECO plan and would be surveyed and any findings would be flagged by appropriate cultural and biological monitors so that personnel are aware of the resource and can avoid impacts to the resource. USCorp would not be granted exclusive use of this area and the public would continue to have access along BLM designated routes.

Any route maintenance needed during the course of the proposed action would be approved by the BLM on a case by case basis with appropriate environmental compliance, including NEPA documentation, Endangered Species Act compliance, and cultural resources review to ensure resource protection. If fill material is needed, USCorp would obtain an appropriate permit from the BLM or other commercial operators to bring material in from an approved off site materials borrow site.

It is anticipated that some minor repairs to the existing route network would be necessary to allow for transit of drilling and ancillary equipment, and occupation of the drill sites. The nature

of these repairs may include: grading rough areas, reconstruction of washed out areas and reconstruction of dry wash crossings. Every effort would be made to provide access within the existing route network. Improvements to the existing route network would be kept to a minimum so as to limit impacts to resources, and would be confined to areas surveyed for biological and cultural resources. It is anticipated that approximately 10 small shrubs would be cleared from existing drill sites (within the 10-ft. by 40-ft. area).

### **2.1.3 Reclamation and Monitoring**

All areas disturbed by drilling, site access, and ancillary occupation would be reclaimed to natural conditions to minimize incompatible surface expressions, or where required, assure the integrity of route surface compatible with the NECO designation criteria for use. Routes designated by the BLM as open would be restored to safe, useable condition. Routes utilized that are not designated open or that are designated as closed would be restored to its natural condition. No reseeded is proposed as natural revegetation would provide sufficient density and plant diversity. Vertical mulch would be utilized where appropriate.

Reclamation includes:

All trash and debris would be removed from the site.

Drill holes would be backfilled with bentonite and capped with soil to meet SMARA regulations and avoid the possibility of contamination and eliminate hazard to wildlife and people.

Areas of activity would be raked to remove tracks of machinery.

A SMARA assessment would be contracted to identify further requirements.

Routes designated by the BLM as open would be left for future access and recreation.

## **2.2 Alternative B: Reduced Number of Drill Points Alternative**

Alternative B would be the same as the proposed action except that it would reduce the number of drill holes from a maximum of 80 to a maximum of 64. All drill holes were categorized in order of priority as identified by USCorp. The highest priority drill holes would provide the company with the most useful information. Drill holes within the sensitive sites discovered during archaeological field surveys were either eliminated or moved to avoid the sites. Finally, drill holes with the least priorities were eliminated so as to reduce the impact of the proposed projects on the resources within the proposed project area. The drill sites would still be accessed from existing routes with limited improvements like light dirt rock to smoothen road surface for

easier transportation. All equipment and staff on site would remain the same. The major differences would be that ground disturbance would be reduced by approximately 22 percent and the duration of work would be reduced similarly because there would not be as many drill holes. Drilling activities for alternative B are projected over a five to six month period, assuming a maximum depth of 500 ft. for all 64 drill holes, with the drill rig drilling 300 ft. per day for a 10 hour work day.

### **2.3 Alternative C: No Action Alternative**

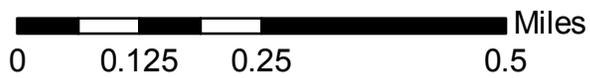
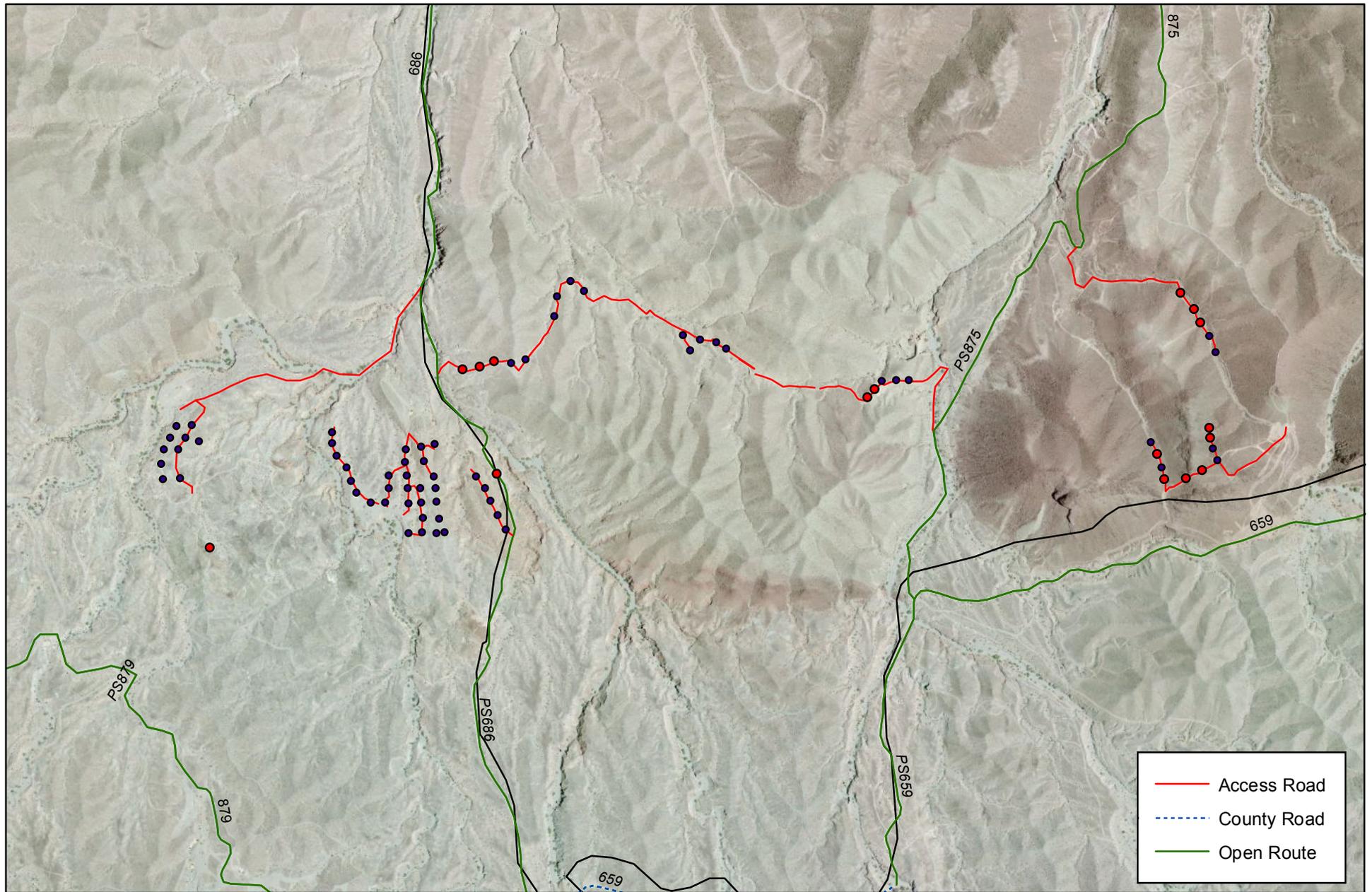
Under the No Action alternative, drilling would not be authorized and no surface disturbance due to the proposed action would occur. USCorp would rely on existing information obtained from past studies. This currently available data is insufficient in making a mineral potential determination. Mineral exploration and development in this area are enabled by the 1872 Mining Law and the CDCA Plan. However, the No Action Alternative would be chosen if this analysis determines that undue and unnecessary degradation of resources would occur as a result of the proposed action.

### **2.4 Alternatives Considered but Eliminated from Detailed Analysis**

#### **2.4.1 Testing only along NECO Routes of Travel**

An alternative of drilling only along the BLM designated NECO routes of travel was considered but eliminated from further analysis because a statistically significant number of the sites would not be accessible. The data produced from this reduced drilling program would not adequately supplement the currently incomplete data. Access to only the currently designated BLM route network would also not allow for economic evaluation or verification of existing information supporting the mining claims obtained by USCorp.

**Figure 3: Picacho Drill Sites  
(Red Dots=Dropped Sites in Alternative B)**



## **CHAPTER 3:           AFFECTED ENVIRONMENT**

### **3.1     General Setting**

The proposed project area involves a broad, south-facing alluvial plain immediately north of the southern portion of the Chocolate Mountains. Some of the dry washes that make up the proposed project area are south to north and southwest to northeast trending drainages through the Chocolate Mountains. Picacho Peak is approximately 2.5 miles east of the area of the proposed action.

The elevation within the proposed project area varies from 300 to 450 feet above mean sea level. The proposed action lies near the center of the Mesquite Mining District, formed by the Picacho and American Girl Mines and the currently active Mesquite Mine.

The proposed project site is approximately one mile from Picacho Peak Wilderness to the northwest and 3.8 miles to Little Picacho Peak Wilderness to the east and 2.7 miles northwest to the Indian Pass Wilderness.

Extensive, past lode and placer exploration and small-scale mining operations by a variety of major mining companies has created an extensive network of routes that are still very visible and characterize the landscape. This existing route network is generally intact and can now be traversed by four wheel drive or all-terrain vehicles.

### **3.2     Affected Environment**

#### **3.2.1   Lands and Access.**

The proposed action would involve use of an established network of routes. Lands in the general vicinity of the proposed action include lands managed by the BLM, the State of California, US Fish and Wildlife Service, the Department of Defense and the Fort Yuma Quechan Tribe. The area of the proposed action would be accessed via a BLM designated route of travel system. Figure 4 shows the BLM route designation for the access routes to and within the proposed project area. Members of the public using these designated routes would still be able to use them by traveling around the equipment. There would be no impact to the recreation resource therefore; this element would not be discussed further. This area does not have any special designation or concerns related to prime & unique farmlands, wilderness, wilderness study area, wild and scenic rivers, areas of critical environmental concern, floodplains, grazing, national scenic trails, wetlands and riparian zones, invasive and non-native species, and wild horses and burros so these elements would not be discussed further. All waste material would be removed

from site and hazardous waste would not be produced or used on site, so this element would not be discussed further.

### **3.2.2 Geology and Minerals.**

The predominant geology of the area of the proposed action consists of a basement of metamorphic schist and gneiss of Precambrian age overlain by Tertiary gravels and volcanic deposits. The nearby Bear Creek conglomerate actually is dated earlier than the Tertiary units and overlies the Precambrian units. Mineralization occurs in several different manifestations within the area of the proposed action.

The first type of mineralization is structurally controlled and is characterized by a large, east-west trending gossan zone that outcrops through the area. In addition, there are numerous examples of mineralized block faults observed within the proposed project area. These structures have anomalous to near ore grade gold mineralization and were the focus of early prospecting and mining efforts. In areas where the Precambrian schist is exposed gold occurrences are noted in contact relationships with areas of fracturing and brecciating.

The overlying gravels of the region are almost always auriferous. As is consistent with all placers, pockets of coarse gold nuggets are prone to occur and these pockets are what past mining operations concentrated their efforts.

Gold-bearing gravel deposits range in thickness from 20 feet to over 100 feet and in one location a thickness of over 500 feet was observed.

Lode gold mineralization in the bedrock units appears to be controlled by fault and fracture systems, with gold-bearing zones extending into adjacent, hydrothermally altered lithology.

Gold in the bedrock deposits is generally associated with limonite and hematite, and oxidation has been shown to exist in other areas of the gold mining district, extending to 1,500 feet below the current ground surface.

Numerous faults have been mapped in the proposed project area; however there are no recorded earthquake events noted in the record (US Geological Survey, 2010).

### **3.2.3 Soils**

Soils within the general area of the proposed action are described in Bamberg and Hanne (1995) and the Final Environmental Impact Statement and Review for the Imperial Project (BLM 2000: 3-9).

As noted by Bamberg and Hanne (1995) most of the general area of the proposed action is covered by desert pavement and washes. The dominant soil units are generally representative of relic paleosoils which formed under cool, moist conditions and not the hot, arid conditions of the current climate (BLM 2000:3-9).

Specifically, the soils found within the general area of the proposed action principally consists of exposed weathered gneiss and sandy-skeletal, mixed, lithic Haplocalcids that occur on low ridges that are dissected; sandy-skeletal, mixed hyperthermic, Torriopsamments that occur in Recent alluvial fans and washes; Sandy-skeletal, mixed hyperthermic Torriopsamments that occur in shallow washes along drainages; and Sandy-skeletal, mixed, hyperthermic Petrocalcids that occur on old alluvial upland flats and slopes.

### **3.2.4 Water Resources**

The surface waters of the general area of the proposed action are described in the Final EIS for the Imperial Project, Imperial County, California; BLM 2000:3-10 & 3-11. The general area of the proposed action is located within the Colorado River drainage. All surface water within the APE flows to the Colorado River.

There are no free-standing surface waters present within the general area of the proposed action. There are no springs, seeps, or streams with the general area of the proposed action. The region's low precipitation rate, coupled with the high evaporation rate and the presence of highly permeable soils in the washes, preclude the formation of perennial or intermittent streams. California Department of Fish and Game maintain a number of water catchments for wildlife near the proposed project area. The perennial water source located closest to the general area of the proposed action is the Colorado River, approximately six (6) miles north and east of the general area of the proposed action at its closest point. This is outside of the Salton Sea Drainage Basin which is located west of the Chocolate Mountains. Surface water drainages within the general area of the proposed action consist of a series of sub-parallel ephemeral washes which are fed by precipitation from infrequent winter and summer storms. Two primary washes flow through the general area of the proposed action. Each of these washes continues beyond the general area of the proposed action and flows north and east to the Colorado River.

No direct data regarding the quality of the surface waters, which occasionally flow through the general area of the proposed action, are available. Because water flows in these washes only during infrequent storm events, and because there is no significant surface disturbance or unusual natural sources of contaminants located upstream, the quality of the water flows is assumed to be typical of similar desert washes with a very high content of suspended solids and variable in dissolved solids.

Ground waters within the general area of the proposed action are mapped within the Picacho ground water basin (Environmental Solutions, Inc, 1993; WESTEC Inc., 1996; BLM, 2000). The alluvial sediments make up the water-bearing aquifer range in thickness from zero feet on eastern boundary at the Chocolate Mountains to as much as 10,000 feet at the western boundary in the Imperial Valley (BLM, 2000). There is currently no production of ground water within the general area of the proposed action. Depth to groundwater, based on operations at the Picacho mine 3 miles southwest from the APE, is approximately between 300 and 600 feet below surface. Drilling operations may encounter groundwater below 300 feet from the surface.

### **3.2.5 Air Quality**

Due to the fact that the area is largely undeveloped and uninhabited, the major air quality issues are particulate matter (PM), nitrous oxides (NO<sub>x</sub>), and ozone. PM standards pertain to the size of the particulates and are generally evaluated by their size (in microns) (e.g., PM<sub>10</sub> are particles 10 microns in size).

The proposed project area is located in a part of the Imperial Valley that is designated as an “unclassifiable attainment area” (any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant) for PM by the U. S. Environmental Protection Agency (EPA). The California Air Resources Board has indicated that the entire Imperial County is a state nonattainment area for PM<sub>10</sub> and unclassified for PM<sub>2.5</sub> under the California Health and Safety Code Section 39608.

The EPA found that Imperial County failed to attain the 8-hour ozone national ambient air quality standard that was required to be reached in June 2007 and has proposed that Imperial County be reclassified as a moderate 8-hour ozone nonattainment area.

### **3.2.6 Noise**

Noise affects solitude and comfort for humans and animals near or distant from a source. Noise is measured at the source as well as from a specified point. Noise effects to solitude can occur from a number of attributes such as intermittence, beat frequency or shrillness, and intensity and

duration. Most noise emanating from exploration and mine sites occurs as low frequency vibrations. The unit of measure is the decibel<sup>1</sup>.

Decibel units are measured in a logarithmic scale

Threshold of Hearing.....	0 dBA
Quiet Room.....	45 dBA
Conversation.....	55 dBA = 45 dBA x 10
Car (50 mph at 50 ft.).....	65 dBA = 45 dBA x 100
End Loader (In Good Cab).....	75 dBA = 45 dBA x 1,000
Haul Truck (In Good Cab).....	85 dBA = 45 dBA x 10,000
Crusher.....	95 dBA = 45 dBA x 100,000
Old Dozer (No Cab).....	105 dBA = 45 dBA x 1,000,000
Air Track Drill (No Controls).....	115 dBA = 45 dBA x 10,000,000

The human ear measures the pressure of a sound wave; however, it does not respond equally to all frequencies. For example, the human ear is much more sensitive to sounds in the frequency range about 1 kHz to 4 kHz (1000 to 4000 vibrations per second) than to very low or very high frequency sounds.

The following table shows the point source decibel (dBI) from common construction equipment that can be expected at the proposed project site. Most of these sources are within a frequency range of 100 to 3,000 cycles per second (hertz):

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<sup>1</sup> The decibel is a measure of how "loud" a sound is. Decibels are used to measure sound pressure level (SPL) as compared to a reference pressure, typically referred to as overpressure.

**Table 1: Construction Equipment and Decibel Ratings**

<b>Equipment</b>	<b>Decibel Rating</b>
Backhoe	Less than 93 dBA
Bulldozer	93 - 96 dBA
Hammer	87 - 95 dBA
Heavy equipment operation	95 - 110 dBA
Pneumatic chip hammer	103 - 113 dBA
Rock Drilling	up to 115 dBA
Skilsaw	88 - 102 dBA

Decibel ratings from multiple sources affect the noise frequency more than the amplitude or “loudness” of the noise. For example, one bulldozer has a decibel Rating of 96 would be nearly the same in amplitude whether two or more dozers operate in the same area. However, the frequency range affecting the sensitivity of the noise to the human or biologic observer would be increased.

Many planning ordinance limit exposure to those as shown in the following example table.

**Table 2: Effect of noise at different Frequencies**

Frequency (Cycles per Second)	Maximum Sound Level above Zero Decibels Permitted (Reference: .0002 dynes/cm)
0 to 74	74
75 to 149	59
150 to 299	52
300 to 599	46
600 to 1199	42
1200 to 2399	39
2400 to 4799	36
4800 and above	33

Noise attenuation<sup>2</sup> typically decreases 6 decibels as the distance from measuring point doubles. For example, from the above table a bulldozer with a 95 decibel rating 50 feet from the source would be 6 decibels less 100 feet from the source, and 12 decibels less 200 feet from the source. Typical nighttime comfort range is 40 decibels in a quiet town. Examining the drilling activity (80-95 dB) activity in relation to any distance, the following table illustrates the change in noise intensity:

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<sup>2</sup> Reduction of noise strength during transmission through air, and is the opposite of amplification.

**Table 3: Noise intensity change in relation to distance**

Distance from Source		Change in Decibel Rating	Decibel Rating at Source
(feet)	(meters)		
50	15		95
100	30	-6	89
200	61	-12	83
400	122	-18	77
800	244	-24	71
1600	488	-30	65
3200	975	-36	59
6400	1,951	-42	53
12800	3,901	-48	47
256000	7,803	-54	41

Seismic noise consists of energy waves propagated through the earth. These include compressional, shear, and longitudinal waves. Typical earthmoving equipment and rolling stock induce vibrations into the earth.

### 3.2.7 Vegetation

The proposed project site is located in a Sonoran Desert scrub, Lower Colorado River Subdivision (Brown, 1982). Most of the proposed test drilling project area is open land. Common woody plants in the area include Creosote (*Larrea tridentata*), Hedgehog (*Echinocereus sp.*), White Bursage (*Ambrosia dumosa*), Ocotillo (*Fouquieria splendens*), Shadscale (*Atriplex sp.*), Brittle Bush (*Encellia farinosa*), Burro Brush (*Hymenoclea salsola*), Ratany (*Krameria sp.*), Barrel cactus (*Ferocactus acanthodes*), Beavertail Cactus (*Opuntia basilaris*), Teddy Bear Cholla (*Opuntia bigelovii*), Broom (*Baccharis sp.*), and Desert Lavender (*Hyptis emoryi*).

Species occurring only in the arroyos and washes are Foothills Palo Verde (*Cercidium microphyllum*) and Desert Ironwood (*Olneya tesota*).

### 3.2.8 Wildlife

Wildlife within the general area of the proposed action consists of birds, raptors, mammals and reptiles. The following common species inhabit or occasionally visit the area of the proposed action:

Reptiles: Desert tortoise, Zebra-tailed lizard, side-blotched lizard, western whiptail, and desert iguana

Birds: Mourning doves, Gambel's quail, Say's phoebes, black-tailed gnatcatcher, black-throated sparrow, loggerhead shrike, cactus wren, and verdin.

Raptors: Multiple raptor species would be expected to periodically forage or migrate through the area, including red-tailed hawk, sharp-shinned hawk, great-horned owl, prairie falcon, and American kestrel

Mammals: Antelope ground squirrel, Merriam kangaroo rat, desert woodrat, black-tailed jackrabbit, mule deer, kit fox coyote, American badger, sheep and wild burrow.

Field surveys were conducted by Biozone INC. on June 10 and 11, 2008. Very few animal species were observed during the survey. Occasionally, lizards, insects, and a few doves were observed, but no mammals were seen. There were signs of burros and sheep observed only in the washes.

### 3.2.9 Special Status Species

Sensitive wildlife species are those which, based on a combination of distribution, habitat, threats, and the best information on population trends, warrant special conservation status, ranging from federal and state endangered / threatened listing to preliminary concern designations by local or regional offices of land management agencies (e.g., Bureau of Land Management).

No federal or state listed species were definitively found on the June 10 and 11, 2008 field assessment. However Special Status Species including reptiles, amphibians, birds and mammals within the general area of the proposed action may exist within the specific area of the proposed action

### 3.2.10 Cultural Resources and Native American Religious Concerns

The proposed Picacho test drilling project is located in area rich with cultural resources, including archaeological sites and sites and landscapes of importance to Native American tribes. Prehistoric use of the area is considered by archaeologists as occurring over 9,000 years ago. The Colorado River corridor, which includes the proposed project, is a significant area for Native Americans tribes who have designated it as having spiritual and religious importance. The Colorado River, located east of the proposed project area, has formed and shaped a major river valley through time. The Colorado River is the dominant water resource in the region and has provided a corridor of important resources to humans, plants, and wildlife throughout time.

Prehistoric and historic archaeological resources in the proposed project area include trail systems, geoglyphs, lithic reduction sites, temporary prehistoric campsites, and historic mining camps. Picacho Peak is regarded as a sacred mountain to Colorado River area tribes and although outside the proposed project APE for direct effects, is within the viewshed for indirect effects. This resource has been noted as a potentially eligible traditional cultural place or Area of Traditional Cultural Concern (ATCC). Picacho Peak, also known as Chimney Rock in historical descriptions, was called *Avi milikit* by the Quechan, meaning “the mountain that stands alone”.

The proposed project area is part of a cultural landscape considered very important to local Native American tribes. Pilot Knob and Picacho Peak have been identified by Native American tribes as extremely sacred places where native people often migrated to worship and obtain power (Baksh 1997). The Quechan believes that trails, particularly the trail linking Pilot Knob with Spirit Mountain, were as important for religious and spiritual reasons as they were for travel (ibid.). The traditional cultural beliefs are well-integrated with their present territory, and “The fact that the Quechan did not physically occupy much of the area... does not mean that this larger area lacked significance for them” (Bee 1982:37).

Trails networks used by Native Americans run from near Yuma, Arizona, south of the proposed project, north along the Colorado River corridor to present day Las Vegas. Spirit Mountain is an important landmark traversed by trails; it is believed to be the place of creation for some southwestern tribes. Malcolm Rogers recorded a network of prehistoric trails and associated sites around Picacho Peak, known as SDM-C-86, in the proposed project vicinity between 1929 through 1949. The region that includes SDM-C-86 and Picacho Peak remains an important physical and spiritual migration area for Native Americans. In an early site record, Rogers gives a short history:

The trail was first created by San Dieguito I people and then later used [by] the Yuman I people in their seasonal migrations from the river

(Colorado River) to the delta and back. After that the Yuman II people used it sporadically but seemingly only the north half. A branch trail C-86-R that comes up from the Yuma Valley to Tortuga Tank was built during Yuman III times. The San Dieguito I trail was never walked in by Yumans unless it was necessary. In long, flat, desert pavement country there are three parallel Yuman trails besides the SD I, C-86, trail. C-86 follows Bear Canyon from the Colorado River and runs nearly due south to the delta, passing west of Picacho Peak, and east of the Cargo Muchacho Mountains and west of Pilot Knob. C-86 was tracked north to Tortuga Tank and for a quarter mile beyond. However, the trail was lost but probably crosses the canyon on the east side and continued on a high ridge the rest of the way to the Colorado River (Rogers 1944).

Many examples of geoglyphs (ground figures or designs) made by Native Americans are located north of the proposed project area, along the Colorado River in the vicinity of Blythe. The importance of the area to prehistoric Native Americans has led to a high density of archaeological sites along this corridor in southern California, Arizona, and Nevada (Pignolo et al. 2010).

A Sacred Lands File search was also performed through the Native American Heritage Commission (NAHC) in Sacramento on June 24, 2008. A preliminary search through the File provided confirmation that Native American cultural resources are present in the immediate proposed project area, including Picacho Peak.

### **Archaeological Resources**

Laguna Mountain Environmental, Inc. (Laguna Mountain) conducted a records and literature search for the proposed project on June 10, 2008 at the Southeast Information Center of at the Imperial Valley College Desert Museum<sup>3</sup>. The records and literature searches indicated no cultural resources surveys or studies had been conducted within a one-mile radius of the proposed project; in addition, no archaeological sites had been formally recorded or mapped in this area, with the exception of trail system SDM-C-86 that appeared to be mapped within the proposed project APE. Trail SDM-C-86 was described by Malcolm Rogers as a major travel route that included Bear Canyon; Rogers also described the trail as being associated with more

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<sup>3</sup> Information on file at the Southeast Information Center of at the Imperial Valley College Desert Museum has been moved to the South Coastal Information Center at San Diego State University.

than 1,000 pot drops (locations with ceramic vessel sherds). The records search also identified natural water locations known as “tanks” in the proposed project area<sup>4</sup>.

Laguna Mountain conducted a Class III intensive pedestrian survey for cultural resources in the 232-acre APE (Pignuolo et al. 2010) under a Fieldwork Authorization (CA-670-08-086FA01) issued by the BLM El Centro Field Office to identify resources that may be impacted by drilling activity and access road use. As a result of the survey, 34 previously unrecorded resources, including 22 sites (CA-IMP-109685 through CA-IMP-10706) and 12 linear sites representing prehistoric Native American trail segments (CA-IMP-10673, -10674, -10675, -10676, -10677, -10678, -10679, -10680, -10681, -10682, -10683, and -10684) were recorded (Table 2). Five isolated artifacts<sup>5</sup>, including four flakes and three cores, were also identified within the APE (P-13-011889 through P-13-011893) (Table 4).

**Table 4: Archaeological Sites in the Project APE**

<b>Site Number</b>	<b>Resource Type</b>	<b>Trail Association</b>
CA-IMP-10685	Pot Drops	CA-IMP-10673
CA-IMP-10686	Pot Drop/ Flaking Station	CA-IMP 10673
CA-IMP-10687	Flaking station/Core	None
CA-IMP-10688	Lithic Scatter	CA-IMP-10674
CA-IMP-10689	Pot Drop	CA-IMP-10689
CA-IMP-10690	Pot Drop	CA-IMP-10673
CA-IMP-10691	Flaking Station	None
CA-IMP-10692	Pot Drop/Flaking Station	CA-IMP-10673
CA-IMP-10693	Pot Drop/Flaking Station	CA-IMP-10675
CA-IMP-10694	Pot Drop	CA-IMP-10673
CA-IMP-10695	Pot Drop/Flaking Station	CA-IMP-10676

<sup>4</sup> Locations with water availability (e.g., “tanks” and springs) are known to potentially contain cultural resources.

<sup>5</sup> An isolated artifact can include up to two artifacts, neither of which are considered diagnostic (e.g., representative of a specific time period or style).

Site Number	Resource Type	Trail Association
CA-IMP-10696	Flaking Station	CA-IMP-10677, CA-IMP-10679
CA-IMP-10697	Pot Drop	CA-IMP-10673
CA-IMP-10698	Pot Drop	None
CA-IMP-10699	Historic Mining Camp	None
CA-IMP-10700	Pot Drop	CA-10673
CA-IMP-10701	Pot Drop	CA-IMP-10673
CA-IMP-10702	Pot Drop	CA-IMP-10682
CA-IMP-10703	Pot Drop/Flaking Station	None
CA-IMP-10704	Pot Drop	CA-IMP-10673
CA-IMP-10705	Pot Drop/Flaking Station	CA-IMP-10673
CA-IMP-10706	Pot Drop	CA-IMP-10610673

### **Native American Religious Concerns**

Native Americans associated with the proposed test drilling project area attribute traditional and religious significance with the region and consider it a part of their traditional use area. Areas of Traditional Cultural Concern Significance or Areas of Traditional Cultural Concern (ATCC) include Native American sacred areas that are central to their origins and/or where religious ceremonies are practiced (NAHC 2012).

The Indian Pass – Running Man Area of Traditional Cultural Concern (ATCC) and the Trail of Dreams ATCC are located about four miles northwest of the proposed project. Both of these places are recognized by the Fort Yuma Quechan Tribe as Traditional Cultural Places (TCPs) for their importance in both prehistoric trail use and dream travel. Picacho Peak itself has also been identified as a TCP and is recommended eligible for inclusion in the National Register of Historic Places (NRHP) (Pigniolo et al. 2010). The Advisory Council on Historic Preservation (ACHP) has previously treated these areas as eligible for listing in the NRHP during consultation on the Imperial mining project. Pigniolo et al. recommend the prehistoric trail system be included as a new Outer Picacho Trail ATCC (2010, 1997).

### 3.2.11 Visual Resources

BLM manages the scenic and visual resources of the area in accordance with MUC designated by the CDCA Plan. Acknowledging that management activities may involve alteration of the natural character of the landscape to some degree, BLM identifies appropriate levels of management, protection, and rehabilitation on all public lands in the CDCA, commensurate with visual resource management objectives in the multiple-use class guidelines.

The MUC that applies to the study area is Class L, which “protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished” (BLM 1980).

BLM determines VRM Classes based on scenic quality, sensitivity levels, and distance zones, using the BLM matrix shown in Table 4 below (1984).

**Table 5: Visual Resource Class Designations**

Visual Sensitivity Levels								
		High			Medium			Low
Special Areas		I	I	I	I	I	I	I
Scenic Quality	A	II	II	II	II	II	II	II
	B	II	III	III*	III	IV	IV	IV
				IV*				
	C	III	IV	IV	IV	IV	IV	IV
		f/m	b	s/s	f/m	b	s/s	s/s
	Distance Zones							

\* If adjacent areas are Class III or lower assign Class III, if higher assign Class IV

Management objectives for these VRM Classes are described as follows:

Class I Objective: To preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II Objective: To retain the existing character of the landscape. The level of change to the characteristic landscape should be low.

Class III Objective: To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate.

Class IV Objective: To provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high.

In 2010, the BLM completed a visual resource inventory of the BLM-administered lands within the El Centro Field Office (Otak 2010). These lands were divided into Scenic Quality Rating Units (SQRU), based on physiographic characteristics such as geology, vegetation, hydrology, texture, color, variety and topography. Each SQRU was given a number and name. The proposed Picacho test drilling project lies within the Singer Valley and the Bear Canyon Hills Rating Units, with adjacent wilderness. The areas have been evaluated as follows:

#### Singer Valley Unit

##### Scenic Quality

A common landscape for the region, with dramatic surrounding scenery, rich vegetation in washes with railroad tracks, mines and utilities detracting.

##### Sensitivity Level

Heavily used recreation/staging area as well as travel corridor. Landscape does not have the capacity to absorb visual impacts.

##### Distance Zones

Foreground/Middleground – This is the area that can be seen from each travel route for a distance of 3-5 miles where management activities might be viewed in detail.

#### Bear Canyon Hills Unit

##### Scenic Quality

Interesting transitional area between valley floor and Picacho Peak/Picacho Peak Wilderness to the Colorado River plain. Some good contrast, color variation with adjacent scenery moderately enhancing

#### Sensitivity Level

A popular recreation area at the base of Picacho Peak and Picacho Peak Wilderness.

#### Distance Zones

Foreground/Middleground – This is the area that can be seen from each travel route for a distance of 3-5 miles where management activities might be viewed in detail.

Based on these evaluations, Interim Visual Resources Management Classes have been established as Class I for adjacent Wilderness, Class II for the Bear Canyon Hills Unit and Class IV for the Singer Valley Unit. BLM considers landscape distance zones based on relative visibility from Key Observation Points (KOPs). KOPs typically include scenic overlooks, important trails, significant viewpoints in Wilderness, nearby residential or sensitive use areas, and major recreational travel routes. For this proposed project, they could include the areas of higher elevation in the Indian Pass Wilderness, culturally sensitive Picacho Peak and associated religious and other culturally important trails.

Since this proposed test drilling project is temporary in nature and all areas of surface disturbance would be reclaimed, there would be no long term impacts to visual resources. The proposed project would not last any longer than 27 work weeks for alternative A and 22 work weeks for alternative B, assuming each drill hole is drilled to the maximum depth of 500 ft., and the drill rig operates 300 ft. per day for 10 hour work days excluding weekends. Additionally, during the drilling process, the visual observation from one at a KOP would be similar to the current situation. The drilling rig and associated vehicles would not create a different view from the vehicle use that commonly occurs in the area each day. Therefore, for the above reasons, this element would not be discussed further.

### **3.2.12 Socioeconomics**

The general area of the proposed action is currently undeveloped except for seasonal and weekend prospecting, hiking, hunting, rock hounding and off-road recreational vehicle activity.

## CHAPTER 4: ENVIRONMENTAL IMPACTS

### 4.1 Environmental Impacts

Table 6: Elements of the Environment

Resource	Not Present	Not Affected	Potentially Affected
Lands, Access and Recreation		X	
Geology and Minerals			X
Soils		X	
Water Resources		X	
Air Quality			X
Noise			X
Vegetation			X
Wildlife			X
Special Status Species			X
Cultural and Native American Religious Concerns			X
Visual		X	
Socioeconomics		X	

#### **4.1.1 Lands and Access**

##### Alternative A

As the proposed action (Alternative A) involves the temporary use of the existing road and trail systems, there would be some impact to lands and access. In order to avoid sensitive cultural resources, USCorp would be drilling in undesignated routes in the proposed project area, which have already been disturbed. USCorp would not have exclusive use of any routes, and would not be eliminating public access along designated routes of travel. There would be personnel on site that could answer questions from the public using the road, and signing would direct the public safely around the test drilling.

##### Alternative B

Alternative B would involve the same use of BLM roads and trails except the duration of work would be shorter. There would still be no impact to public access.

##### Alternative C

The No Action Alternative would not have any impact.

#### **4.1.2 Geology and Minerals**

##### Alternative A

The proposed action (alternative A) would not impact the existing landscape and use the existing road and trail system, there would not be any impact to the geology and minerals. A minimal amount of material would be removed for testing. Each sample taken is approximately 500 pounds of material per hole. The proposed action would result in a better understanding of the geology and minerals of the general area.

##### Alternative B

Alternative B would reduce the amount of samples taken. This could impact the quality of the information being gathered on the mineral resource.

##### Alternative C

The No Action Alternative would have no impact on geology and minerals.

### **4.1.3 Soils**

#### Alternative A

As the proposed action would not impact the existing landscape and use the existing road and trail system. There would not be any impact to the soils of the general area. Disturbance from vehicle traffic and equipment staging would result in small scale, controlled degradation of soils within the existing road system and in small adjacent areas. These effects are expected to be temporary. Restoration activities would restore the area to its previous condition and would result in no additional erosion.

#### Alternative B

Impacts under Alternative B would be similar to those of the proposed alternative except that there would be fewer drill sites.

#### Alternative C

The No Action Alternative would have no impact on soils.

### **4.1.4 Water Resources**

Since water for drilling would be trucked in from nearby commercial wells, there would be no affect to water resources from the any of the alternatives.

### **4.1.5 Air**

#### Alternative A

Under the proposed action, Air Quality around the drilling sites would be temporarily affected to a minor degree during the times of actual drilling activities associated with the proposed action. Some dust would also be produced as the result of increased traffic driving to and from the proposed project area, and from potential road repairs. Dust emissions from these sources are expected to be insignificant over the short, six week time period in which project activities are expected to occur.

#### Alternative B

Under Alternative B impacts to air quality would be similar to those under the proposed alternative, except for shorter duration.

## Alternative C

The No Action Alternative would have no impact on air quality.

### **4.1.6 Noise**

## Alternative A

Under the proposed action, intermittent noise associated with the road repair and drilling activities associated with the proposed action would occur. However, there are no residences, or significant or sensitive receptors that would be impacted by noise, sonic or seismic, emanating from project operations. The proposed project area is largely uninhabited and undeveloped, so natural noise sources are generally limited to wind, rain, thunder, insects, birds, and other wildlife.

Drilling activity would produce noise from heavy equipment activity and drill operations. These impacts would be mitigated through installation of MSHA-approved mufflers on necessary equipment to dampen noise if applicable as well as regular maintenance of all equipment. Due to the remote location of the proposed mining operation, there may be little impact to people recreating in the desert, or to the town of Gold Valley, 12 miles southwest from the proposed project area, from noise generating sources at the proposed project site as it would blend with ambient noise levels typically experienced. The attenuation of the amplitude of energy waves diminishes significantly away from the source, and is not expected to be a significant source of concern to humans.

Wildlife in the immediate vicinity of heavy equipment could be affected by seismic noise when equipment is operating; however seismic noise dissipates very rapidly as distance increases, and generally is localized within the immediate area of equipment operation. In addition, operations are temporary, limited to a 6 week period. The area affected by seismic noise would likely be the areas experiencing surface disturbance due to transportation of equipment. As such, noise impacts would not be a threat to wildlife because surface disturbance would have already displaced those individuals.

## Alternative B

Under Alternative B, there would be a similar noise impact to that of the proposed action. The only difference would be a reduced duration since there are less drill sites under this alternative.

## Alternative C

The No Action Alternative would have no impact on noise levels.

#### **4.1.7 Vegetation**

##### Alternative A

Since the proposed action would not impact the existing landscape and would utilize the existing road system and previously bladed trail system, there would be minimum impact to the vegetation of the general area. A minor amount of degradation of vegetation could occur during road improvements and drilling operations in areas off the BLM designated routes of travel. Though the area contains existing routes from previous exploration activities, the area has partially revegetated naturally over the years since the prior exploration. Road improvements and vehicle traffic could result in some loss of vegetation but these effects are temporary. The maximum number of small (<4 feet) shrubs to be removed is estimated to be 10. The operator would drive over vegetation if needed.

##### Alternative B

Alternative B would have slightly less impact to vegetation than Alternative A, since there are less drill sites and therefore less ground disturbance.

##### Alternative C

The No Action Alternative would have no impact on vegetation. No drilling would occur and therefore no vehicle activity would occur off of BLM routes of travel.

#### **4.1.8 Wildlife**

##### Alternative A

Since the proposed action would have minimal impacts on the existing landscape and would utilize the existing road and trail system, there would be minimal impact to the wildlife of the general area. Localized road repair, drilling and human activities associated with the proposed action may lead to localized, temporary effects on wildlife. These effects could involve wildlife avoidance of areas of drilling activity, retreat from established road systems due to an increase in vehicular traffic and noise, and nocturnal visits to water resources so as to avoid human contact.

##### Alternative B

Alternative B would have slightly less impact to wildlife since there are less drill sites and therefore a shorter duration of human presence and activity in the area.

##### Alternative C

Under the No Action Alternative, the test drilling would not be performed, and therefore would have no impacts on wildlife.

#### **4.1.9 Special Status Species**

Desert Tortoise and Nelson's Bighorn Sheep have the potential to occur on the proposed project site. Bighorn Sheep signs were found in nearby washes, and while Desert Tortoise were not found during surveys, there is still habitat on site and potential for tortoise to occupy the site.

##### *Nelson's Bighorn Sheep*

###### Alternative A

Under the proposed action, site access and drilling would not impact Bighorn Sheep habitat, but it could cause sheep to temporarily avoid the proposed project area. Since sheep are large mobile animals, it is likely that if a sheep is flushed, they would return to the area once humans vacate the area.

###### Alternative B

Alternative B would reduce the duration of human activity in the area and therefore reduce length of temporary impacts.

###### Alternative C

The No Action Alternative would have no impacts on Bighorn Sheep.

##### *Desert Tortoise*

###### Alternative A

The proposed action and alternatives are not located within Desert Tortoise Critical Habitat. Under the NECO plan, the proposed project is located outside the Chuckwalla Bench DWMA and is therefore in Category 3 habitat. Under the proposed action site access and drilling would not affect tortoise habitat, but human disturbance in the area could temporarily have indirect effects on desert tortoise behaviors such as foraging, and movement. BLM conducted programmatic formal section 7 consultation with the FWS in 1992 for small mining and exploration projects. In June of 1992 the FWS issued the Biological Opinion for Small Mining

and Exploration Operations in the California Desert. BLM would apply the mitigation measures identified in this BO (See Mitigation Measures). By applying these measures any impacts to desert tortoise would be minimal.

#### Alternative B

Alternative B would reduce the duration and the total disturbance area of temporary impacts to desert tortoise. The same mitigation measures would apply.

#### Alternative C

The No Action Alternative would have no impacts on Desert Tortoise.

### **4.1.10 Cultural and Paleontological Resources and Native American Religious Concerns**

#### **Cultural Resources**

Under Section 106 of the NHPA subsection 800.5, an adverse effect is found when an undertaking may alter, directly or indirectly, the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be further removed in distance or be cumulative. Adverse effects on historic properties include, but are not limited to:

- a) Physical destruction of or damage to all or part of the property;
- b) Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;
- c) Removal of the property from its historic location;
- d) Change of the character of the property's use or of physical features within the property's setting that contributes to its historic significance;
- e) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

- f) Neglect of the property, resulting in its deterioration or destruction; or
- g) Transfer, lease, or sale of the property.

The Federal criteria used to evaluate cultural resources are specified by the National Register criteria within the NHPA. The National Register criteria are presented in 36 CFR 60 as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

- a) That are associated with events that have made a significant contribution to the broad patterns of our history; or
- b) That are associated with the lives of persons significant in our past; or
- c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d) That has yielded, or may be likely to yield, information important in prehistory or history.

Seventeen sites (PDS-S-1, PDS-S-2, PDS-S-5, PDS-S-6, PDS-S-7, PDS-S-8, PDS-S-10, PDS-S-14, PDS-S-16, PDS-S-17, PDS-S-19, PDS-S-20, PDS-S-21, and PDS-S-22) are directly associated with trail PDS-T-1. These sites can address research questions about chronology, mobility, and exchange through time. These sites and the trail can be viewed as a unit associated with the larger trail system of SDM-C-86 and its numerous geoglyphs, trail shrines and other cultural features. These resources could be considered together as a unit associated with the Outer Picacho Trail. Although formal definition is beyond the scope of the current study, these resources could be considered part of an Outer Picacho Trail ATCC. They should be considered eligible under Criterion A – for their association with events and dream travel, under Criterion C for their embodiment of Distinctive Characteristics and manmade features, as well as under Criterion D for their information potential.

Sites PDS-S-4, PDS-S-9, PDS-S-11, PDS-S-12, PDS-S-13, and PDS-S-18 are also associated with what may be prehistoric trail segments. These also have the potential for better chronological definition of trail use and to address research topics related to mobility, settlement, and exchange. All these sites are recommended as eligible for the NRHP under criterion D. Further study may link them to the Outer Picacho Trail ATCC and other eligibility criteria, but they currently cannot be directly linked to the Late Prehistoric period and these associations.

All of the trails in the APE (PDS-T-1 through PDS-T-12) are recommended eligible for their association with Native American dream travel (Criterion A), in addition to the information they can provide on chronology, mobility and travel, and exchange in the region (Criterion D). Site PDS-S-15 is a relatively extensive historic camp and can provide additional information on historic mining and use of the area, and is also recommended eligible under Criterion D.

Site PDS-S-3 and isolates PDS-I-1 through PDS-I-5 are recommended not eligible for National Register nomination due to the lack of further data potential. These resources contain limited data and lack direct association with trails and resources that may be important based on other criteria. No further work is recommended to address impacts to these resources.

Approximately four miles northwest of the proposed project area is the Indian Pass - Running Man area of traditional cultural concern (ATCC) and the Trail of Dreams ATCC (Pigniolo et al. 1997). These may represent portion of discontinuous Traditional Cultural Places (TCPs) based on trail systems and their importance to dream travel for the Quechan in the area. These areas have been treated as eligible by the Advisory Council on Historic Preservation (ACHP) (DOI 2001) for the NRHP based on Criterion A, Criterion C, and Criterion D.

### Alternative A

Impacts to cultural resources from implementation of Alternative A would result from the placement of drill holes; increased use of access roads and equipment staging areas; and road maintenance. Activities that result in ground disturbance always have some potential to impact previously unknown archaeological subsurface resources.

Several Native American trails or trail segments within the proposed project APE are traversed by BLM legal routes of travel as well as roads created illegally. While no new roads would be constructed for this proposed project, use of existing BLM legal routes of travel and illegally created roads would increase for the duration of proposed project activities. Increased use of existing roads would create a temporary visual obstruction of the exiting view shed, and increase the potential for use of the area by entities (e.g., vehicles, recreationists, etc.) for the duration of the proposed project. To avoid creating further impacts to the trails and trail segments traversed by proposed project access routes, the Applicant would be required to implement Mitigation Measure (MM) CR:5: Restoration of Disturbed Ground Surfaces (see Mitigation below). This MM would involve restoring all routes of travel used for the proposed project to their pre-Project appearance, and restoring illegally-created routes to blend in with the native landscape to dissuade future use of the routes and access to the Project area.

Visual impacts to traditional cultural resources can be adverse. Changes to the existing viewshed and skyline resulting from the proposed project could adversely alter Native American use of their sacred or religious areas, such as Spirit Mountain, Picacho Peak, and associated trails and

sites. During consultation for the Chemgold project, the Quechan expressed concern that the height of stockpiles produced by the Chemgold project would disturb the northern horizon as viewed from the Running Man site. The proposed project would result in temporary impacts to the surrounding viewshed. Temporary visual impacts would be the result of drilling operations, including vehicle access to and from the proposed project site. Implementation of MM-CR-5: Restoration of Disturbed Ground Surfaces would eliminate residual impacts caused from ground disturbance.

## **Mitigation**

If approved, prior to execution of the proposed project activity, Mitigation Measures (MMs) will be implemented as follows:

MM-CR1: Worker Training: The Applicant require that all crew members receive training on cultural resource sensitivity, including cultural resource laws and policies, awareness of monitors and their role, and awareness of flagging and other restrictions they must conform to during proposed project activities.

MM-CR2: Site Avoidance: Sites which may be impacted due to their proximity to construction areas will be subject to temporary fencing around their perimeters to ensure that proposed project impacts remain within the proposed impact area and that cultural resources are avoided by project personnel.

MM-CR3: Unanticipated Discoveries: in the event that unknown historic or unique archaeological resources are encountered during construction or operational repairs, archaeological monitors will be authorized to temporarily divert construction work within 100 feet of the area of discovery until the significance and the appropriate mitigation measures are determined by an archaeologist familiar with the resources of the region. Applicant shall notify the BLM within 24 hours. Applicant shall provide contingency funding sufficient to allow for implementation of avoidance measures or appropriate mitigation.

MM-CR4: Discovery of Human Remains: If human remains and/or cultural items defined by the Native American Graves Protection and Repatriation Act (NAGPRA) are inadvertently discovered during construction activities, all work in the vicinity of the find will cease and the Imperial County Coroner and the BLM El Centro Field Office, including the ECFO Archaeologist, will be contacted immediately pursuant to Section (3) (d) (1) of the Act. If the remains are found to be Native American as defined by NAGPRA, work may be delayed in the vicinity of the find up to 30 days;

MM-CR-5: Restoration of Disturbed Ground Surfaces: all ground surfaces, including access roads, staging areas, and drill locations, will be restored to their pre-Project appearance. Illegally-constructed routes will be restored to the appearance of the surrounding native landscape to dissuade future unauthorized use. Ground restoration activities will involve refilling drill holes to their original ground surface height, and placing dirt, brush, and other materials on disturbed routes of travel.

In addition to the Mitigation Measures above, all ground disturbing activities shall be conducted in the presence of both an archaeological and a Native American monitor.

#### Alternative B

Alternative B would involve a reduction of drill holes from 79 to 61. Impacts to cultural resources resulting from implementation of Alternative B would be similar to impacts discussed for Alternative A; however, impacts would occur in fewer locations. Fewer drill hole locations would reduce overall vehicular activity and access in the proposed project area, resulting in fewer impacts to cultural resources than Alternative A. Mitigation proposed for Alternative A would be the same for Alternative B.

#### Alternative C

Under Alternative C (No Action Alternative) the proposed test drilling project would not be approved and no cultural resources would be impacted; therefore, no mitigation would be required under Alternative C.

### **Native American Religious Concerns and Native American Consultation**

Due to the significance the Quechan attribute to the proposed project area and surrounding areas, no impacts would be acceptable (Baksh, 1997).

Use of trails in the proposed test drilling project area for traditional, spiritual, and religious reasons has been a concern of the Quechan Tribe; these concerns are documented in the Native American consultation report prepared for the Chemgold Imperial Project (Chemgold) (Baksh, 1997).

Another concern from the Quechan Tribe during consultation for Chemgold was that the project is located on an area that is considered the final resting place for their ancestors, and that the Chemgold project would disturb the peace of those final resting places.

Nine Native American Tribes were invited to participate in formal government-to-government consultation by letter from the BLM dated January 8, 2009. The following tribes were invited to participate in government-to-government consultation with the BLM: the Campo Kumeyaay

Nation, the Cocopah Indian Tribe, the Colorado River Indian Tribes, the Ewiiapaayp Band of Kumeyaay Indians, the Fort Yuma Quechan Tribe, the Kwaaymii Laguna Band of Indians, the La Posta Band of Kumeyaay Indians, the Manzanita Band of Kumeyaay Indians, and the Torres-Martinez Desert Cahuilla Indians. As a part of the consultation process, representatives of the Cocopah Indian Tribe visited the proposed project site along with the BLM El Centro Field Office Archaeologist and the Laguna Mountain archaeologist on May 7, 2009. A site meeting was also held between the BLM, El Centro Field Office and the Fort Yuma Quechan Tribe Culture Committee and Tribal Historic Preservation Officer (THPO), USCorp and the Laguna Mountain archaeologist on July 11, 2012. Members of the Quechan Culture Committee expressed concern over the impacts the proposed action would have on the cultural and spiritual landscape in eastern Imperial County. Members of the Quechan Cultural Committee also expressed that the sites in this area belong to Native Americans and it is important that they remain where they are, and that artifacts are not collected and stored somewhere away from the land. The Quechan Indian Tribe President, Mike Jackson, Sr., sent a letter to the BLM El Centro Field Office on February 1, 2010, outlining his Tribe's official objection to the proposed project.

#### Alternative C

Under the No Action Alternative, the proposed test drilling would not occur, and there would not be any impacts to Traditional Cultural Properties and no Native American Religious Concerns.

### **4.1.11 Visual Resources**

#### Alternatives A and B

Because of the short time period of the proposed drilling and sampling project, significant visual impacts associated with KOPs such as the areas of higher elevation in the Indian Pass Wilderness, culturally sensitive Picacho Peak and associated religious and other culturally important trails would not occur. Long term effects of surface disturbances associated with drilling would be minimized as a result of proposed reclamation.

#### Alternative C

The No Action Alternative would have no impacts on visual resources.

## **4.2 Cumulative Impacts**

Cumulative Impacts on the environment refer to incremental impact of the action when added to other past, present, or reasonably foreseeable future actions, as defined by the CEQ regulations.

Actions to which the impacts of the proposed Picacho test drilling operation will be added include activities which have occurred, are occurring, or may occur in the proposed project vicinity, and projects which exist or re-proposed elsewhere in the region.

- Possible future Gold Mine in the area

The proposed activity currently being analyzed by this EA, if approved, will be conducted in the same location as historic exploration activities. Exploration work was conducted in the area by Newmont Mining Corp., Homestake Minerals, Santa Fe Minerals and others. If the results of past exploration efforts are confirmed by the proposed testing program and current economic conditions are maintained, the proposed action may lead to further mineral exploration within the general area. If USCorp or any other mining company determines they want to conduct further mineral exploration of developing a gold mine on their claims in this area, the BLM would conduct subsequent analysis under NEPA and other applicable laws and regulations.

Other projects which are considered in the analysis of the cumulative impacts of the proposed Picacho test drilling project include the following:

- Existing Mesquite Mine
- Existing Mesquite Regional Landfill
- Existing Picacho Mine
- Existing Gold rock Ranch
- Ongoing Recreational activities
- Proposed Glamis Imperial Project
- Past American Girl Mine Complex

#### Existing Mesquite Mine

The Mesquite mine would remain at current levels for the next 7 to 10 years, after which reclamation activities would continue till operations are completely discontinued. The Mesquite mine project encompasses about 5,200 acres of land. The mine began operation in 1985 and has undergone several ownership over the years. By the end of its life time, it is proposed that the mine would have extracted approximately 440 million tons of materials, including barren rock and gold-bearing ore (BLM 2000).

The mesquite mine which has 4 open pits is located east of Glamis and approximately 11 miles North-West of the proposed Picacho test drilling project. Mining activities at Mesquite mine involves drilling and blasting of rocks from pits, hauling of overburden materials from the pits to stockpiles, hauling of ore from the pits to a crushing facility, storage pile or leach pad. Besides a variety of administration, maintenance and process structures, the mine has a mine road form State Route 78, as well as some lined ditches and ponds for collecting gold-bearing leach solution. There is also electric power supply constructed by Goldfields and a water supply system consisting of three water wells which each provide 2,500-gallon per minute. The mine uses about 1,000 acre feet of water annually

#### Existing Mesquite Regional Landfill

The Mesquite Mine Regional Landfill is a located adjacent to the Mesquite Mine. The landfill property encompasses about 4.245 acres of land, but the actual footprint will only cover 2,290 acres of land. This landfill is planned to accommodate up to 600 million tons of municipal solid waste (MSW) over a 100 year lifetime period. MSW wastes includes garbage, trash, refuse, paper, rubbish, industrial waste, ashes, appliances and food waste; these would be transported in from various Southern California communities via Southern Pacific Transportation Company main line track and a new 5 miles railroad spur. The mine uses water from the three wells owned by the Mesquite Mine as discussed above. The landfill is expected to use below 1,000 acre feet of water every year (BLM 1995).

#### Existing Picacho Mine

The Picacho mine which located about 6 -7 miles east of the proposed Picacho test drilling project and 18 miles north of Yuma, Arizona, is currently idle. However, the mine might continue operations once damaged facilities have been restored back to working condition. The mine property encompasses a total of 2250 acres of land and the mine began operation since 1980. There are currently 4 open pits in the mine, and the process of mining is heap leach gold mining. When in full operation, the Picacho mine uses 115 Acre Feet of water per year (BLM 2000). Water source is shallow well which located adjacent to the Colorado River and produces waster recharged from the river aquifer.

### Existing Gold Rock Ranch

The Gold Rock Ranch is a privately owned mobile home/ RV park which operated under a permit from the Imperial County. It occupies about 20 acres of land and is located approximately 6 miles southwest of the proposed Picacho test drilling project. The county permit allows the ranch to have 21 mobile homes and 14 RVs with provision of water sewer and electrical hookups. Water usage ranges between 5,000 to 12,000 gallons per day which is between 6 to 14 acre feet annually (BLM 2000). Domestic water is provided by an onsite well. The Gold Rock ranch is mainly used during cooler months of the year when the Imperial County experiences a large influx in long-term visitors.

### Ongoing Recreational activities

There are constant dispersed recreational activities within and around the proposed Picacho test drilling project area. Activities like Off Highway Vehicle (OHV) uses, rock hounding and camping are very typical in this desert region, especially within public land managed by the BLM. These activities have a potential to adversely impact environmental resources within the study area. Besides destruction of cultural resources, some of the other impacts of these recreational activities include air quality by increase in dust generation and impact to wildlife habitat.

### Proposed Glamis Imperial Project

The proposed Glamis Imperial project is only about a mile north of the Picacho test drilling project. The proposed mine would involve development of an open-pit, heap leach, precious metal mine and processing facility (BLM 2000). The proposed 1,571-acre Glamis Imperial project is entirely on unpatented mining claims within public lands managed by the BLM. If approved, the proposed mine would involve three phase mining of three open pits involving the use two waste rock stock piles, two soil stock piles, five drainage diversion channels, one administration office, a maintenance shop, a heap leach facility, a precious metal recovery plant an electric substation and internal haul/maintenance roads.

At the end of the proposed mine life, 150 million tons of ore and up to 300 million tons of wastes would be mined from the two open pits. Water source would be from 4 groundwater production wells which would provide 1,200 acre feet of water per year through buried underground pipeline. The proposed Glamis Imperial Mine was never built due to public opposition of the project.

## Past American Girl Mine Complex

American Girl complex is located approximately 6 miles south of the proposed Picacho test drilling project area, within the cargo Muchacho Mountains. This mine complex was composed of two heap leach mines namely, the American Girl Canyon and Padre Madre which both cover a total of 618 acres of land. Operations ceased in this mine by the end of 1996. The Padre Madre mine had total of 3.4 million tons of ore and 12.5 million tons of waste rock over the life of the mine, while the American Girl Canyon had a total of 8.5 million tons of ore and 17 million tons of waste rock. Water supply for both mines was from the 2 water wells located near American Girl Mine Road (BLM 2000). The Reclamation for these mine sites have long been completed on both mines.

A third component of the American Girl Mine was the Oro Cruz underground mine which was previous scheduled to operate till 1999 and covers an estimated total 191 acres. Processing and milling was done at the American Girl Canyon facility. Surface mining was authorized for 2.5 million tons or ore and 8.5 million tons of waste rock, while underground mining was authorized for 500,000 tons of ore and 65,000 tons of waste rock. Water source was the American Girl wells mentioned above (BLM 1994).

The No Action Alternative would not have any cumulative impacts on any resources.

### **4.2.1 Lands and Access**

#### Alternatives A and B

Impacts from the proposed action would occur within an area which has been previously disturbed by exploration activities and uncontrolled recreational usage. The improvement of the existing road and trail network may have a temporary impact of increasing visitation to the general area. If the proposed action is completed, winter rains could degrade the repairs to the existing road and trail system. The road/trail system would then presumably return to conditions existing prior to the proposed action. In order to mitigate these effects, applicant will be required to do some road restoration on all access roads used for the exploration program.

#### Alternative C

The No Action Alternative would not have any impact on Lands and Access.

## **4.2.2 Geology and Minerals**

### Alternatives A and B

The proposed action may lead to further mineral exploration within the general area if the results of past mineral exploration efforts are confirmed by the proposed action. However, this proposed exploration project would add a very small amount of activity to the overall minerals activities in the area. The proposed project will have a low adverse cumulative impact on geology and geotechnical issues on both a local and regional basis.

### Alternative C

The No Action Alternative would have a negative impact on any efforts to explore for and develop mineral deposits within the general area, a permitted and authorized activity under current mining laws and regulations.

## **4.2.3 Soils**

### Alternatives A and B

Soils in the immediate areas of the repairs to the existing road\trail system and the various drill sites may be disturbed until the winter rains and winter visitor\vehicle visitation would, again, compact and consolidate them. Reclamation of drill holes would include backfilling with native soil form around the area. As a result, proposed action would not contribute to any identifiable cumulative effects.

### Alternative C

Under the No Action Alternative, there would be no cumulative impacts to soils.

## **4.2.4 Noise**

### Alternative A

Test drilling would have very little noise impact. Man-made noise in the area, when present, would be created by periodic vehicle travel along open routes of travel, and other unauthorized travel on closed routes, and is related mainly to off-highway recreation vehicles that frequent the

area in the winter months. Occasional light aircraft, homeland security and military aircraft, such as fighter jets and helicopters, also produce temporary noise

#### Alternative B

Cumulative impacts to noise for this alternative would be similar to Alternative A, except there would be less noise due to the lower number of drill holes proposed and reduced number of total work days.

#### Alternative C

Under the No Action Alternative, the project would not be approved and there would therefore be no cumulative increase in noise in the area.

### **4.2.5 Vegetation**

#### Alternative A

Due to the low number of shrubs to be removed and the previous disturbance associated with the proposed test drilling project area, test drilling would have an undetectable incremental impact on vegetation. A positive impact will be the requirement of the operator to restore all roads used for this proposed project, including undesignated routes currently in the area. Restored areas would support and increase the possibility of vegetative growth in the area.

#### Alternative B

Cumulative impacts to Vegetation for this alternative would be similar to Alternative A, except there would be less surface disturbance due to the lower number of drill holes proposed.

#### Alternative C

Under the No Action Alternative, there would be no cumulative impacts to vegetation.

### **4.2.6 Wildlife**

#### Alternative A

The cumulative impacts to wildlife would be incremental but undetectable. The drill sites would disturb less than an acre. The impacts would be temporary. As discussed in section 4.1.8 of this Environmental Assessment document, the individual impact of the proposed test drilling project on the existing landscape will be minimal. Impacts would be eliminated by adherence to mitigation measures which would include avoidance of wildlife marking out and flagging-off

Environmentally Sensitive Areas (ESA) identified for purpose of protecting and preserving wildlife habitats, if any. A biological monitor will also be required on site at all times during the course of the proposed test drilling project

#### Alternative B

Cumulative impacts to Wildlife for this alternative would be similar to Alternative A, except there would be less area impacted due to the lower number of drill holes proposed. The proposed project duration would be less than alternative A.

#### Alternative C

Under the No Action Alternative, there would be no cumulative impacts to wildlife.

### **4.2.7 Special Status Species**

#### Alternative A

Test drilling would have insignificant cumulative effects on special status species. The short duration of the proposed project and small area of disturbance would result in undetectable cumulative impacts. Other individual projects in the cumulative impact analysis are dispersed over a regional area in which large vacant tracts of land still remain with similar vegetation and wildlife habitat.

#### Alternative B

Cumulative impacts to Special Status Species for this alternative would be similar to Alternative A, except there would be less area impacted due to the lower number of drill holes proposed. The project duration would be less than alternative A.

#### Alternative C

Under the No Action Alternative, there would be no cumulative impacts to special status species.

### **4.2.8 Cultural and Paleontological Resources**

#### Alternatives A and B

As a small project, the purpose of which is test drilling, the proposed action has a small overall footprint and would minimally add to the cumulative impacts from mining in this area. However, as a first step in the potential development of a new mine in this area, this proposed test drilling

project could have an impact on the cumulative development of the area. Interested Native American tribes have expressed concern over the cumulative impacts of this proposed project on the cultural and spiritual landscape.

In order to assess impacts on cultural resources, a records and literature search for the proposed project was conducted. Based on the records and literature searches, it was clear that no cultural resources surveys or studies had been conducted within a one-mile radius of the proposed project and no archaeological sites had been formally recorded or mapped in this area besides the trail system SDM-C-86 which was described by Malcolm Rogers in the 1930s as a major travel route that included Bear Canyon and also associated with more than 1,000 pot drops. A second step in assessing impacts on cultural resources was conducting a Class III survey for cultural resources in the 232-acre APE. As a result of the survey, 34 previously unrecorded resources, including 22 sites and 12 linear sites representing prehistoric Native American trail segments were recorded. Five isolated artifacts which included four flakes and three cores were also identified within the APE. On a broader scale, the Indian Pass - Running Man ATCC and the Trail of Dreams ATCC are located about four miles northwest of the proposed project area, and these may represent portions of discontinuous TCPs based on trail systems and their importance to dream travel for the Quechan in the area. A third step in assessing impacts on archaeological and cultural resources was to initiate government-to-government consultation with nine different Native American tribes in the region, and these consultation efforts are still ongoing.

As discussed in section 4.1.10, all of the trails in the APE are recommended eligible for their association with Native American dream travel because they can provide additional information on chronology, mobility and travel, and exchange in the region. The other isolated sites discovered during the archaeological survey are recommended not eligible for National Register nomination due to the lack of further data potential. This is due to the fact that these individual sites also discussed in section 4.1.10 contain limited data and lack direct association with trails and resources that may be important based on other criteria.

Native American tribes, specifically the Quechan, believe that development projects and land use activities in the identified cumulative area have all contributed to cumulative effects on sacred resources and also on other cultural resources which archaeologists generally consider to represent little scientific value after impacts have been mitigated (BLM 2000). The Quechan tribe believes that “the most significant impacts to cultural resources have been the destruction and damage to highly sacred and important mountains, trails, “teaching areas,” and geoglyphs” (BLM 2000, page 5-18).

The originally proposed test drilling project had a potential of affecting the above mentioned resources and contributing to cumulative impacts in the area; however, with application of mitigation measures and development of alternative actions, the proposed Picacho test drilling

project would not significantly contribute to individual and cumulative impacts. Some of the mitigation measures include avoidance of known archaeological sites, implementing alternative with lesser impacts on the environment and resources, flagging-off Environmentally Sensitive Areas (ESAs), providing all crew members with adequate training on cultural resource sensitivity and having archaeological monitors while the project is ongoing, as indicated by the Cocopah tribe.

#### Alternative C

The No Action Alternative would not have any cumulative impacts on cultural resources.

### **4.2.9 Socioeconomics**

#### Alternatives A and B

This proposed test drilling project could lead to increased visitation in the general area during the fall and winter of 2013-2014 with the possibility of recreational placer mining and hiking within the general area by winter visitors. The other projects considered for cumulative analysis may however have greater positive effect on imperial County Tax base, tax revenue, and employment compared to the proposed Picacho test drilling project.

#### Alternative C

The No Action Alternative would not have any impact on Socioeconomics.

### **4.3 Mitigation Measures**

#### **4.3.1 Monitoring**

Archaeological monitoring of drill sites as well as of potential repairs to the existing road network would occur as outlined above in section 4.1.10. This would address potential impacts as outlined in the Cultural Resource Evaluation Report (Pigniolo et al. 2010), and would also address some concerns expressed during Native American consultation. Such monitoring would be performed by qualified archaeologists who have been permitted by the BLM. If Native American monitors are specifically requested by Tribes, the BLM recommends that they be present during drilling activities. Environmentally Sensitive Areas (ESA) will also be flagged in certain areas to protect archaeological and cultural resources.

A biological monitor would be on the proposed project site at all times.

In addition the following procedures and stipulations must be followed to insure protection of any desert tortoise that would be affected by the proposed action.

- a. USCorp shall designate a field contact representative (FCR) who would be responsible for overseeing compliance with protective stipulations for the desert tortoise and for authority to halt all mining activities that are in violation of the stipulations. The FCR shall have a copy of all stipulations when work is being conducted on the site.
- b. An employee education program must be received, reviewed, and approved by the Bureau at least fifteen days prior to the presentation of the program. The program may consist of a class or video presented by a qualified biologist or a video. Wallet-sized cards with important information for workers to carry are recommended. All USCorp and contractor employees shall participate in the desert tortoise education program prior to initiation of mining activities. The operator is responsible for ensuring that the education program is developed and presented prior to conducting activities. New employees shall receive formal, approved training prior to working onsite. The program shall cover the following topics at a minimum:
  - 1) Distribution of the desert tortoise,
  - 2) General behavior and ecology of the desert tortoise,
  - 3) Sensitivity to human activities,
  - 4) Legal protection,
  - 5) Penalties for violations of State or Federal laws,
  - 6) Reporting requirements, and
  - 7) Project protective migration measures.
- c. The area of disturbance shall be confined to the smallest practical area, considering topography, placement of facilities, location of burrows, public health and safety, and other limiting factors. Work area boundaries shall be delimited with flagging or other marking to minimize surface disturbance associated with vehicle straying. Special habitat features, such as burrows, identified by the qualified biologist shall be avoided to the extent possible. To the extent possible, previously disturbed areas within the mining site shall be utilized for the stockpiling of excavated material, storage of equipment, digging of slurry pits, location of office trailers, and parking of vehicles. The qualified biologist, in consultation with the project proponent, shall ensure compliance with this measure.
- d. To prevent desert tortoises from falling in test holes, holes would be monitored all times.
- e. Upon locating a dead or injured desert tortoise, the operator is to notify the Bureau. The Bureau must then notify the appropriate field office (Carlsbad or Ventura) of the Service by telephone within three days of the finding. Written notification must be made within fifteen days of the finding. The information provided must include the

date and time of the finding or incident (if known), location of the carcass, a photograph, cause of death, if known, and other pertinent information.

f. Except on county-maintained roads, vehicle speeds shall not exceed 20 miles per hour through desert tortoise habitat.

g. If it is necessary for a worker to park temporarily outside of the cleared area, the worker shall inspect for desert tortoises under the vehicle prior to moving it. If a desert tortoise is present, the worker shall wait for the desert tortoise to move out from under the vehicle.

h. No dogs are allowed on the project site.

i. All trash and food items shall be promptly contained within closed, raven-proof containers. These shall be regularly removed from the proposed project site to reduce the attractiveness of the area to ravens and other desert tortoise predators.

j. Structures that may function as raven nesting or perching sites are not authorized except as specifically stated in the plan of the operation or notice. The project proponent shall describe anticipated structures to the Bureau during initial project review.

## **CHAPTER 5: CONSULTATION AND COORDINATION**

### **5.1 Agencies Consulted:**

1. Bureau of Land Management
2. U.S. Fish and Wild Life Service

### **5.2 Native American Tribes and Organizations Consulted**

1. Campo Kumeyaay Nation
2. Cocopah Indian Tribe
3. Colorado River Indian Tribes (CRIT)
4. Ewiiapaayp Band of Kumeyaay Indians
5. Fort Yuma Quechan Tribe
6. Kwaaymii Laguna Band of Mission Indians
7. La Posta Band of Kumeyaay Indians
8. Manzanita Band of Kumeyaay Indians
9. Torres-Martinez Desert Cahuilla Indians

The BLM sent out letters on January 8, 2009 inviting tribes to consult on the proposed Picacho test drilling project. A response letter was received a year later from the Quechan tribe. The BLM followed up with the other tribes in February 2010 after which responses were received from both the Cocopah and Manzanita tribes. While a representative from the Manzanita tribe opposed the proposed Picacho test drilling project, the Cocopah tribe had no major concerns but recommended that should there be archaeological monitors on site at all times if the proposed project is approved. Though not considered part of government-to-government consultation, the proposed project was discussed during Cocopah monthly update meetings and Quechan monthly update meetings in 2009. Several tribal meetings were held with the Quechan tribe including a site meeting prior to release of the draft EA in 2010.

A comment letter was received from the Quechan tribe in response to the draft EA. The substantial issues in the comment letter were addressed in the final EA, and government-to-government meetings were held with the Quechan tribal Council and Quechan Cultural Committee on March 21, 2012 and April 18, 2012. The BLM provided overview of the proposed

project in both meetings and encouraged tribal participation. A site meeting was also held between the BLM, the Quechan tribe and the project proponent on July 11, 2012.

### **5.3 Public Involvement**

A draft environmental assessment was posted on the BLM website on May 13, 2010 for a 30-days public review period. Only one comments letter was received after the initial review period. Due to comments received by the BLM, this Environmental Assessment document is being revised and will be made available for another 30 days public review period in fall of 2012, after which a decision record will be issued.

As discussed in section 5.2 above, this proposed test drilling project was discussed with several Native American tribes including two site tours in 2009 and 2012. The number of drill holes was reduced as a result of these discussions in order to reduce the physical impacts of the proposed project and also to avoid sensitive sites which were discovered during the archaeological survey of the entire proposed project area. As requested by members of one of the tribes, some culturally sensitive areas (ESA) will be flagged in order to restrict access and subsequent damage to resources. Lastly, archaeological monitors will be required through the entire course of the project, as requested by the Cocopah tribe. This will help prevent any damage to archaeological and cultural resources.

### **5.4 List of Preparers and Reviewers**

#### **USCorp, Inc:**

Robert Cameron, Consulting Geologist

#### **Wondjina Research Institute:**

Claudia Brackett, Consulting Archaeochemist, California State University-Stanislaus

Ross Grunwald, Consulting Geologist & Principal, GeoResourceManagement, Inc.

Richard J. Lundin, Director

#### **BIOZONE, Inc:**

Andrew Christensen, Consulting Archaeologist

Archie M. Dickey, Consulting Biologist, Principal

**Laguna Mountain Environmental:**

Natalie J. Brodie, Archaeologist

Frank R. Dittmer, Archaeologist

Andrew R. Pigniolo, Archaeologist, Principal Investigator.

**Bureau of Land Management:**

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Christine McCollum, Archaeologist, El Centro Field Office.

Jeffrey Sahagun, Archaeologist, El Centro Field Office.

Carrie L. Simmons, Archaeologist, El Centro Field Office.

Nicollee Gaddis, Environmental and Planning Coordinator, El Centro Field Office.

Andrew A. Trouette, Botanist, El Centro Field Office.

John Johnson, Wilderness Coordinator, VRM Specialist, El Centro Field Office.

Dallas Meeks, Recreation Planner, El Centro Field Office.

Daniel Steward, Resources Branch Chief, El Centro Field Office.

Lynnette Elser, Planning and Environmental Coordinator, California Desert District Office.

Sara E. Friberg, Natural Resource Specialist, Division of Minerals, California State Office.

## CHAPTER 6: REFERENCES CITED

Bamberg, S.A. and I.E. Hanne

1995 *Soil Resource Evaluation for the Imperial Project. Report to the Chemgold, Inc., Imperial Project, Bamberg Associates, August 1995.*

BIOZONE, Inc.

2008 *Final Biological Assessment, USCorp Chocolate Mountains Project, (PICACHO DRILL SITES), Township 13.5S, Range 22E, Section 31, San Bernardino Baseline & Meridian, Chocolate Mountains, Imperial County, California.* Copy on file with the El Centro Field Office of the Bureau of Land Management, El Centro, California.

Environmental Solutions, Inc.

1993 *Hydrological Assessment Report, Mesquite Regional Landfill, December 1993*

Native American Heritage Commission (NAHC). 2012. Understanding Cultural Resources. Website. <http://www.nahc.ca.gov/understandingcr.html#what>. Accessed March 3, 2012.

Pigniolo, Andrew R. and Frank R. Dittmer

2009 *Walk Around the Bend: Prehistoric Transportation Corridors Near Picacho Peak.* Paper presented at the 2009 Society for California Archaeology Annual Meeting: Modesto, California.

Pigniolo, Andrew, Frank Dittmer, and Natalie Brodie

2010 *Cultural Resource Survey of the Picacho Drill Sites and Access Roads, Eastern Imperial County, California.* Prepared for USCorp, copy on file with the El Centro Office of the Bureau of Land Management, El Centro, California

Rogers, Malcolm J.

1944 *Unpublished Site Record and Field Notes for Site SDM-C-86.* Kept on file at the Southeastern Information Center, Imperial Valley College Desert Museum, Ocotillo, California.

U.S. Bureau of Land Management

1994 *Final EIS for Oro Cruz Operation of the American Girl Mining Project.*

1995 *Final EIS & EIR for the proposed Mesquite Regional Landfill, Imperial County, California.*

2000 *Final EIS for the Imperial Project, Imperial County, California.*

2002 *Northern and Eastern Colorado Desert Coordinated Management Plan, December 2002.*

U.S. Fish and Wildlife Service

1994 *Reinitiating of Formal Consultation for Small Mining and Exploration Operations in the California Desert, June 1994.*

U.S. Department of Interior

1980 *The California Desert Conservation Area Plan Alternatives and Environmental Impact Statement, Bureau of Land Management, February 1980.*

WESTEC Inc.

1996 *Baseline Report for the Imperial Project, February 1996.*

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**MINE PLAN OF OPERATION**

**For**

**Picacho Salton Drill Sampling Program**

Prepared for

**Southwest Resource Development Company**

For Submission to:  
**U.S. Department of the Interior,  
Bureau of Land Management  
El Centro Field Office**

# MINE PLAN OF OPERATION

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# MINE PLAN OF OPERATION

## INTRODUCTION

This is a Request under the 43 CFR 38.09 Mining regulations to conduct exploration activities, specifically to drill 40 to 88 exploratory holes upon land administered by the BLM with the stated purpose of sampling and mapping the underlying strata for mineral potential.

This drilling would be confined to already disturbed areas and drill roads and pads left on the property by previous operators in the late 1980s and early 1990s. There will be no new disturbance save repair of washed out areas of the pre-existing drill roads (see attached Map)

Drilling will take between 45 and 60 days. Site reclamation will be concurrent with drilling.

### Contact entities for this proposed operation are:

**Robert Dultz**

President

USCorp. (Operator)

4535 W Sahara Ave. Suite 200

Las Vegas, NV. 89102

760-770-6334

**Dr. Robert Cameron**

Geologist

Geological Support Services

3650 South Pointe Circle Suite 205

Laughlin NV. 89029

928-718-0360

## LOCATION

The proposed drilling would be performed in The Mesquite mining district in parts of section 31 and 32, T.131/2 South, R. 21 East, and possibly section 3, T.14 South, R 22 East, San Bernardino Base and Meridian. See attached Topographic Map. Drilling is proposed upon claims controlled by Southwest Resource Development INC. a wholly owned subsidiary of USCorp, the above listed operator. A claims list with CAMC numbers may be found in the appendix

## MINING ACTIVITIES (Exploration)

Upon approval of this operating plan by the BLM and meeting state and local requirements, and procurement of a drilling machine it is the plan of the operator to enter onto the aforementioned property and thereon conduct mineral exploration in the following manner:

- Drilling will be done with a reverse circulation rotary drill rig with down hole hammer

## **MINE PLAN OF OPERATION**

- The rig will be buggy mounted. The current rush will determine availability.
- The rig will be equipped with baghouses to afford dust control.
- The drilling will be restricted to roadways and pads already established and left by prior exploration in the area (map in appendix).
- An area extending 40" in each direction along the road from each surveyed drill point will be considered the "Drill Site".
- No new roads or disturbance will be done.
- Tarps and absorbent blankets will be laid under the drill and any ancillary equipment to catch emollient or fuel spills.
- Soiled blankets, rags, trash, and all other debris will be transported offsite to suitable disposal facilities.
- Holes will be backfilled and capped to meet SMARA and any other applicable regulations as soon as completed and before drill leaves the property.
- Drill sites will be cleaned and raked after abandonment to reduce soil erosion potential and remove vehicle tracks.
- Cultural and biological studies are currently commissioned for the target areas and are awaiting BLM approval.
- Other requirements by local, State, and BLM will be addressed as they are put forth. as the operator is not familiar with California operations

## **METHOD OF OPERATION**

Upon approval of this Plan of Operation (PoO) the property will be drilled with 4"-6" reverse circulation rotary drill. Samples will be taken at 5 foot intervals, split, weighed and bagged. Samples will be sealed in 50 Lb. rice bags and removed daily for transport to assay labs. After total depth is achieved and the drill rig moved, the hole will be stemmed with dirt and reclaimed to the requirements of the governing authorities. Trash and debris will be collected and transported off site to approved disposal facilities. No new roads or drill sites will be used, and drill sites will be reclaimed to BLM or Local requirements pending Phase 2 operating plans and permits.

## **SURFACE DISTURBANCE**

There will be no additional surface disturbance to the project area beyond current existing disturbance.

## **MAINTENANCE AND FUEL**

Fuel will be trucked in as needed and delivered directly to the rig. Support trucks will be fueled and serviced off the property. Plastic underlayment and absorbent mats will be deployed during fueling and maintenance to prevent soil contamination.

# MINE PLAN OF OPERATION

## VEGETATION

The project area contains sparse vegetation due to the arid conditions present in the area. Vegetation is mainly restricted to the near vicinity of the water courses. As drilling is to be restricted to existing roads it is believed that the only vegetation to be disturbed will be seasonal grasses and small shrubs that have taken root since the roads inception some 20 years ago.

## DUST CONTROL

Standard water palliative measures will be used for dust control including but not limited to rig mounted baghouses, and tank trucks with spray bars.

## WATER

Water will be obtained and hauled in from operators licensed well 17 miles away.

## SANITATION

Portable toilet facilities will be provided for site personnel. Portable drinking water will be provided on site. No septic or wastewater treatment systems will be required.

## EQUIPMENT

The following equipment will be used on site.

1. Air drill and compressor (1)
2. Pipe truck (1)
3. Water truck (1)
4. Crew truck (1)
5. Ancillary vehicles (4)
6. Travel Trailer (1)

Personnel shall be in sufficient number to operate safely.

## PERMITS AND ACCESS

The operator will be in compliance with all safety regulations, permitting and other requirements of government agencies regulating material sites.

## **MINE PLAN OF OPERATION**

Access will be on an existing road from highway 78, thence Ogilby, and Hydeke roads, which have been in use for over 50 years. Drilling access and sites will be restricted to drill roads and pads previously established by prior operators during the last “gold rush” in the 1980’s. See attached maps and Aerial photogrammetry of the area.

Any road repair will be limited to the minimum previous width and only at areas washed out and rendered impassable.

No new road construction will be undertaken.

### **SCHEDULE OF OPERATION**

Drilling is scheduled to be performed in one, ten hour shift each day, with a work cycle of ten days on four days off unless different arrangements are made with the drilling contractor. Subject to rig availability a “straight through” program with two drill crews might be implemented.

### **RECLAMATION PLAN**

As this activity is to take place upon existing roads and pads, and no new disturbance will be committed, reclamation will be limited to the following for this phase of the project;

- All trash and debris will be collected and removed from the site.
- Drill holes will be stemmed with Bentonite and capped with soil to avoid possibility of contamination and eliminate hazard to wildlife or people.
- Areas of activity will be raked to remove tracks of machinery.
- A SMARA assessment will be contracted to identify further requirements
- Roads will be left for future access and recreation

### **BIOLOGICAL RESOURCES**

At this time no biological background studies are known to exist in this area.

A comprehensive background study has been commissioned to be performed by Biozone Inc.

Desert Tortoise is known to inhabit the area. Care will be taken to avoid and not disturb these creatures.

# MINE PLAN OF OPERATION

## WATER RESOURCES

Previous drilling in the project area has established the water table to be in excess of 400 feet depth. Currently proposed drilling is not anticipated to have any effect upon water quality or resources.

## GEOLOGICAL RESOURCES

Lithologies exposed in the southern Chocolate Mountains include Proterozoic granitic and metamorphic rocks, Mesozoic metamorphic and plutonic units, early to mid-Tertiary volcanic and plutonic rocks, and Tertiary to Recent sedimentary units.

The Proterozoic is represented by Chuckwalla Complex, while the Mesozoic terrain is a structurally complicated package of gneisses, schist, phyllite, and plutons (Manske, 1991).

Mesozoic rock units include the Orocopia Schist, and Jurassic Winterhaven Formation, which are overlain by Tertiary Quechan Volcanic rocks and Quaternary alluvial deposits.

The Chuckwalla Complex consists of amphibolite to greenschist grade gneisses and schist's and plutonic rocks (Manske, 1991). These upper plate Proterozoic to Mesozoic metamorphic rocks are intruded by a series of Mesozoic quartz diorite to peraluminous granite plutons (Haxel and Dillon, 1978). U/Pb isotope dating of these intrusives indicates Jurassic to Cretaceous ages (80-105 million years) (Frost, 1987; Manske, 1991).

The Chuckwalla Complex was thrust over the Orocopia Schist along the Vincent-Chocolate Mountain Thrust (80-74 million years) (Dillon, 1986). The Orocopia is a medium to coarse-grained albite-epidote-amphibolite grade schist, which is exposed along the core of the Chocolate Mountains (Manske, 1991). The protolith of this formation was a middle Jurassic graphitic greywacke (Haxel, 1977).

The Winterhaven Formation comprises phyllites, quartzites, conglomerates, and metavolcanics and appears to represent Jurassic volcanic and sedimentary protolith, metamorphosed at a lower greenschist grade (Manske, 1991).

The metamorphic and plutonic terrains were uplifted and eroded during the early Tertiary. Oligocene calc-alkaline magmatism, consisting of andesite and rhyodacite flows (32 million years) and ignimbrites and tuffs (26 million years) covered the eroded surface as part of the Quechan Volcanics. The Mt. Barrow quartz monzonite sequence was then

## **MINE PLAN OF OPERATION**

intruded (Crowe, 1978; Manske, 1991). These dates are coincident with gold mineralization events, dated at approximately 26 to 38 million years ago. Following emplacement of the Mt. Barrow stock, the district was subjected to Tertiary extension.

This tectonism generated large-scale northwest-trending faults, and reactivated some Mesozoic thrusts (Frost, 1981; Haxel and Grubensky, 1984). Near the end of the Tertiary extension, the area was regionally deformed resulting in fold axes trending west-northwest (Cameron and Frost, 1981; Spencer, 1982).

The Chocolate Mountains form the axis of a west-northwest trending antiform within the regional fold set.

Erosion of these folded terrains produced poorly sorted conglomerates, fanglomerates, sands, and silts. These Miocene deposits provide a mantle 10 to 300 feet thick over most of the property. A late Miocene basalt flow and recent alluvial gravel deposits cap these units in some locations.

The right-lateral strike slip motions on the San Andreas system (8-10 million years ago) have transected all of above noted lithologies, with the exception of recent gravel deposits.

### **LOCAL GEOLOGY**

The SRDI claim group is located along the "Picacho" detachment fault which separates overlying tertiary volcanic rocks and the Jurassic Winterhaven Formation from underlying Jurassic or Precambrian gneisses and the Jurassic Orocopia schist.

This same fault is present at the nearby Picacho mine and presents excellent potential for the discovery of similar ore bodies to the Picacho mine. Strong alteration and mineralization along this contact outcrops in portions of SRDI claims. (This report contains historical information about properties adjacent to the boundaries of the Picacho Salton properties on which we have no right to explore or mine. We advise U.S. investors that the SEC's mining guidelines strictly prohibit information of this type in documents filed with the SEC. U.S. investors are cautioned that mineral deposits) on adjacent properties are not indicative of mineral deposits on our properties.

The overall area is largely covered by alluvial sediments of Cretaceous to Holocene age developed by the erosion of the Chocolate Mountains.

### **AIR AND NOISE**

The following steps will be taken to address any concerns regarding air pollution and contamination:

## **MINE PLAN OF OPERATION**

- Drill rigs will be equipped with baghouses and cyclones to minimize dust emissions. Palliative measures will include but are not limited to; Roads, drill pads, and work areas will be sprayed with water if deemed necessary.
- The necessary dust permits will be obtained from Imperial Co. and the State of California.
- All Machines will be CARB certified.

The remote location from human habitation renders noise issues moot.

### **LAND USE**

The land use classification for the proposed project area is Recreational/ Wildlife habitat. It is not anticipated that the proposed exploration will adversely impact this designation.

### **CULTURAL RESOURCES**

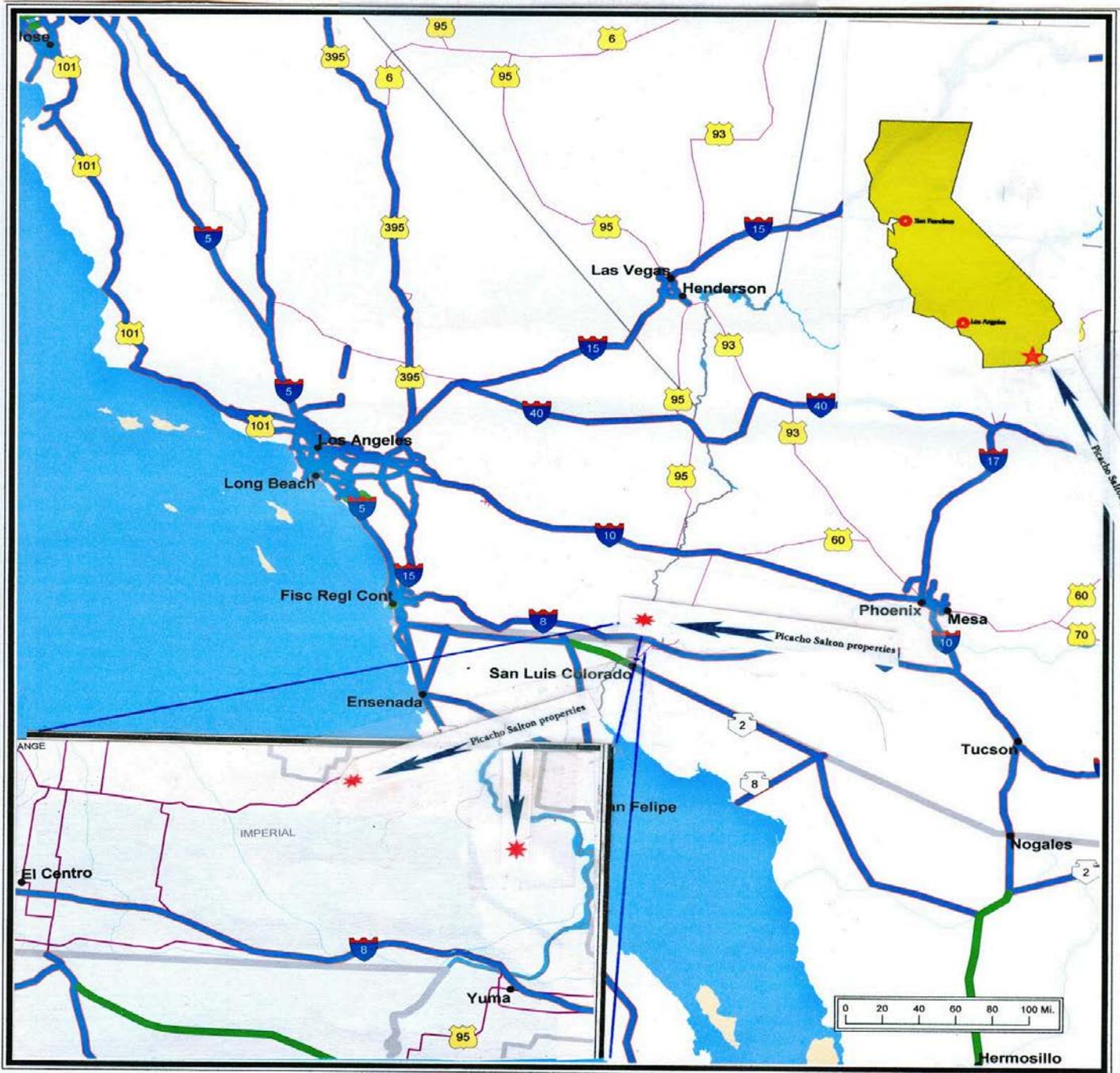
Previous cultural surveys are not available for the area.

A cultural survey has been contracted by Wondjina research institute to cover the project area.

Although it is doubtful we will encounter cultural artifacts upon established roadways or drillpads, if any are encountered Work will cease until BLM can be notified and a cultural expert dispatched.

### **RECLAMATION COST ESTIMATE**

A copy of the BLM reclamation bond estimator is attached in the appendices.



**Location map of Picacho Salton Properties**

## MINE PLAN OF OPERATION

CAMC Serial Number	Claim Name and Number	County	Claim Type	Last Assmt Yr	Location Dated	Mr Twn Rng Sec	Sub-division(s)
CAMC139230	BIG BEN #1	IMPERIAL	PLACER	2008	11/16/1983	27 0120S 0200E 028	SW
CAMC139231	BIG BEN #2	IMPERIAL	PLACER	2008	11/16/1983	27 0120S 0200E 032	NE
CAMC139232	BIG BEN #3	IMPERIAL	PLACER	2008	11/15/1983	27 0120S 0200E 032	SW
CAMC139233	BIG BEN #4	IMPERIAL	PLACER	2008	11/16/1983	27 0130S 0200E 005	NW
CAMC139234	BIG BEN #5	IMPERIAL	PLACER	2008	11/16/1983	27 0130S 0200E 005	SW
CAMC139235	BIG BEN #6	IMPERIAL	PLACER	2008	11/16/1983	27 0130S 0200E 006	SE
CAMC139236	BIG BEN #7	IMPERIAL	PLACER	2008	11/16/1983	27 0130S 0200E 006	NE
CAMC139237	BIG BEN #8	IMPERIAL	PLACER	2008	11/16/1983	27 0120S 0200E 031	SE
CAMC146415	GOLD STAR EXT #1	IMPERIAL	PLACER	2008	3/1/1984	27 0120S 0200E 032	NW
CAMC146416	GOLD STAR EXT #2	IMPERIAL	PLACER	2008	3/1/1984	27 0120S 0200E 029	SE
CAMC147188	LOST PEG #1	IMPERIAL	PLACER	2008	3/25/1984	27 0120S 0200E 032	SE
CAMC252951	LOST SHOVEL AMANDA 1	IMPERIAL	PLACER	2008	4/1/1992	27 0140S 0210E 003	NE
CAMC252952	LOST SHOVEL AMANDA 2	IMPERIAL	PLACER	2008	4/1/1992	27 0140S 0210E 004	SE
CAMC252953	LOST SHOVEL AMANDA 3	IMPERIAL	PLACER	2008	4/1/1992	27 0140S 0210E 003	SE
CAMC252954	LOST SHOVEL AMANDA 4	IMPERIAL	PLACER	2008	4/1/1992	27 0140S 0210E 003	SW
CAMC252955	BROKEN PAN # 1	IMPERIAL	PLACER	2008	4/1/1992	27 0130S 0220E 033	NE
CAMC252955	BROKEN PAN # 1	IMPERIAL	PLACER	2008	4/1/1992	27 0130S 0220E 034	SW
CAMC252955	BROKEN PAN # 1	IMPERIAL	PLACER	2008	4/1/1992	27 0140S 0220E 003	NW
CAMC252955	BROKEN PAN # 1	IMPERIAL	PLACER	2008	4/1/1992	27 0140S 0220E 004	NE
CAMC252956	BROKEN PAN # 2	IMPERIAL	PLACER	2008	4/1/1992	27 0130S 0220E 034	NE NW SW SE
CAMC252957	BROKEN PAN #1 AMANDA	IMPERIAL	LODE	2008	4/1/1992	27 0130S 0220E 033	SE
CAMC252957	BROKEN PAN #1 AMANDA	IMPERIAL	LODE	2008	4/1/1992	27 0140S 0220E 004	NE
CAMC252958	BROKEN PAN #2 AMANDA	IMPERIAL	LODE	2008	4/1/1992	27 0130S 0220E 033	SE
CAMC252958	BROKEN PAN #2 AMANDA	IMPERIAL	LODE	2008	4/1/1992	27 0130S 0220E 034	SW
CAMC252959	BROKEN PAN #3 AMANDA	IMPERIAL	LODE	2008	4/1/1992	27 0130S 0220E 034	SW
CAMC252960	BROKEN PAN #4 AMANDA	IMPERIAL	LODE	2008	4/1/1992	27 0130S 0220E 034	SW
CAMC252961	BROKEN PAN #5 AMANDA	IMPERIAL	LODE	2008	4/1/1992	27 0130S 0220E 034	NW SW
CAMC252962	BROKEN PAN #6 AMANDA	IMPERIAL	LODE	2008	4/1/1992	27 0130S 0220E 034	NE NW SW SE
CAMC252963	BROKEN PAN #7 AMANDA	IMPERIAL	LODE	2006	4/1/1992	27 0140S 0220E 004	NE
CAMC252964	BROKEN PAN #8 AMANDA	IMPERIAL	LODE	2008	4/1/1992	27 0130S 0220E 033	SE
CAMC252964	BROKEN PAN #8 AMANDA	IMPERIAL	LODE	2008	4/1/1992	27 0130S 0220E 034	SW
CAMC252964	BROKEN PAN #8 AMANDA	IMPERIAL	LODE	2008	4/1/1992	27 0140S 0220E 003	NW
CAMC252964	BROKEN PAN #8 AMANDA	IMPERIAL	LODE	2008	4/1/1992	27 0140S 0220E 004	NE
CAMC275773	LOST GOLD CANYON #1	IMPERIAL	PLACER	2008	3/1/1999	27 0120S 0200E 019	NE NW
CAMC275774	LOST GOLD CANYON #2	IMPERIAL	PLACER	2008	3/1/1999	27 0120S 0200E 019	NE
CAMC275775	LOST GOLD CANYON #3	IMPERIAL	PLACER	2008	3/1/1999	27 0120S 0200E 019	SE
CAMC275776	LOST GOLD CANYON #4	IMPERIAL	PLACER	2008	3/1/1999	27 0120S 0200E 019	SW
CAMC285824	SRDI #19	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285825	SRDI #21	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285826	SRDI #23	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285827	SRDI #25	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285828	SRDI #27	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285829	SRDI #61	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285830	SRDI #62	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	

## MINE PLAN OF OPERATION

CAMC Serial Number	Claim Name and Number	County	Claim Type	Last Assmt Yr	Location Dated	Mr Twn Rng Sec	Sub-division(s)
CAMC287169	LGC #3	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	SE
CAMC287169	LGC #3	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	SE
CAMC287170	LGC #4	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	SE
CAMC287171	LGC #5	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	SE
CAMC287172	LGC #6	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	SE
CAMC287173	LGC #7	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	SE
CAMC287174	LGC #8	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	SE
CAMC287175	LGC #9	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NE
CAMC287176	LGC #10	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NE
CAMC287177	LGC #11	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NE
CAMC287178	LGC #12	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NE
CAMC287179	LGC #13	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NE
CAMC287180	LGC #14	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NE
CAMC287181	LGC #15	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NE
CAMC287182	LGC #16	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NE
CAMC287183	LGC #17	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NE
CAMC287184	LGC #18	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NE
CAMC287185	LGC #19	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NW
CAMC287186	LGC #20	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NW
CAMC287187	LGC #21	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NW
CAMC287188	LGC #22	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NW
CAMC287189	LGC #23	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NW
CAMC287190	LGC #24	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NW
CAMC287191	LGC #25	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NW
CAMC287192	LGC #26	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	NW

CAMC Serial Number	Claim Name Number	County	Claim Type	Last Assmt Yr	Location Dated	Mr Twn Rng Sec	Sub-division
CAMC285831	SRDI #63	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285832	SRDI #64	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285833	SRDI #65	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285834	SRDI #66	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285835	SRDI #67	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285836	SRDI #68	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285837	SRDI #69	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285838	SRDI #70	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285839	SRDI #71	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285840	SRDI #72	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285841	SRDI #73	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285842	SRDI #74	IMPERIAL	LODE	2008	6/2/2006	27 0132S 0220E 031	
CAMC285843	SRDI #83	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	
CAMC285844	SRDI #84	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	

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CAMC285845	SRDI #85	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	
CAMC285846	SRDI #86	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	
CAMC285847	SRDI #87	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	
CAMC285848	SRDI #88	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	
CAMC285849	SRDI #89	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	
CAMC285850	SRDI #90	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	
CAMC285851	SRDI #F1	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 032	SW
CAMC285852	SRDI #F2	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 032	SW
CAMC285853	SRDI #102	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 032	SW
CAMC285854	SRDI #F3	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 032	SW
CAMC285855	SRDI #103	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 032	SW
CAMC285856	SRDI #F4	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 032	SW
CAMC285857	SRDI #104	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 032	SW
CAMC285858	SRDI #F5	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 032	NW
CAMC285859	SRDI #105	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 032	NW
CAMC285860	SRDI #F6	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 032	NW
CAMC285861	SRDI #106	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 032	NW
CAMC285862	SRDI #107	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 032	SE
CAMC285863	SRDI #91	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	
CAMC285864	SRDI #92	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	
CAMC285865	SRDI #93	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	
CAMC285866	SRDI #94	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	
CAMC285867	SRDI #95	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	
CAMC285868	SRDI #96	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	
CAMC285869	SRDI #97	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	NW
CAMC285870	SRDI #98	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	NW
CAMC285871	SRDI #99	IMPERIAL	LODE	2008	6/8/2006	27 0132S 0220E 031	NE
CAMC285872	SRDI #100	IMPERIAL	LODE	2006	6/8/2006	27 0132S 0220E 031	NE
CAMC285873	SRDI #101	IMPERIAL	LODE	2006	6/8/2006	27 0132S 0220E 031	SW
CAMC287167	LGC #1	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	SE
CAMC287168	LGC #2	IMPERIAL	LODE	2008	1/19/2007	27 0120S 0200E 019	SE

## MINE PLAN OF OPERATION

### List of Proposed Drill Hole Locations and Alternatives

S/N	Hole	Easting	Northing	Zone	Datum
1	1	714401.4 ME	3651835.2	Z11	NAD 83
2	2	714348.9	3651834.0		
3	3	714318.4	3651832.8		
4	4	714545.2	3651840.1		
5	5	714382.6	3651831.7		
6	6	714351.0	3651867.1		
7	7	714389.0	3651865.9		
8	8	714525.9	3651873.1		
9	10	714317.7	3651901.6		
10	11	714347.4	3651902.8		
11	12	714383.1	3651905.2		
12	13	714263.0	3651902.8		
13	14	714230.8	3651904.0		
14	15	714508.6	3651908.1		
15	17	714195.6	3651926.3		
16	18	714270.8	3651936.0		
17	19	714315.7	3651936.0		
18	20	714344.8	3651936.0		
19	21	714495.2	3651937.2		
20	23	714474.6	3651963.9		
21	24	714523.2	3651969.9		
22	25	714183.5	3651954.2		
23	26	714173.7	3651984.5		
24	27	714272.0	3651966.3		
25	28	714314.5	3651966.3		
26	29	714380.0	3651936.0		
27	30	714377.6	3651963.9		
28	31	713776.1	3652081.6		
29	32	713811.9	3652082.8		
30	33	713762.2	3652055.1		
31	34	713796.9	3652055.1		
32	35	713747.2	3652026.2		
33	36	713781.9	3652027.3		
34	37	713740.2	3651993.8		
35	38	713853.5	3651998.5		
36	39	714442.9	3652213.4		
37	40	714484.5	3652219.2		
38	41	714516.9	3652231.9		
39	42	714557.3	3652228.4		

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40	43	714590.8	3652237.7		
41	44	714657.9	3652338.2		
42	45	714664.8	3652383.3		
43	46	714694.9	3652419.1		
44	47	714727.2	3652397.1		
45	48	714150.5	3652013.5		
46	49	714140.1	3652041.2		
47	50	714140.1	3652066.6		
48	51	714310.0	3651997.3		
49	52	714311.2	3652027.3		
50	53	714353.9	3651999.6		
51	54	714347.0	3652033.1		
52	55	714378.2	3652038.9		
53	56	713746.0	3651958.0		
54	57	713785.3	3651959.1		
55	58	713829.2	3652047.0		
56	59	714974.5	3652257.3		
57	60	714958.3	3652293.1		
58	61	714997.6	3652282.7		
59	62	715034.6	3652276.9		
60	63	715057.8	3652263.0		
61	64	715421.8	3652185.6		
62	65	715454.1	3652189.1		
63	66	715403.3	3652168.3		
64	67	715483.0	3652188.0		
65	68	715387.1	3652149.8		
66	69	716048.2	3652043.5		
67	70	716063.2	3652015.7		
68	71	716072.4	3651984.5		
69	72	716080.5	3651958.0		
70	73	716184.532	3652078.154		
71	74	716186.8	3652055.0		
72	75	716192.6	3652029.6		
73	76	716203.0	3652001.9		
74	77	716130.2	3651959.1		
75	78	716168.4	3651979.9		
76	79	716199.6	3652253.8		
77	80	716184.5	3652292.0		
78	81	716162.6	3652322.0		
79	82	716148.7	3652354.4		
80	83	716117.5	3652392.5		

## **MINE PLAN OF OPERATION**