URS



July 30, 2012

Pierre Martinez
Project Manager
Systems Assessment & Facility Siting Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

Subject: Applicant's Draft Archaeological Research Design and Testing Plan
Rio Mesa Solar Electric Generating Facility (11-AFC-04)

Dear Mr. Martinez:

On behalf of Rio Mesa Solar I, LLC and Rio Mesa Solar II, LLC, collectively the "Applicant" for the Rio Mesa Solar Electric Generating Facility project ("Rio Mesa SEGF"), we submit the Applicant's Draft Archaeological Research Design and Testing Plan.

Sincerely,

Angela Leiba, Vice President
Senior Project Manager/ Environmental Department Manager

Enclosure

cc: POS List
Project File

D R A F T

# ARCHAEOLOGICAL RESEARCH DESIGN AND TESTING PLAN RIO MESA SOLAR ELECTRIC GENERATING FACILITY PROJECT RIVERSIDE COUNTY, CALIFORNIA

Prepared for

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

URS Project No. 27651004

Prepared by Mark Neal, M.A., RPA
Principal Investigator, Rachael Nixon, MA, RPA

July 2012

URS

4225 Executive Square, Suite 1600
La Jolla, CA 92037
858.812.9292 Fax: 858.812.9293

# TABLE OF CONTENTS

## Attachments A – Site Tables



## Figures

# SECTION 1 INTRODUCTION

As requested by the California Energy Commission (CEC) staff in its letter dated June 28, 2012, issued to Senior Director of Project Development with BrightSource Energy Inc., Todd Stewart, this archaeological research design plan (Plan) has been prepared as a guide/plan to conducting fieldwork (i.e., archaeological testing) to help guide the determination of potential impacts to cultural resources within the BrightSource Energy, Inc. Rio Mesa Solar Electric Generating Facility (Rio Mesa SEGF or Project) Area of Potential Effect (APE). The primary purpose of this research design is to provide additional information required to determine the eligibility of sites to be included in the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR).

The content of this research design includes the project description (including clarification of the revised project design), the definition of the archaeological study area (particularly the area of the direct effects from the project footprint), the research design (including relevant research questions), sites proposed for testing, and the proposed fieldwork testing methods. The research design is intended to address a range of research questions in order to provide additional information necessary to determine the eligibility of potential archaeological sites within the Direct Effect (DE) APE.

Upon the completion of the field work, an Archaeological Testing Technical Report (Technical Report) will be prepared and submitted to the CEC and Bureau of Land Management (BLM) for review. The primary purpose of the Technical Report will be to provide the results of the study, eligibility recommendations, and proposed mitigations measures for sites potentially impacted by the proposed Project. As noted above, this document also serves as the response to the CEC request for an archaeological research design for the subset of archaeological deposits listed in the June 28, 2012 letter. The approach to selecting sites for testing is provided in Section 4 of this Plan.

## 1.1 PROJECT DESCRIPTION

The project site is located in Riverside County approximately 13 miles southwest of Blythe, California (Figure 1). The Project will consist of two solar plants: the southeastern plant will be known as Rio Mesa 1, and the northwestern plant will be known as Rio Mesa 2. The plants will be constructed in separate phases. Rio Mesa Solar I, LLC and Rio Mesa Solar II, LLC respectively, are the owners of the separate solar plants, jointly referred to as the "Applicant."

Each plant will include a power block area surrounded by an array of approximately 85,000 heliostats, and will require approximately 1,850 acres (or 2.9 square miles) of land to operate. The nominal capacity of each solar plant will be 250 megawatts (MW), for a total Project nominal output of 500 MW. Certain facilities for the Project will be shared by both plants and located in a common area. These facilities will include a combined administration, control, maintenance, and warehouse building, and mobile equipment maintenance facilities for the maintenance crew and operators. The total area of direct disturbance required for both plants, including the common area, is approximately 3,804 acres and 103 acres for temporary construction (Figure 1).

The Project will deliver power at 220 kilovolts (kv) to Southern California Edison's (SCE's) Colorado River Substation (CRS), located approximately 9.7 miles to the northwest. From the plant switchyards, power will be transmitted underground, at 220 kv, to the Project switchyard (located in the common area).

## 1.2 FEDERAL AND STATE AGENCIES

BLM is the lead agency under the National Environmental Policy Act (NEPA). BLM will evaluate the entire Project even though only the project gen-tie line, emergency and construction electrical power supply line, and access road will be located on public land managed by the BLM. The CEC is the lead agency under California Environmental Quality Act (CEQA) and has a certified regulatory program under CEQA. Additionally, it is assumed that the CEC as the CEQA lead will coordinate with Riverside County to ensure CEC guidelines are in compliance with Riverside County Laws, Ordinances, Regulations and Statutes (LORS).

## 1.3 ARCHAEOLOGICAL AREA OF DIRECT POTENTIAL EFFECT

The delineation of Archaeological Survey APE was defined in the Draft Cultural Resources Technical Report (October 2011), however for this research design and testing plan the DE-APE is the focus, in that it contains those archaeological sites that may be subject to direct disturbance as a result of construction and operation of the Project. The DE-APE consists of the fenceline boundary, common areas, switchyard and gas metering yard (3,804 acres); the temporary construction logistics area (103 acres); and the proposed project 230 kV transmission line corridor (50-foot on either side of centerline) (Figure 1).

# SECTION 2 ENVIRONMENTAL SETTING

The following section introduces the environmental setting of the project area and immediate environs through the detailed discussion of the physiographic and geologic environment, common flora and fauna, current physical setting.

## 2.1 PHYSIOGRAPHY AND GEOLOGY

The project area is bounded to the south and west by the volcanic and plutonic rocks that form the Mule Mountains, to the north by an extension of the Chuckwalla Valley that separates the Mule and McCoy Mountains, and to the east by the broad floodplain of the Colorado River. The immediate project area is characterized by gently sloping alluvial fans that emanate from these mountains. Gullies and washes, running approximately west to east, dissect the site, primarily on the north and south sides. The rock outcrops of the Mule Mountains are heavily eroded and mantled by a Quaternary fan piedmont. Alternatively, the Colorado River floodplain is composed of more recent alluvial material deposited by the river. Between these two areas lies the Palo Verde Mesa, which is primarily composed of inset Pleistocene terraces of the Colorado River. All of these Quaternary landforms are comprised of numerous older remnants and more recent deposits of varying ages. Additional information regarding the geomorphological setting and conditions of the Project area can be found in the initial Geoarchaeological Assessment (URS 2011).

## 2.2 FLORA AND FAUNA

The dominant vegetation community within the region is creosote scrub with a diverse variety of species that occur along seasonal washes that crosscut the land from west to east. These varieties consist primarily of creosote (*Larrea tridentata)*, ocotillo (*Fouquiera splendens)*, saltbushes (*Atriplex* spp.), and white bursage (*Ambrosia dumosa*). Within washes and along the eastern face of the Colorado River Terrace, there are stands of mesquite (*Prosopis* spp.) and ironwood (*Olneya tesota*). Nearer to the Colorado River, washes support the palo verdes (*Parkinsonia florida*), from which the mesa derives its name. Based on recent climatic studies conducted in the area, it appears that the plant regime has remained relatively stable throughout the Holocene. This indicates that the resources known in this region today largely represent what was available to prehistoric Native Americans for food, medicine, and raw materials throughout the Holocene.

The fauna in this region consists of numerous small mammals including blacktailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audoboni*), kit fox (*Vulpes macrotis*) and a variety of rodents such as round-tailed ground squirrel (*Spermophilus tereticaudus*), white-tailed antelope squirrel (*Ammosphermophilus leucurus*), desert kangaroo rat (*Dipodomys deserti*), and desert pocket mouse (*Perognathus penicillatus*), all of which would have made excellent food sources for Native Americans living this this area. Additional animals in this region of the Colorado Desert include a number of bat species, such as the California leaf-nosed bat (*Macrotus californicus*). The region also is home to larger mammals that served as a food and raw material resource to prehistoric Native Americans in this area. The large mammals found in the region include the desert bighorn sheep (*Ovis canadensis*), Sonoran pronghorn antelope (*Antilocapra americana sonorensis*), mountain lion (*Puma concolor*), mule deer (*Odocoileus hemionus*), and coyote (*Canis latrans).* The Sonoran pronghorn and bighorn sheep are

extremely scarce to absent in the project area today, although they were likely more common in the past. Reptile species in the region, which are also highly adapted to living in sandy desert environments, include the fringe-toed lizard (*Uma scoparia*), desert horned lizard (*Phrynosoma platyrhinos*), venomous sidewinder (*Crotalus cerastes*), chuckwalla (*Sauromalus obesus*), desert iguana (*Dipsosaurus dorsalis*), western diamondback (*Crotalus atrox*), and desert tortoise (*Gopherus agassizi)*. Commonly identified avian species in the region include horned lark (*Eremophila alpestris*), common raven (*Corvus corax*), mourning dove (*Zenaida macroura*), black-throated sparrow (*Amphispiza bilineata*), verdin (*Auriparus flaviceps*), and greater roadrunner (*Geococcyx californianus*). Migratory birds that have been reported throughout the southern deserts include swallow and warbler species of varying genera. The northern harrier (*Circus cyaneus*), Swainson's hawk (*Buteo swainsoni*), western burrowing owl (*Athene cunicularia hypugaea*), and loggerhead shrike (*Lanius ludovicianus*) are also found in this region of the Colorado Desert. Raptors were of particular importance to local Native American groups and their feathers were commonly used in ceremony (Knack 1980).

## 2.3 CURRENT PHYSICAL SETTING

The project area is predominately in a rural setting with land uses that include agricultural (e.g., grains/ hay); dirt roads, trenches and tracks (e.g., former Desert Training Center trenches and tank tracks, Bradshaw Trail, Opal Mine Road, Hodges Mine Road, transmission line roads/corridors, and other unnamed unpaved roads); approximately 40 previous ground water test wells and numerous dry well casings, most of which were installed in the 1970's during pre-development work associated with the previously proposed Sun Desert Nuclear Power Plant; utilities (e.g., four transmission lines and one underground pipeline); and recreational use (e.g., off-highway vehicles [OHVs] and camping).

## 2.4 CULTURAL SETTING

The following section summarizes the cultural setting associated with the project vicinity as determined from the detailed review of scholarly and academic studies, theories, and conclusions about the broader regional and the more specific, project area-related cultural context.

### 2.4.1 Regional Prehistoric Setting

The project area is situated within an area of the Colorado Desert where few archaeological investigations were conducted until the 1970s. As archaeological excavations have been completed over a more extensive portion of the desert in recent years, a clearer picture of the culture history of the Colorado Desert is beginning to emerge. As Schaefer and Laylander (2007:247) pointed out in a recent study of the prehistory of the Colorado Desert, the archaeology here is "embedded in a larger cultural context" that includes the Mojave and Sonoran Deserts, but with its own distinct archaeological manifestations. The cultural attributes that unify human behavior in these three deserts include adaptation to similar environments with comparable climate, topography, flora and fauna; a shared language phylum (Aztec-Tanoan); and genetic relatedness due to regular interaction through intermarriage, trade, ritual, and war (Jorgensen 1980).

Cultural site types commonly associated with the prehistoric period are diverse and could include isolated or collective artifact and feature finds, such as isolated lithic or ceramic finds, lithic reduction scatters,

complex lithic scatters, thermal cobble features, rock art localities, geoglyphs and intaglios, cleared circles, rock cluster features, and trails. The following is a brief overview of the currently accepted culture history of the region surrounding the Project. For more detailed information see Cultural Resources Technical Report for the Rio Mesa Electric Generating Facility, Riverside County, California (Nixon et al. 2011).

### *San Dieguito or Paleoindian (12,000 to 7,000 B.P.)*

The earliest widely accepted evidence of human occupation in the region surrounding the Project began during a period known as the San Dieguito or Paleoindian. Specific to the Lower Colorado River area and, hence, the current project area, and as presented in the report titled *Draft Chuckwalla Valley Prehistoric Trail Network Cultural Landscape* (PTNCL) report, the Paleoindian Period – San Dieguito – is correlated with the "Early Holocene Period" (Laylander and Schaefer 2010). Evidence of human presence in the Colorado Desert in the Late Pleistocene and Early Holocene is scarce. This lack of evidence is in marked contrast to the well-documented use of the surrounding regions of the Mojave Desert and coastal southern California (Schaefer and Laylander 2007). Circumstances such as the ephemeral nature of settlement during the period, the instability of landforms, or research sampling bias, may contribute to this lack of evidence rather than there being an actual gap in regional use. As summarized by Laylander and Schaefer, the cultural pattern present in the Colorado Desert during this period, as inferred from artifact assemblage and site associations is "represented by small, mobile bands exploiting both small and large game and collecting seasonally available wild plants" (2010).

Around 11,000 BP (9,050 B.C.), temperatures increased and the Pleistocene lakes began to recede (Moratto 1984). The recession of these lakes was gradual and the pluvial lake environment that supported the lifeways of the San Dieguito peoples remained in existence for several millennia. These cultural patterns included methods of procuring foods and materials based on the plants and animals that lived around the lakes (Moratto 1984). Marshes in particular offered a variety of plants with edible seeds, roots, and stems. This habitat provided frogs, turtles, fish, and water rats, and attracted ducks and other waterfowl that supplied meat and eggs.

### *Archaic Period (8,000 to 3,000 B.P.)*

With an increase in temperature and the evaporation of the pluvial lakes during the early Holocene, it is believed that the population of the Colorado Desert likely decreased. The number of archaeological sites that date from this period continues to be limited. However, in ongoing studies in this region, a number of Archaic projectile points are consistently found, which indicates that sparsely distributed groups were present during this time.

The Archaic period within the project area is contemporaneous with the Middle Holocene to Early Late Holocene Period, as referenced by Laylander and Schaefer (2010). As summarized in the Draft PTNCL report, this period is typified as one of "unspecialized hunting-gathering adaptations" where hunter-gathering populations during this period were forced to "concentrate around a limited number of favored locations or emigrate to more habitable regions" due to inhospitable climatological conditions (Laylander and Schaefer 2010; *cf.* Crabtree 1981; Schaefer 1994; Weide 1976). Cultural patterns commonly associated with this period include the Pinto, Amargosa, Deadman Lake, and Gypsum.

Another important study at the Mine Wash, Indian Hill rock shelter (CA-SDI-2537) in Anza Borrego Desert State Park (120 miles west of the Project site) seems to indicate a fairly stable use of the rock shelter with cached resources during seasonal visits (McDonald 1992). Slab-lined pits thought to have been used for food storage have been found in a rock shelter near Palm Springs (CA-RIV-45), which may suggest logistical foraging by mobile groups (Bean et al. 1995). Evidence from the Truckhaven Man burial (Weide 1976) suggest that the Colorado Desert region was not entirely unoccupied during the early and middle portions of the Archaic period; people may have been present only on a seasonal basis due to a lack of resources at certain times of the year (Fagan 2003).

During the Archaic period, the hard seeds of mesquite (*Prosopis juliflora*) and screwbean (*Prosopis pubscens*), and foods from other desert-adapted plants, such as various types of cactus and agaves, became staples of the Native American diet (Barker 1976). Groundstone tools, including manos, metates, mortars, and pestles, were developed to aid in processing these new foods, and are commonly found in artifact assemblages throughout the Mojave and Colorado deserts (Moratto 1984). In addition to stone tools, people of the Colorado Desert may have made wooden milling utensils and other artifacts of organic materials that are usually not preserved in the archaeological record. Ethnographic records show the use of wooden mortars and pestles; items such as hooked sticks for shaking mesquite pods down from trees; nets in which to collect cactus and then beat the plants against the ground to remove the needles; digging sticks used to excavate rodents from burrows or to dig up plants; and throwing sticks used to hunt hare and other small game (Barker 1976). These tool types likely persisted for millennia with little change in technology or style

Recently, a number of late Archaic period sites have been documented over 100 miles west of the Project site, in the northern Coachella Valley (Love and Dahdul 2002). These sites show evidence of substantial occupation, with deeply buried midden deposits containing clay-lined features, cremations, hearths, and living surfaces. The deposits contain milling equipment and the faunal assemblage is dominated by lagomorphs. These sites suggest a more sustained settlement type than previously known for the Archaic Period in the area and are likely related to high stands of Lake Cahuilla.

### *Late Prehistoric Period (3,000 B.P. to European Contact)*

Recent research shows that around A.D. 1200, the Colorado River shifted course and refilled Lake Cahuilla (Schaefer and Laylander 2007). This refilled lake provided a stable year-round water supply in the Colorado Desert. People began to repopulate the Colorado Desert; some arrived by following the river on its route from the Colorado River Valley and some were attracted from the Mojave Desert or the mountain ranges to the west (Moratto 1984; Weide 1976). Enough resources were present to provide year-round sustenance and people began to occupy more permanent settlements and exploit different food sources at different times of the year. Trade networks between coastal peoples and the occupants of the desert interior began to develop around A.D. 1000. This development is apparent in the archaeological record based on the exponential increase in shell beads within Colorado Desert sites (Fagan 2003).

The draw of large bodies of water such as prehistoric Lake Cahuilla and the Colorado River brought an influx of cultural influences. Ceramic wares, which had been introduced centuries before in other areas, were brought into this region with the influx of people. Beginning around A.D. 870, Patayan I ceramic types, such as Colorado Beige, Colorado Red, and Black Mesa Buff, appears on the shoreline of Lake

Cahuilla (Schaefer and Laylander 2007). The Lower Colorado Buff wares, in common use since A.D. 800, show new attributes around A.D. 1050, such as stucco finishes, recurved jar rims, and tab handles on scoops. These attributes aid archaeologists in dating sites that appear in the area (Moratto 1984).

Around A.D. 1400, the course of the Colorado River shifted eastward, and, as Lake Cahuilla gradually dried up, native peoples were confined to an ever decreasing fertile area (Moratto 1984). As the lake receded, surrounding areas experienced an increase in occupation as the population shifted to more abundant lands, such as the Colorado River Valley in which the Project site occurs, (Moratto 1984; Weide 1976). People persevered in this desert environment, as evidenced by the presence of a series of stone-lined fish traps that marked the progress of the receding waterline (Moratto 1984). People also attempted to rely on limited agriculture as subsistence resources disappeared along with the lake. As the aridity increased, the local inhabitants expanded their utilization of the resource base to include several hundred plants for food, manufacture, and medicine (Fagan 2003). Evidence of water control techniques, such as the use of wells and springs for irrigation and the construction of reservoirs and ditches, is apparent at various locations throughout Imperial County. (Weide 1976). For example, prehistoric man-made wells in Imperial County include Coyote and Yuha, which are both over 100 miles southwest of the Project site. The Colorado River floodplain, directly east of the Project site, was used by prehistoric people for agriculture.

Late Period sites previously documented within the project area include deposits with multiple hearth features and scatters of fire affected rock, as well as lithic and ceramic scatters and concentrations. This period correlates with the "late Holocene period" referred to by Laylander and Schaefer (2010). It is during this period that pottery manufacture using the paddle-and-anvil technique first appears, as does bow and arrow technology, along with "floodplain agriculture, and cremation" (Laylander and Schaefer 2010, *cf.* Rogers 1945; Schaefer and Laylander 2007). The Draft PTNCL report (Laylander and Schaefer 2010) likewise concludes that the plethora of pictographs, petroglyphs and milling features scattered throughout the Colorado Desert were created during this period, though, as a caveat, it is noted that dating such features is difficult, as is the determination of cultural affiliation. Ancient Lake Cahuilla and the Colorado River, provided a rich source of fish and other resources, and played a significant role in the development of adaptive strategies by late prehistoric populations that occupied the Colorado Desert. The following information is an indication of important resources that are common within the area in which the Project is located Laylander and Schaefer (2010) have concluded that:

> "Between A.D. 1000 and 1700, desert peoples focused on the lower Colorado River valley appear to have extended their focus beyond the Colorado River floodplain, adopting a more mobile, diversified resource procurement pattern, with increased travel between the river and Lake Cahuilla to the west (Pendleton 1986). Long-range travel to special resource collecting zones and ceremonial locales, trading expeditions, and possibly warfare are reflected by the numerous trail systems seen throughout the Colorado Desert. Pot drops, trailside shrines, and other evidence of transitory activities are often associated with these trails (McCarthy 1982, 1993)."

# SECTION 3 RESEARCH DESIGN

This research design serves as a guide for further investigation of prehistoric archeological sites within the DE-APE. The purpose of this research is to provide data necessary to determine the eligibility of sites to be listed in the NRHP and/or the CRHR. Especially where prehistoric sites are concerned, the primary criterion under which they are eligible is Criterion D – the site's ability to yield additional data important to our understanding of prehistory or history. Therefore, research efforts such as this must be informed by the general canon of commonly accepted regional archaeological questions.

Perhaps the most fundamental questions in archaeological research and in determinations of NRHP and CRHR eligibility hinge on our ability to place a resource within a timeframe that is meaningful to regional, California, or national prehistory. In order to address chronology questions, this Plan will investigate site types that are most likely to yield temporal data, such as thermal cobble features, ceramic scatters, and sites with multiples of these types. Such sites can yield data important to improving the accuracy and resolution of regional chronologies. Thermal cobble features are suitable subjects for additional research because they can yield organic residues that may provide organic residues that can be directly dated using C14 techniques and can provide data regarding subsistence practices. Ceramic analysis is important to add detail to regional seriation of ceramic types, which is a valuable relative dating tool. Through analysis of temper and slip compositions we can also add to our knowledge of regional ceramic technology and production techniques. Additionally, sites with multiple types manifest on the surface (for example, sites with lithic debitage, thermal cobble features, and ceramics) are particularly important potential sources of data because they are sometimes associated with longer term or more intensive habitation. Such sites are more likely to have diverse artifact assemblages and therefore may be more likely to yield temporally diagnostic formal tools. These sites were sometimes formed by repeated, perhaps seasonal occupations over long periods of time and therefore may actually be a palimpsest of occupational debris from different times, and if so, such stratified sites may be valuable in improving our understanding of regional prehistory.

## 3.1 RESEARCH QUESTIONS

### 3.1.1 Cultural History and Chronology Questions

The basic directive of archaeological research is to describe cultural change over time. Therefore most archaeological questions have a chronological component. For example, understanding population movements requires knowledge of the relative time frames of occupation of sites throughout a region. Likewise, in order to understand cultural adaptations to environmental changes it is necessary to place regional sites in time and interpret that chronology against environmental histories. Key chronometric research domains would be (1) the reliability and refinement of regional dating, (2) the character and timeframe of the earliest human occupation within the region, (3) refining our understanding of occupation during the Archaic period, and (4) a refinement of regional ceramic sequences (Apple et al. 2010).

The development and refinement of chronological sequences of prehistoric people in the Colorado Desert continues to be an important research emphasis (Apple et al. 2010). Various factors have challenged the process of establishing chronologies in the region. Chronological sequences are frequently derived from

sites that have resulted from multiple occupational episodes that have occurred over a long time period, and such stratified sites are quite rare in the Colorado Desert and along the lower Colorado River (Apple et al. 2010, Cleland and Apple 2003; Schaefer 1994). Additionally, seasonal flooding of the Colorado River has likely erased many of the larger habitation sites that were once settled along its banks (Apple et al. 2010).

Sites documented during the intensive pedestrian survey for this Project, which are most likely to yield significant additional data include those with datable materials and artifacts and/or sites with stratified deposits. Ceramic scatters can be analyzed in order to determine manufacturing techniques, materials used, and other style attributes that can aid in determining their relationships to local ceramics chronologies. Additionally, thermoluminescence studies can be used where appropriate to determine absolute dates from ceramics. Thermal cobble features sometimes contain organic reside that can be directly dated using extremely accurate C14 techniques. Additionally, analysis of small seeds and other organics from thermal cobbles features can shed light on subsistence economies of prehistoric people. Sites with evidence of more than one classification, for example, sites with lithic debitage, ceramics, and thermal cobble features, may have resulted from more intensive habitation or from reoccupation at intervals over a longer time period. Therefore, they are the most likely to have stratified deposits and greater potential to provide both relative and absolute chronological data.

The following questions concerning culture history and chronology are proposed to be addressed in the research design:

- *Can the site be placed into a meaningful period of occupation? If so, which cultural complexes (e.g., San Dieguito, Pinto, Amargosa, Patayan) are present at the site?*
- *Are the chronologies suggested by the assemblages at sites within the project consistent with established regional cultural sequences? Is a different regional sequence suggested?*
- *Does the site contain stratified deposits and, if so, do data from those strata suggest periodic or extended use of the site over time?*
- *How does chronological data at the site compare with archaeological sites in this region?*

### *Data Requirements*

Data required to address the cultural history questions above can be derived from datable materials. Organic residues such as plant remains, charcoal, shell, and burnt bone can yield perhaps the most accurate, precise, and reliable absolute dating via C14 analysis. Temporally diagnostic formal lithic tools, in particular projectile points, can provide relative dates that can be determined through analysis of their stylistic attributes and comparison with accepted regional lithic series. If obsidian tools or debitage are recovered, reasonably reliably absolute dates can be derived through microscopic hydration studies. Finally, ceramic sherds can be analyzed according to the materials and techniques used in their manufacture and stylistic attributes. Based on the results, they can be placed into regional relative chronological series and thereby provide relative dating.

### 3.1.2 Site Morphology Questions

Understanding the archaeological site morphology is necessary to aid in developing methods in which to predict the character of subsurface deposits and make eligibility recommendations. However, based on surface manifestations alone, many sites within the DE-APE appear to have a high degree of redundancy (ex. lithic cobble quarries and scatters) in that data from the vast majority of the sites is similar. Nevertheless, some subsurface testing of lithic sites is warranted since reports by Giambastiani (2009) indicate that subsurface deposits have been found at desert pavement quarry Segregated Reduction Loci (SRL). It is proposed that expansion and contraction of the soils allows smaller artifacts to migrate down such that shallowly buried deposits could be present even under well-developed pavement surfaces. The ramifications are that smaller, later-stage flakes could be more often buried than larger, earlier stage flakes, and therefore the character of a deposit can only be accurately assessed if both the surface and subsurface components are considered together. It is also reported by Giambastiani (2009) that loci with over 100 artifacts are more likely to have substantial subsurface components.

Based on the morphological mechanism described above, it seems likely that artifact density of the surface assemblage may a reliable indicator of the potential for a particular SRL to have a substantial subsurface component. The typical size of SRLs at Giambastiani's sites (located in the Mojave Valley, 29 Palms area) were much smaller and more discrete, and contained a much higher number of lithic artifacts than what is present in the RMS Project area. Additionally, the average density of SRL's within the RMS Project area is extremely low while covering a much larger area, which is a variation in this type of resources that should be noted when comparing these studies. None the less, data regarding potential correlations between surface assemblage density and potential for subsurface deposits would be an important resource for understanding archaeological sites at the Project area as well as other pavement quarry sites in the Colorado and Mojave Deserts.

Thermal cobble features on the surface are another potential source of and place to test for subsurface deposits. These features can be diffuse fire affected rock, intact hearths on the surface, or a surface component of roasting pits or rock-lined earth ovens that were used to roast plant foods, including mesquite and saltbush. Such rock-lined ovens/roasting pits were intentionally excavated and lined with stones. Typically, a fire was built inside to heat the stones, plant foods would be placed inside, and the open pit would be closed with a layer of soil and plant matter. After an appropriate cooking period, the pit would be opened and cooked food removed. Thermal cobble features may be stones that are the surface portion of a larger subsurface feature or may be stones that were removed from the pit during clean out. Subsurface deposits associated with hearths or roasting pits may contain charcoal or other organic residues that can be dated using C14 or accelerated mass spectrometry (AMS) techniques.

The following questions concerning site morphology are proposed to be addressed in the research design:

- *Are subsurface components present at sites within the Project area?*
- *Do subsurface deposits contain artifacts or residues that can be dated and thereby facilitate the placement of the site chronology within a meaningful context?*
- *If a subsurface component is present, how do the subsurface components compare with the assemblage visible on the surface?*
- *Does the character of the subsurface components change our understanding of the site as a whole?*

### *Data Requirements*

Data required to answer these questions would result from controlled excavation. Soils profiles showing stratigraphic variation would allow the identification of stratified components. Additionally, virtually any cultural materials recovered thorough excavation can provide data to answer these questions. Those materials may include formal lithic tools, lithic debitage, ceramics, groundstone, and organic residues such as plant remains, charcoal, shell, and burnt bone.

## 3.1.3 Subsistence and Settlement Questions

Data recovered through excavation of sites can provide information needed to allow the identification of site function (residential location, temporary camp, resource extraction station, etc.). Generally, the range of artifact types present, the specific classes of artifact, and the richness of artifact types and by proxy the richness of activities that took place at a site are all indicators of site function. Understanding the function of individual sites can facilitate a greater understanding of cultural practices by evaluating the role of a site within a regional landscape pattern.

Such data can also shed light on subsistence practices through time. Geographic analysis of subsistence information and site location can help us better understand settlement choices of prehistoric people relative to the natural environment.

The following questions regarding subsistence and settlement are proposed to be addressed in the research design:

- *Do artifacts and features present in the site's assemblage reveal its function? If present, do the characteristics of the subsurface component of the site vary from those of the surface component sufficiently to change our interpretation of the site's function and history?*
- *What was the subsistence economy reflected in the site assemblage and did it change through time?*
- *What types of flaked stone artifacts are present at the site and what cultural activities do these artifact types represent? Can use wear patterns on formal tools or flakes be analyzed to reveal what types of resources or activities they were used for?*

### *Data Requirements*

Analysis of temporally diagnostic artifacts and materials, extra-local artifacts would provide data to help resolve subsistence and settlement questions. Extralocal materials such as obsidian can be sourced and thereby shed light on mobility practices. Recovery of botanical remains and protein residue analysis of flaked and ground stone artifacts can also shed light on diet and subsistence practices. Usewear analysis of flaked stone tools can reveal the specific resource processing for which they were used.

## 3.2 MANAGEMENT CONSIDERATIONS

A fundamental purpose of archaeological investigations conducted on behalf of the Project is to provide information necessary for agencies to determine impacts, if any, and appropriate cultural resource management practices. In the case of sites within the Project DE-APE, the primary considerations in making these determinations concern whether or not a site can be placed within a timeframe meaningful to prehistoric or historic interpretation, whether or not the site has the potential to yield additional data, and whether or not the site has the potential to yield unique data. Based on the results of the intensive pedestrian survey, it is clear that the area was used as a resource for procurement of raw flaked stone and groundstone materials. It also seems likely that, perhaps to a lesser degree, foodstuffs and other raw materials were collected within the Project area as well. However, in a region where hundreds upon hundreds of virtually identical sites occur (e.g., those sites with lithic scatters, cobble tests, and little evidence of a wider range of activities), the data potential of a single site may not be sufficient to warrant eligibility. For a site to be eligible, it not only has to have the potential to provide additional data, but that data must have the potential to alter or improve our understanding of prehistory or history.

# SECTION 4 FIELD AND ANALYTICAL METHODS

## 4.1 FIELD METHODS

In order to collect the data necessary to address the research questions identified in Section 3, this Plan provides a refined list of sites based on design changes and a thorough review of the resources (Attachment A). These tables include the following: sites that are now out of the DE-APE (Table 1), sites that are within the DE-APE (Table 2), and those sites within the DE-APE that URS recommends for testing (Table 3).

In the June 28, 2012 letter, the CEC recommended that154 prehistoric archaeological sites be tested. This list represented sites that had the potential to be directly impacted and was derived from the complete list of sites located in the DE-APE at that time. Based on the revised project design, many of those sites are no longer subject to direct impact. There are now 81sites within the DE-APE based on the revised project layout design included (Attachment A, Table 2). Of these 81 sites within the DE-APE, URS has reviewed each site record and identified those that do not warrant testing in the Plan (e.g., trails and historic sites), as well as refined the list by closely inspecting sites that have potential to yield additional data through test excavations and/or artifact analysis. Many sites initially listed included very low distribution lithic scatters that based on the field notes regarding the site condition, landform characteristics, and overall low, widely dispersed artifacts indicate little likelihood to provide any additional meaningful data. For this reason 16 sites were selected for testing because these sites have potential to yield additional data based on site condition, landform characteristics, and constituents reported (Attachment A, Table 3). Therefore these 16 sites are recommended for testing following the fieldwork procedures and techniques described further below.

### *Fieldwork will employ the following procedures and techniques*

Ceramic scatters selected for testing will be accurately mapped using Trimble GeoXH GPS units or the equivalent and plan view photographs will be taken of the scatter prior to collection for further laboratory analysis. Such analysis may include refitting if possible and microscopic analysis of slip, clay, and temper used. Macro analysis may include inspection and identification of manufacturing techniques and any decorative characteristics.

At thermal cobble features selected for testing, plan view photographs of the unit surface will be taken prior to excavation. A 50x50 centimeter test unit will be judgmentally placed within the feature and another will be placed adjacent to the feature. The GPS location of each unit, at the southwest corner will be recorded as datum, using Trimble GeoXH GPS units or the equivalent. All artifacts present on the surface will be collected for further analysis. After that, each unit will be excavated in appropriate arbitrary levels to the depth of hardpan, expected to be 10-15 centimeters below surface. Should hardpan not be encountered at that depth, excavation will be continued until at least 20 centimeters of soil free from cultural materials has been excavated. All excavated soils will be dry screened through three-millimeter (1/8 inch) mesh and all artifacts will be bagged, labeled according to provenience, and collected for laboratory analysis. If organic materials are encountered, samples will be collected of sufficient size to be analyzed by C14, AMS, or flotation, as appropriate, and field curated according to accepted standards.

At each cobble pavement quarry locus identified for testing, a single 2x2 meter test unit will be judgmentally placed within the area of greatest apparent concentration of artifacts visible on the surface. The GPS location of each unit, at the southwest corner will be recorded as datum, using Trimble GeoXH GPS units or the equivalent. Plan view photographs of the unit surface will be taken prior to excavation. All artifacts present on the surface will be collected for further analysis. After that, the entire two by two meter unit will be excavated in a single arbitrary level to the depth of hardpan, expected to be 10-15 centimeters below surface. Should hardpan not be encountered at that depth, excavation will be continued until at least 20 centimeters of soil free from cultural materials has been excavated. All excavated soils will be dry screened through three-millimeter (1/8 inch) mesh and all artifacts will be bagged, labeled according to provenience, and collected for laboratory analysis.

# SECTION 5 CONCLUSIONS REMARKS

The field and analytical methods presented here provide an outline of the fundamental structure of proposed archeological testing and analysis. The design of this Plan is intended to assure that data collected will be adequate to address the research questions proposed and to facilitate comparison between the resulting dataset and those collected during research efforts at similar sites within the Colorado and Mojave Deserts. In addition, this Plan is also intended to yield testing data sufficient to provide recommendations regarding the potential CRHR and NRHP eligibility and future management of sites within the DE-APE. Finally, URS will work in direct consultation with BLM and CEC Staff archaeologists regarding the results of field and laboratory work. Should methodological (field and/or laboratory) adjustments be needed URS will coordinate directly with the BLM and CEC archaeologists to obtain input and approval prior to implementing any changes.

# SECTION 6 TECHNICAL REPORT

A report describing the results of the archaeological field study will be produced. This report will include the following: mapping of the locations of sites included in the study (map scale of ≥1:12,000); maps and descriptions of all excavated sample unit locations; graphic and written descriptions of archaeological deposits and stratigraphic profiles of each excavation unit; quantification of artifacts according to a classification scheme with sufficient resolution to facilitate meaningful analysis of the resulting datasets; DPR 523 forms; and descriptions and preliminary interpretations of any encountered archaeological deposits. Formal reporting of radiocarbon analysis results will be included as an appendix. The report will also provide the following: an interpretation of the character of the prehistoric or historic land use that each encountered archaeological deposit represents; an interpretation, with reference to the information gathered and developed above, of the likelihood that buried archaeological deposits are present in similarly classified sites. Finally, the report will assess the eligibility of the sites for the NRHP and CHHR, and will provide recommendations for appropriate mitigation, including avoidance, when possible, and with the historic preservation goal of recovering valid scientific data from NRHP/CRHR-eligible archaeological deposits whose destruction cannot be avoided.

# SECTION 7 PROJECT PERSONNEL AND MANAGEMENT

All cultural resources work will be carried out under the direct supervision of archaeologists who meet the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation, and will be consistent with the procedures for compliance with NEPA, Section 106 of the NHPA, and CEQA Section 15064.5. All decisions on level of effort or discretionary actions described in this Plan will be approved by BLM/CEC prior to implementation.

The key cultural resources personnel who will conduct the study and prepare the technical report are:

- Arleen Garcia-Herbst, C.Phil., RPA (URS Prehistoric Archaeologist)
- Rachael Nixon, M.A., RPA (URS Principal Investigator/Prehistoric Archaeologist)
- Mark Neal, M.A., RPA (URS Prehistoric/Historical Archaeologist)
- Sarah Mattiussi, B.A. (URS Prehistoric Archaeologist)
- Dustin Kay, B.A. (URS Prehistoric/Historical Archaeologist)

# SECTION 8 REFERENCES

Apple, R. et al.

2010. Cultural Resources Monitoring and Mitigation Plan for the Blythe Solar Power Project Riverside County, California. Prepared for the California Energy Commission, Sacramento, California.

Barker, J. P.

1976. Ethnographic Sketch of the Yuha Desert Region. In *Background to Prehistory of the Yuha Desert Region,* edited by P. J. Wilke, pp. 21–41. Ballena Press, Ramona, California.

Bean, L. J., J. Schaefer, and S. Vane.

1995. *Archaeological, Ethnographic and Ethnohistoric Investigations at Tahquitz Canyon, Palm Springs, California.* Cultural Systems Research Inc. Submitted to Riverside County Flood Control and Water Conservation District.

California Energy Commission.

1992. *Instructions to the California Energy Commission Staff for the Review of and Information Requirements for an Application for Certification.*

2007a. *Regulations Pertaining to the Rules of Practice and Procedure and Power Plant Site Certification.*

2007b. *Rules of Practice and Procedure and Power Plant Site Regulations Revisions.*

Cleland, J.H. and R. McC. Apple.

2003. *A View Across the Cultural Landscape of the Lower Colorado Desert: Cultural Resource Investigations for the North Baja Pipeline Project.* Copies available from EDAW: San Diego, California.

Crabtree, R. H.

1981. Archaeology. In E. von Till Warren, R. H. Crabtree, C. N. Warren, M. Knack, and R. McCarty, eds., *A cultural resources overview of the Colorado Desert Planning Units: 25-54*. Riverside: U.S. Bureau of Land Management, Cultural Resources Publications, Anthropology-History.

Davis, E.L.

1970. Archaeology of the North Basin of Panamint Valley, Inyo County, California. Part 3. In Five Papers on the Archaeology of the Desert West, edited by Donald R. Tuohy, Doris L. Rendall and Pamela A. Crowell, pp. 83-141. Nevada State Museum Anthropological Papers No. 15.

1979. Phase 3: Purposive Inventory of Six Dry Lakes. In Westec Services, Inc. Class II Cultural Resource Inventory Report for the Turtle Mountains, Bristol/ Cadiz and Palen Planning Units, California Desert. Vol. 1.

Fagan, Brian.

2003. *Before California: An Archaeologist Looks at Our Earliest Inhabitants*. Altamira Press, Walnut Creek, California.

Giambastiani, M. A.

2004. *An Evaluation of Nine Prehistoric Toolstone Quarries in the Quackenbush Training Area, Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California*. Report submitted to Northland Research, Inc., Flagstaff, Arizona.

2006. *Research Design for the Evaluation of 43 Archaeological Sites and 26 Archaeological Sites in the Quackenbush Training Area, Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms, California.* Prepared for the Marine Air Ground Task Force Training Command Natural Resources and Environmental Affairs Directorate, Twentynine Palms, California.

2009. Understanding Pavement Quarries in the Mojave Desert. In *Avocados to Millingstones: Papers in Honor of Delbert L. True*, edited by G.Waugh and M.E. Basgall. Monographs in California and Great Basin Anthropology No.3

Giambastiani, M. A., and M. E. Basgall

1999. *An Evaluation of Eighteen Archaeological Sites at Wood Canyon, Quackenbush Lake Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California*. Report on file, U.S. Army Corps of Engineers, Sacramento, California.

Harvey, A.M. and S.G. Wells.

2003. Late Quaternary Variations in Alluvial Fan Sedimentologic and Geomorphic Processes, Soda Lake Basin, Eastern Mojave Desert, California. In Paleoenvironments and Paleohydrology of the Mojave and Southern Great Basin Deserts, Edited by Yehouda Enzel, Stephen G. Wells, and Nicholas Lancaster, pp. 207-230. Geological Society of America Special Paper 368. Boulder, Colorado.

Helms, J. G., S.F. McGill, and T.K. Rockwell

2003. Calibrated, Late Quaternary Indices Using Clast Rubification and Soil Development on Alluvial Surfaces in Pilot Knob Valley, Mojave Desert, Southeastern California. *Quaternary Research 60:377-393.*

Hunt, A.

1960. Archaeology of the Death Valley Salt Pan, California. *Anthropological Papers of the University of Utah*, No. 47. Salt Lake City.

Jorgensen, Joseph G.

1980. *Western Indians: Comparative Environments, Languages and Cultures of 172 Western Indian Tribes*. W.H. Freeman. San Francisco, CA.

Justice, N.D.

2002. *Stone Age Spear and Arrow Points of California and the Great Basin*. Indiana University Press. Bloomington and Indianapolis.

Knack, M.C.

1980. *Life is with People: Household Organization of the Contemporary Southern Paiute Indians*. Ballena Press Anthropological Papers No.19. Socorro, New Mexico.

Laylander D. and J. Schaefer

2010. *Chuckwalla Valley Prehistoric Trails Network Cultural Landscape: Historic Context, Research Questions, and Resource Evaluation Criteria (*DRAFT). Contributions by L. J. Bean and J. Toenjes. Prepared for the California Energy Commission.

Little, B., E.M. Seibert, J. Townsend, J.H. Sprinkle, and J. Knoerl

2000. *Guidelines for Evaluating and Registering Archaeological Properties.* National Register Bulletin 36, U.S. Department of the Interior, National Park Service.

Liu, T

2003. *Blind testing of rock varnish microstratigraphy as a chronometric indicator: results on late Quaternary lava flows in the Mojave Desert, California*. Geomorphology 53:209-234.

Liu, T and W. Broeker

2000. *How Fast Does Rock Varnish Grow?* Geology 28(2):183-186.

Love, B. and M. Dahdul.

2002. Desert Chronologies and the Archaic Period in the Coachella Valley. *Pacific Coast Archaeology Society Quarterly*

McCarthy, Daniel F.

1982. The Coco-Maricopa Trail Network. In *Cultural Resource Inventory and National Register Assessment of the Southern California Edison Palo Verde to Devers Transmission Line Corridor (California Portion)*, by Richard L. Carrico, Dennis K. Quillen, and Dennis R. Gallegos, Appendix C. WESTEC Services, San Diego. Prepared for Southern California Edison.

1993. *Prehistoric Land-Use at McCoy Spring: An Arid-Land Oasis in Eastern Riverside County, California*. Unpublished Master's thesis, Department of Anthropology, University of California, Riverside.

McDonald, A.

1992. *Indian Hill Rockshelter and Aboriginal Cultural Adaptation in Anza-Borrego Desert State Park, Southeastern California*. Unpublished Ph.D. dissertation, University of California, Riverside.

McDonald, E.V., L.D. McFadden, and S.G. Wells.

2003. Regional Response of Alluvial Fans to the Pleistocene-Holocene Climatic Transition, Mojave Desert, California. In *Paleoenvironments and Paleohydrology of the Mojave and Southern Great Basin Deserts*, Edited by Yehouda Enzel, Stephen G. Wells, and Nicholas Lancaster, pp. 189-205. Boulder, Colorado.

Moratto, Michael.

1984. *California Archaeology*. Academic Press, San Diego.

Nixon, Rachael A., Kirsten Erickson, Brian Glenn, Gary Fink, Jay Rehor, Mark Neal, Kimberly Maeyama, and Sarah Mattiussi.

2010. *Final Class III Cultural Resources Technical Report for the Calico Solar Project, San Bernardino, California*, URS Corporation, San Diego, CA.

Nixon, Rachael A., Arleen Garcia-Herbst, Jay Rehor, Melanie Lytle, Kimberly Maeyama, Mark Neal, and Sarah Mattiussi

2011. *Cultural Resources Technical Report for the Rio Mesa Electric Generating Facility, Riverside County, California*, URS Corporation, San Diego, CA.

Parry, W.J., and R.L. Kelly.

1987. Expedient Core Technology and Sedentism. *The Organization of Core Technology*. Westview Press, Boulder.

Pendleton, Lorann.

1986. *The Archaeology of the Picacho Basin, Southeast California*. Wirth Environmental Services, San Diego.

Rehor, Jay.

2011. *Geoarchaeological Sensitivity Analysis Rio Mesa Solar Generating Electric Facility Project, Riverside County, California*, URS Corporation, Oakland, CA.

Rogers, Malcom J.

1945. An Outline of Yuman Prehistory. *Southwestern Journal of Anthropology. 1:167-198.*

Schaefer, Jerry.

1994. The Challenge of Archaeological Research in the Colorado Desert: Recent Approaches and Discoveries. *Journal of California and Great Basin Anthropology* 16(1):60-80.

2003 A Class II Cultural Resources Assessment for the Desert-Southwest Transmission Line, Colorado Desert, Riverside and Imperial Counties, California. ASM Affiliates, Inc. Submitted to the Bureau of Land Management.

Schaefer, Jerry and Don Laylander.

2007. The Colorado Desert: Ancient Adaptations to Wetlands and Wastelands. *In California Prehistory: Colonization, Culture, and Complexity*. Terry L. Jones and Kathryn A. Klar general editors. Altamira Press: Lanham, Maryland.

Shott, M.Q.

1986. Technological Organization and Settlement Mobility: an Ethnographic Examination. *Journal of Anthropological Research* 42 (1):63-66.

Weide, M. L.

1976. A Cultural Sequence for the Yuha Desert. In *Background to Prehistory of the Yuha Desert* Region, edited by P. J. Wilke, pp. 81–94. Ballena Press, Ramona, California.

Wilke, P. J., and A. B. Schroth

1989. Lithic Raw Material Prospects in the Mojave Desert, California. *Journal of California and Great Basin Anthropology* 11(2):146-174.

Table 1

Sites Out of the DE-APE

**Table 1**
**Sites Out of DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Rational RE: testing/no testing |
|---|---|---|---|---|---|---|
| CA-RIV-10068 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| CA-RIV-10072 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| CA-RIV-10073 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| CA-RIV-1095;P33-001095 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| CA-RIV-1820; P33-001820 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| CA-RIV-1822; P33-001822 | Qa6, Qpv | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| CA-RIV-6538; P33-010825 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| CA-RIV-6539; P33-010826 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| CA-RIV-6594; P33-010881 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| CA-RIV-6596; P33-010882 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |

**Table 1**
**Sites Out of DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Rational RE: testing/no testing |
|---|---|---|---|---|---|---|
| CA-RIV-6614; P33-010900 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| CA-RIV-6615; P33-010901 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| CA-RIV-6616; P33-010903 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| CA-RIV-6677 | Qa6, Qpv | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| P33-013672 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| P33-017952 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-CB-021 | Qa6, Qpv | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-CB-033 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-CB-035 | Qa6, Qw | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-CB-044 | Qa6, Qw | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |

**Table 1**
**Sites Out of DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Rational RE: testing/no testing |
|---|---|---|---|---|---|---|
| PVM-DK-027 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-JR-038 | Qa6, Qpv | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-JR-057 | Qa3, Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-JR-060 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-JR-062 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-JR-063 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MK-003 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MK-056 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MK-060 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MK-061 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |

**Table 1**
**Sites Out of DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Rational RE: testing/no testing |
|---|---|---|---|---|---|---|
| PVM-MK-066 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MK-097 | Qm, Qpv | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MN-069 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MN-075 | TRqm, Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MN-077 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MN-080 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MN-092 | TRqm, Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MN-096 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MN-097 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MN-108 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |

**Table 1**
**Sites Out of DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Rational RE: testing/no testing |
|---|---|---|---|---|---|---|
| PVM-MN-127 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MN-141 | Qa6, Qpv | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-MN-156 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-PM-001 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-PM-002 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-PM-003 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-PM-004 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-PM-114 | Qm, Qpv | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-PM-115 | Qm, Qpv | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-PM-166 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |

**Table 1**
**Sites Out of DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Rational RE: testing/no testing |
|---|---|---|---|---|---|---|
| PVM-SM-020 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-SM-024 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-SM-027 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-SM-053 | Qa3 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-SM-084 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |
| PVM-SM-087 | Qa6 | OUT | None | Test | N/A | Outside the Area of Disturbance (Direct Effect) |

Table 2
Sites Within the DE-APE

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| CA-RIV-1488; P33-001488 | Qa3 | IN | None | Test | No Testing | N/A | N/A | Site was not relocated. The only reported URS cultural resource found near this site boundary is PVM-MN-112 which is interpreted to be a historic rock cairn. No prehistoric materials were found within this site boundary during survey. |
| CA-RIV-1745; P33-001745/PVM-CB-028 | Qa6 | IN | None | Test | Test | Lithic Scatter, Cobble Pavement Quarry, Cremation and Human Remains, Ceramic Scatter Pot Drop, Prehistoric Thermal Cobble Feature. | 35 artifacts/614 sq meters | Due to the geology there is an increased potential that this site could produce subsurface materials, additionally ceramic analysis could potentially yield additional data regarding the type of ware; therefore, additional testing and/or analysis is recommended to assess if this site has the potential to yield additional data. |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| CA-RIV-1748; P33-001748/CA-RIV-1752; P33-001752 - SITES WERE COMBINED DURING 2011 SURVEY/UPDATE | Qa3, QTmw | IN | None | Test | Test | Lithic Scatter, Cobble Pavement Quarry, Ground Stone Quarry, Ground Stone Scatter, Ceramic Scatter Pot Drop, Prehistoric Thermal Cobble Feature, Cleared Circles, | 25,750 artifacts (historic and prehistoric)/9,071, 559 sq meters | Due to the geology there is an increased potential that this site could produce subsurface materials, additionally ceramic analysis could potentially yield additional data regarding the type of ware; therefore, additional testing and/or analysis is recommended to assess if this site has the potential to yield additional data and provided Criterion D/4 eligibility recommendations |
| CA-RIV-1752; P33-001752 - SEE CA-RIV-1748, This site is part of CA-RIV-1748 Update – Refer to that record. | Qa6 | IN | None | Test | N/A - SEE CA-RIV-1748 | REFER TO CA-RIV-1748 | REFER TO CA-RIV-1748 | REFER TO CA-RIV-1748 |
| CA-RIV-1819; P33-001819 | Qa3, Qa6 | IN | Determined as ineligible for listing on NRHP, Status Code 6Y2 (2009) | Test | No Testing | Lithic Scatter | 312 artifacts (historic and prehistoric)/3,708 Sq meters | URS concurs with previous determination that this site is not eligible and therefore, no subsurface testing is recommended. |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| CA-RIV-6613; P33-010899/PVM-MN-120 | TRqm, Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic scatter, rock features/cleared Circles | 419 artifacts (historic and prehistoric)/27,210 sq meters | Due to the presence of ceramics and rock features additional data may be possible through subsurface testing and/or artifact analysis, however there is very little potential for subsurface deposits based on the geomorphology (active wash and lower alluvial fan piedmont). |
| PVM-CB-006 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 30 artifacts/887 sq meters | Based on the condition of this site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed, there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-CB-008 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 14 artifacts/63 sq meters | Based on the condition of this site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed, there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-CB-028 | Qa6, Qpv | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter, Prehistoric Thermal Cobble Feature | 6,576 artifacts/143,870 sq meters | Due to the presence of ceramics and thermal cobble features additional data may be possible through subsurface testing and/or artifact analysis, however there is very little potential for subsurface deposits based on the geomorphology (Colorado River terrace and lower alluvial fan piedmont). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-CB-030 | Qa6, Qpv, Qw | IN | None | Test | Test | Lithic Scatter | 3,020 artifacts (historic and prehistoric)/186,614 sq meters | Due to the high presence of lithic reduction localities present on this site additional data may be possible through subsurface testing and/or artifacts analysis; however there is very little potential for subsurface deposits based on the geomorphology (Colorado River terrace, active wash and lower alluvial fan piedmont). |
| PVM-DK-003 | Qa6, Qpv | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 12,370 artifacts (historic and prehistoric)/1,292,020 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |
| PVM-DK-047 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 112 artifacts/199 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-EK-030 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 23 artifacts/14 sq meters | Based on the condition of this site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed, there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-EK-031 | Qa3 | IN | None | Test | No Testing | Lithic Scatter | 15 artifacts/421 sq meters | Based on the sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-EK-035 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 5 artifacts/355 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-EK-036 | Qa5 | IN | None | Test | No Testing | Lithic Scatter | 26 artifacts/286 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-EK-038 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 11 artifacts/401 sq meters | Based on the sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-EK-040 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 437 artifacts (historic and prehistoric)/20,892 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-EK-043 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 4 artifacts/44 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-EK-046 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 77 artifacts/588 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-EK-053 | Qa3, Qa6 | IN | None | Test | No Testing | Lithic Scatter | 10 artifacts/2,423 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-EK-058 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 6 artifacts/35 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-JR-001 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 44 artifacts/474 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |
| PVM-JR-005 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 10 artifacts/39.4 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-JR-007 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 8 artifacts/97.6 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-JR-008 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 15 artifacts/648 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |
| PVM-JR-012 | Qa3, Qa6, Qw | IN | None | Test | Test | Lithic Scatter | 1,032 artifacts (historic and prehistoric)/93,325 sq meters | Due to the high presence of lithic reduction localities present on this site additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-JR-015 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 18 artifacts/953 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-JR-016 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 27 artifacts/1,968 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-JR-018 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 4 artifacts/30 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-JR-019 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 7 artifacts/86 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-JR-020 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 19 artifacts/464 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-JR-026 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 1,487 artifacts (historic and prehistoric)/72,576 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis, however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont and active wash). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-JR-029 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 15 artifacts/127 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-MK-021 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 21 artifacts/720 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-MK-022 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 7 artifacts/229 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-MK-023 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 10 artifacts/32 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-MK-024 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 86 artifacts/2,535 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-MK-025 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 10 artifacts/123 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-MN-002 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 60 artifacts/17,944 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-MN-004 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 88 artifacts (historic and prehistoric)/3,474 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-MN-013 | Qa6 | IN | None | Test | No Testing | Lithic Scatter, Ceramic Scatter | 59 artifacts (historic and prehistoric)/82,925 sq feet | Based on the condition of the site, sparsely and widely distributed cultural constituents (1 artifact per 4,142 sq feet) of which only three are isolated prehistoric artifacts (one lithic flake, one tested cobble and one ceramic sherd), as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-MN-015 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 26 artifacts/402 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-MN-016 | Qa6, Qw | IN | None | Test | No Testing | Lithic Scatter | 46 artifacts (historic and prehistoric)/17,040 sq meters | Based on the condition of the site, sparsely and widely distributed cultural constituents of which only 5 are isolated prehistoric artifacts (three flakes and two tested cobbles), as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-MN-031 | Qa6 | IN | None | Test | No Testing | Lithic Scatter, Ceramic Scatter | 167 artifacts (historic and prehistoric)/16,508 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage and ceramic sherds, as well as in field geomorphological characteristics observed (the majority of the site is located on the lower alluvial fan piedmont and a small portions is located on the Colorado River terrace), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-MN-034 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 51 artifacts (historic and prehistoric)/253 sq meters | Based on the condition of the site, sparsely and widely distributed cultural constituents of which only one is an isolated prehistoric flake, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-MN-035 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 9 artifacts/ 332 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-MN-036 | Qa6 | IN | None | Test | No Testing | Ceramic Scatter | 49 artifacts (historic and prehistoric)/8,452 sq meters | Based on the condition of the site, sparsely and widely distributed cultural constituents of which only four are prehistoric artifacts (four ceramic sherds), as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-MN-039 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 7 artifacts/ 5 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-MN-060 | Qa3 | IN | None | Test | No Testing | Lithic Scatter | 66 artifacts (historic and prehistoric)/1,585 sq meters | Based on the condition of the site, sparsely and widely distributed cultural constituents of which only one is an isolated prehistoric artifact, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-MN-062 | Qa3 | IN | None | Test | No Testing | Lithic Scatter | 11 artifacts/78 sq meters | Based on the condition of the site, sparsely and widely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-MN-074 | Qa3 | IN | None | Test | No Testing | Lithic Scatter | 9 artifacts/8 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont and rock outcrops), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-MN-098 | Qa3 | IN | None | Test | No Testing | Lithic Scatter | 4 artifacts/40 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-MN-099 | Qa3 | IN | None | Test | No Testing | Lithic Scatter | 4 artifacts/ 3 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-MN-100 | Qa3, QTmw | IN | None | Test | No Testing | Lithic Scatter | 1,172 artifacts/13,298 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on a relict Colorado River terrace), there is no likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-MN-101 | Qa3 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 120 artifacts/408 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (active wash). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-MN-124 | Qa6 | IN | None | Test | No testing | Lithic Scatter | 149 artifacts/6,756 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-MN-133 | Qa6, Qpv | IN | None | Test | Test | Lithic Scatter, Ground Stone Scatter | 13 artifacts/1 sq meter | Due to the presence of ground stone additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (Colorado River terrace and lower alluvial fan piedmont). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-PM-023 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 100 artifacts/2,810 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-PM-024 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 19 artifacts/914 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-PM-025 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 62 artifacts/718 sq meters | Based on the sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-PM-026 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 10 artifacts/653 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-PM-027 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 50 artifacts/3,646 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-PM-064 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 12 artifacts/204 sq meters | Based on the sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-PM-066 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 6 artifacts/877 sq meters | Based on the sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (the majority of the site is located on the lower alluvial fan piedmont and the rest on the Colorado River terrace), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-PM-069 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 5 artifacts/112 sq meters | Based on the sparsely distributed lithics, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-SM-011 | Qa6 | IN | None | Test | N/A | N/A | N/A | Historic Refuse, no prehistoric component |
| PVM-SM-019 | Qa3 | IN | None | Test | No Testing | Lithic Scatter | 168 artifacts/806 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-SM-023 | Qa3 | IN | None | Test | No Testing | Lithic Scatter | 23 artifacts/168 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-SM-028 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 7 artifacts/9 sq meters | Based on the sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-SM-032 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 11 artifacts/264 sq meters | Based on the sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-SM-037 | Qa5 | IN | None | Test | No Testing | Lithic Scatter | 63 artifacts/39 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-SM-054 | Qa5 | IN | None | Test | No Testing | Lithic Scatter | 29 artifacts/2,568 sq meters | Based on the sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-SM-058 | Qa5 | IN | None | Test | No Testing | Lithic Scatter | 13 artifacts/86 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-SM-060 | Qa5 | IN | None | Test | Test | Lithic Scatter, Ground Stone Scatter, Ceramic Scatter | 4,031 artifacts (historic and prehistoric)/256,248 sq meters | Due to the presence of ground stone and ceramics additional data may be possible through subsurface testing and/or artifact analysis, however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-SM-061 | Qa5 | IN | None | Test | No Testing | Lithic Scatter | 39 artifacts/670 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-SM-071 | Qa6 | IN | None | Test | No Testing | Lithic Scatter | 71 artifacts (historic and prehistoric)/1,257 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-SM-075 | Qa3 | IN | None | Test | No Testing | Lithic Scatter | 84 artifacts/847 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-SM-076 | Qa3 | IN | None | Test | No Testing | Lithic Scatter | 78 artifacts/113 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

**Table 2**
**Sites Within the DE-APE**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-SM-077 | Qa3 | IN | None | Test | No Testing | Lithic Scatter | 30 artifacts/177 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |
| PVM-SM-079 | Qa3 | IN | None | Test | No Testing | Lithic Scatter | 93 artifacts/2,678 sq meters | Based on the condition of the site, sparsely distributed lithic debitage, as well as in field geomorphological characteristics observed (site is located on the lower alluvial fan piedmont), there is little likelihood of buried archaeological remains in situ at this site/location. Therefore, the site is not likely to yield information important to the prehistory or history of the nation or California (Criterion D/4). |

Table 3
Sites URS Recommends for Testing

**Table 3**
**Sites URS Recommends for Testing**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| CA-RIV-1745; P33-001745/ PVM-CB-028 | Qa6 | IN | None | Test | Test | Lithic Scatter, Cobble Pavement Quarry, Cremation and Human Remains, Ceramic Scatter Pot Drop, Prehistoric Thermal Cobble Feature. | 35 artifacts/614 sq meters | Due to the geology there is an increased potential that this site could produce subsurface materials, additionally ceramic analysis could potentially yield additional data regarding the type of ware; therefore, additional testing and/or analysis is recommended to assess if this site has the potential to yield additional data |
| CA-RIV-6613; P33-010899/ PVM-MN-120 | TRqm, Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic scatter, rock features/cleared Circles | 419 artifacts (historic and prehistoric)/27,210 sq meters | Due to the presence of ceramics and rock features additional data may be possible through subsurface testing and/or artifact analysis, however there is very little potential for subsurface deposits based on the geomorphology (active wash and lower alluvial fan piedmont). |

**Table 3**
**Sites URS Recommends for Testing**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-CB-028 | Qa6, Qpv | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter, Prehistoric Thermal Cobble Feature | 6,576 artifacts/143,870 sq meters | Due to the presence of ceramics and thermal cobble features additional data may be possible through subsurface testing and/or artifact analysis, however there is very little potential for subsurface deposits based on the geomorphology (Colorado River terrace and lower alluvial fan piedmont). |
| PVM-CB-030 | Qa6, Qpv, Qw | IN | None | Test | Test | Lithic Scatter | 3,020 artifacts (historic and prehistoric)/186,614 sq meters | Due to the high presence of lithic reduction localities present on this site additional data may be possible through subsurface testing and/or artifacts analysis; however there is very little potential for subsurface deposits based on the geomorphology (Colorado River terrace, active wash and lower alluvial fan piedmont). |
| PVM-DK-003 | Qa6, Qpv | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 12,370 artifacts (historic and prehistoric)/1,292,020 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |

**Table 3**
**Sites URS Recommends for Testing**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-DK-047 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 112 artifacts/199 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |
| PVM-EK-040 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 437 artifacts (historic and prehistoric)/20,892 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |
| PVM-JR-001 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 44 artifacts/474 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |

**Table 3**
**Sites URS Recommends for Testing**

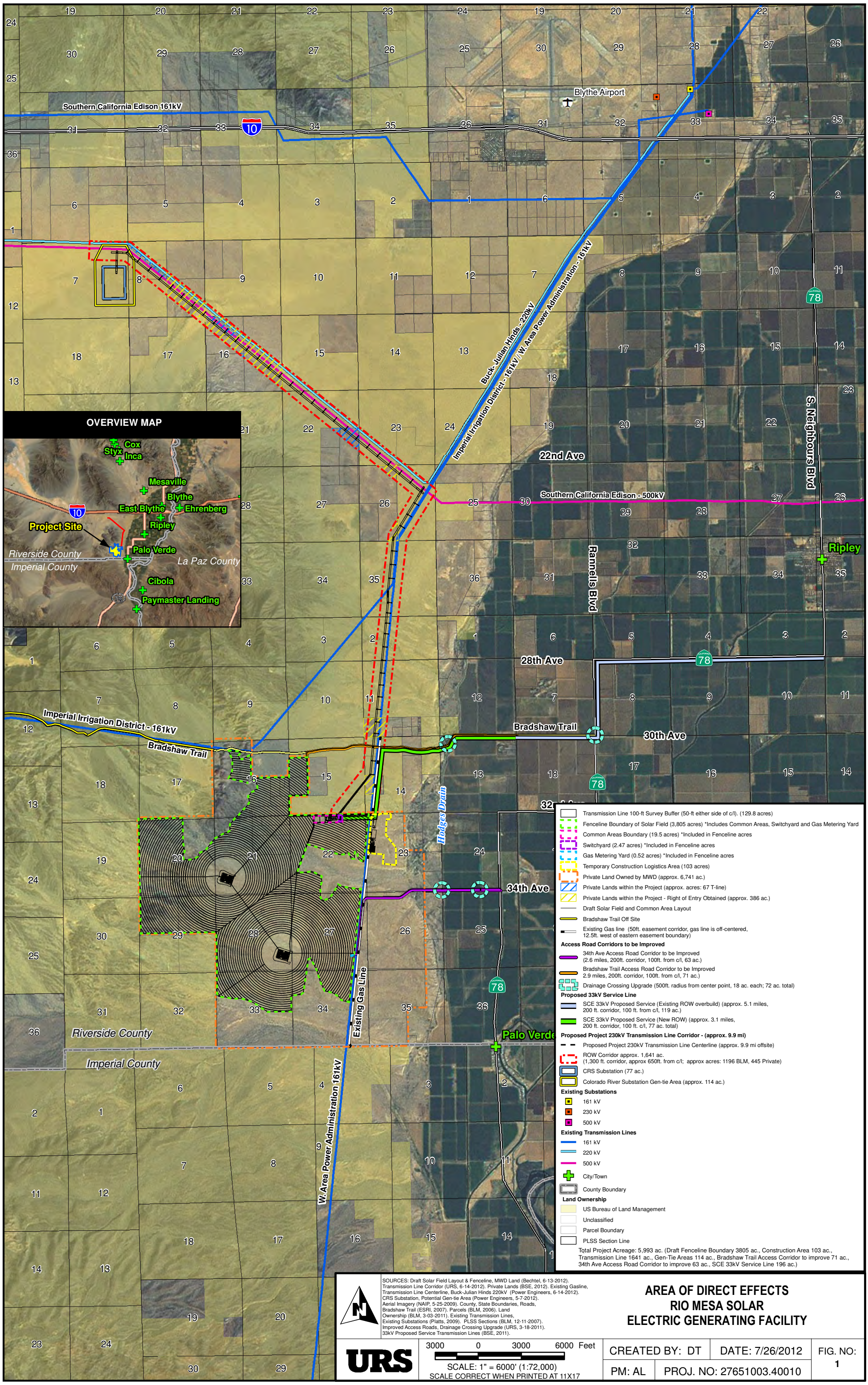
| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-JR-007 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 8 artifacts/97.6 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |
| PVM-JR-008 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 15 artifacts/648 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |
| PVM-JR-012 | Qa3, Qa6, Qw | IN | None | Test | Test | Lithic Scatter | 1,032 artifacts (historic and prehistoric)/93,325 sq meters | Due to the high presence of lithic reduction localities present on this site additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |

**Table 3**
**Sites URS Recommends for Testing**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-JR-026 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 1,487 artifacts (historic and prehistoric)/72,576 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis, however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont and active wash). |
| PVM-MN-015 | Qa6 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 26 artifacts/402 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |
| PVM-MN-101 | Qa3 | IN | None | Test | Test | Lithic Scatter, Ceramic Scatter | 120 artifacts/408 sq meters | Due to the presence of ceramics additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (active wash). |

**Table 3**
**Sites URS Recommends for Testing**

| Resource Identifier | Geological Context | Disturbance Area (IN, OUT, or N/A) | Section 106/CEQA Eligibility Previous Determinations | CEC Testing Recommendations | URS Testing Recommendations | URS Site Type/Taxonomy | Total Prehistoric Artifact Count/Sq Meters | URS Comments |
|---|---|---|---|---|---|---|---|---|
| PVM-MN-133 | Qa6, Qpv | IN | None | Test | Test | Lithic Scatter, Ground Stone Scatter | 13 artifacts/1 sq meter | Due to the presence of ground stone additional data may be possible through subsurface testing and/or artifact analysis; however there is very little potential for subsurface deposits based on the geomorphology (Colorado River terrace and lower alluvial fan piedmont). |
| PVM-SM-060 | Qa5 | IN | None | Test | Test | Lithic Scatter, Ground Stone Scatter, Ceramic Scatter | 4,031 artifacts (historic and prehistoric)/256,248 sq meters | Due to the presence of ground stone and ceramics additional data may be possible through subsurface testing and/or artifact analysis, however there is very little potential for subsurface deposits based on the geomorphology (lower alluvial fan piedmont). |




# AREA OF DIRECT EFFECTS
# RIO MESA SOLAR
# ELECTRIC GENERATING FACILITY

| CREATED BY: DT | DATE: 7/26/2012 | FIG. NO: 1 |
|---|---|---|
| PM: AL | PROJ. NO: 27651003.40010 | |

Path: \\S082-GIS-01\gis\gis\projects\V\27\27651002\map_docs\mxd\CulturalData_RequestAreaofDirectEffects_v10.mxd, david_trzeciak, 7/26/2012, 10:47:38 AM

**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT**
**COMMISSION OF THE STATE OF CALIFORNIA**
**1516 NINTH STREET, SACRAMENTO, CA 95814**
**1-800-822-6228 – WWW.ENERGY.CA.GOV**

**APPLICATION FOR CERTIFICATION**
**FOR THE *RIO MESA SOLAR***
***ELECTRIC GENERATING FACILITY***

DOCKET NO. 11-AFC-04
PROOF OF SERVICE
(Revised 7/11/12)

APPLICANTS' AGENTS

BrightSource Energy, Inc.
Todd Stewart, Senior Director
Project Development
1999 Harrison Street, Suite 2150
Oakland, CA 94612
tstewart@brightsourceenergy.com

BrightSource Energy, Inc.
Michelle Farley
1999 Harrison Street, Suite 2150
Oakland, CA 94612
mfarley@brightsourceenergy.com

BrightSource Energy, Inc.
Brad DeJean
1999 Harrison Street, Suite 2150
Oakland, CA 94612
*e-mail service preferred*
bdejean@brightsourceenergy.com

APPLICANTS' CONSULTANTS

Grenier and Associates, Inc.
Andrea Grenier
1420 E. Roseville Parkway
Suite 140-377
Roseville, CA 95661
*e-mail service preferred*
andrea@agrenier.com

URS Corporation
Angela Leiba
4225 Executive Square, Suite 1600
La Jolla, CA 92037
angela_leiba@urscorp.com

COUNSEL FOR APPLICANTS

Ellison, Schneider, & Harris
Christopher T. Ellison
Brian S. Biering
2600 Capitol Avenue, Suite 400
Sacramento, CA 95816-5905
cte@eslawfirm.com
bsb@eslawfirm.com

INTERESTED AGENCIES

Mojave Desert AQMD
Chris Anderson, Air Quality Engineer
14306 Park Avenue
Victorville, CA 92392-2310
canderson@mdaqmd.ca.gov

California ISO
*e-mail service preferred*
e-recipient@caiso.com

Bureau of Land Management
Cedric Perry
Lynnette Elser
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
cperry@blm.gov
lelser@blm.gov

Katherine Lind
Tiffany North
Office of Riverside County Counsel
County of Riverside
3960 Orange Street, Suite 500
Riverside, CA 92501
*e-mail service preferred*
klind@co.riverside.ca.us
tnorth@co.riverside.ca.us

INTERVENORS

Center for Biological Diversity
Lisa T. Belenky, Senior Attorney
351 California Street, Suite 600
San Francisco, CA 94104
*e-mail service preferred*
lbelenky@biologicaldiversity.org

Center for Biological Diversity
Ileene Anderson
Public Lands Desert Director
PMB 447, 8033 Sunset Boulevard
Los Angeles, CA 90046
*e-mail service preferred*
ianderson@biologicaldiversity.org



*indicates change

ENERGY COMMISSION – DECISIONMAKERS

CARLA PETERMAN
Commissioner and Presiding Member
carla.peterman@energy.ca.gov

KAREN DOUGLAS
Commissioner and Associate Member
*e-mail service preferred*
karen.douglas@energy.ca.gov

*Kenneth Celli
Hearing Adviser
*e-mail service preferred*
*ken.celli@energy.ca.gov

Jim Bartridge
Advisor to Presiding Member
jim.bartridge@energy.ca.gov

Galen Lemei
Advisor to Associate Member
*e-mail service preferred*
galen.lemei@energy.ca.gov

Jennifer Nelson
Advisor to Associate Member
*e-mail service preferred*
jennifer.nelson@energy.ca.gov

ENERGY COMMISSION STAFF

Pierre Martinez
Project Manager
pierre.martinez@energy.ca.gov

Lisa DeCarlo
Staff Counsel
lisa.decarlo@energy.ca.gov

Eileen Allen
Commissioners' Technical Advisor for Facility Siting
*e-mail service preferred*
eileen.allen@energy.ca.gov

ENERGY COMMISSION – PUBLIC ADVISER

Jennifer Jennings
Public Adviser's Office
*e-mail service preferred*
*publicadviser@energy.ca.gov



*indicates change

## DECLARATION OF SERVICE

I, Darin Neufeld, declare that on July 30, 2012, I served and filed a copy of the attached document Applicant's Draft Archaeological Research Design and Testing Plan Dated July 2012. This document is accompanied by the most recent Proof of Service list, located on the web page for this project at: http://www.energy.ca.gov/sitingcases/riomesa/index.html.

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit or Chief Counsel, as appropriate, in the following manner:

(*Check all that Apply*)

For service to all other parties:

_X_ Served electronically to all e-mail addresses on the Proof of Service list;

_X_ Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses NOT marked "e-mail preferred."

*AND*

For filing with the Docket Unit at the Energy Commission:

_X_ by sending electronic copies to the e-mail address below (preferred method); *OR*

____ by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

CALIFORNIA ENERGY COMMISSION – DOCKET UNIT
Attn: Docket No. 11-AFC-04
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.ca.gov

*OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:*

____ Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

California Energy Commission
Michael J. Levy, Chief Counsel
1516 Ninth Street MS-14
Sacramento, CA 95814
michael.levy@energy.ca.gov

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

Original Signed by:
Darin Neufeld



*indicates change