APPENDIX D
Cultural Resources

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TABLE 1
CULTURAL RESOURCE INVESTIGATIONS WITHIN 1 MILE OF THE PROJECT AREA

EIC Report Number (RI-)	Year	Author	Title
2	1953	Rogers, Malcolm	*Miscellaneous Field Notes – Riverside County, San Diego Museum of Man.*
92	1973	King, Thomas; George Jefferson; and Michael Gardner	*Archeological and Paleontological Impact Evaluation: American Telephone and Telegraph Company's Oklahoma City/Los Angeles "A" Cable Route, Between the Colorado River and Corona, California.*
160	1977	Greenwood, Roberta	*Archaeological Resources Survey – West Coast –Mid-Continent Pipeline Project, Long Beach to the Colorado River, Addendum.*
161	1978	Greenwood, Roberta	*Paleontological, Archaeological, Historical, and Cultural Resources – West Coast–Midwest Pipeline Project, Long Beach to Colorado River.*
220	1977	Cowan, Richard, and Kurt Wallof	*Interim Report – Fieldwork and Data Analysis: Cultural Resources Survey of the Proposed Southern California Edison Palo Verde-Devers 500 kV Power Transmission Line.*
221	1980	Russel Kaldenburg, Michael Waters, Clay Singer, Daniel McCarthy, Ken Hedges	*Cultural Resource Inventory and National Register Assessment of the Southern California Edison Palo Verde to Denvers Transmission Line Corridor (California Portion).*
222	1977	Kurt Wahoff, Richard Cowan	*Cultural Resource Survey of the Proposed Southern California Edison Palo Verde-Denvers 500 Kv Transmission Line.*
1211	1980	von Till Warren, Elizabeth, Robert Crabtree, Claude Warren, Martha Knack, and Richard McCarty	*A Cultural Resources Overview of the Colorado Desert Planning Units.*
1249	1978	Bureau of Land Management (BLM)	*California Desert Program: Archaeological Sample Unit Records for the Big Maria Planning Unit.*
1317	1974	von Werlhof, Jay, and Sherilee von Werlhof	*Archaeological Assessment of a Proposed Weigh Scale Station Along I-10, West of Blythe, California (P.M. 143.8/145/5).*
2078	1984	Wilson, Ruth	*Biological and Archaeological Survey of Two Proposed State Prison Sites, Blythe, California (Sec. 2 Cultural Resources – Archaeological Survey Only).*
2210	1986	Underwood, Jackson, James Cleland, Clyde Woods, and Rebecca Apple	*Preliminary Cultural Resources Survey Report for the US Telecom Fiber Optic Cable Project, From San Timoteo Canyon to Socorro, Texas: The California Segment.*
2481	1989	Mitchell, Mike	*An Archaeological Inventory and Evaluation of the Pebble Terraces in Riverside County, California.*
3029	1990	Padon, Beth, Scott Crownover, Jane Rosenthal, Rebecca Conard	*Cultural Resources Assessment Southern California Gas Company Proposed Line 5000, Riverside County, California.*
4005	1996	Demcak, Carol	*Report of Archaeological Survey for L.A. Cellular Site #C601, Nicholls Warm Springs, Riverside County, California.*

TABLE 1 (Continued)
CULTURAL RESOURCE INVESTIGATIONS WITHIN 1 MILE OF THE PROJECT AREA

EIC Report Number (RI-)	Year	Author	Title
4061	1998	McDonald, Meg, and Jerry Schaefer	*Cultural Resources Inventory of 1,542 Acres of Palo Verde Mesa and Palo Verde Valley Catellus/Bureau of Land Management Exchange Area.*
5245	2005	Schmidt, James	*Negative Archaeological Survey Report: Southern California Edison Company: Blythe-Eagle Mountain 161 kV Deteriorated Pole Replacement Project.*
6707	2006	McDougall, Dennis, Joan George, and Susan Goldberg	*Cultural Resources Surveys of Alternative Routes within California for the Proposed Devers-Palo Verde 2 Transmission Project.*
7790	2003	Schaefer, Jerry	*A Class II Cultural Resources Assessment for the Desert-Southwest Transmission Line, Colorado Desert, Riverside and Imperial Counties, California.*
8373	2009	Eckhardt, William T.	*Cultural Resources Inventory of the Proposed DPV2 Colorado River Switchyard Project Riverside County, California.*
8440	2008a	Leftwich, Brent	*Phase II Archaeological Assessment: CA-RIV-8953.*
8439	2008b	Leftwich, Brent	*Phase I Archaeological Assessment: Blythe Solar 1 Project.*
N/A	2010	Keller, Angela	*Cultural Resources Class III Survey Report for the Proposed Blythe Solar Power Project, Riverside County, California.*
N/A	2010	Vargas, Benjamin	*Addendum I Cultural Resources Class III Report for the Proposed Blythe Solar Power Project Riverside County, California*
N/A	2010	Tennyson, Matthew, and Rebecca Apple	*Cultural Resources Evaluation Report for Phase 1a of the Proposed Blythe Solar Power Project, Riverside County, California.*

TABLE 2
NATIVE AMERICAN CONTACT INFORMATION RECEIVED FROM THE NATIVE AMERICAN HERITAGE COMMISSION

David Roosevelt, Chairperson Cabazon Band of Mission Indians 84-245 Indio Springs Indio, CA 92203	Tim Williams, Chairperson Fort Mojave Indian Tribe 500 Merriam Ave. Needles, CA 92363	Linda Otero, Director Ahamakav Cultural Society Fort Mojave Indian Tribe PO Box 5990 Mohave Valley, AZ 86440
Joseph Hamilton, Chairman Ramona Band of Cahuilla Mission Indians PO Box 391670 Anza, CA 92539	Steven Estrada, Cultural Resources Santa Rosa Band of Mission Indians PO Box 609 Hemet, CA 92546	Patricia Tuck Tribal Historic Preservation Officer Agua Caliente Band of Cahuilla Indians 5401 Dinah Shore Drive Palm Springs, CA 92264
James Ramos, Chairperson San Manuel Band of Mission Indians 26569 Community Center Drive Highland, CA 92346	Mary Ann Green, Chairperson Augustine Band of Cahuilla Mission Indians PO Box 846 Coachella, CA 92236	Bridget Nash-Chrabascz Tribal Historic Preservation Officer Quechan Indian Nation PO Box 1899 Yuma, AZ 85366
Darrel Mike, Chairperson Twenty-Nine Palms Band of Mission Indians 46-200 Harrison Place Coachella, CA 92236	Michael Contreras Cultural Heritage Program Morongo Band of Mission Indians 12700 Pumarra Road Banning, CA 92220	Preston J. Arrow-weed Ah-Mut-Pipa Foundation PO Box 160 Bard, CA 92222
Joseph R. Benitez PO Box 1829 Indio, CA 92201	Ann Brierty Policy/Cultural Resources Department San Manuel Band of Mission Indians 26569 Community Center Drive Highland, CA 92346	Luther Salgado, Sr., Chairperson Cahuilla Band of Indians PO Box 391760 Anza, CA 92539
Charles Wood, Chairperson Chemehuevi Reservation PO Box 1976 Chemehuevi Valley, CA 92363	Diana L. Chihuahua, Vice Chairperson Torres-Martinez Desert Cahuilla Indians PO Box 1160 Thermal, CA 92274	Jill McCormick Cocopah Museum/Cultural Resources Dept. County 15th & Ave G. Sommerton, AZ 85350
George Ray Colorado River Reservation 26600 Mojave Road Parker, AZ 85344	Goldie Walker Serrano Nation of Indians PO Box 343 Patton, CA 92369	Michael Jackson, President Fort Yuma Quechan Indian Nation PO Box 1899 Yuma, AZ 85366

TABLE 3
NATIVE AMERICAN RESPONSES RECEIVED

Date	Name	Tribal Affiliation	Title	Phone	Notes/Comments
3/21/2011	Bridget Nash-Chrabascz	Quenchan Indian Nation	Tribal Historic Preservation Officer (THPO)	760-572-2423	Concerns about the cultural landscape and would like a copy of the Class III report when finished
3/31/2011 and 5/10/2011	Patricia Tuck	Agua Caliente Band of Cahuilla Indians	THPO	760-699-6907	Requested maps showing prehistoric and historic sites as well as a list of site description and eligibility status
3/15/2011	Jill McCormick	Cocopah	Tribal Archaeologist	928-530-2291 (cell)	Mailed response; no comments
4/26/2011	Goldie Walker	Serrano Nation of Indians		909-862-9883	Wishes to be notified of updates to Project and would like a copy of the Class III report
4/26/2011	Preston J. Arrow-weed	Quechan	Ah-Mut-Pipa Foundation	928-388-9456	Does not wish to participate
4/28/2011	Charles Wood or June Leivas	Chemehuevi Reservation	Chairperson	Wood: 760-858-4301 Leivas: 760-874-3052	General concerns about development in the desert

TABLE 4
ARCHAEOLOGICAL SITES IDENTIFIED WITHIN THE APE

Site Name	Site Type	NRHP Eligibility and Criteria[a]
CA-RIV-2846	Quarry	Eligible (D)
CA-RIV-3419	Lithic procurement site	Eligible (D)
CA-RIV-9510	Historic debris scatter	Not Eligible
CA-RIV-9637	Historic debris scatter	Not Eligible
CA-RIV-9641	Historic debris scatter	Not Eligible
CA-RIV-9642	Historic debris scatter	Not Eligible
CA-RIV-9643	Historic debris scatter	Not Eligible
CA-RIV-9681	Historic residential features	Not Eligible
CA-RIV-9688	Historic debris scatter	Not Eligible
CA-RIV-9696	Historic debris scatter; Historic residential structures	Not Eligible
CA-RIV-9713	Historic debris scatter	Not Eligible
CA-RIV-9714	Historic debris scatter	Not Eligible
CA-RIV-9727	Historic debris scatter	Not Eligible
CA-RIV-9729	Historic debris scatter	Not Eligible
CA-RIV-9730	Historic debris scatter; Emplacements (DTC/C-AMA)	Not Eligible
CA-RIV-9754	Lithic scatter; Historic debris scatter	Not Eligible
CA-RIV-9755	Historic debris scatter	Not Eligible
CA-RIV-9756	Historic debris scatter	Not Eligible
CA-RIV-9760	Blythe/Eagle Mountain Utility Line	Not Eligible
CA-RIV-9762	Historic debris scatter	Not Eligible
CA-RIV-9763	Historic debris scatter	Not Eligible
CA-RIV-9768	Historic debris scatter	Not Eligible
CA-RIV-9770	Historic debris scatter; Prehistoric isolates	Not Eligible
CA-RIV-9778	Lithic scatter; Historic debris scatter	Not Eligible
CA-RIV-9780	Lithic scatter; Emplacements (DTC/C-AMA)	Not Eligible
CA-RIV-9797	Lithic scatter; Historic debris scatter; Residential feature	Not Eligible
CA-RIV-9798	Lithic scatter; Emplacements (DTC/C-AMA)	Not Eligible
CA-RIV-9801	Pot drop; Historic debris scatter	Not Eligible
CA-RIV-9817	Thermal cobble feature	Unevaluated (D)[c]
CA-RIV-9819	Lithic scatter; Thermal cobble feature	Not Eligible
CA-RIV-9820	Thermal cobble feature	Unevaluated (D)[c]
CA-RIV-9821	Thermal cobble feature; Ceramic scatter	Unevaluated (D)[c]
CA-RIV-9981[b]	Transportation route	Not Eligible
CA-RIV-9982	Transportation route	Not Eligible
CA-RIV-9983	Transportation route	Not Eligible
CA-RIV-10077	Historic debris scatter	Not Eligible
MS-CC-H-001	Historic debris scatter	Not Eligible

TABLE 4 (Continued)
ARCHAEOLOGICAL SITES IDENTIFIED WITHIN THE APE

Site Name	Site Type	NRHP Eligibility[a]
MS-CC-H-002	Historic debris scatter; Emplacement (DTC/C-AMA)	Not Eligible
MS-CC-U-003	Rock feature	Not Eligible
MS-CC-U-005	Cairn	Not Eligible
MS-CC-U-006	Rock feature	Not Eligible
MS-CC-U-007	Rock feature	Not Eligible
MS-CM-H-001	Historic debris scatter	Not Eligible
MS-CM-H-002	Historic debris scatter; Prehistoric isolate	Not Eligible
MS-CM-H-004	Prehistoric artifact scatter; Emplacement (DTC/C-AMA)	Not Eligible
MS-CM-H-005	Historic debris scatter	Not Eligible
MS-CM-H-006	Historic debris scatter	Not Eligible
CA-RIV-10194	Military camp; Historic debris scatter (DTC/C-AMA)	Eligible (A, D)
MS-CM-H-010	Military camp; Historic debris scatter (DTC/C-AMA)	Not Eligible
MS-CM-H-011	Emplacements (DTC/C-AMA)	Not Eligible
MS-CM-H-012	Historic cairn	Not Eligible
MS-CM-H-013	Historic cairn	Not Eligible
MS-JS-H-001	Historic debris scatter	Not Eligible
MS-JS-M-002	Mining prospect	Not Eligible
MS-JS-H-005	Historic debris scatter	Not Eligible
MS-JS-H-006	Historic debris scatter	Not Eligible
MS-JS-H-007	Historic debris scatter	Not Eligible
MS-JS-H-008	Historic debris scatter	Not Eligible
MS-JS-H-009	Historic debris scatter	Not Eligible
MS-JS-H-010	Historic debris scatter	Not Eligible
MS-JS-H-011	Historic debris scatter	Not Eligible
MS-JS-H-012	Historic debris scatter	Not Eligible
MS-JS-H-013	Historic debris scatter	Not Eligible
MS-JS-H-014	Historic debris scatter	Not Eligible
MS-JS-H-015	Historic debris scatter	Not Eligible
MS-JS-M-018	Historic debris scatter	Not Eligible
MS-JS-H-023	Historic cairn	Not Eligible
MS-JS-H-024	Historic cairn	Not Eligible
MS-JS-P-026	Prehistoric cairn	Not Eligible
MS-JS-P-027	Lithic scatter	Not Eligible
MS-JS-H-028	Historic debris scatter	Not Eligible
MS-JS-H-029	Historic debris scatter	Not Eligible
MS-JS-H-030	Emplacements (DTC/C-AMA)	Not Eligible
CA-RIV-10222	Ceramic scatter	Eligible (D)

**TABLE 4 (Continued)
ARCHAEOLOGICAL SITES IDENTIFIED WITHIN THE APE**

Site Name	Site Type	NRHP Eligibility[a]
MS-MH-H-002	Historic debris scatter	Not Eligible
MS-MT-H-002	Historic debris scatter	Not Eligible
CA-RIV-10225	Historic debris scatter (DTC/C-AMA)	Eligible (A, D)
MS-MT-H-004	Historic camp	Not Eligible
MS-MT-H-005	Mining prospect	Not Eligible
MS-MT-P-006	Ceramic scatter	Not Eligible
CA-RIV-10240	Historic debris scatter (DTC/C-AMA)	Eligible (A, D)
MS-MT-H-008	Historic features (DTC/C-AMA)	Not Eligible
CA-RIV-10242	Historic debris scatter, Historic features (DTC/C-AMA)	Eligible (A, D)
MS-MT-H-010	Historic debris scatter (DTC/C-AMA)	Not Eligible
CA-RIV-10245	Emplacements (DTC/C-AMA)	Eligible (A, D)
CA-RIV-10246	Emplacements (DTC/C-AMA)	Eligible (A, D)
MS-MT-H-018	Historic cairn	Not Eligible
MS-MT-H-019	Historic cairn	Not Eligible

NOTES:
[a] NRHP eligibility determinations made by the BLM are pending SHPO concurrence.
[b] Resource located in private parcel in unincorporated Riverside County.
[c] These sites are being treated as NRHP-eligible and will be avoided by Project design and the imposition of management conditions.

**TABLE 5
BLM'S FINDINGS OF EFFECT**

Site Number	Site Description	Eligibility Criteria	Nature of Effect
CA-RIV-2486	Lithic procurement site	D	Avoided; No effect
CA-RIV-3419	Lithic procurement site	D	Avoided; No effect
CA-RIV-10222	Ceramic scatter	D	Not avoided; adversely affected
CA-RIV-10194	Encampment; Historic debris scatter (DTC/C-AMA)	A, D	Not avoided; adversely affected
CA-RIV-10225	Historic debris scatter (DTC/C-AMA)	A, D	Not avoided; adversely affected
CA-RIV-10240	Historic debris scatter; Historic features (DTC/C-AMA)	A, D	Not avoided; adversely affected
CA-RIV-10242	Historic debris scatter; Historic features (DTC/C-AMA)	A, D	Not avoided; adversely affected
CA-RIV-10245	Emplacements (DTC/C-AMA)	A, D	Not avoided; adversely affected
CA-RIV-10246	Emplacements (DTC/C-AMA)	A, D	Not avoided; adversely affected

APPENDIX E
Paleontological Resources

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Paleontological Resources Assessment for the McCoy Solar Energy Project, Riverside County, California

Prepared for

AECOM
and
McCoy Solar, LLC

Prepared by

SWCA Environmental Consultants
Pasadena Office

November 2011

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PALEONTOLOGICAL RESOURCES ASSESSMENT REPORT FOR THE MCCOY SOLAR ENERGY PROJECT, RIVERSIDE COUNTY, CALIFORNIA

Submitted to

AECOM
1220 Avenida Acaso
Camarillo, California 93012

Submitted by

SWCA Environmental Consultants
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November 17, 2011

Jessica L. DeBusk, SWCA Project Manager and Paleontology Lead

Cara Corsetti, Senior Paleontologist and SWCA Principal

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PROJECT SUMMARY

Purpose and Scope

SWCA Environmental Consultants (SWCA) was retained by AECOM to conduct paleontological resources management services for the McCoy Solar Energy Project (MSEP or the Project), a photovoltaic solar energy generating facility proposed to be located in unincorporated Riverside County, California, mostly on public lands administered by the U.S. Bureau of Land Management. The scope of services included 1) a comprehensive museum records search and literature review, 2) a paleontological field survey, and 3) preparation of this technical report of findings, including recommended mitigation measures.

Dates of Investigation

The museum records searches were performed in October 2011. The paleontological field survey of the Project area was performed November 7 to 10, 2011. This technical report was completed in November 2011.

Results of the Investigation

The geology near the proposed MSEP area has been mapped by Jennings (1967) at a scale of 1:250,000 and Stone (2006) at a scale of 1:100,000. A review of these published maps indicates that the proposed MSEP disturbance area is mostly underlain by Quaternary-period (2.6 million years ago [mega annum, or Ma] to present) to Tertiary-period (65.0–1.8 Ma) alluvial and fluvial deposits, including deposits dating to the Holocene epoch (less than 10,000 years before present [B.P.]) and Pleistocene epoch (2.6 Ma–10,000 years B.P.). In addition, relatively small outcrops of rocks from the Pliocene epoch (5.2–1.8 Ma) as well as the Cretaceous period (145.5–99.6 Ma) to Jurassic period (201.6–145.5 Ma) are found in the MSEP solar plant site and the Project's associated linear routes.

Museum collections records maintained by the Natural History Museum of Los Angeles County and the San Bernardino County Museum indicate that no previously recorded fossil localities exist within the Project boundaries or along the associated linear routes, nor have any fossil localities been previously recorded within 1 mile of these boundaries. However, numerous vertebrate fossil localities have been recorded throughout the region within the same or similar sedimentary deposits that occur within the Project boundaries. No significant fossil resources were discovered during the course of the field survey.

The combined results of the museum records searches and field survey indicate that geologic units underlying the Project area have a paleontological sensitivity ranging from low to high. Surficial alluvial deposits within the Project area that are of Holocene age are generally considered too young to contain fossils; however, Pleistocene age deposits occurring both at the surface and subsurface of the Project area have the potential to contain significant paleontological resources. Therefore, ground-disturbing activities associated with the development of the MSEP have the potential to impact sensitive nonrenewable paleontological resources unless proper mitigation measures are implemented.

Recommendations

SWCA recommends that a qualified paleontologist be retained to implement a paleontological resources monitoring and mitigation plan during ground disturbances related to the proposed Project. Any paleontological fieldwork occurring on lands administered by the BLM would require a Paleontological Resources Use Permit issued by the BLM state office.

Disposition of Data

This report will be filed with AECOM. A copy will be retained at SWCA, along with maps, field notes, photographs, and all other records relating to the paleontological resources assessment.

CONTENTS

FIGURES

TABLES

INTRODUCTION

This report presents the findings of a comprehensive literature review, museums records search, and field survey conducted for the McCoy Solar Energy Project (MSEP or the Project) to be located in unincorporated Riverside County, California. This study was performed in order to evaluate the paleontological sensitivity of the Project area and vicinity, assess potential Project-related impacts on paleontological resources, and provide recommendations for the management of paleontological resources during Project development. This study was conducted in accordance with the professional guidelines established by the Society of Vertebrate Paleontology (SVP) (1995) and requirements set forth by Riverside County.

Definition and Significance of Paleontological Resources

Paleontology is a multidisciplinary science that combines elements of geology, biology, chemistry, and physics in an effort to understand the history of life on earth. Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. These include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. The fossil record is the only evidence that life on earth has existed for more than 3.6 billion years. Fossils are considered nonrenewable resources because the organisms they represent no longer exist (Murphey and Daitch 2007). Thus, once destroyed, a fossil can never be replaced. Fossils are an important scientific and educational resource because they are used to:

- study the phylogenetic relationships between extinct organisms, as well as their relationships to modern groups;
- elucidate the taphonomic, behavioral, temporal, and diagenetic pathways responsible for fossil preservation, including biases in the fossil record;
- reconstruct ancient environments, climate change, and paleoecological relationships;
- provide a measure of relative geologic dating, which forms the basis for biochronology and biostratigraphy, and which is an independent and supporting line of evidence for isotopic dating;
- study the geographic distribution of organisms and tectonic movements of land masses and ocean basins through time;
- study patterns and processes of evolution, extinction, and speciation; and
- identify past and potential future human-caused effects to global environments and climates (Murphey and Daitch 2007).

REGULATORY SETTING

Fossils are classified as nonrenewable scientific resources and are protected by various regulations and standards across the country. The SVP (1995) has established professional standards for the assessment and mitigation of adverse impacts to paleontological resources. This paleontological assessment was conducted in accordance with the regulations that are applicable to paleontological resources within the Project area.

Professional Standards

The SVP has established standard guidelines (SVP 1995) that outline professional protocols and practices for the conducting of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Typically, state regulatory agencies with paleontological authority accept and utilize the professional standards set forth by the SVP.

As defined by the SVP (1995:26), significant nonrenewable paleontological resources are :

> Fossils and fossiliferous deposits here restricted to vertebrate fossils and their taphonomic and associated environmental indicators. This definition excludes invertebrate or paleobotanical fossils except when present within a given vertebrate assemblage. Certain invertebrate and plant fossils may be defined as significant by a project paleontologist, local paleontologist, specialists, or special interest groups, or by lead agencies or local governments.

As defined by the SVP (1995:26), significant fossiliferous deposits are:

> A rock unit or formation which contains significant nonrenewable paleontologic resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals, e.g., trackways, or nests and middens which provide datable material and climatic information). Paleontologic resources are considered to be older than recorded history and/or older than 5,000 years BP [before present].

Based on the significance definitions of the SVP (1995), all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new information on the taxon it represents, its paleoenvironment, and/or its distribution. Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils or if defined as significant by project paleontologists, specialists, or local government agencies.

A geologic unit known to contain significant fossils is considered to be “sensitive” to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit would either disturb or destroy fossil remains directly or indirectly. This definition of sensitivity differs fundamentally from that for archaeological resources as follows:

> It is extremely important to distinguish between archaeological and paleontological (fossil) resource sites when defining the sensitivity of rock units. The boundaries of archaeological sites define the areal extent of the resource. Paleontologic sites, however, indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontologic potential in each case. [SVP 1995]

Many archaeological sites contain features that are visually detectable on the surface. In contrast, fossils are contained within surficial sediments or bedrock and are therefore not observable or detectable unless exposed by erosion or human activity. Monitoring by experienced paleontologists greatly increases the probability that fossils will be discovered during ground-disturbing activities and that, if these remains are significant, successful mitigation and salvage efforts may be undertaken in order to prevent adverse impacts to these resources.

RESOURCE ASSESSMENT GUIDELINES

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under federal (National Environmental Policy Act, or NEPA), state (California Environmental Quality Act, or CEQA), and local (Riverside County) laws and regulations. This study satisfies project requirements in accordance with CEQA (13 Public Resources Code [PRC] 2100 et seq.) and PRC 5097.5 (Stats 1965, c 1136, p. 2792). This analysis also complies with guidelines and significance criteria specified by the SVP (1995).

Paleontological Sensitivity

Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its *Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontologic Resources: Standard Guidelines*, the SVP (1995:23) defines three categories of paleontological sensitivity (potential) for rock units: high, low, and undetermined:

- **High Potential.** Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils have been recovered and are considered to have a high potential for containing significant nonrenewable fossiliferous resources. These units include, but are not limited to, sedimentary formations and some volcanic formations that contain significant nonrenewable paleontologic resources anywhere within their geographical extent and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical, and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas that contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant.

- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections.
- **Undetermined Potential.** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials.
- **No Potential.** Metamorphic and granitic rock units do not yield fossils and therefore have no potential to yield significant nonrenewable fossiliferous resources.

In general terms, for geologic units with high potential, full-time monitoring typically is recommended during any project-related ground disturbance. For geologic units with low potential, protection or salvage efforts typically are not required. For geologic units with undetermined potential, field surveys by a qualified vertebrate paleontologist are usually recommended to specifically determine the paleontologic potential of the rock units present within the study area.

PROJECT LOCATION AND DESCRIPTION

McCoy Solar, LLC, a subsidiary of NextEra Energy Resources, LLC (Applicant), proposes to construct, operate, maintain, and decommission an up-to 750-megawatt photovoltaic solar energy generating facility and related infrastructure in unincorporated Riverside County, California, to be known as the McCoy Solar Energy Project (MSEP or the Project). The proposed Project area is located approximately 13 miles northwest of the town of Blythe, California, approximately 32 miles east of the town of Desert Center, California, and approximately 6 miles north of Interstate-10 (I-10). The majority of the MSEP would be developed on public land administered by the U.S. Bureau of Land Management (BLM). Approximately 477 acres of privately owned land would be included in the proposed facility site boundary. The proposed Project would generate and deliver solar-generated power to the California electrical grid through an interconnection at the Colorado River Substation proposed by Southern California Edison.

The MSEP is proposed on a site located adjacent to (and immediately north of) the proposed and recently permitted Blythe Solar Power Project (BSPP), and adjacent to (and immediately south of) the BLM right-of-way (ROW) application filed under the name enXco McCoy (enXco Project). The land in the vicinity of the site is primarily vacant desert with vacant land to the east and mountains to the west. The Project location is shown in Figure 1.

Site Preparation

Site grading activities primarily would be associated with the main access road and the generation-tie (gen-tie) line, with lesser quantities associated with solar plant site buildings, parking areas, internal access roads, the MSEP Substation, and associated foundations. Grading would consist of the excavation and compaction of earth only when necessary to meet the Project’s final design requirements. The use of either tracker technology or a fixed tilt mount would allow the existing topography to be essentially left in the existing (ungraded) condition because the height of the supports could be adjusted to level the photovoltaic modules. Also, because the site is nearly flat (the natural slope within the solar plant site is approximately 1 percent or less), localized grading would take place only where there are gullies or sections that are otherwise impassable by vehicles. Grading activities at the solar plant site are expected to result in a balanced cut-and-fill quantity of earthwork to maintain the existing conditions to the extent practical.

Generation-tie Line Installation

The MSEP gen-tie route will extend south from the Solar Plant Site approximately parallel to the eastern and southeastern border of the BSPP site before diverting south toward the proposed SCE CRS south of I-10. The MSEP gen-tie route is estimated to be approximately 15.5 miles long including 2 miles within the solar plant site boundary. The first half of the route exiting the MSEP will consist of all transmission lines strung on a single pole and will be parallel to the proposed BSPP boundary. Once the route enters airport zoning south of the BSPP plant, the Unit 1 and Unit 2 transmission lines will be strung on H-frame structures to maintain a minimum line height. The proposed gen-tie is expected to permanently occupy an approximate 165-acre legal ROW corridor outside of the solar site boundary. This acreage is based on an average width of 100 feet (50 feet on either side of the line.)

Gen-tie line construction would involve the following activities:

- Preparation of laydown areas
- Access road and spur road construction
- Pole site preparation and installation
- Circuit installation and
- Cleanup and site reclamation.

Laydown Areas

Preparation of the laydown areas would involve a preconstruction reconnaissance of the area, staking of the laydown boundaries, clearing and grubbing of the laydown area (which would require use of a 365-horsepower Scraper Cat or equivalent equipment), light grading, construction of a parking area, installation and construction of temporary construction buildings or trailers, and construction and installation of storage areas and facilities.

Road Work

The construction, operation and maintenance, and decommissioning of the proposed gen-tie line would require that heavy vehicles be able to access the tower sites along the road. The Applicant proposes to use existing roads to the extent possible and anticipates that new spur roads would be required. Construction would involve a preconstruction reconnaissance of the roadways, staking of the road boundaries, and clearing and grubbing of the roadways.

Pole Site Work and Installation

At each pole site, a work area would be required for the tower footing location, structure assembly, and the necessary crane maneuvers. Each such work area (one per pole) would be approximately 2500 square feet (50 feet × 50 feet). Each area would be cleared of vegetation only to the extent necessary, and graded only to the extent necessary to facilitate the safe operation of heavy equipment, such as construction cranes.

Installation of new steel or concrete tower structures to support the 230-kilovolt circuit would begin with the excavation of foundations approximately 6 feet in diameter and 20 feet in depth. A vehicle-mounted power auger or backhoe would be used to excavate for the structure foundation. If an auger is used, approximately 2,500 square feet temporarily would be disturbed for each tower structure. Although not expected, the use of a backhoe or blasting could be necessary in some instances because of specific geologic conditions. In the unlikely event blasting is necessary, conventional or plastic explosives would be used. Industry standard safeguards, such as blasting mats, would be employed when adjacent areas require protection. If blasting is used, the temporary disturbance area would be isolated and minimized to disturb only the area required to construct.

Once the foundation holes have been cleaned, the towers with preassembled insulators, hardware, and stringing sheaves would be lifted into position, inserted into the foundation holes, and gravel or concrete would be poured in to backfill the hole and create a foundation. Any native soil not used to backfill around each pole would be spread around the pole. The total amount of temporary and permanent disturbance associated with gen-tie line installation would depend on the route selected. Total temporary disturbance can be calculated by multiplying the number of poles to be installed by the disturbance associated with the method of excavation used. Table 1 provides a breakdown of the total acreage disturbance expected for both the plant site and the linear corridor.

Table 1. Breakdown of the Total Acreage Disturbance Expected for both the Plant Site and the Linear Corridor

Solar Plant Site	**Unit 1 Permanent (Ac)***	**Unit 2 Permanent (Ac)†**
Solar Field (includes all acreage within the solar plant site covered by the solar panels and trackers, the inverter pad areas, the maintenance roads between the solar arrays, any engineered drainage features and the gen-tie area within the solar plant)	2,142	2,006
Perimeter / Fence Maintenance Road (assumes 24 feet wide, approximately 22 miles)	17.6	43.4
On-site Substations	2.8	2.8
Shared Water Treatment Area	3	0
Shared O&M Building (approximately 3,000 square feet) and Parking Area (approximately 10,000 square feet)	0.3	0
Area in and around natural drainages that will remain ungraded	24	541
Main Access Road within solar plant site boundary (assumes improved, 24 feet wide with 3-foot shoulders, approximately 2.6 miles)	4.6	4.8
Temporary Laydown Area, Unit 1/Unit 2 (converted to permanent solar field area at end of construction)†	15†	13†
Subtotal for Solar Plant Site Acreage	2,194	2,598
Subtotal for Solar Plant Site Permanent Disturbed Acreage	2,170	2,057
Total On-site Permanent Disturbed Acreage	**4,227**	

Table 1. Breakdown of the Total Acreage Disturbance Expected for both the Plant Site and the Linear Corridor

Linear Facilities Outside Solar Plant Site Boundary	Off-site Permanent (Ac)	Off-site Temporary (Ac)
Main Access Road outside of the solar plant site boundary (assumes improved, 24-foot-wide road with 3-foot shoulders, 50-foot-wide temporary disturbance, approximately 5.5 miles, not including already disturbed access road) ‡	20.0	13.3
Gen-tie Support Poles (assumes 57 monopoles and 52 H-frame poles to be spaced about 800 feet apart, each foundation requiring 50 × 50–foot temporary disturbance and 12 ×12–foot permanent disturbance) §	0.5	8.7
Gen-tie Maintenance Road (assumes 24 feet wide with 3-foot shoulders, 50-foot-wide temporary disturbance, approximately 7.75 miles (approximately 5.5 miles access is provided by the Main Access Road), assumes the BSPP gen-tie access road would be shared along the length of the MSEP gen-tie that parallels the BSPP gen-tie) ‡	28.2	18.8
Gen-tie Spur Roads (assumes 15-foot-wide permanent disturbance, 50-foot-wide temporary disturbance, 26 spur roads 220 feet long near airport, 24 spur roads 100 feet long near CRS, no spur roads assumed along main access road north of the Solar Millenium gen-tie crossing)	2.8	6.5
Gen-tie Construction Laydown/Assembly Areas	0	3
String Pulling Sites (assumes 54 pulling sites 100 feet by 300 feet, not including pole disturbances listed previously)	0	34.5
Switchyard adjacent to CRS	2	0
Telecommunications Lines	0	0
Distribution Line Poles (assumes 135 poles to be spaced about 150 feet apart, each requiring 25 × 25-foot temporary disturbance and 3 × 3–foot permanent disturbance)	0.0	1.9
Distribution Line Spur Roads (assumes 135 spur roads corresponding to every pole, 12 feet wide and approximately 50 feet long) §	1.9	0
Distribution Line Maintenance Road (assumes 24 feet wide with 3-foot shoulders, 1.0 mile (approximately 3 miles access is provided by the Main Access Road)	3.6	0
Subtotal for Linear Facilities Outside of Solar Plant Site Disturbed Acreage	59	87
Total Off-Site and On-site Permanent Disturbed Acreage	**4,286**	

Source: WorleyParsons

* These acreages are based on the thin film tracking configuration.

† These acreages are not included in totals because area is within land that will be impacted by other solar plant site facilities

‡ Disturbance may be accounted for in disturbance road acreage of other projects and may be removed at a later date

§The temporary disturbance for gen-tie and distribution line poles does not include the permanent disturbance or the portion of the spur road that is coincident with the pole construction area.

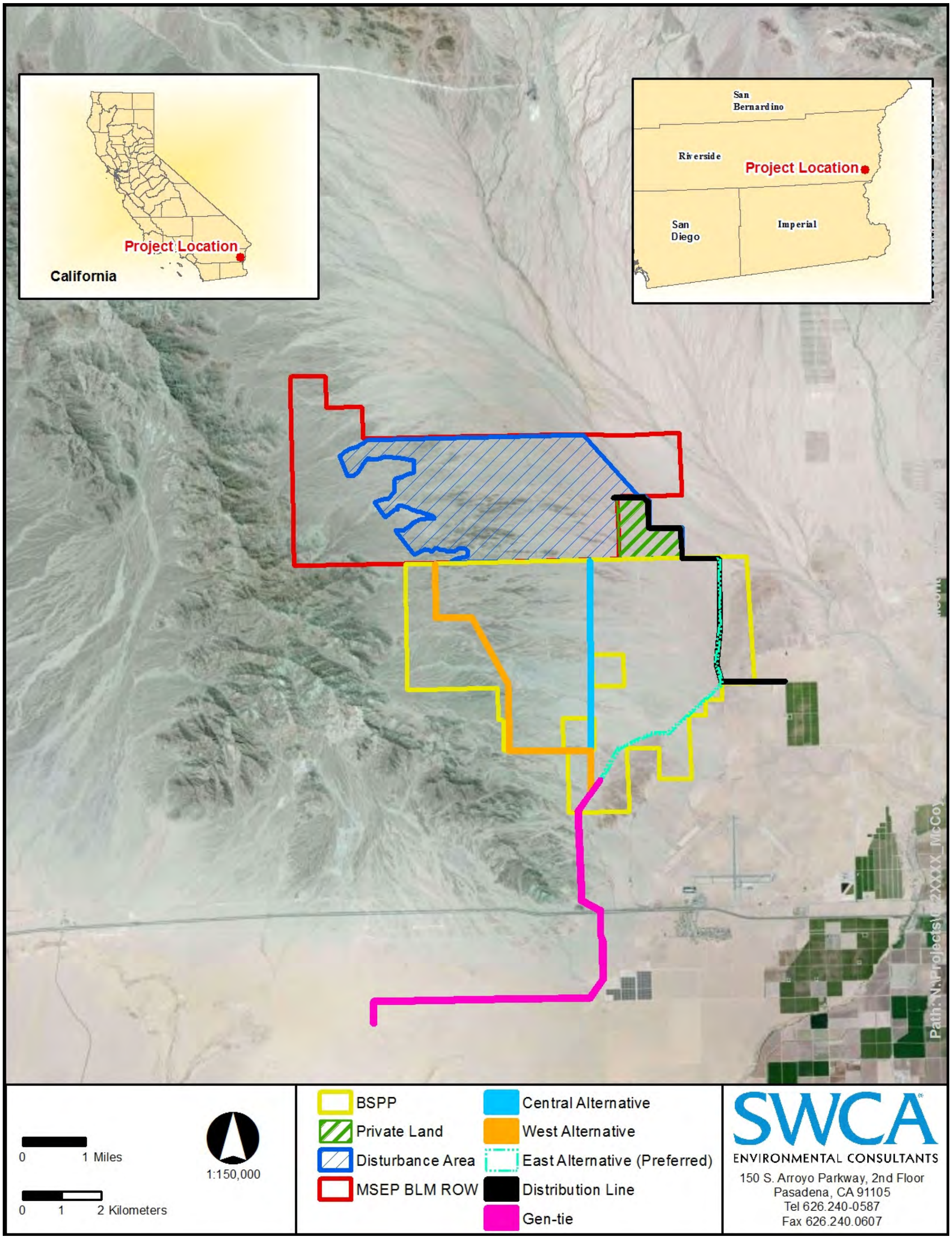

Figure 1. Project location map showing gen-tie line alternatives.

PROJECT PERSONNEL

SWCA paleontology program lead Jessica DeBusk requested the museum records searches and authored this technical report. SWCA paleontologists Lee Hall, Peter Kloess, Patrick Riseley, and Jane Mitchell and paleontology field director Stephanie Lukowski conducted the field survey. Geographic information system (GIS) Analyst Jennifer Roschek produced the graphics. Cara Corsetti, Senior Paleontologist, managed this project and provided quality assurance and quality control review of this technical report.

METHODS

Due to the nature of the fossil record, paleontologists cannot know either the quality or the quantity of fossils present in a given geologic unit prior to natural erosion or human-caused exposure. Therefore, in the absence of surface fossils, it is necessary to assess the sensitivity of rock units based on their known potential to produce scientifically significant fossils elsewhere within the same geologic unit (both within and outside of the study area) or a unit representative of the same depositional environment.

Museum Records Search

For this project, museum records searches were performed by the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles County (LACM) and the Department of Earth Sciences at the San Bernardino County Museum. Museum collections records were searched for the purposes of determining whether there are any known fossil localities in or near the Project area, identifying the geologic units present in the Project area, and determining the paleontological sensitivity ratings of those geologic units in order to assess potential impacts to nonrenewable paleontological resources. Published and unpublished literature and geologic maps were reviewed, and mitigation measures specific to this project were developed in accordance with the SVP's professional standards and guidelines (1995).

Geologic units were assigned a paleontological sensitivity rating (Table 2) based on the museum records searches and literature review. For the area underlying the Project area, a geologic map (Figure 2) and paleontological sensitivity map (Figure 3) were created.

Field Survey

A paleontological field survey of the Project area, including the proposed disturbance area and associated linear alignments, was performed between November 7 and November 10, 2011. The linear surveys included a 200-foot ROW (100-feet survey area on either side of the centerline). A survey of the Colorado River Substation was not performed because it is not considered part of the proposed MSEP. The purpose of the fieldwork was to inspect the study area for surface fossils and exposures of potentially fossil-bearing geologic units and to determine areas in which fossil-bearing geologic units could be exposed during Project-related ground disturbances.

GEOLOGY AND PALEONTOLOGY

Geologic Setting

California is naturally divided into the following 12 geomorphic provinces, each distinguished from one another by having unique topographic features and geologic formations: 1) the Sierra Nevada, 2) the Klamath Mountains, 3) the Cascade Range, 4) the Modoc Plateau, 5) the Basin and Range, 6) the Mojave Desert, 7) the Colorado Desert, 8) the Peninsular Ranges, 9) the Transverse Ranges, 10) the Coast Ranges, 11) the Great Valley, and 12) the Offshore area. The proposed MSEP is located in the northeast corner of the Colorado Desert geomorphic province where it adjoins the Mojave Desert province to the north. The precise dividing line between these desert provinces is a topic of debate among scholars. The Colorado Desert is bounded to the east by the Colorado River, to the south by the international border, and to the west by the Peninsular Ranges. Norris and Webb (1976) define the northern border as the southern edge of the eastern Transverse Ranges and the San Bernardino–Riverside county line.

The MSEP solar plant site is located in the McCoy Wash area of the western Colorado River floodplain. The McCoy Wash area is situated in a valley southwest of the Big Maria Mountains, southeast of the Little Maria Mountains, and northeast of the McCoy Mountains (Jennings 1967; Stone 2006). The surrounding mountains reach as much as 915 meters (m) (3,000 feet) or more above the valley floor, and approximately 1,020 m (3,350 feet) above mean sea level (amsl) (Metzger et al. 1973). The valley floor is dominated by Quaternary-age alluvial and fluvial sediments derived from the surrounding mountain ranges or transported in by the nearby Colorado River.

The MSEP preferred gen-tie route travels south and east of the Project area, traversing the Palo Verde Mesa and past the Blythe Airport, and continues west into the southern portion of Chuckwalla Valley. The Chuckwalla Valley is situated between the Chuckwalla Mountains to the south and the Palen and Coxcomb mountains to the north (Jennings 1967). Alluvial divides reaching up to 460 m (1,500 feet) amsl serve as boundaries between the mountain ranges to the north and west of the valley (Brown 1923). The valley is dominated by up to 365 m (1,200 feet) of sand, gravel, and clay derived from the surrounding highlands (Brown 1923) and contains numerous dry lake beds that are separated by sand dunes (Norris and Webb 1976). The surrounding mountains reach 610–1,220 m (2,000–4,000 feet) amsl, and the lowest point of the valley is Ford Dry Lake, located southeast of the proposed MSEP area at an elevation of approximately 110 m (360 feet) amsl (Brown 1923).

Site-specific Geology

The geology near the proposed MSEP and its associated linear facilities has been mapped by Jennings (1967) at a scale of 1:250,000 and Stone (2006) at a scale of 1:100,000. Review of these published maps indicates that the proposed MSEP disturbance area is mostly underlain by Quaternary-period (2.6 million years ago [mega annum, or Ma] to present) to Tertiary-period (65.0–1.8 Ma) alluvial and fluvial deposits, including deposits dating to the Holocene epoch (less than 10,000 years before present [B.P.]), Pleistocene epoch (2.6 Ma–10,000 years B.P.), and Pliocene epoch (5.2–1.8 Ma) (see Figure 2). In addition, three relatively small outcrops of rocks from the Cretaceous period (145.5–99.6 Ma) to Jurassic period (201.6–145.5 Ma) occur in the MSEP plant site and gen-tie and distribution line corridor. These units, and their potential to yield paleontological resources, are summarized in Table 2.

Table 2. Geologic Units in the McCoy Solar Energy Project Area and their Paleontological Sensitivity Rating

Age	Geologic Unit	Map Abbreviation	Typical Fossil Types	Paleontological Resource Potential (Sensitivity)
Holocene	Quaternary alluvium of modern washes	Qw	None	Low to high (increasing with depth)
	Quaternary eolian sand	Qs	None	Low to high (increasing with depth)
Holocene	Alluvial-fan and alluvial-valley deposits	Qa6	None	Low to high (increasing with depth)
Holocene and Pleistocene	Alluvial-fan and alluvial-valley deposits	Qa3	Terrestrial vertebrates	High
Pleistocene	Alluvial deposits of Palo Verde Mesa	Qpv	Terrestrial vertebrates	High
Pleistocene and/or Pliocene	Alluvial deposits of the McCoy Wash area	QTmw	Terrestrial vertebrates	High
Cretaceous or Jurassic	Andesite	KJa	None	Low
Cretaceous	McCoy Mountains Formation, Member "L"	Kml	None	Low
Jurassic	Volcanic rocks	Jv	None	Low

Source: Stone (2006).

Quaternary Alluvium of Modern Washes (Qw)

Quaternary alluvium of modern washes, mapped as Qw, occurs just outside of the northeastern portion of the MSEP plant site in the McCoy Wash and just to the west of Blythe Airport in the MSEP gen-tie line corridor in an area mapped as a dry wash (Stone 2006). Modern wash sediments, dated as Recent in age, consist of unconsolidated, angular to subangular gravelly sands derived from the surrounding higher elevations. These sediments are coarser-grained toward the flanks of the surrounding mountains and become more fine-grained, grading toward distal alluvial sand and gravel (Stone 2006).

Holocene-aged sediments often contain the remains of modern organisms, however they are too young to contain significant paleontological resources. In addition, coarser-grained alluvial deposits are not likely to contain significant vertebrate fossils due to their nature of deposition; therefore, these sediments are determined to have a low paleontological sensitivity. However, paleontologically sensitive Pleistocene age alluvial and fluvial deposits may be encountered at depth. Thus, areas within the Project area mapped as Qw are considered to have a paleontological sensitivity ranging from low to high, increasing with depth (i.e., with age).

Quaternary Eolian Sand (Qs)

The southernmost portion of the MSEP gen-tie line route is in part underlain by active sand dunes and sand sheets, mapped as Qs, of Recent age (Jennings 1967; Stone and Pelka 1989). The sand derives from the surrounding mountains, and dune formation has likely resulted from winds originating from the northwest, based on their accumulation in the southeast area of the valley floor (Brown 1923). Whereas the uppermost active sand dune deposits are not likely to contain fossilized remains, underlying older sand dune deposits may contain scientifically vertebrate specimens (McLeod 2011). Therefore, sand dune deposits within the Project area are assigned a paleontological sensitivity ranging from low to high, increasing with depth.

Alluvial Fan and Alluvial Valley Deposits (Qa6, Qa3)

Various alluvial fan and alluvial valley deposits underlie most of the Project area and linear alignments and consist of unconsolidated to weakly consolidated, angular to subangular gravels and sands derived from the surrounding mountains. Older deposits are locally well consolidated. Stone (2006) divides these alluvial deposits into six units based on surficial and geomorphic characteristics. The approximately eastern half of the plant site is underlain by the Holocene-age Unit 6, mapped by Stone (2006) as Qa6, consisting of mostly sands, pebbly sands, and sandy pebbles-gravels locally overlain by eolian sands. Stone (2006) assigns this unit an age of 100 to 2,000 years B.P.

Unit 6 is locally underlain by the Holocene- and Pleistocene-age Unit 3, mapped by Stone (2006) as Qa3, and covers approximately the western half of the Project area. Unit 3 consists of alluvial fan deposits composed of gravels and sands in dissected surfaces locally termed *desert pavement*. Stone (2006) assigns Qa3 an age ranging between 730,000 and 8,000 years B.P. These deposits can be distinguished by the presence of manganese oxide coatings on cobbles (Qa3), or absence of manganese oxide coatings on cobbles (Qa6).

Although no in situ fossil resources were discovered from these geologic units within the Project area, several previously recorded vertebrate localities have been recorded from the same or similar deposits southwest and northwest of the Project area (McLeod 2011). Whereas Qa6 is too young to contain fossilized material and is considered to have a low sensitivity at least at the surface, the older unit Qa3 is considered as having high potential for containing significant fossil resources, and under SVP (1995) criteria is considered to have a high paleontological sensitivity.

Alluvial Deposits of Palo Verde Mesa (Qpv)

The Palo Verde Mesa is located southeast of the Project area, and alluvial deposits that make up the mesa are present along the MSEP preferred gen-tie line route. Mapped as Qpv and dated as Pleistocene in age (1.2 Ma–10,000 years B.P.), this unit consists of terrace-forming, unconsolidated to weakly consolidated sands, pebbly sands, silts, and clays (Stone 2006).

Although no in situ fossil resources have been discovered from this geologic unit within the Project area, numerous vertebrate localities have been reported from the same or similar units elsewhere in the eastern Mojave Desert, in Arizona, and in Sonora, Mexico, yielding scientifically significant remains of *Mammuthus* sp. (extinct mammoth) and several thousand other vertebrate fossils (Scott 2009). Therefore, under SVP (1995) criteria, this geologic unit is considered to have a high paleontological sensitivity.

Alluvial Deposits of the McCoy Wash Area (QTmw)

Ancestral Colorado River alluvial deposits of the McCoy Wash area, mapped as QTmw, underlie a portion of the MSEP distribution line corridor. This unit, Pleistocene or Pliocene in age, is composed of hill-forming deposits of rounded, transported (allochthonous) river gravels mixed with locally derived (autochthonous) gravels. These broad hills reach 15 to 25 m (50–82 feet) above Palo Verde Mesa near McCoy Wash and southeast of the McCoy Mountains. The surface gravels are underlain by brown, well-consolidated calcareous or gypsiferous sandstone (Stone 2006).

Although no in situ fossil resources were discovered from this geologic unit within the Project area, it is considered highly likely to contain significant paleontological resources because of its age, subsurface lithologic composition, and proximity to the ancient Colorado River floodplain. Additionally, this unit is known to be equivalent in age to the nearby Arroyo Diablo Formation, which has a proven paleontological resource potential. Therefore, under SVP (1995) criteria, this geologic unit is considered to have a high paleontological sensitivity.

Cretaceous and Jurassic Andesite (KJa)

In the southern portion of the MSEP gen-tie ROW, a small outcrop of andesite of Cretaceous or Jurassic age is present. Composed of highly foliated, fine-grained, dark green to black andesite, it is intrusive into the McCoy Mountains Formation at the south end of the McCoy Mountains (Stone 2006). Since andesite is an extrusive volcanic rock, it was formed at high temperatures and would not preserve fossil remains; therefore, andesite within the Project area is considered to have a low paleontological sensitivity.

McCoy Mountains Formation, Member L (Kml)

The McCoy Mountains Formation outcrops in the southwest corner of the MSEP BLM right- of-way (ROW) and is outside the proposed area of ground disturbance. This formation, Cretaceous and possibly Jurassic in age, is subdivided into Members A through L. A relatively small outcrop of Member L of this formation is present within the Project boundaries and is mapped as Kml. Member L, Cretaceous in age, is composed of light gray arkosic sandstone, conglomerate, and shale. The total thickness of this member is 300 m (984 feet) (Stone 2006).

Stone (2006) reports that equivalent strata west of the Project area and in the vicinity of the Palen Mountains has yielded fragments of fossil wood of late Early Cretaceous age. Additionally, numerous specimens of petrified wood were discovered during the paleontological survey conducted for the Blythe Solar Power Project (DeBusk and Corsetti 2009). No statement on the sensitivity of the unit was made in any of the record searches performed for this paleontological resources assessment and no previously recorded significant fossil specimens have been reported from this unit. However, the LACM did note that the older and younger Quaternary alluvial deposits within the area are likely derived from this formation. Under SVP (1995) criteria, this unit is considered to have a low paleontological sensitivity.

Jurassic Volcanic Rocks (Jv)

In the southern portion of the MSEP gen-tie route, a small outcrop of Jurassic volcanic rocks is present. These rocks, consisting of mostly light gray to light greenish gray rhyodacite volcanic and metavolcanic rocks, are generally unbedded and may have originated in part as ash-flow tuffs. In the McCoy Mountains, the upper 50 m (164 feet) of this unit includes volcanic sandstone, conglomerate, and metavolcanic rocks that may represent a metamorphosed paleosol (Stone 2006). As previously stated, volcanic rocks do not typically preserve fossil remains as they are formed at a high temperature; therefore, Jurassic volcanic rocks within the project area is considered to have a low paleontological sensitivity.

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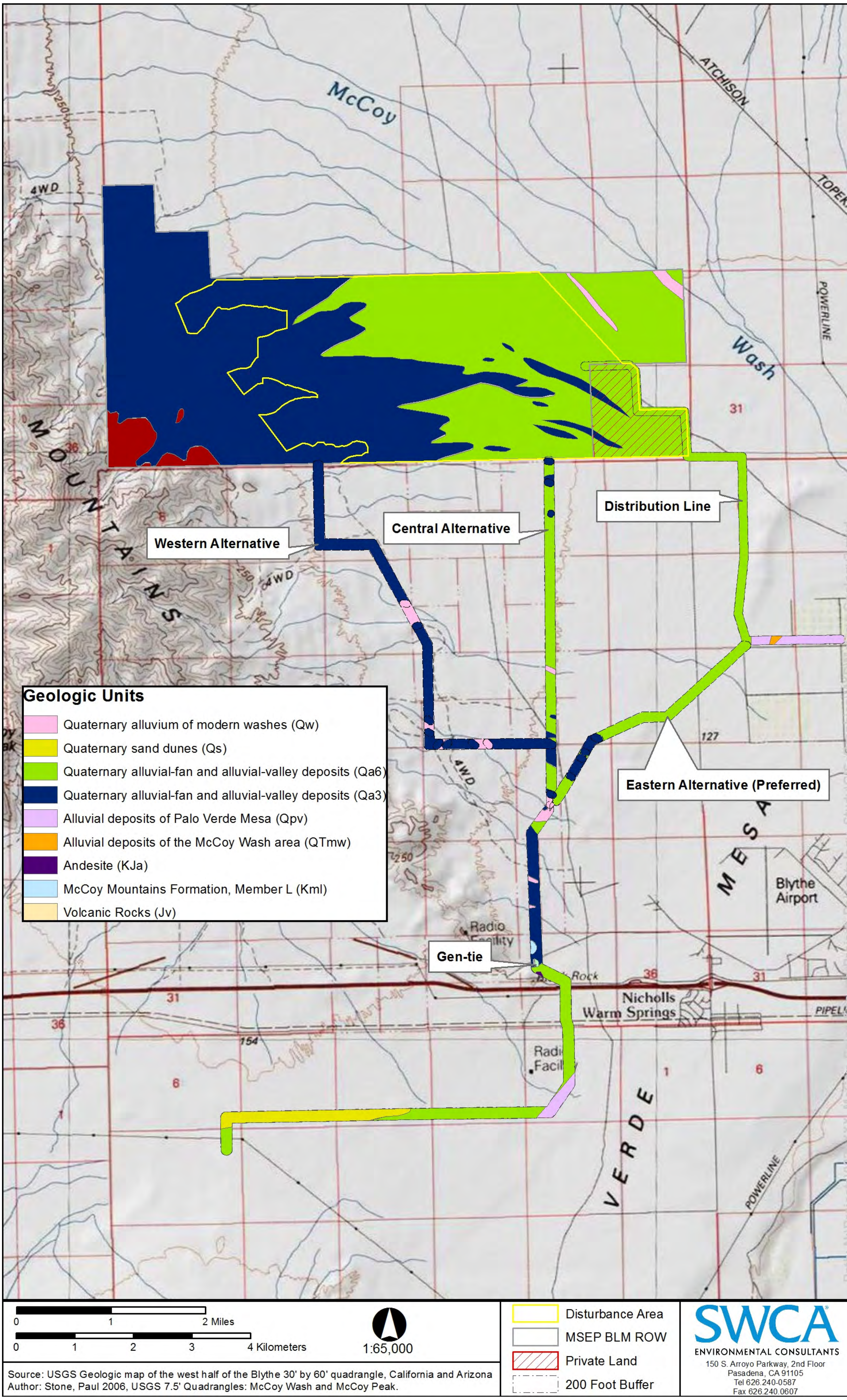

Figure 2. Geologic map of the Project area.

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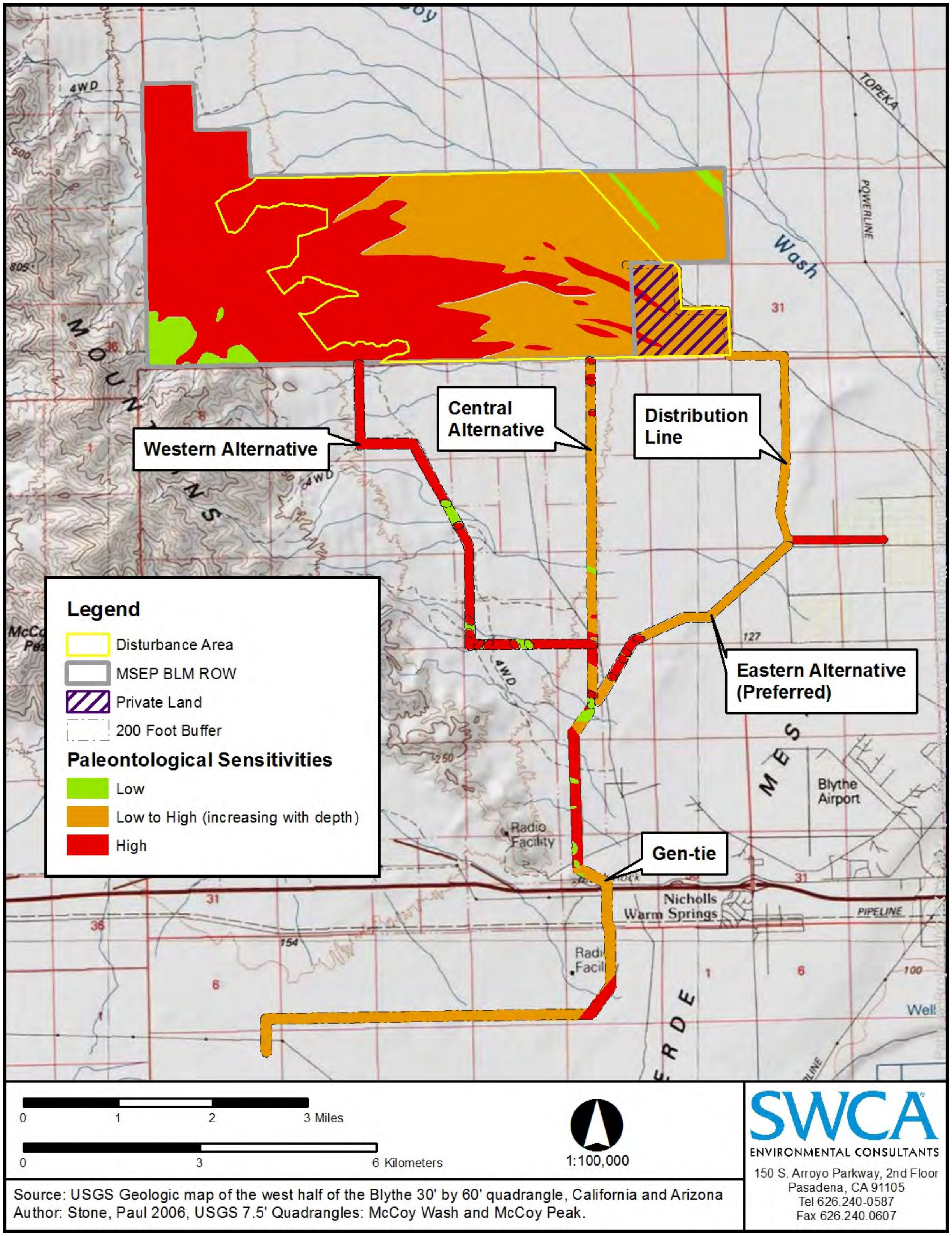

Figure 3. Paleontological sensitivity of the geologic units exposed within the Project area.

ANALYSIS AND RESULTS

Museum Records Search

A review of museum collections records at the LACM and San Bernardino County Museum confirmed that no fossil localities have been previously recorded within the Project boundaries or within a 1-mile radius. However, at least three vertebrate fossil localities have been previously recorded southwest of the Project area within the same or similar sediments (McLeod 2011). LACM 5977, located west-southwest of the MSEP (north of I-10 and on the southwest side of Ford Dry Lake), yielded fossilized remains of *Perognathus* (pocket mouse). LACM (CIT) 208 and LACM 3414, located west-northwest of the Project area between Eagle and Coxcomb mountains, yielded fossilized remains of *Gopherus* (tortoise), *Equus* (horse), *Camelops* (camel), and *Tanupolama stevensi* (llama).

A search of the UCMP online paleontological database revealed that at least 21 additional fossil localities of Quaternary age have been documented in Riverside County, 17 of which yielded vertebrate fossil remains from Pleistocene age deposits. UCMP V6004, also known as "Blythe," yielded unspecified fossils of Rancholabrean age. UCMP V99828, also known as "Blythe Energy Turtles," yielded two fossil specimens of *Gopherus agasizzi* (California desert tortoise). The museum records search results are shown in Table 3 below.

Table 3. Vertebrate Fossils Previously Recovered Near the Project Area

Geological Formation	Museum Locality Number	Taxon	Common Name
Quaternary alluvium	LACM 5977; just south of due west of the southernmost portion of the Project area north of I-10 and on the southwest side of Ford Dry Lake	*Perognathus*	Pocket mouse
Quaternary alluvium (Pinto Formation)	LACM (CIT) 208 and LACM 3414; west-northwest of the Project area between the Eagle Mountains and the Coxcomb Mountains	*Gopherus*	Tortoise
		Equus	Horse
		Camelops	Camel
		Tanupolama stevensi	Camel
Quaternary alluvium	UCMP V6004	*Unknown*	Vertebrates, unspecified
Chemehuevi Formation (Pleistocene)	UCMP V99828	*Gopherus agasizzi*	Desert tortoise

Field Survey

A paleontological field survey of the Project area was performed between November 7 and November 12, 2011, by SWCA paleontologists Stephanie Lukowski, Lee Hall, Peter Kloess, Patrick Riseley, and Jane Mitchell. A transect survey of the entire study area was conducted with close examination of exposed cross-sections and drainages. The interval width used in any given area was determined based on the expected abundance of fossil materials in each area, based upon the recommendations of the museum records searches performed prior to the field survey, inspection of geologic and aerial maps, and visual observations of ground surface visibility. Both a hand-held Garmin global positioning system (GPS) unit and a Trimble GeoXT GPS unit were used to ensure complete coverage of the Project area. Upon discovery of any fossil materials, the exact location of each fossil was recorded on the Trimble unit and pertinent information was recorded for each specimen, including notes on the material on which it was found and a brief description of the specimen.

The majority of the survey area was relatively flat and sparsely vegetated resulting in good ground visibility (Figure 4), with the exception of a large ravine that marks the western boundary of the disturbance area. The survey crew walked mostly east-west pedestrian transects in the approximately western half of the disturbance area (Figure 5) in the areas mapped as Pleistocene and Holocene age deposits. In the approximate eastern half of the disturbance area, mapped as Holocene age deposits, the survey crew conducted a more cursory survey with broad transects. The eastern portion of the disturbance area, mapped as Qa6, was characterized by tan-colored, unconsolidated sands with some subrounded pebble-sized clasts scattered on the surface. Qa3, making up the approximate eastern half of the disturbance area, was characterized by subrounded to subangular cobbles coated with desert varnish as well as cobble-sized clasts of quartzite, not coated with desert varnish. The desert pavement was found to rest on top of orange- and tan-colored unconsolidated sands. For the gen-tie line and proposed distribution line corridors, a combination of a windshield and pedestrian survey was performed (Figures 6 and 7).

Figure 4. North-central portion of Project area, looking west.

Figure 5. Northwest corner of the disturbance area, looking west.

Figure 6. Northern end of the center gen-tie line alignment, looking south.

Figure 7. View from the approximate middle of the gen-tie line corridor, looking north.

One non-significant fossil occurrence was discovered during the course of the fieldwork. A fossil specimen is designated a non-significant fossil occurrence when it can be determined in the field that the specimen contains no significant paleontological information, but whose presence may still potentially be used to determine the possibility of discovering significant fossil remains within a given area in the future. Therefore, although the specimen itself does not need to be collected, its presence and exact location is still worth recording. During the course of the survey, a fossilized carapace fragment of a desert tortoise was discovered in the gen-tie line corridor (Figure 8). The fossil was found ex situ as a lag deposit transported an unknown distance and redeposited on top of alluvial sediments. For this reason, and due to the lack of diagnostic characteristics, it is not considered scientifically significant and was not collected. No significant fossil resources were discovered as a result of the survey.

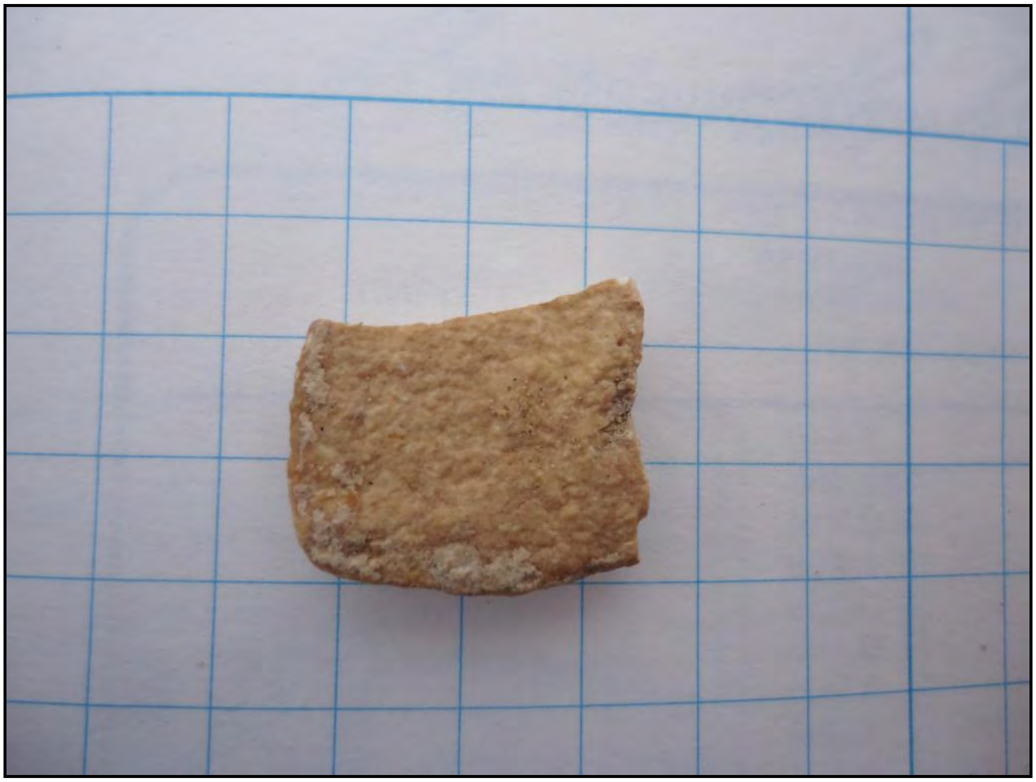

Figure 8. A fossilized carapace fragment of a desert tortoise was discovered in the gen-tie line Corridor.

CONCLUSIONS

As previously mentioned, the only fossil specimen discovered during the field survey was considered non-diagnostic and was not deemed scientifically significant. However, the presence of fossilized material indicates that scientifically significant specimens could be discovered in situ at the subsurface. The destruction of fossils as a result of human-caused ground disturbance has a significant cumulative impact, as it makes biological records of ancient life permanently unavailable for study by scientists. Implementation of proper mitigation measures can, however, reduce the impacts to the paleontological resources to below the level of significance. Construction of the Project has the potential to result in the destruction of subsurface paleontological resources via breakage and crushing related to ground-disturbing activities during grading for the proposed solar field, building foundations, access roads, and transmission line pads. Ground disturbance and terrain modification, expected to permanently disturb 4,286 acres, has the potential to adversely affect an unknown quantity of fossils that may occur on or underneath the surface in areas containing paleontologically sensitive geologic units. Although no significant paleontological resources were identified within the Project area during the course of the field survey, much of the Project area is underlain by geologic deposits determined to have a high paleontological sensitivity either at the surface or at a potentially shallow depth (1.5 m [5 feet] or less below ground surface) (see Figure 3).

Shallow excavations related to the development of the proposed Project in areas immediately underlain by Holocene age alluvium are unlikely to result in adverse impacts to significant paleontological resources, as these sediments are determined to have a low sensitivity at the surface. However, deeper excavations (estimated 1.5 m [5 feet] or greater) within these deposits may have an adverse impact on paleontological resources unless proper mitigation measures are implemented. Any excavations within Pleistocene and/or

Pliocene age deposits throughout the Project area may result in adverse impacts to paleontological resources unless proper mitigation measures are implemented.

RECOMMENDED MITIGATION MEASURES

Ground-disturbing activities in the MSEP area may result in adverse impacts to significant paleontological resources unless proper mitigation measures are implemented. Implementation of proper mitigation measures can, however, reduce the impacts to the paleontological resources to below the level of significance.

The following mitigation measures have been developed to reduce the potential adverse impacts on paleontological resources to a less than significant level. The measures are based on the SVP standard guidelines (1995) and meet CEQA requirements. These mitigation measures have been used throughout California and have been demonstrated to be successful in protecting paleontological resources while allowing timely completion of construction projects in areas of paleontological sensitivity.

Preconstruction Phase

A. Prior to the start of any Project-related construction (defined as construction-related vegetation clearing, ground disturbance and preparation, and site excavation activities), the project owner shall ensure that a qualified paleontologist is available for field activities and is prepared to implement the conditions of approval. The qualified paleontologist shall be responsible for implementing all the paleontological conditions of approval and for using qualified personnel to assist in this work.

B. Prior to the start of construction, the qualified paleontologist shall prepare a worker’s environmental awareness training program. The paleontological training program shall address the potential to encounter paleontological resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources. The training program shall also include the set of reporting procedures that workers are to follow if paleontological resources are encountered during project activities. The training program shall be presented by a qualified paleontologist and may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or any other areas of interest or concern.

Construction Phase

C. The qualified paleontologist or paleontological monitor shall be present at all times he or she deems appropriate to monitor construction-related grading, excavation, trenching, and/or augering in areas with a significant potential for fossil-bearing sediments to occur. All ground-disturbing activities in areas determined to have a high sensitivity shall be monitored on a full-time basis at the start of the project. All ground disturbances in areas determined to have low to high sensitivity at depths of 1.5 m (5 feet) or greater shall also require monitoring on a full-time basis, initially. If no significant fossils are found, then the frequency of monitoring shall be adjusted at the discretion of the qualified paleontologist after an adequate amount of time is spent observing the geologic deposits in the project area. No monitoring is required in areas determined to have a low sensitivity.

D. Paleontological monitoring will include inspection of exposed rock units and collection of matrix to be testing for the presence of microscopic fossils. Paleontological monitors will have authority to temporarily divert excavations or drilling away from exposed fossils in order to efficiently and professionally recover the fossil specimens and collect associated data. Any paleontological fieldwork occurring on lands administered by the BLM would require a Paleontological Resources Use Permit issued by the BLM state office.

Postconstruction Phase

E. The project owner shall ensure preparation of a paleontological resources monitoring report by the qualified paleontologist. The report shall be completed following the analysis of any recovered fossil materials and related information. The report shall include, but not be limited to, a description and inventory list of recovered fossil materials (if any); a map showing the location of paleontological resources found in the field; determinations of scientific significance; and a statement by the qualified paleontologist that project impacts to paleontological resources have been mitigated.

LITERATURE CITED

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APPENDIX F
Visual Resources

F-1. Scenic Quality and Sensitivity Determinations from the BLM Palm Springs South Coast Field Office Visual Resource Inventory (Otak Inc., 2011)

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IOP 48. Inca, looking south (IOPCAD060006067) 6022_S_ChuckwallaValley_6067.JPG

IOP 49. Chuckwalla Valley Road, looking north (IOPCAD060006040) 6013_N_ChuckwallaValley_6040.JPG

IOP 50. Hopkins Well, looking northwest (IOPCAD060000371) 96_NW_ChuckwallaValley_0371.jpg

IOP 51. Palo Verde, looking north (IOPCAD060006055) 6018_N_ChuckwallaValley_6055.JPG

IOP 52. Coon Hallow, looking southwest (IOPCAD060000291) 77_SW_ChuckwallaValley_0291.jpg

Form 8400-1
(September 1985)
(Format Modified 2008)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Field Office: Palm Springs D06000 Date: 10/6/2009

Scenic Quality Rating Unit: Chuckwalla Valley Time (24hr format): 11:50

Unit Number: 21

1. Evaluators: CBrandt GLong

2. LANDSCAPE CHARACTER (Features)			
	A. Landform/Water	**B. Vegetation**	**C. Structures**
Form	Broad valley; flat to gentle slopes; very gently rolling	Rounded, clumpy, mottled form	Roads, settlements, substations, power lines, tall cylindrical poles; geometric
Line	Horizontal landscape; vast open space	Rounded, horizontally aligned	Vertical poles, buildings
Color	Light brown to buff-colored soils and rock	Brownish-green	White, beige, desert brown, silver, brown
Texture	Smooth valley floor	Mottled; medium to coarse vegetation	Smooth surfaces

3. Narrative:

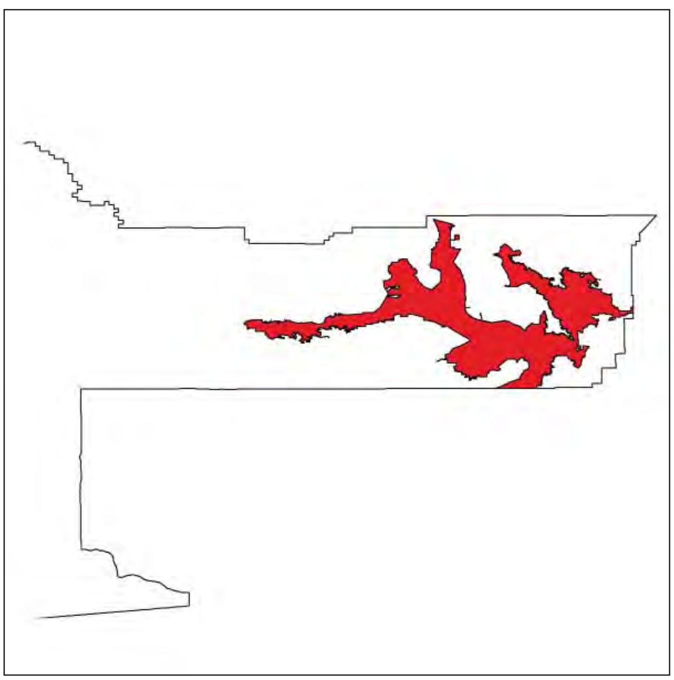
A broad, enclosed landscape surrounded on most sides by dramatic mountain ranges. Vast, natural-appearing. Vegetation is somewhat visually dominant.

Scenic Quality Rating Unit: Chuckwalla Valley

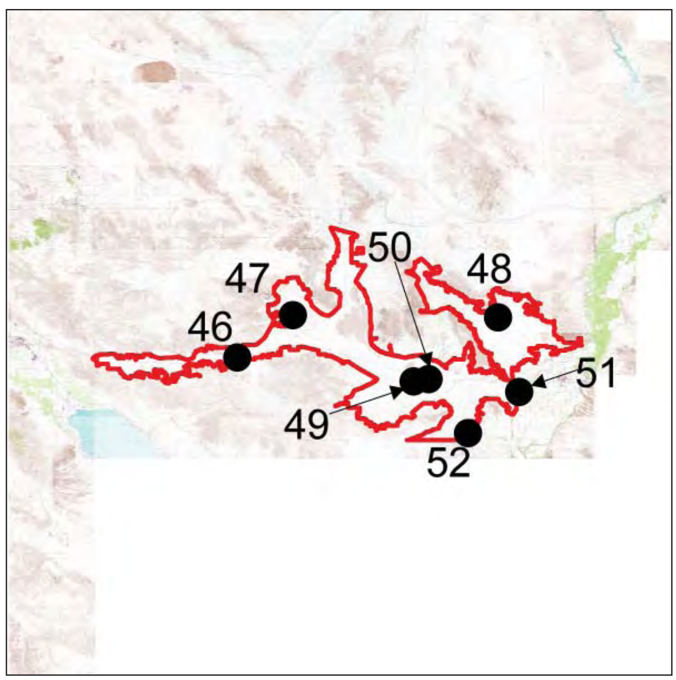
4. SCORE			SCENIC QUALITY CLASSIFICATION (check one)
	Rating	EXPLANATION OR RATIONALE	
a. Landform	1	Vast, low, gently rolling valley bottom	☐ **A – 19 or more**
b. Vegetation	3	Some variety of vegetation; one or two major types	☑ **B – 12 – 18**
c. Water	0	None present	☐ **C – 11 or less**
d. Color	2	Subtle variation; some contrast in soil, vegetation	
e. Adjacent Scenery	4	Dramatic mountains surrounding area	
f. Scarcity	2	Fairly distinctive but not unusual	☐ **Rehab**
g. Cultural Modification	0	Some cultural modification but overall natural-appearing	☐ **Special Area**
TOTAL	12		

Comments:

The valley is a vast area, homogenous in terms of landform and vegetation with no line or break to suggest subdividing into smaller units. Adjacent scenery is dramatic from all IOPs.



SQRU Locator



• IOP Location

APPENDIX F
Visual Resources (continued)

F-2. VRM Class Determinations for the CPUC Devers-Palo Verde No. 2 Transmission Line Project Final EIR/EIS (CPUC, 2006)

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United States Department of the Interior Bureau of Land Management

Visual Resource Management (VRM) Classification

Date October 13, 2005		**Evaluator(s)** Michael Clayton
District California Desert		**Field Office** Palm Springs
Scenic Quality Rating Unit (SQRU) 12	**Viewpoint** 19 : Mule Mtns. Access Road	**VRM Class** **III**

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

* Note: If adjacent area is Class III or lower, assign Class III, if higher assign Class IV

Basis for Determining Visual Resource Inventory Classes

Class I. Class I is assigned to all special areas where the current management situations require maintaining a natural environment essentially unaltered by man.

Classes II, III, and IV. These classes are assigned based on combinations of scenic quality, sensitivity levels, and distance zones as shown in the matrix above.

United States Department of the Interior Bureau of Land Management

Visual Resource Management (VRM) Classification

Date October 13, 2005		**Evaluator(s)** Michael Clayton
District California Desert		**Field Office** Palm Springs
Scenic Quality Rating Unit (SQRU) 14	**Viewpoint** 22 : McCoy Peak Access Rd.	**VRM Class** **II**

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

* Note: If adjacent area is Class III or lower, assign Class III, if higher assign Class IV

Basis for Determining Visual Resource Inventory Classes

Class I. Class I is assigned to all special areas where the current management situations require maintaining a natural environment essentially unaltered by man.

Classes II, III, and IV. These classes are assigned based on combinations of scenic quality, sensitivity levels, and distance zones as shown in the matrix above.

APPENDIX F

Visual Resources (continued)

F-3. BLM Field Office Manager Concurrence on Interim VRM Classes for the MSEP

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Dylan Duverge

From: Kalish, John R [jkalish@blm.gov]
Sent: Thursday, December 15, 2011 5:04 PM
To: Dylan Duverge
Cc: Hill, Gregory C; Thereal McCoy; Jennifer Johnson; Childers, Jeffery K
Subject: RE: Concurrence on Interim VRM Class for the McCoy Solar Energy Project

After discussion with Greg Hill, we concur with this approach. Consistency with the Blythe Project is important. You are on the right track. Thanks for asking……..

John R. Kalish, Field Manager
Palm Springs-South Coast Field Office
1201 Bird Center Drive
Palm Springs, CA 92262
Office: (760) 833-7100
FAX: (760) 833-7199

From: Dylan Duverge [mailto:DDuverge@esassoc.com]
Sent: Monday, December 12, 2011 10:15 AM
To: Kalish, John R
Cc: Hill, Gregory C; therealmccoy@esassoc.com; Jennifer Johnson; Childers, Jeffery K
Subject: Concurrence on Interim VRM Class for the McCoy Solar Energy Project

Hello John,

In order to complete the visual analysis in the EIS for the MSEP, I'm requesting your concurrence on Interim VRM classes to be used to manage visual values. I propose that the MSEP solar plant site be managed according to an Interim VRM Class III designation. This recommendation is based on (1) OTAK assessed the Project area as VRI Class III, and (2) the Multiple Use Class of the project area is "L" (limited), which allows for consideration of wind or solar electrical generation facilities after NEPA requirements are met. This would apply only to the MSEP solar plant site, and the portion of the off-site linears that are outside the area covered by the Interim VRM Classes previously developed for the DPV No. 2 Project EIS. I propose maintaining the Interim VRM classes that have already been established based on the DPV No. 2 ROD.

This approach is consistent with what done for the BSPP, and let me know if you concur.

Regards,

Dylan Duvergé
ESA | Water
225 Bush Street, Suite 1700
San Francisco, CA 94104
415.896.5900 | 415.962-8499 direct
dduverge@esassoc.com

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APPENDIX F

Visual Resources (continued)

F-4. Visual Contrast Rating Forms

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Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 12/29/11

District Palm Springs Field Office

Resource Area

Activity (program) Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: McCoy Solar Energy Project
2. Key Observation Point: KOP 1
3. VRM Class: III
4. Location: Township 5, 6, 7 S; Range 21, 22 E; Section multiple
5. Location Sketch: see Figure 4.22-3

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep sided, irregular and elongated mountain backdrop	Irregular mosaics of shrubs; broad flat gradational changes in the distance	Rectilinear (distant buildings)
LINE	Parallel, horizontal, straight and broken, sharp	Soft horizontal	Distant weak horizontal and vertical
COLOR	light tan, sage green, dark reddish-brown	light golds and tans to reddish browns and light sage greens	light grey
TEXTURE	Sparse patchy shrubs, coarse mountain mosaics	fine to moderate shrub patterns	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Graded, planar and horizontal; landform changes unapparent	Replaced with structures	Planar solar PV array; cubed/ rectilinear structures and vertical T-lines
LINE	Graded horizontal; landform changes unapparent	Replaced with structures	Horizontal edge lines of PV array, vertical monopoles
COLOR	Dark grey/black; landform changes unapparent	Replaced with structures	Dark grey/black PV panels; galvanized grey utility lines
TEXTURE	Smooth surfaces; landform changes unapparent	Replaced with structures	smooth array/structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	Land/Water Body (1) Strong	Moderate	Weak	None	Vegetation (2) Strong	Moderate	Weak	None	Structures (3) Strong	Moderate	Weak	None
Form				X				X				X
Line				X			X				X	
Color				X			X				X	
Texture				X				X				X

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names: Dylan Duvergé

Date: 12/29/11

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: 12/29/11

District: Palm Springs Field Office

Resource Area:

Activity (program): Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: McCoy Solar Energy Project
2. Key Observation Point: KOP 2
3. VRM Class: III
4. Location
   - Township: 5, 6, 7 S
   - Range: 21, 22 E
   - Section: multiple
5. Location Sketch: see Figure 4.22-3

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep sided, irregular and elongated mountain backdrop	Irregular mosaics of shrubs; broad flat gradational changes in the distance	Narrow planar road; rectilinear LTVA/stop sign
LINE	Straight, parallel horizontal, broken and sharp	Soft curvilinear roads, soft horizontal lines in distant plain	horizontal curved road lines and straight sharp sign edges
COLOR	light tan bare earth; distant dark reddish-brown of mountains	light gold and tans, reddish brown and light sage green	light to medium tan roads
TEXTURE	coarse patchy shrubs, granular earth in foreground; smooth subdued mountain mosaic in background	fine to moderate shrub patterns; vegetation coarse and patchy	fine smoothly textured road

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Graded, planar and horizontal; landform changes unapparent	Replaced with structures	Planar solar PV array; cubed/ rectilinear structures and vertical T-lines
LINE	Graded horizontal; landform changes unapparent	Replaced with structures	Horizontal edge lines of PV array, vertical monopoles
COLOR	Dark grey/black; landform changes unapparent	Replaced with structures	Dark grey/black PV panels; galvanized grey utility lines
TEXTURE	Smooth surfaces; landform changes unapparent	Replaced with structures	smooth array/structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1\. DEGREE OF CONTRAST

ELEMENTS	LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form				X				X				X
Line				X			X			X		
Color				X			X			X		
Texture				X			X				X	

2\. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3\. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names: Dylan Duvergé

Date: 12/29/11

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 12/29/11

District Palm Springs Field Office

Resource Area

Activity (program) Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name
McCoy Solar Energy Project

2. Key Observation Point
KOP 3

3. VRM Class
III

4. Location
Township 5, 6, 7 S
Range 21, 22 E
Section multiple

5. Location Sketch
see Figure 4.22-3

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa; prominent steep sided, irregular and elongated mountain backdrop	Irregular mosaics of shrubs; broad flat gradational changes in the distance	narrow and formless (wooden t-line in middleground)
LINE	Sharp irregular mountain skyline, soft and smooth horizontal lines on mesa in the distance	soft horizontal lines in distant plain; undulating curving vegetation lines in foreground	sub horizontal alignment; vertical supports (wooden t-line in middleground)
COLOR	light tan, distant dark reddish-brown	light sage green desert scrub and light gold and pale yellow grasses	dark brown poles (wooden t-line in middleground)
TEXTURE	coarse patchy shrubs in foreground; medium mountain mosaic in background	fine to moderate shrub patterns; vegetation coarse and elongate	indiscernible (wooden t-line in middleground)

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	graded, planar and horizontal; landform changes unapparent	Replaced with structures	Planar, narrow and elongate solar PV array; cubed/rectilinear structures and vertical T-lines
LINE	graded; horizontal; landform changes unapparent	Replaced with structures	Horizontal edge lines of PV array, vertical monopoles
COLOR	dark grey/black; landform changes unapparent	Replaced with structures	Dark grey/black PV panels; galvanized grey utility lines
TEXTURE	smooth surfaces; landform changes unapparent	Replaced with structures	smooth array/structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	Land/Water Body (1) Strong	Moderate	Weak	None	Vegetation (2) Strong	Moderate	Weak	None	Structures (3) Strong	Moderate	Weak	None
Form				x				v			x	
Line				x		x				x		
Color				x		x				x		
Texture				X			x			x		

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended
☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names: Dylan Duvergé
Date: 12/29/11

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 12/29/11

District Palm Springs Field Office

Resource Area

Activity (program) Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name
McCoy Solar Energy Project

2. Key Observation Point
KOP 5

3. VRM Class
III

4. Location
Township 5, 6, 7 S
Range 21, 22 E
Section multiple

5. Location Sketch
see Figure 4.22-3

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat, subdued sub-horizontal rise in foreground; flat mesa in middleground/background; prominent steep sided, irregular and elongated mountain backdrop	Irregular mosaics of shrubs; broad flat gradational changes in the distance	None
LINE	Sharp irregular mountain skyline, soft and smooth horizontal lines on mesa in the distance	prominent sub-horizontal horizon line in foreground; soft subdued horizontal lines in distant plain	None
COLOR	light tan bare earth; distant dark reddish-brown of mountains	light sage green desert scrub and light gold and pale grey grasses and dead shrubs.	None
TEX-TURE	coarse patchy shrubs, granular earth in foreground; smooth subdued mountain mosaic in background	fine to moderate shrub patterns; vegetation coarse, circular and patchy	None

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	graded, planar and horizontal; landform changes unapparent	Replaced with structures	Planar solar PV array
LINE	graded; horizontal; landform changes unapparent	Replaced with structures	Horizontal edge lines of PV array, vertical monopoles
COLOR	dark grey/black; landform changes unapparent	Replaced with structures	Dark grey/black PV panels; galvanized grey utility lines
TEX-TURE	smooth surfaces; landform changes unapparent	Replaced with structures	smooth array/structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1.

DEGREE OF CONTRAST	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
ELEMENTS	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Form				X				X				X
Line				X			X				X	
Color				X			X				X	
Texture				X			X				X	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names: Dylan Duvergé
Date: 12/29/11

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 12/29/11

District Palm Springs Field Office

Resource Area

Activity (program) Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name
McCoy Solar Energy Project

2. Key Observation Point
KOP 4

3. VRM Class
III

4. Location
Township 5, 6, 7 S
Range 21, 22 E
Section multiple

5. Location Sketch
see Figure 4.22-3

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat, subdued sub-horizontal rise in foreground; flat mesa in middleground/background; prominent steep sided, irregular and elongated mountain backdrop	Irregular mosaics of shrubs; broad flat gradational changes in the distance	narrow and formless (wooden t-line in middleground)
LINE	Sharp irregular mountain skyline, soft and smooth horizontal lines on mesa in the distance	Soft curvilinear roads, soft horizontal lines in distant plain	sub horizontal alignment; vertical supports (wooden t-line in middleground)
COLOR	light tan bare earth; distant dark reddish-brown of mountains	light sage green desert scrub and light gold and pale yellow grasses	dark brown poles (wooden t-line in middleground)
TEX-TURE	coarse patchy shrubs, granular earth in foreground; smooth subdued mountain mosaic in background	fine to moderate shrub patterns; vegetation coarse, circular and patchy	indiscernible (wooden t-line in middleground)

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	graded, planar and horizontal; landform changes unapparent	Replaced with structures	Planar solar PV array
LINE	graded; horizontal; landform changes unapparent	Replaced with structures	Horizontal edge lines of PV array, vertical monopoles
COLOR	dark grey/black; landform changes unapparent	Replaced with structures	Dark grey/black PV panels; galvanized grey utility lines
TEX-TURE	smooth surfaces; landform changes unapparent	Replaced with structures	smooth array/structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1.

DEGREE OF CONTRAST	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
ELEMENTS	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Form				X				X				X
Line				X			X			X		
Color				X			X			X		
Texture				X			X				X	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names: Dylan Duvergé
Date: 12/29/11

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date	12/29/11
District	Palm Springs Field Office
Resource Area	
Activity (program)	Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: McCoy Solar Energy Project	4. Location Township 5, 6, 7 S Range 21, 22 E Section multiple	5. Location Sketch see Figure 4.22-3
2. Key Observation Point: KOP 6		
3. VRM Class: III		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat mesa in middleground; prominent steep sided, irregular and pyramidal mountain backdrop	Irregular mosaics of shrubs; complex irregular patterns; broad flat gradational changes in the distance	Broad planar roadway; vertical fence posts; vertical t-lines in distance
LINE	soft irregular mountain skyline; straight and sharp mesa horizon line	prominent sub-horizontal horizon line in foreground; soft subdued horizontal lines in distant plain	Horizontal, linear roadways; vertical and horizontal structures
COLOR	light tan bare earth; dark reddish-brown of mountains	light sage green desert scrub and light gold and pale grey grasses.	Light to dark greys of roadway, gray fence posts, t-line color indistinguishable
TEX-TURE	coarse patchy shrubs, granular earth in foreground; smooth subdued mountain mosaic in background	fine to moderate shrub patterns; vegetation coarse, circular and patchy	fine smooth road textures, granular shoulders

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	graded, planar and horizontal; landform changes unapparent	Replaced with structures; vegetation changes unapparent	cylindrical t-lines; form indiscernible due to distance
LINE	graded; horizontal; landform changes unapparent	Replaced with structures; vegetation changes unapparent	vertical poles; horizontal wire strings indiscernible
COLOR	dark grey/black; landform changes unapparent	Replaced with structures; vegetation changes unapparent	galvanized grey
TEX-TURE	smooth surfaces; landform changes unapparent	Replaced with structures; vegetation changes unapparent	smooth structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1\. DEGREE OF CONTRAST

ELEMENTS	Land/Water Body (1) Strong	Moderate	Weak	None	Vegetation (2) Strong	Moderate	Weak	None	Structures (3) Strong	Moderate	Weak	None
Form				x				x			x	
Line				x				x			x	
Color				x				x			x	
Texture				x				x				x

2\. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3\. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names	Date
Dylan Duvergé	12/29/11

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date	12/29/11
District	Palm Springs Field Office
Resource Area	
Activity (program)	Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: McCoy Solar Energy Project	4. Location	5. Location Sketch
2. Key Observation Point: KOP 7	Township: 5, 6, 7 S	see Figure 4.22-3
3. VRM Class: Class III (along & south of I-10); Class II (north of I-10)	Range: 21, 22 E	
	Section: multiple	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat valley floor; distant landforms screened by vegetation	large rounded desert shrubs and woodland scrub trees and shrubs; complex irregular patterns	Broad planar roadway; vertical posts; rectilinear highway signs
LINE	landform lines unnaparent	sub vertical and sub horizontal; curvilinear	Horizontal, linear roadway; vertical and horizontal structures
COLOR	light to dark grey bare earth in foreground	light golds and tans and light sage greens	Light to dark greys of roadway, gray posts, white and green highway signs
TEX-TURE	isolated patched of granular bare earth in foreground	fine to moderate shrub patterns; vegetation coarse, circular and continuous along I-10	fine smooth road textures, granular shoulders

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	graded, planar and horizontal; landform changes unapparent	Replaced with structures; vegetation changes unapparent	cylindrical t-lines; form indiscernible due to distance
LINE	graded; horizontal; landform changes unapparent	Replaced with structures; vegetation changes unapparent	vertical poles visible; horizontal wire strings slightly discernible
COLOR	dark grey/black; landform changes unapparent	Replaced with structures; vegetation changes unapparent	galvanized grey
TEX-TURE	smooth surfaces; landform changes unapparent	Replaced with structures; vegetation changes unapparent	smooth structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Form				x				x			x	
Line				x				x			x	
Color				x				x			x	
Texture				X				x				x

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names	Date
Dylan Duvergé	12/29/11