

Appendix I

Paleontological Resources Assessment



Paleontological Resources Assessment

Bonanza Peak Energy Project

PREPARED FOR
Bonanza Peak Solar, LLC

DATE
25 November 2025

REFERENCE
0756349



Paleontological Resources Assessment

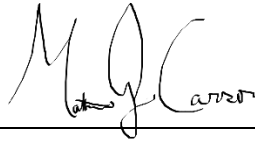
Bonanza Peak Energy Project

0756349



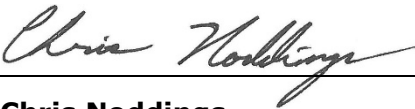
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ACRONYMS AND ABBREVIATIONS

Acronym	Description
BESS	Battery energy storage system
Bgs	Below ground surface
Bonanza Peak Solar	Bonanza Peak Solar, LLC
CEQA	California Environmental Quality Act
CSG	California Geological Survey
ERM	Environmental Resource Management, Inc.
gen-tie	Generation tie-in line
NHMLA	Natural History Museum of Los Angeles County
Photo	Photograph
PRC	Public Resources Code
PRMP	Paleontological Resources Monitoring Plan
Project	Bonanza Peak Energy Project
PV	Photovoltaic
REGPA	Renewable Energy General Plan Amendment
SBCM	San Bernardino County Museum
SVP	Society of Vertebrate Paleontology
UCMP	University of California Museum of Paleontology

EXECUTIVE SUMMARY

PURPOSE AND SCOPE OF ASSESSMENT

Bonanza Peak Solar, LLC, a wholly owned subsidiary of 174 Power Global, LLC, which is a wholly owned subsidiary of Hanwha Energy USA Holdings Corporation (Applicant) requests a Renewable Energy Permit (REP) from Inyo County, California to construct, own, operate, and maintain the Bonanza Peak Energy Project (Project), a utility scale solar photovoltaic (PV) energy generating facility on private lands. The requested term for the REP is 50 years.

Environmental Resources Management, Inc. (ERM) has been retained to conduct a paleontological resources assessment for the proposed Project. ERM evaluated the potential for the Project to result in significant impacts to “unique” (i.e., scientifically significant) paleontological resources and provided recommendations to reduce such impacts to less-than-significant levels. This paleontological resources assessment included a review of published geologic maps, scientific literature and online fossil locality databases, geotechnical assessment for the Project, and museum records, as well as a pedestrian reconnaissance survey.

SUMMARY OF RESULTS

According to local geologic mapping, the surface of the Project’s Study Area (an approximately 2,717-acre area) is mapped as intermittently active fluvial fine-grained alluvium, youngest alluvium, older fine-grained deposits, active valley-axis deposit intermixed with young valley-axis deposit, young alluvium, older young alluvium, undivided alluvium, young eolian sand deposit overlying intermediate valley-axis deposit, young eolian sand deposit overlying intermediate groundwater discharge deposit, young mixed alluvial and eolian deposit overlying intermediate valley-axis deposit, and young mixed alluvial and eolian sand deposit overlying intermediate groundwater deposit. ERM’s paleontologist confirmed the presence of these geologic units at the surface within the Study Area during the pedestrian reconnaissance survey and observed no paleontological resources during the survey.

While these surficial units have no or low paleontological sensitivity, they are underlain by sediments capable of preserving paleontological resources at approximately 4 feet below ground surface (bgs) based on subsurface geologic information and regional fossil databases. Therefore, ground-disturbing activities associated with the Project with the potential to impact previously undisturbed sediments at depths 4 feet bgs or greater could result in potentially significant impacts to “unique” paleontological resources. If disturbed, damaged, or destroyed, such impacts would be considered significant under the California Environmental Quality Act. Potential impacts to “unique” paleontological resources from the following ground-disturbing activities would be less than significant when:

1. Disturbing sediments that are younger than middle Holocene in age;
2. Disturbing sediments of depths less than 4 feet bgs; or
3. Disturbing sediments during drilling that is less than 2 feet in diameter.



CONCLUSIONS

While the uppermost 4 feet of surficial sediments across the Study Area may be too young to preserve paleontological resources, the underlying units have high potential to yield significant paleontological resources. Therefore, the Applicant must comply with mitigation measure PALEO-1a from the Renewable Energy General Plan Amendment Final Program Environmental Impact Report Volume II (Final REGPA), which includes the retention of a Qualified Professional Paleontologist (paleontology principal investigator) who would prepare and implement a Paleontological Resources Management Plan that outlines Project-specific details; avoidance, monitoring, and management procedures; unanticipated discovery and communication protocols; evaluation and reporting requirements; and final curation of significant resources. The Paleontological Resources Management Plan should include provisions such as the following:

1. No paleontological monitoring is required for ground-disturbing activities less than 4 feet bgs.
2. No paleontological monitoring is required when pushing piles (upon which the solar panels would be mounted) into the ground, regardless of depth.
3. No paleontological monitoring is required during drilling activities that are less than 2 feet in diameter, regardless of depth.
4. No paleontological monitoring is required during ground-disturbing activities that are located entirely within previously disturbed sediments, regardless of depth.
5. No paleontological monitoring is required during ground-disturbing activities that are located entirely within sediments younger than middle Holocene in age, regardless of depth.

Additionally, the Paleontological Resources Management Plan should allow the Qualified Professional Paleontologist (paleontology principal investigator) to increase, decrease, or cease the level of paleontological monitoring during ground-disturbing activities based on field observations and with concurrence with Inyo County. Implementation of this measure would reduce Project impacts to "unique" (i.e., scientifically significant) paleontological resources to a less than significant level.

1. INTRODUCTION

Bonanza Peak Solar, LLC, a wholly owned subsidiary of 174 Power Global, LLC, which is a wholly owned subsidiary of Hanwha Energy USA Holdings Corp. (Applicant) requests a Renewable Energy Permit (REP) from Inyo County, California to construct, own, operate, and maintain a utility scale solar photovoltaic (PV) energy generating facility on private lands. The requested term for the REP is 50 years.

The Bonanza Peak Energy Project (Project) would be located in the Charleston View Solar Energy Development Area (SEDA) in southeastern Inyo County, adjacent to the Nevada state line just north of Old Spanish Trail Highway (Figure 1).

The solar generation facility, including the PV arrays, substation, and other electrical equipment, would be within a 3,382-acre Project Area with a Developed Area of no greater than 2,400 acres, as dictated by the Inyo County Renewable Energy General Plan Amendment (REGPA; Inyo County 2015). The Project has a planned net generating capacity of up to 500 megawatts alternating current.

The PV electrical generation facility includes installation of fencing, access roads, PV modules, single axis tracker racking, inverters, batteries, electrical distribution equipment, overhead and underground power lines, substation, interconnection switchyard, and an overhead transmission line racking system. A previously proposed access corridor was identified during initial planning; however, the current access route will instead utilize the Old Spanish Trail Highway (known as Tecopa Road in Nevada) as well as a 0.25-mile portion of Zircon Street, an existing north-south trending unpaved road with a minimum width of 40 feet. Gravel will be placed on Zircon St. The generation tie-line corridor will continue into Nevada to the northeast; however, only the portion of the Project within California is considered within this scope.

Construction is anticipated to begin in Quarter 4 of 2026. The Project may be built in one or more phases within an approximately 18-month construction period.

Environmental Resources Management, Inc. (ERM) has been retained to conduct a paleontological resources assessment for the proposed Project. This paleontological resources assessment included a desktop review of the Project's Study Area (an approximately 2,717-acre area; refer to Figure 2), including review of published geologic maps, scientific literature, freely available online fossil locality databases, relevant geotechnical technical studies, and museum records from relevant repositories. The assessment was supplemented by a pedestrian reconnaissance survey of the Study Area. ERM evaluated these data to determine the potential for the Project to result in significant impacts to "unique" (i.e., scientifically significant) paleontological resources and provided recommendations to reduce such impacts to less-than-significant levels, pursuant to the California Environmental Quality Act (CEQA) and other state and local regulations.

ERM Paleontologist Kristina Akesson, B.S., was the primary author of this report. Kristina Akesson also led the field reconnaissance survey and was assisted by ERM Archaeologist Dylan Cordova, B.A. ERM Principal Paleontologist Mathew Carson, M.S., who exceeds the qualification standards defined by the Society of Vertebrate Paleontology (SVP) for Qualified Professional Paleontologist (SVP 2010), oversaw all paleontology work and provided overall quality assurance/quality control.



2. PROJECT LOCATION AND DESCRIPTION

The Project would be located on private lands in the Charleston View Solar Energy Development Area in southeastern Inyo County, adjacent to the Nevada state line just north of Old Spanish Trail Highway. The Project would be located on predominantly flat, arid, sparsely vegetated, open land in the southern portion of the Pahrump Valley. Elevations range from 2,560 feet to 2,660 feet above sea level. It is within the Basin and Range Geomorphic Province, characterized by interior drainage to lakes and playas, with horst and graben structures (i.e., basins and ranges). The Project is located in Sections 16 to 18, 20 to 22, and 25 to 28, Township 22 North, and Range 10 East, and intersects the Calvada Springs, Mound Spring and Stump Spring United States Geological Survey 7.5-minute topographic quadrangles.

The solar generation facility, including the PV arrays, substation, generation tie-in line (gen-tie) corridor within California (see below), other electrical equipment, and the previously proposed access road, would be within the Study Area. The Project has a planned net generating capacity of up to 500 megawatts alternating current (AC). An approximately 9-mile long 230-kilovolt gen-tie would be located mostly on lands managed by the Bureau of Land Management in Nye and Clark counties, Nevada; approximately 0.5 miles of the gen-tie would be located in California. Within Nevada, the Project would connect to the existing Gridliance 230-kilovolt transmission line at the Trout Canyon Substation. This assessment only includes the Study Area located in Inyo County, California, all of which is located within privately owned land. At the timing of this assessment, the extent of grading or excavation activities are unspecified but would be limited to the grading and clearing of new and existing access roads, the substation site, and detention basins. Additionally, ground-disturbing activities associated with the piles or solar PV array foundations would be limited to direct-push methods and would not require mass grading or drilling, and drilling activities associated with the above-ground gen-tie line structures would be less than 2 feet in diameter.

3. DEFINITION OF SIGNIFICANT PALEONTOLOGICAL RESOURCES

According to the SVP (2010), significant paleontological resources are:

fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (SVP 2010:11).

In the absence of agency guidelines, professional paleontologists in California adhere to this SVP (2010) definition of significant paleontological resources. Published best practices (Murphey et al. 2019) provide refined criteria for assessing the significance of newly discovered paleontological resources. These criteria are listed below:

1. The fossils provide information on the evolutionary relationships and development trends among living and/or extinct organisms.

2. The fossils provide data useful in determining the relative age and correlation of geologic units and geologic events, as well as the timing of changes in paleoenvironments through time within a region.
 3. The fossils provide data regarding the development of biological communities through time, including interactions between paleobotanical and paleozoological biotas.
 4. The fossils demonstrate unusual or spectacular circumstances in the history of life.
 5. The fossils are in short supply; are at risk of depletion or destruction due to climate change, vandalism, or commercial exploitation; and/or are not found in other geographic locations.
- (Murphey et al. 2019)

Geologic units known to preserve significant paleontological resources or sites are likely to contain additional undiscovered paleontological resources. Additionally, the presence of only nonsignificant fossils within a site does not preclude the possibility of newly discovered significant paleontological resources from being present within a site. Unlike biological resources, significant paleontological resources may be present at the surface or at depth and would only be discoverable after erosion or human activity (e.g., via ground-disturbing construction activities) impacts the sedimentary deposits that would contain them.

4. DETERMINING PALEONTOLOGICAL SENSITIVITY

Paleontological potential, or “paleontological sensitivity”, is the potential for a geologic unit to yield scientifically significant paleontological resources. The SVP (2010) defines four categories of paleontological sensitivity for rock units:

- **High Potential:** Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered and have a high probability for yielding additional significant paleontological resources. Rock units with high potential typically require impact mitigation measures to protect significant fossils.
- **Low Potential:** Rock units that are poorly represented by fossil specimens in institutional collections, that only preserve fossils in rare circumstances where the presence of fossils is the exception not the rule (e.g., basalt flows or recent colluvium), or that are too young to yield significant paleontological resources (i.e., specimens are younger than middle Holocene [less than 5,000 years old]). Rock units with low potential typically will not require impact mitigation measures to protect fossils but may be underlain by geologic units of relatively higher potential that may require paleontological mitigation.
- **Undetermined Potential:** Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources.
- **No Potential:** Rock units that have no potential to contain significant paleontological resources, such as high-grade metamorphic rocks (e.g., gneisses and schists), plutonic igneous rocks (e.g., granites and diorites), or previously disturbed sediments/artificial fill.

Rock units with no potential require no protection or impact mitigation measures relevant to paleontological resources. (SVP 2010:1-2)

To determine a geologic unit's potential to yield significant paleontological resources, paleontologists must assess a) the full surface and subsurface geographical extent of the geologic unit (via geologic maps, geotechnical boring logs, geologic cross-sections, primary literature, etc.); b) its known fossil discoveries (via primary literature, unpublished records, online fossil locality databases, other environmental documents, museum records search results, etc.); and c) the preservation potential of local deposits (e.g., lithology, grain size/shape/sorting, chemical or physical weathering, etc. that influence the likelihood of fossil preservation).

5. REGULATORY ENVIRONMENT

5.1 STATE REGULATIONS

5.1.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Through the CEQA review process, lead agencies must determine if a proposed project would have a significant impact on the environment. For paleontological resources, Section VII(f) of the Appendix G: Environmental Checklist posits "Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" Unlike cultural resources, CEQA does not define a "unique" paleontological resource or site, nor does it provide significance thresholds or criteria for determining the potential for adverse effects. Significance criteria discussed in SVP (2010) and Murphey et al. (2019) can be applied in impact assessments under CEQA in the absence of state or local agency definition (see *Section 3. Definition of Significant Paleontological Resources* above).

5.1.2 CALIFORNIA PUBLIC RESOURCES CODE

California Public Resources Code (PRC) Division 5, Chapter 1.7, Section 5097.5 states the following:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

In summary, PRC Section 5097.5 prohibits the removal, without permission, of any paleontological site or feature from land under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any other agency thereof. Thus, local agencies are required to comply with PRC Section 5097.5 for their own activities, including construction, maintenance, and actions requiring permits undertaken by others.

5.2 LOCAL REGULATIONS

While the Inyo County General Plan does not contain goals or policies applicable to paleontological resources (Inyo County 2001), the County of Inyo prepared the Renewable Energy General Plan Amendment Final Program Environmental Impact Report Volume II (Final REGPA) (Inyo County 2015). Goals, policies, and mitigation measures relevant to paleontological resources, as detailed in the Final REGPA, were incorporated into this assessment (Inyo County 2015).

6. METHODS

The following sections discuss the methods used to determine the paleontological sensitivity of the geologic units present within the Study Area and the potential for the Project to result in potentially significant impacts to “unique” paleontological resources. Based on the results of the analysis of existing data and the field reconnaissance survey, ERM classified the paleontological sensitivity of relevant geologic units and conducted an impact analysis to determine the potential for the proposed Project to result in adverse effects. Methods used in this assessment follow industry standards as developed by the SVP (2010) and published best practices in mitigation paleontology (Murphey et al. 2019). The results of both the analysis of existing data and the reconnaissance survey are incorporated into *Section 7. Results*.

6.1 ANALYSIS OF EXISTING DATA

ERM reviewed 1) published geologic maps by Lundstrom et al. (2003) at a scale of 1:24,000 and Schmidt and McMackin (2006) at a scale of 1:100,000 for the Study Area (Figure 4), 2) subsurface information from the geotechnical analysis prepared for the Project (Mott MacDonald 2021), 3) scientific literature, 4) online fossil locality databases, and 5) museum records search results from the Natural History Museum of Los Angeles County (NHMLA) and the San Bernardino County Museum (SBCM).

6.2 FIELD RECONNAISSANCE SURVEY

ERM conducted a pedestrian reconnaissance survey of the Study Area on 1 through 3 April 2025. Field data, including photograph (photo) points and geologic descriptions for all units observed within the Study Area were collected within Esri Field Maps for ArcGIS software during the survey (Figure 5). The pedestrian reconnaissance survey was conducted to 1) confirm the geologic mapping by Lundstrom et al. (2003) and Schmidt and McMackin (2006); 2) examine exposures of previously undisturbed sediments or rock outcrops, if any, within the Study Area, and to assess their potential to preserve paleontological resources; 3) examine the status of previously recorded paleontological localities identified during the analysis of existing data, if any; and 4) record newly identified fossil localities present within the Study Area.

7. RESULTS

7.1 REGIONAL CONTEXT

The Study Area is located within Inyo County, California within the Basin and Range Geomorphic Province (California Geological Survey [CGS] 2002; Norris and Webb 1990). The Basin and Range



province is characterized by angular, approximately parallel, fault-bounded mountain ranges separated by desert basins characteristic of the horst and graben structure (CGS 2002; Eaton 1982; Parsons 2006; Stewart 1980). This horst and graben fault block pattern resulted from crustal extension and faulting caused by subduction of the Farallon Plate and rotation along the San Andreas Fault beginning at approximately 30 million years ago in the early Oligocene and continuing to approximately 10 million years ago in the late Miocene (Norris and Webb 1990; Parsons 2006). In the Pliocene (approximately 2.58 to 5.33 million years ago), erosion, flash floods, steep mountain slopes, and deep basins were common features of the arid or semiarid Basin and Range Geomorphic Province (Norris and Webb 1990). During periods of glaciation in the Pleistocene (with glacial advances estimated from approximately 14,500 to 28,000 in the Western United States), glaciers were likely only present along mountain summits in this province, but climates were cool and dry, with less evaporation than today, resulting in permanent drainages and lakes in basins (Hughes et al. 2013; Norris and Webb 1990). Mountain ranges in the province are flanked by plateaus formed by alluvial fan and axial valley drainage deposits with varying amounts of eolian (windblown sand) deposits (Schmidt and McMackin 2006). Alluvial fans are formed from single-thread channels exiting higher gradient bedrock areas and discharging water and sediment into basins (Schmidt and McMackin 2006). Axial valley drainages are generally located at topographically lower portions of a valley, flow for longer distances, and deposit sediment from numerous sources (Schmidt and McMackin 2006). Eolian deposits mobilize sediment typically in areas with little to no vegetation and commonly grade into distal portions of alluvial fan deposits as sand sheets with small dunes and vegetation mounds (Schmidt and McMackin 2006). Topographically flattened, fine-grained playa deposits form in areas of groundwater discharge and widespread low-energy flooding (Schmidt and McMackin 2006). Alluvial fan, axial-channel, eolian, and groundwater deposits are common across the Basin and Range province, deposited through the Pleistocene (11,700 to 2.58 million years ago) and Holocene (present to 11,700) (Schmidt and McMackin 2006). Fine-grained alluvial fan, playa, and axial channel deposits that in-fill sedimentary basins have yielded several scientifically significant paleontological resources that have aided our understanding of evolution, extinction, paleobiogeography, and climate change in the Holocene and Pleistocene (Barnosky et al. 2004; Connin et al. 1998; Harris 1990; Holland 2016; Roy et al. 1996; Sandom et al. 2014; Scott 2010). Age ranges for the geologic units analyzed in this report are from the *International Chronostratigraphic Chart* prepared by the International Commission on Stratigraphy (Cohen et al. 2013).

7.2 LOCAL GEOLOGY AND PALEONTOLOGY

According to Lundstrom et al. (2003) and Schmidt and McMackin (2006), the surface of the Study Area is mapped as intermittently active fluvial fine-grained alluvium (Qfy), youngest alluvium (Qayy), older fine-grained deposits (Qfo), active valley-axis deposit intermixed with young valley-axis deposit (Qav+Qyv), young alluvium (Qay), older young alluvium (Qayo), undivided alluvium (Qau), young eolian sand deposit overlying intermediate valley-axis deposit (Qye/Qiv), young eolian sand deposit overlying intermediate groundwater discharge deposit (Qye/Qig), young mixed alluvial and eolian deposit overlying intermediate valley-axis deposit (Qyae/Qiv), and young mixed alluvial and eolian sand deposit overlying intermediate groundwater deposit (Qyae/Qig) (see

Figure 4). The geologic units present within the Study Area are described in geochronological order (youngest to oldest) below.

Holocene and Pleistocene alluvial and lacustrine deposits in Inyo County have yielded a variety of scientifically important vertebrate and invertebrate fossils (Jefferson 1991a, 1991b, 2010; UCMP 2025). Vertebrates found in these deposits include mammoths, horses, camels, bison, canids, felids, antilocaprids, rodents, hares, desert tortoises, and large birds of prey (Jefferson 1991a, 1991b, 2010; UCMP 2025). Late Pleistocene groundwater discharge deposits in Amargosa Valley, Nye County, Nevada have yielded fossils of mammoth, freshwater snails, freshwater clams, and ostracods (Paleobiology Database 2025; Parry and Rowland 2022). Additionally, Pleistocene-age fossils, such as grebe, goose, duck, pelican, eagle, and flamingo, have been recovered from lacustrine and playa deposits near Lake Manix in San Bernardino County, California (Howard 1955; Paleobiology Database 2025). Therefore, based on the abundance of fossils from comparable geologic units, Holocene- and Pleistocene-aged geologic units within the Study Area are analyzed below for their potential to preserve such fossils.

7.2.1 INTERMITTENTLY ACTIVE FLUVIAL FINE-GRAINED ALLUVIUM (QFY) – LATE HOLOCENE

Lundstrom et al. (2003) map late Holocene intermittently active fluvial fine-grained alluvium (Qfy) along northwestern portions of the Study Area. Intermittently active fluvial fine-grained alluvium consists of brown to gray silt, mud, sand, and gravel (Lundstrom et al. 2003). This unit ranges in thickness from less than 1.5 feet to more than 5 feet thick (Lundstrom et al. 2003).

During the pedestrian reconnaissance survey, the paleontologist noted that the unit consisted of loose, white, silt and clay matrix with desiccation cracks overlain by angular to subangular carbonate pebbles and gravels (Figure 6).

The SVP (2010) defines paleontological resources as being over 5,000 years in age; therefore, late Holocene (i.e., 4,200 years old to present) intermittently active fluvial fine-grained alluvium at the surface is too young to preserve paleontological resources and has no paleontological sensitivity at the surface. This unit may be underlain, however, by older geologic units that may contain paleontological resources. The geotechnical report documented an increase in consolidation at approximately 4 feet below ground surface (bgs) across the site (Mott MacDonald 2021). While the depth to middle Holocene or older sediments (i.e., 5,000 years or older) is unknown, the consolidation of sediments starting at approximately 4 feet deep across the site indicates that these sediments may be at an appropriate age to yield paleontological resources. Therefore, late Holocene intermittently active fluvial fine-grained alluvium has no paleontological sensitivity at the surface, transitioning to high sensitivity at approximately 4 feet bgs.

7.2.2 YOUNGEST ALLUVIUM (QAYY) – HOLOCENE

Lundstrom et al. (2003) map Holocene-age youngest alluvium (Qayy) within the northern portion of the Study Area. Youngest alluvium consists of poorly to moderately sorted, uncemented angular to subangular gravel and sand that ranges from massive to well-bedded and clast-supported to matrix-supported (Lundstrom et al. 2003). Clasts range in size from granules to boulders, composed primarily of carbonate rocks derived from erosion of the Spring Mountains in Nevada to

the northeast of the Project (Lundstrom et al. 2003). This unit has a minimum thickness of 3 to 6 feet and grades into late Holocene intermittently active fluvial fine-grained alluvium (Qfy) (Lundstrom et al. 2003).

Where this unit is mapped, the paleontologist observed loose to poorly consolidated, white silt and clay that was very shallowly dissected by overlapping wash deposits and showed desiccation cracks at the surface (Figure 7).

While late Holocene deposits are too young to preserve paleontological resources (SVP 2010), they may grade to or overlie older deposits capable of preserving fossils. The geotechnical report documented an increase in density at 4 feet bgs and noted hard sediment at 8 feet bgs during boring within this unit (Mott MacDonald 2021). While the depth to middle Holocene or older sediments (i.e., 5,000 years or older) is unknown, the consolidation and/or lithification of the sediments starting at approximately 4 feet deep indicates that these sediments may be at an appropriate age to yield paleontological resources. Therefore, Holocene youngest alluvium has low paleontological sensitivity at the surface, transitioning to high sensitivity at approximately 4 feet bgs.

7.2.3 OLDER FINE-GRAINED DEPOSITS (QFO) – HOLOCENE(?)

According to Lundstrom et al. (2003), older fine-grained deposits (Qfo) are mapped along the northern extent of the Study Area. Older fine-grained deposits consist of uncemented fluvial sand and mud with a thickness ranging from less than 1.5 feet to more than 5 feet thick (Lundstrom et al. 2003).

The paleontologist noted that the unit consisted of moderately to well-sorted, poorly consolidated, white colored, silt and clay matrix exhibiting desiccation cracks overlain by angular to subangular carbonate pebbles and gravels (Figures 8, 9).

While late Holocene deposits are too young to preserve paleontological resources (SVP 2010), they may grade to or overlie older deposits capable of preserving fossils. The geotechnical report documented an increase in density at depths of approximately 6 feet bgs within this unit, but approximately 4 feet across the site (Mott MacDonald 2021). While the depth to middle Holocene or older sediments is unknown, the consolidation and/or lithification of the sediments starting at approximately 4 to 6 feet deep indicate that these sediments may be at an appropriate age to yield paleontological resources. Therefore, Holocene older fine-grained deposits have low paleontological sensitivity at the surface, transitioning to high potential at approximately 4 feet bgs.

7.2.4 ACTIVE VALLEY-AXIS DEPOSIT INTERMIXED WITH YOUNG VALLEY-AXIS DEPOSIT (QAV+QYV) – LATEST HOLOCENE INTERMIXED WITH HOLOCENE AND LATEST PLEISTOCENE

The latest Holocene active valley-axis deposit intermixed with Holocene and latest Pleistocene young valley-axis deposit (Qav+Qyv) unit is mapped along a large portion of the Study Area (Schmidt and McMackin 2006). Active valley-axis deposits consist of moderately to poorly sorted, loose and unconsolidated, clay, silt, sand, and gravel (Schmidt and McMackin 2006). Young valley-

axis deposits consist of loose to somewhat consolidated, moderately to poorly sorted clay, silt, and sand (Schmidt and McMackin 2006).

The lithology of this unit varied within the Study Area. In some portions of the Study Area, clasts were sparse consisting of subangular to angular carbonates (Figure 10). In other portions of the Study Area, this unit contained abundant, poorly sorted pebble, gravel, and cobble clasts composed of angular to subrounded limestone, sandstone, chert, and weathered metamorphic rocks (Figures 11 through 14). In all portions of the Study Area, however, the matrix consisted of loose to poorly consolidated white to pinkish-white clay, silt, and very fine-grained sand exhibiting thin desiccation cracks (Figure 15).

While late Holocene deposits like active valley-axis deposits are too young to preserve paleontological resources (SVP 2010), they may grade to or overlie older deposits capable of preserving fossils. The geotechnical report noted hard sediment starting between 4 to 6 feet bgs during boring within this unit (Mott MacDonald 2021). While the depth to middle Holocene or older sediments is unknown, the consolidation and/or lithification of the sediments starting at approximately 4 feet deep indicates that these sediments may be at an appropriate age to yield paleontological resources. Therefore, active valley-axis deposit intermixed with young valley-axis deposit have no paleontological potential at the surface, but transition to high potential at approximately 4 feet bgs.

7.2.5 YOUNG ALLUVIUM (QAY) – HOLOCENE AND LATEST PLEISTOCENE

According to Lundstrom et al. (2003), Holocene and latest Pleistocene young alluvium (Qay) is mapped along part of the northeastern portion of the Study Area. Young alluvium consists of uncemented, poorly to moderately sorted, massive to well-bedded, clast-supported to matrix-supported alluvial-fan and wash gravel and sand (Lundstrom et al. 2003). Clasts are angular to subrounded and range in size from granules to boulders composed primarily of carbonate rocks derived from the Spring Mountains in Nevada, northeast of the Study Area (Lundstrom et al. 2003).

This unit was observed to consist of a very pale brown to white matrix with thin desiccation cracks and a poorly sorted array of angular to subrounded desert varnished pebbles, gravels, and cobbles composed primarily of limestone with some metamorphic rocks, volcanic rocks, and siltstone (Figures 16, 17).

Although late Holocene deposits are too young to preserve paleontological resources (SVP 2010), they may grade to or overlie older deposits capable of preserving fossils. While the geotechnical report did not have any boreholes directly within this unit, the analysis noted hard sediment starting on average at approximately 4 to 6 feet bgs across the Study Area (Mott MacDonald 2021). While the depth to middle Holocene or older sediments is unknown, the consolidation and/or lithification of the sediments starting at approximately 4 feet deep indicates that these sediments may be at an appropriate age to yield paleontological resources. Therefore, young alluvium has low paleontological sensitivity at the surface, transitioning to high potential at approximately 4 feet bgs.

7.2.6 OLDER YOUNG ALLUVIUM (QAYO) – HOLOCENE AND LATEST PLEISTOCENE

Lundstrom et al. (2003) map Holocene and latest Pleistocene older young alluvium (Qayo) along the northern edge of the Study Area. Similar to the youngest alluvium and young alluvium, older young alluvium consists of uncemented, poorly to moderately sorted, massive to well-bedded, clast-supported to matrix-supported, alluvial-fan and wash gravel and sand (Lundstrom et al. 2003). Clasts are angular to subrounded and range in size from granules to boulders composed primarily of carbonate rocks derived from the Spring Mountains (Lundstrom et al. 2003).

During the pedestrian reconnaissance survey, the paleontologist observed that older young alluvium consisted of a white to very pale brown, poorly consolidated silt and clay exhibiting thin desiccation cracks, with subrounded to angular gravels and pebbles composed primarily of carbonate rocks (Figures 18, 19).

While late Holocene deposits are too young to preserve paleontological resources (SVP 2010), they may grade to or overlie older deposits capable of preserving fossils. The geotechnical report documented an increase in density starting at approximately 4 feet bgs and noted hard sediments starting at approximately 6 feet bgs during boring within this unit (Mott MacDonald 2021). While the depth to middle Holocene or older sediments is unknown, the consolidation and/or lithification of the sediments starting at approximately 4 feet deep indicates that these sediments may be at an appropriate age to yield paleontological resources. Therefore, older young alluvium has low paleontological sensitivity at the surface, transitioning to high potential at approximately 4 feet bgs.

7.2.7 UNDIVIDED ALLUVIUM (QAU) – HOLOCENE AND LATEST PLEISTOCENE

Holocene and latest Pleistocene undivided alluvium (Qau) is mapped within a small area along the northeastern portion of the Study Area (Lundstrom et al. 2003). Undivided alluvium consists of poorly to moderately sorted, massive to well-bedded, clast-supported to matrix-supported, cemented and uncemented alluvial fan and pediment gravel with interbedded sand (Lundstrom et al. 2003). Clasts are angular to subrounded, with sizes ranging from granules to boulders, originating from Paleozoic rocks in the Spring Mountains northeast of the Study Area (Lundstrom et al. 2003).

Observed during the pedestrian survey, this unit consisted of white to very pale brown silt and clay with desert varnished, subrounded to subangular gravels and cobbles composed primarily of limestone with lesser amounts of volcanic and sandstone clasts (Figures 20, 21).

Although late Holocene deposits are too young to preserve paleontological resources (SVP 2010), they may grade to or overlie older deposits capable of preserving fossils. The geotechnical report documented an increase in density at approximately 4 feet bgs and noted hard sediments starting at approximately 6 feet bgs during boring within this unit (Mott MacDonald 2021). While the depth to middle Holocene or older sediments is unknown, the consolidation and/or lithification of the sediments starting at approximately 4 feet deep indicates that these sediments may be at an appropriate age to yield paleontological resources. Therefore, undivided alluvium has low paleontological sensitivity at the surface, transitioning to high potential at approximately 4 feet bgs.

7.2.8 YOUNG EOLIAN SAND DEPOSIT OVERLYING INTERMEDIATE VALLEY-AXIS DEPOSIT (QYE/QIV) – HOLOCENE AND LATEST PLEISTOCENE OVERLYING LATE AND MIDDLE PLEISTOCENE

Holocene and latest Pleistocene young eolian sand deposit overlying late and middle Pleistocene intermediate valley-axis deposit (Qye/Qiv) is mapped along the eastern side of the Study Area (Schmidt and McMackin 2006). Young eolian sand deposits consist of pale brown, moderately- to well-sorted sand with sparse clasts (Schmidt and McMackin 2006). Intermediate valley-axis deposits consist of light tan to light yellow clay, silt, and medium- to fine-grained sand interbedded with coarse sand and gravel (Schmidt and McMackin 2006). According to Schmidt and McMackin (2006), these overlying units are less than approximately 6 feet thick over the older unit.

During the reconnaissance survey, the paleontologist observed this unit to consist of poorly to moderately consolidated, well sorted matrix of pinkish white clay and silt with thin desiccation cracks (Figure 22). The abundance of clasts varied across the site. Clasts consisted of angular to subrounded, poorly sorted limestone, volcanic, and metasedimentary pebbles, gravels, and cobbles (Figure 23, 24).

While late Holocene deposits at the surface are too young to preserve paleontological resources (SVP 2010), they overlie older deposits capable of preserving fossils. The geotechnical report documented an increase in density starting between approximately 4 to 8 feet bgs and noted hard sediment starting between 6 to 8 feet bgs during boring within this unit (Mott MacDonald 2021). While the depth to middle Holocene or older sediments is unknown, the consolidation and/or lithification of the sediments starting at approximately 4 feet deep indicates that these sediments may be at an appropriate age to yield paleontological resources. Therefore, this unit has low paleontological sensitivity at the surface, transitioning to high potential at approximately 4 feet bgs.

7.2.9 YOUNG EOLIAN SAND DEPOSIT OVERLYING INTERMEDIATE GROUNDWATER DISCHARGE DEPOSIT (QYE/QIG) – HOLOCENE AND LATEST PLEISTOCENE OVERLYING LATE AND MIDDLE PLEISTOCENE

Holocene and latest Pleistocene young eolian sand deposit overlying late and middle Pleistocene intermediate groundwater discharge deposit (Qye/Qig) is mapped within part of the southern portion of the Study Area (Schmidt and McMackin 2006). As described above, young eolian sand deposits consist of pale brown, moderately- to well-sorted sand with sparse clasts (Schmidt and McMackin 2006). Intermediate groundwater discharge deposits consist of compacted, white to light brown silt and fine-grained sand in areas of former groundwater discharge (Schmidt and McMackin 2006). According to Schmidt and McMackin (2006), these overlying units are less than approximately 6 feet thick over the older unit.

This unit was observed to consist of poorly to moderately consolidated pinkish-white clay and silt with desiccation cracks with an abundance of poorly sorted angular to subrounded clasts (Figure 25). Clasts consisted of partly desert varnished fine-grained sandstone and limestone and sparse volcanic and metamorphic rocks (Figure 26).

Although late Holocene deposits are too young to preserve paleontological resources (SVP 2010), they overlie older deposits capable of preserving fossils. While the geotechnical report did not have any boreholes directly within this unit, the analysis noted hard sediment starting on average at approximately 4 to 6 feet bgs across the Developed Area (Mott MacDonald 2021). While the depth to middle Holocene or older sediments is unknown, the consolidation and/or lithification of the sediments starting at approximately 4 feet deep indicates that these sediments may be at an appropriate age to yield paleontological resources. Therefore, this unit has low paleontological sensitivity at the surface, transitioning to high sensitivity at approximately 4 feet bgs.

7.2.10 YOUNG MIXED ALLUVIAL AND EOLIAN SAND DEPOSIT OVERLYING INTERMEDIATE VALLEY-AXIS DEPOSIT (QYAE/QIV) – HOLOCENE AND LATEST PLEISTOCENE OVERLYING LATE AND MIDDLE PLEISTOCENE

According to Schmidt and McMackin (2006), Holocene and latest Pleistocene young mixed alluvial and eolian sand deposit overlying late and middle Pleistocene intermediate valley-axis deposit (Qyae/Qiv) is mapped along the southwestern portion of the Study Area. Young mixed alluvial and eolian sand deposits consist of poorly consolidated, loose, poorly to moderately sorted gravel-rich sand with less dominant eolian deposits mixed throughout the unit (Schmidt and McMackin 2006). As described above, intermediate valley-axis deposits consist of light tan to light yellow clay, silt, and medium- to fine-grained sand interbedded with coarse sand and gravel (Schmidt and McMackin 2006). According to Schmidt and McMackin (2006), these overlying units are less than approximately 6 feet thick over the older unit.

The paleontologist noted that this unit consisted of poorly to moderately consolidated pinkish-white silt and clay exhibiting desiccation cracks with an abundance of poorly sorted angular to subangular clasts composed of primarily limestone and sandstone with sparse metamorphic rocks (Figure 27).

While late Holocene deposits at the surface are too young to preserve paleontological resources (SVP 2010), they overlie older deposits capable of preserving fossils. The geotechnical report documented an increase in density starting between approximately 2 to 4 feet bgs and noted hard sediments starting between 2 to 8 feet bgs during boring within this unit (Mott MacDonald 2021). While the depth to middle Holocene or older sediments is unknown, the consolidation and/or lithification of the sediments starting at approximately 4 feet deep on average within this unit indicates that these sediments may be at an appropriate age to yield paleontological resources. Therefore, this unit has low paleontological potential at the surface, transitioning to high potential at approximately 4 feet bgs.

7.2.11 YOUNG MIXED ALLUVIAL AND EOLIAN SAND DEPOSIT OVERLYING INTERMEDIATE GROUNDWATER DISCHARGE DEPOSIT (QYAE/QIG) – HOLOCENE AND LATEST PLEISTOCENE OVERLYING LATE AND MIDDLE PLEISTOCENE

Holocene and latest Pleistocene young mixed alluvial and eolian sand deposit overlying late and middle Pleistocene intermediate groundwater discharge deposit (Qyae/Qig) is mapped within part of the western portion of the Study Area (Schmidt and McMackin 2006). As described above, young mixed alluvial and eolian sand deposits consist of poorly consolidated, loose, poorly to

moderately sorted gravel-rich sand with less dominant eolian deposits mixed throughout the unit (Schmidt and McMackin 2006). As described above, intermediate groundwater discharge deposits consist of compacted, white to light brown silt and fine-grained sand in areas of former groundwater discharge (Schmidt and McMackin 2006). According to Schmidt and McMackin (2006), these overlying units are less than approximately 6 feet thick over the older unit.

This unit was observed to consist of moderately consolidated white silt and clay exhibiting desiccation cracks and pitting with very sparse carbonate clasts at the surface (Figures 28 through 30).

While late Holocene deposits at the surface are too young to preserve paleontological resources (SVP 2010), they overlie older deposits capable of preserving fossils. The geotechnical report documented an increase in density starting between approximately 2 to 4 feet bgs and noted hard sediment starting between approximately 4 to 8 feet bgs during boring within this unit (Mott MacDonald 2021). While the depth to middle Holocene or older sediments is unknown, the consolidation and/or lithification of the sediments starting at approximately 4 feet deep on average within this unit indicates that these sediments may be at an appropriate age to yield paleontological resources. Therefore, this unit has low paleontological sensitivity at the surface, transitioning to high sensitivity at approximately 4 feet bgs.

7.3 MUSEUM RECORDS SEARCH

ERM received the NHMLA (2025) records search results on 2 February 2025. The NHMLA (2025) does not contain records of relevant fossil localities within the region of the Project.

ERM received the SBCM (2025) records search results on 28 February 2025, which reported no fossil localities within the bounds of the Study Area or within a 10-mile radius of the Project. The SBCM (2025) notes that the presence of paleontological resources is common within the greater Mojave Desert, including west of the Study Area in Shoshone and Tecopa, south of the Project in the Kingston Range, and east and southeast of the Project near Las Vegas and Goodsprings, Nevada. Fossil taxa common within the Mojave Desert includes mollusks, reptiles, rabbits, horses, camels, and proboscideans (SBCM 2025).

7.4 SUMMARY OF PALEONTOLOGICAL SENSITIVITY

Based on the results of this analysis, the geologic units mapped at the surface or present in the subsurface of the Study Area vary in their paleontological sensitivity (Table 1). Intermittently active fluvial fine-grained alluvium (Qfy) and active valley-axis deposit intermixed with young valley-axis deposit (Qay+Qyv) have no paleontological potential at the surface transitioning to high potential at approximately 4 feet deep bgs. Youngest alluvium (Qayy), older fine-grained deposits (Qfo), active valley-axis deposit intermixed with young valley-axis deposit (Qav+Qyv), young alluvium (Qay), older young alluvium (Qayo), undivided alluvium (Qau), young eolian sand deposit overlying intermediate valley-axis deposit (Qye/Qiv), young eolian sand deposit overlying intermediate groundwater discharge deposit (Qye/Qig), young mixed alluvial and eolian deposit overlying intermediate valley-axis deposit (Qyae/Qiv), and young mixed alluvial and eolian sand deposit overlying intermediate groundwater deposit (Qyae/Qig) all have low paleontological sensitivity transitioning to high sensitivity at approximately 4 feet deep bgs.

TABLE 1. SUMMARY OF GEOLOGIC UNITS AND PALEONTOLOGICAL SENSITIVITY

Geologic Unit	Unit Symbol	Age (years ago) *	Reference Map	Paleontological Sensitivity of Unit in Study Area
Intermittently active fluvial fine-grained alluvium	Qfy	late Holocene (Present to 4,200)	Lundstrom et al. 2003	No sensitivity transitioning to high at approximately 4 feet deep
Youngest alluvium	Qayy	Holocene (Present to 11,700)	Lundstrom et al. 2003	Low transitioning to high at approximately 4 feet deep
Older fine-grained deposits	Qfo	Holocene(?) (Present to 11,700)	Lundstrom et al. 2003	Low transitioning to high at approximately 4 feet deep
Active valley-axis deposit intermixed with young valley-axis deposit	Qav+Qyv	latest Holocene (Present to 4,200) intermixed with Holocene and latest Pleistocene (Present to 129,000)	Schmidt and McMackin 2006	No sensitivity transitioning to high at approximately 4 feet deep
Young alluvium	Qay	Holocene and latest Pleistocene (Present to 129,000)	Lundstrom et al. 2003	Low transitioning to high at approximately 4 feet deep
Older young alluvium	Qayo	Holocene and latest Pleistocene (Present to 129,000)	Lundstrom et al. 2003	Low transitioning to high at approximately 4 feet deep
Undivided alluvium	Qau	Holocene and late Pleistocene (Present to 129,000)	Lundstrom et al. 2003	Low transitioning to high at approximately 4 feet deep
Young eolian sand deposit overlying intermediate valley-axis deposit	Qye/Qiv	Holocene and latest Pleistocene (Present to 129,000) overlying late to middle Pleistocene (11,700 to 774,000)	Schmidt and McMackin 2006	Low transitioning to high at approximately 4 feet deep
Young eolian sand deposit overlying intermediate groundwater discharge deposit	Qye/Qig	Holocene and latest Pleistocene (Present to 129,000) overlying late to middle Pleistocene (11,700 to 774,000)	Schmidt and McMackin 2006	Low transitioning to high at approximately 4 feet deep
Young mixed alluvial and eolian sand deposit overlying intermediate valley-axis deposit	Qyae/Qiv	Holocene and latest Pleistocene (Present to 129,000) overlying late to middle Pleistocene (11,700 to 774,000)	Schmidt and McMackin 2006	Low transitioning to high at approximately 4 feet deep
Young mixed alluvial and eolian sand deposit overlying intermediate groundwater discharge deposit	Qyae/Qig	Holocene and latest Pleistocene (Present to 129,000) overlying late to middle Pleistocene (11,700 to 774,000)	Schmidt and McMackin 2006	Low transitioning to high at approximately 4 feet deep

*Ages from Cohen et al. (2013).

8. IMPACT ASSESSMENT

Although the uppermost 4 feet of surficial sediments across the Study Area may be too young to preserve paleontological resources, the underlying units have the potential to yield significant paleontological resources. Therefore, grading for the Project under roads within the Study Area, at the substation site, at detention basins, for the gen-tie, for electrical connection system trenches, or for any other ground-disturbing activity with the potential to impact previously undisturbed sediments at depths 4 feet bgs, could result in potentially significant impacts to “unique” (i.e., scientifically significant) paleontological resources. Additionally, any drilling activities needed for the Project with a borehole diameter of 2 feet or greater, such as any transmission line structures, may yield intact paleontological resources within sediment spoils that may be scientifically significant. Therefore, drilling activities greater than 2 feet in diameter and deeper than 4 feet bgs may result in potential impacts to scientifically significant paleontological resources. If disturbed, damaged, defaced, or destroyed, such impacts to paleontological resources would be considered significant under the CEQA.

However, ground-disturbing activities associated with the Project meeting the following conditions are unlikely to impact “unique” paleontological resources, and potential impacts would be less-than-significant under CEQA.

1. Disturbing sediments that are younger than middle Holocene in age;
2. Disturbing sediments of depths less than 4 feet bgs; or
3. Disturbing sediments during drilling that is less than 2 feet in diameter.

9. MITIGATION MEASURES FROM FINAL REGPA

The mitigation measure quoted below is from the Final REGPA EIR (Inyo County 2015) and should be implemented prior to the start of construction. PALEO-1a is the only mitigation measure directly pertaining to paleontological resources within the Final REGPA EIR.

PALEO-1a: Protect paleontological resources.

Project developers shall document in a paleontological resources assessment report whether paleontological resources exist in a project area on the basis of the following: the geologic context of the region and site and its potential to contain paleontological resources (including the fossil yield potential), a records search of institutions holding paleontological collections from California desert regions, a review of published and unpublished literature for past paleontological finds in the area, and coordination with paleontological researchers working locally in potentially affected geographic areas (or studying similar geologic strata).

If paleontological resources are present at the site or if the geologic units to be encountered by the project (at the surface or the subsurface) have a high/very high or moderate/unknown fossil yield, a Paleontological Resources Management Plan shall be developed.

The Paleontological Resources Management Plan shall include the following types of requirements:

- The qualifications of the principal investigator and monitoring personnel
- Construction crew awareness training content, procedures, and requirements
- Any measures to prevent potential looting, vandalism, or erosion impacts
- The location, frequency, and schedule for on-site monitoring activities
- Criteria for identifying and evaluating potential fossil specimens or localities
- A plan for the use of protective barriers and signs, or implementation of other physical or administrative protection measures
- Collection and salvage procedures
- Identification of an institution or museum willing and able to accept any fossils discovered
- Compliance monitoring and reporting procedures

If the geologic units that would be affected by the project have been determined to have low fossil yield potential, paleontological resources shall be included as an element in construction worker awareness training. The training shall include measures to be followed in the event of unanticipated discoveries, including suspension of construction activities in the vicinity.

The Paleontological Resources Management Plan shall evaluate all of the construction methods proposed, including destructive excavation techniques. Where applicable, the principal investigator shall include in the plan an evaluation of the potential for such techniques to disturb or destroy paleontological resources, an evaluation of whether loss of such fossils would represent a significant impact, and discussion of mitigation or compensatory measures (such as recordation/recovery of similar resources elsewhere on the site) that are necessary to avoid or substantially reduce the impact. (Inyo County 2015)

10. CONCLUSIONS

In summary, while the uppermost 4 feet of surficial sediments across the Study Area may be too young to preserve paleontological resources, the underlying units have high potential to yield significant paleontological resources. Therefore, the Applicant must comply with mitigation measure PALEO-1a from the Final REGPA, which includes the retention of a Qualified Professional Paleontologist (paleontology principal investigator) who would prepare and implement a Paleontological Resources Management Plan that outlines Project-specific details; avoidance, monitoring, and management procedures; unanticipated discovery and communication protocols; evaluation and reporting requirements; and final curation of significant resources. The Paleontological Resources Management Plan should include provisions such as the following:

1. No paleontological monitoring is required for ground-disturbing activities less than 4 feet bgs.

2. No paleontological monitoring is required when pushing piles (upon which the solar panels would be mounted) into the ground, regardless of depth.
3. No paleontological monitoring is required during drilling activities that are less than 2 feet in diameter, regardless of depth.
4. No paleontological monitoring is required during ground-disturbing activities that are located entirely within previously disturbed sediments, regardless of depth.
5. No paleontological monitoring is required during ground-disturbing activities that are located entirely within sediments younger than middle Holocene in age, regardless of depth.

Additionally, the Paleontological Resources Management Plan should allow the Qualified Professional Paleontologist (paleontology principal investigator) to increase, decrease, or cease the level of paleontological monitoring during ground-disturbing activities based on field observations and with concurrence with Inyo County. Implementation of these measures would reduce Project impacts to "unique" (i.e., scientifically significant) paleontological resources to a less than significant level.

11. REFERENCES

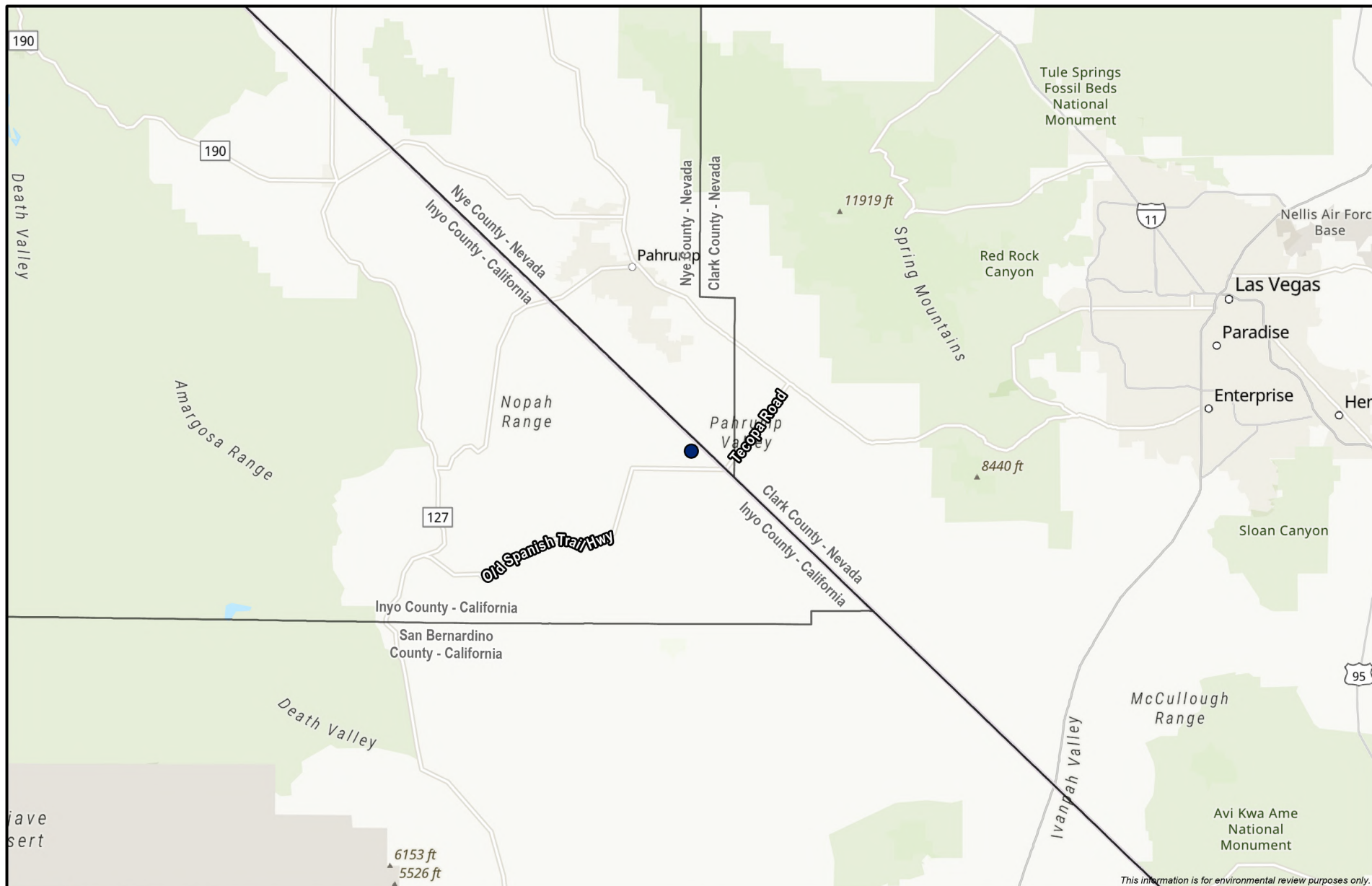
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APPENDIX A FIGURES



This information is for environmental review purposes only.



● Study Area

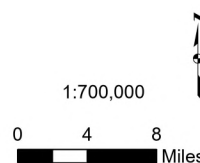
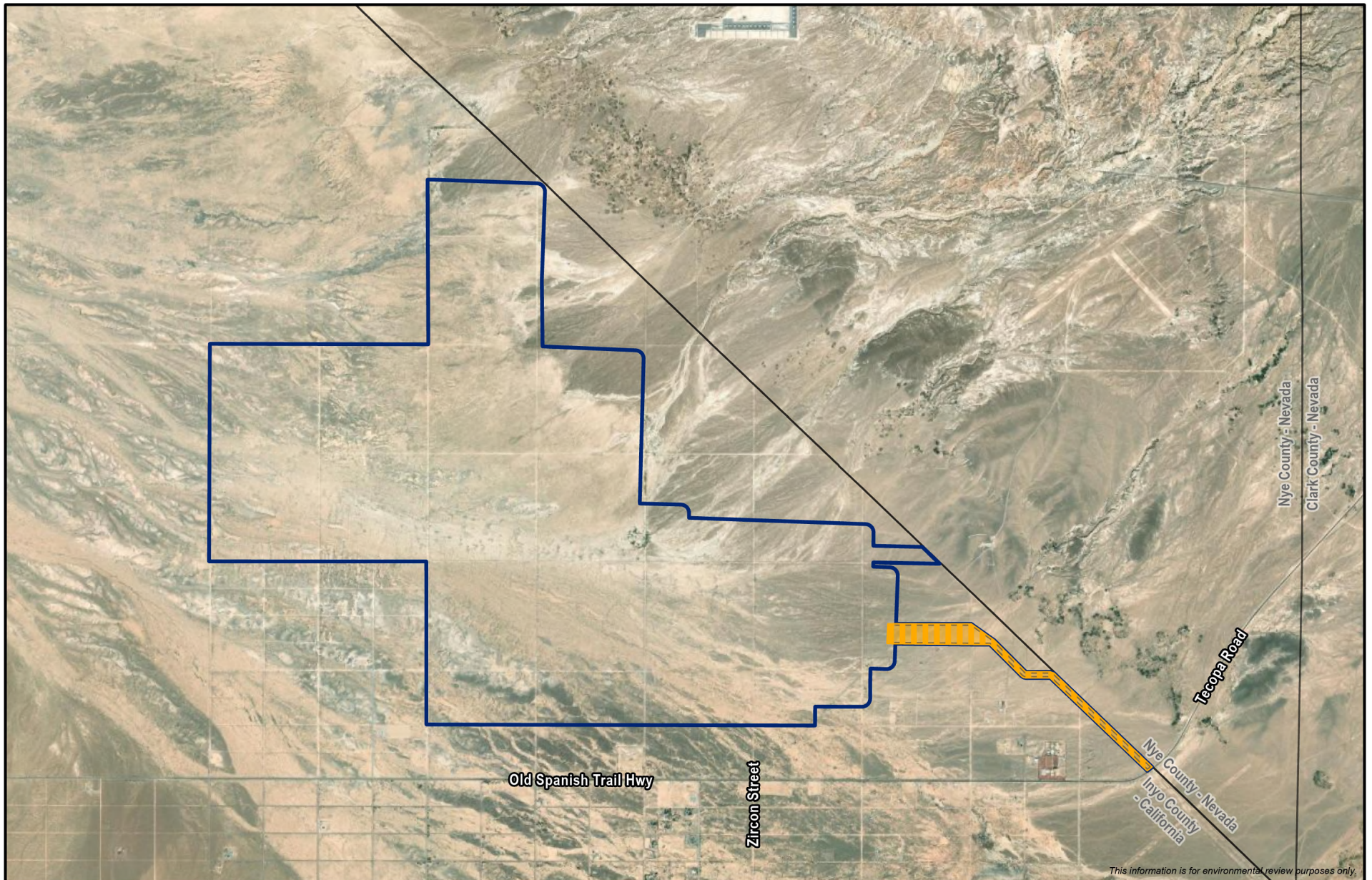


Figure 1
Vicinity Map
Bonanza Peak Energy Project
 174 Power Global
 Inyo County, California





This information is for environmental review purposes only.



- Study Area
- Previously Proposed Access Road Corridor

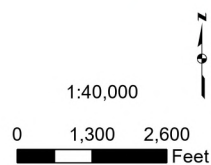


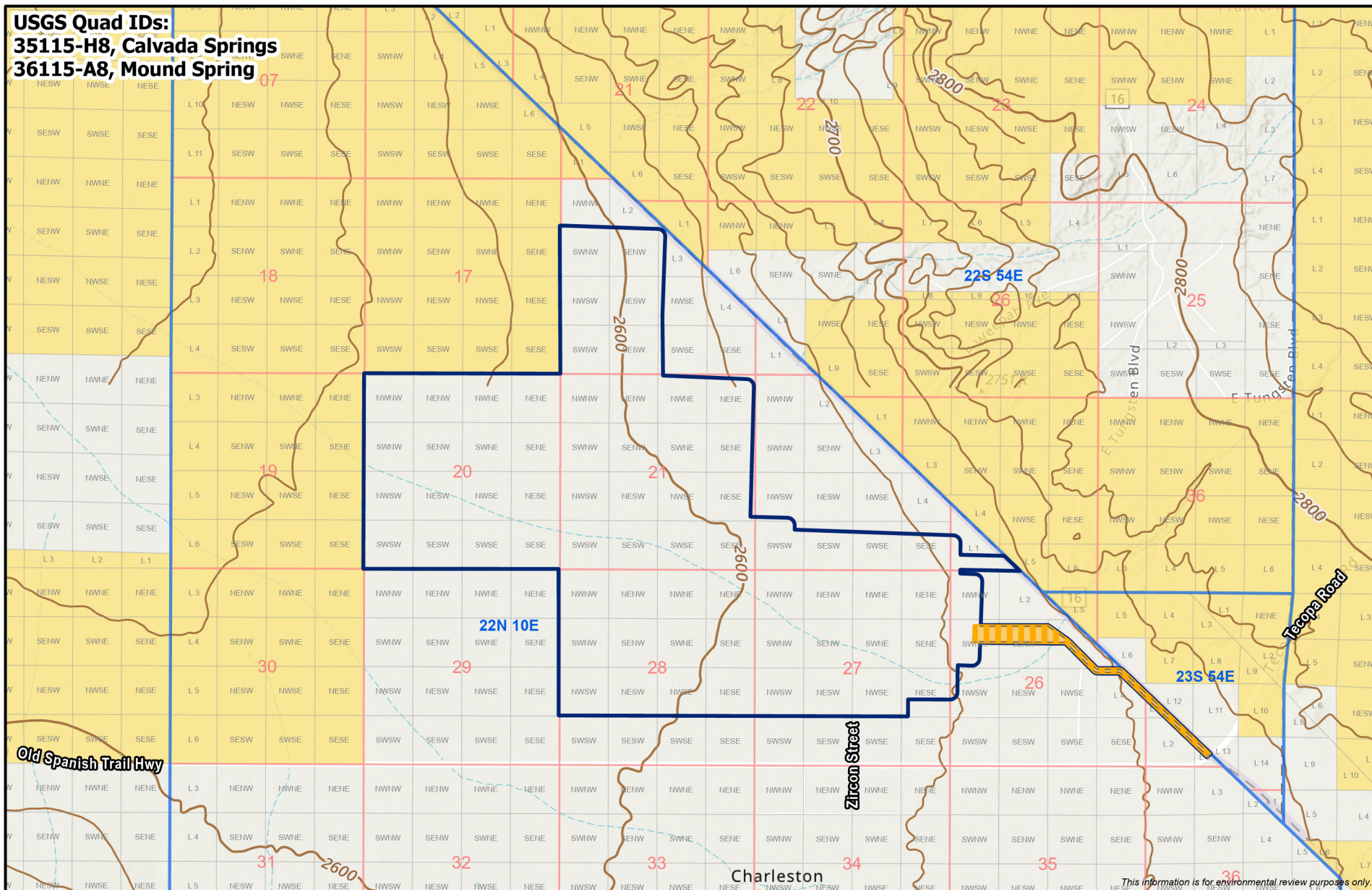
Figure 2
Project Location Map
Bonanza Peak Energy Project
 174 Power Global
 Inyo County, California



USGS Quad IDs:

35115-H8, Calvada Springs

36115-A8, Mound Spring



- Study Area
- Previously Proposed Access Road Corridor
- PLSS Township
- PLSS Section
- PLSS Quarter Quarter
- Bureau of Land Management

1:45,000
0 2,000 4,000 Feet

Figure 3
Land Ownership
Bonanza Peak Energy Project
174 Power Global
Inyo County, California



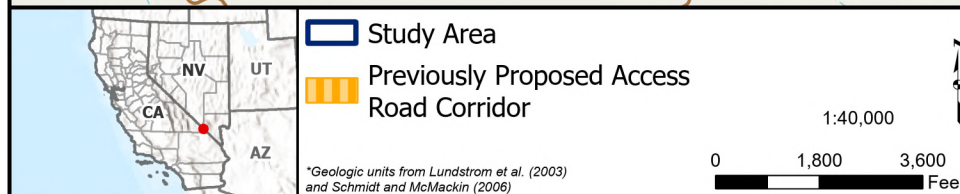
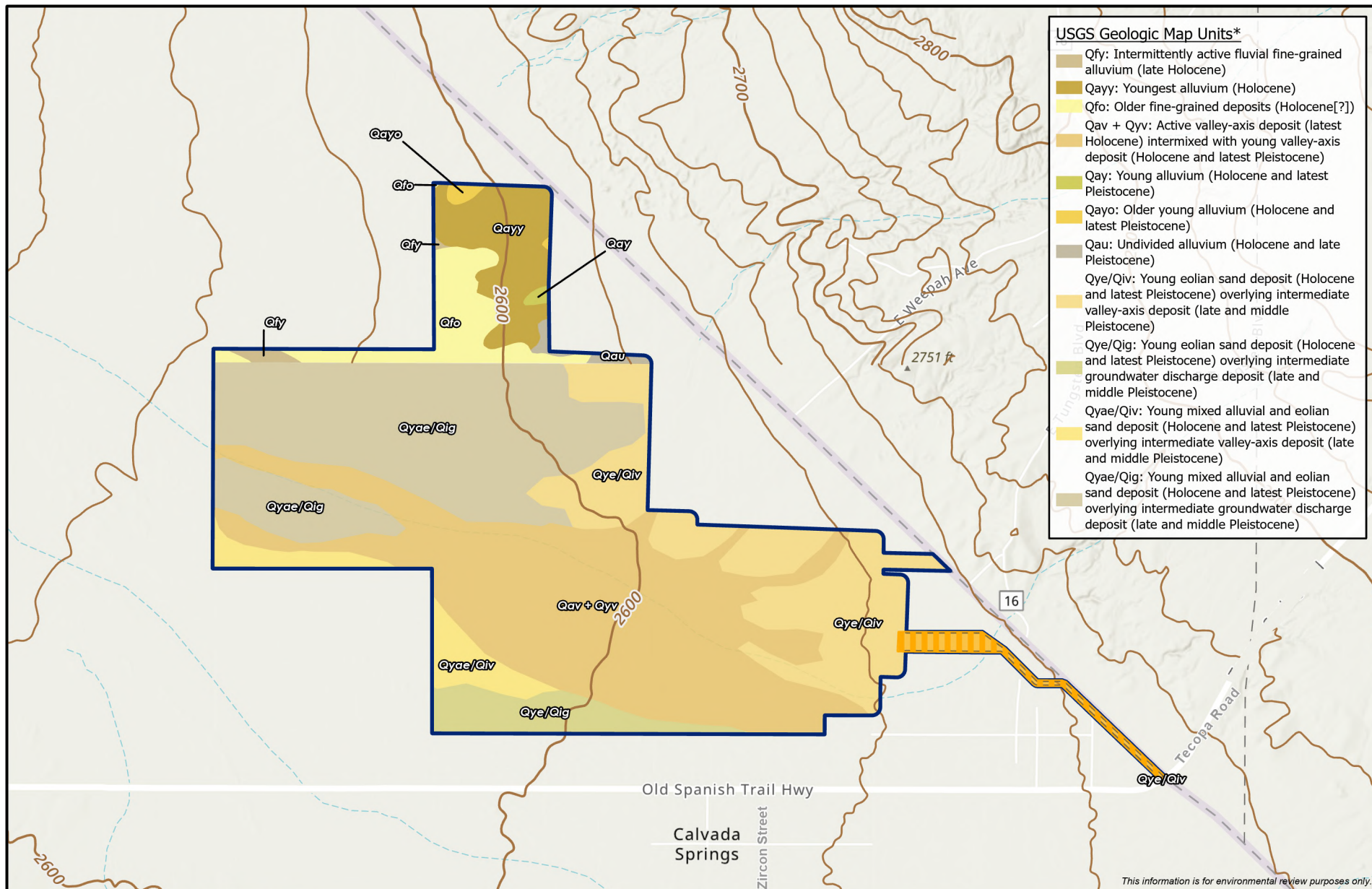


Figure 4
Project Geology
Bonanza Peak Energy Project
 174 Power Global
 Inyo County, California



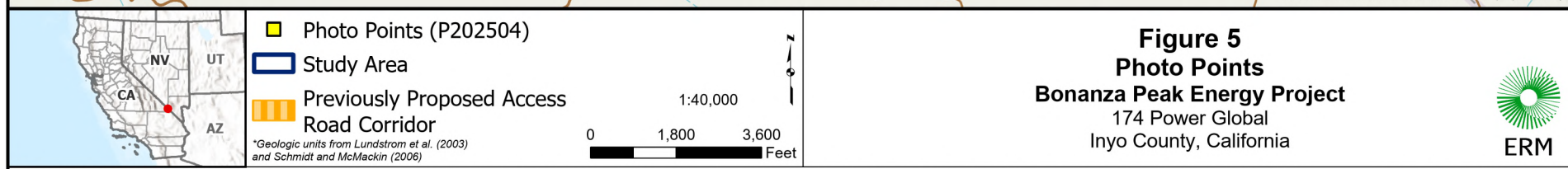
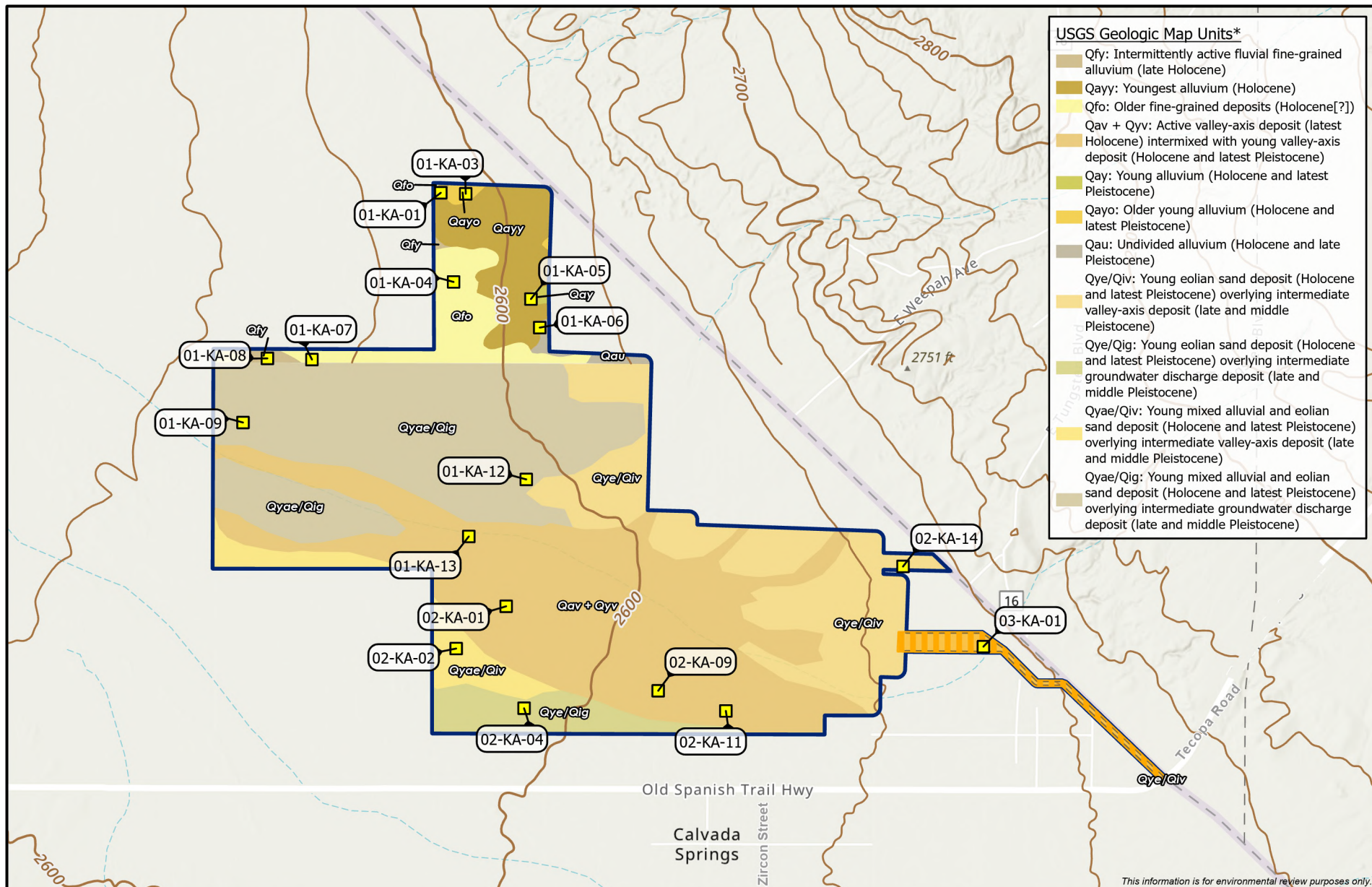




FIGURE 6 PHOTO POINT P20250401-KA-08. INTERMITTENTLY ACTIVE FLUVIAL FINE-GRAINED ALLUVIUM (QFY). PHOTO DIRECTION: EAST





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FIGURE 7 PHOTO POINT P20250401-KA-01. YOUNGEST ALLUVIUM (QAYY). PHOTO DIRECTION: NORTH





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FIGURE 8 PHOTO POINT P20250401-KA-04. OLDER FINE-GRAINED DEPOSITS (QFO). PHOTO DIRECTION: NORTH





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FIGURE 9 PHOTO POINT P20250401-KA-07. OLDER FINE-GRAINED DEPOSITS (QFO). PHOTO DIRECTION: NORTH





FIGURE 10 PHOTO POINT P20250402-KA-11. ACTIVE VALLEY-AXIS DEPOSIT INTERMIXED WITH YOUNG VALLEY-AXIS DEPOSIT (QAV+QYV). PHOTO DIRECTION: EAST





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FIGURE 11 PHOTO POINT P20250402-KA-01. ACTIVE VALLEY-AXIS DEPOSIT INTERMIXED WITH YOUNG VALLEY-AXIS DEPOSIT (QAV+QYV). PHOTO DIRECTION: SOUTH





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FIGURE 12 PHOTO POINT P20250402-KA-01. ACTIVE VALLEY-AXIS DEPOSIT INTERMIXED WITH YOUNG VALLEY-AXIS DEPOSIT (QAV+QYV). PHOTO DIRECTION: PLANAR VIEW

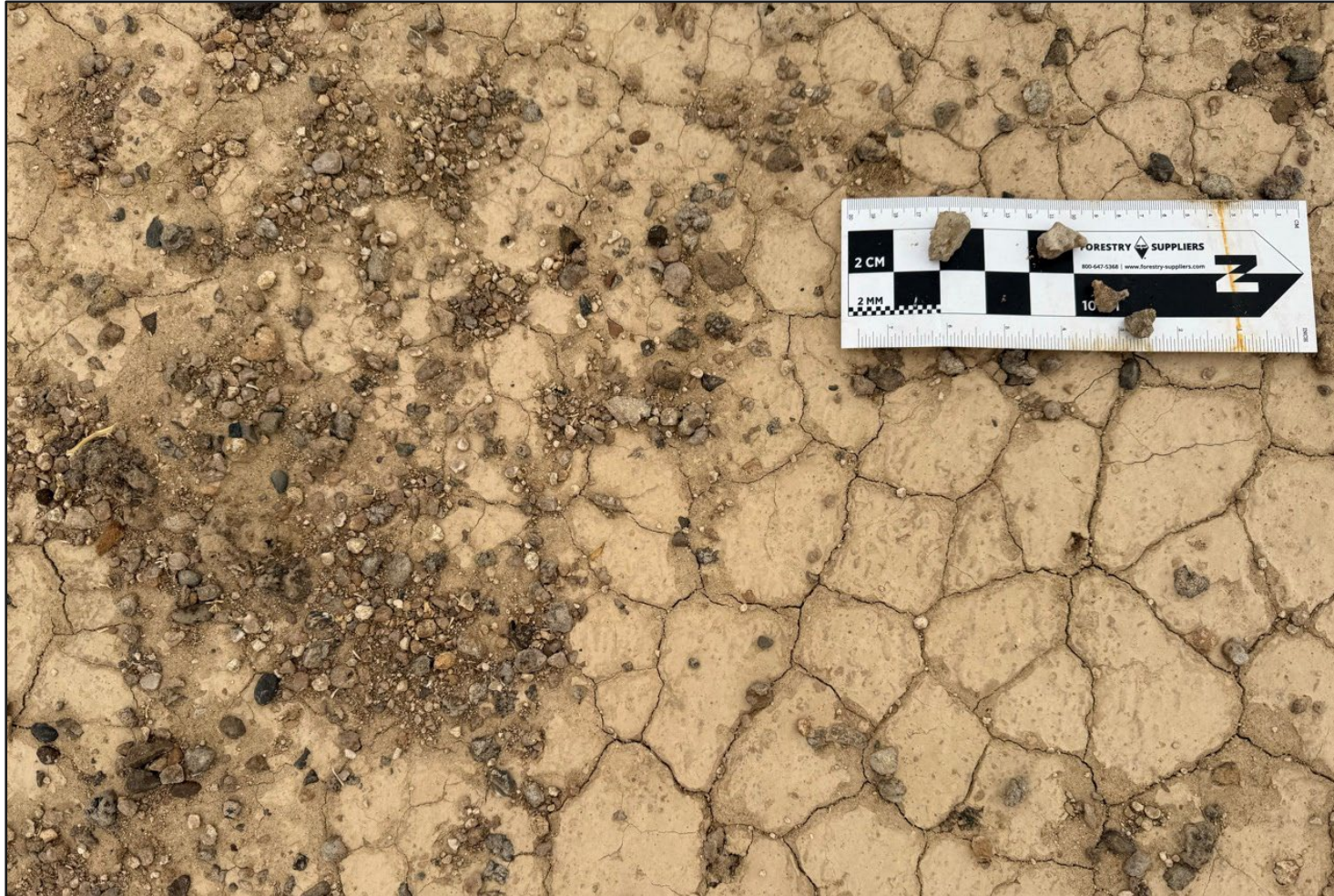




FIGURE 13 PHOTO POINT P20250402-KA-09. ACTIVE VALLEY-AXIS DEPOSIT INTERMIXED WITH YOUNG VALLEY-AXIS DEPOSIT (QAV+QYV). PHOTO DIRECTION: SOUTH



FIGURE 14 PHOTO POINT P20250402-KA-09. ACTIVE VALLEY-AXIS DEPOSIT INTERMIXED WITH YOUNG VALLEY-AXIS DEPOSIT (QAV+QYV). PHOTO DIRECTION: PLANAR VIEW





FIGURE 15 PHOTO POINT P20250401-KA-13. ACTIVE VALLEY-AXIS DEPOSIT INTERMIXED WITH YOUNG VALLEY-AXIS DEPOSIT (QAV+QYV). PHOTO DIRECTION: SOUTH





FIGURE 16 PHOTO POINT P20250401-KA-05. YOUNG ALLUVIUM (QAY). PHOTO DIRECTION: EAST



FIGURE 17 PHOTO POINT P20250401-KA-05. YOUNG ALLUVIUM (QAY). PHOTO DIRECTION: PLANAR VIEW





FIGURE 18 PHOTO POINT P20250401-KA-03. OLDER YOUNG ALLUVIUM (QAYO). PHOTO DIRECTION: SOUTH



FIGURE 19 PHOTO POINT P20250401-KA-03. OLDER YOUNG ALLUVIUM (QAYO). PHOTO DIRECTION: PLANAR VIEW





FIGURE 20 PHOTO POINT P20250401-KA-06. UNDIVIDED ALLUVIUM (QAU). PHOTO DIRECTION: WEST





FIGURE 21 PHOTO POINT P20250401-KA-06. UNDIVIDED ALLUVIUM (QAU). PHOTO DIRECTION: PLANAR VIEW





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FIGURE 22 PHOTO POINT P20250403-KA-01. YOUNG EOLIAN SAND DEPOSIT OVERLYING INTERMEDIATE VALLEY-AXIS DEPOSIT (QYE/QIV). PHOTO DIRECTION: SOUTHEAST





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FIGURE 23 PHOTO POINT P20250402-KA-14. YOUNG EOLIAN SAND DEPOSIT OVERLYING INTERMEDIATE VALLEY-AXIS DEPOSIT (QYE/QIV). PHOTO DIRECTION: NORTH





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FIGURE 24 PHOTO POINT P20250402-KA-14. YOUNG EOLIAN SAND DEPOSIT OVERLYING INTERMEDIATE VALLEY-AXIS DEPOSIT (QYE/QIV). PHOTO DIRECTION: PLANAR VIEW





FIGURE 25 PHOTO POINT P20250402-KA-04. YOUNG EOLIAN SAND DEPOSIT OVERLYING INTERMEDIATE GROUNDWATER DISCHARGE DEPOSIT (QYE/QIG). PHOTO DIRECTION: NORTH





FIGURE 26 PHOTO POINT P20250402-KA-04. YOUNG EOLIAN SAND DEPOSIT OVERLYING INTERMEDIATE GROUNDWATER DISCHARGE DEPOSIT (QYE/QIG). PHOTO DIRECTION: PLANAR VIEW





FIGURE 27 PHOTO POINT P20250402-KA-02. YOUNG MIXED ALLUVIAL AND EOLIAN SAND DEPOSIT OVERLYING INTERMEDIATE VALLEY-AXIS DEPOSIT (QYAE/QIV). PHOTO DIRECTION: NORTH





FIGURE 28 PHOTO POINT P20250401-KA-09. YOUNG MIXED ALLUVIAL AND EOLIAN SAND DEPOSIT OVERLYING INTERMEDIATE GROUNDWATER DISCHARGE DEPOSIT (QYAE/QIG). PHOTO DIRECTION: SOUTH





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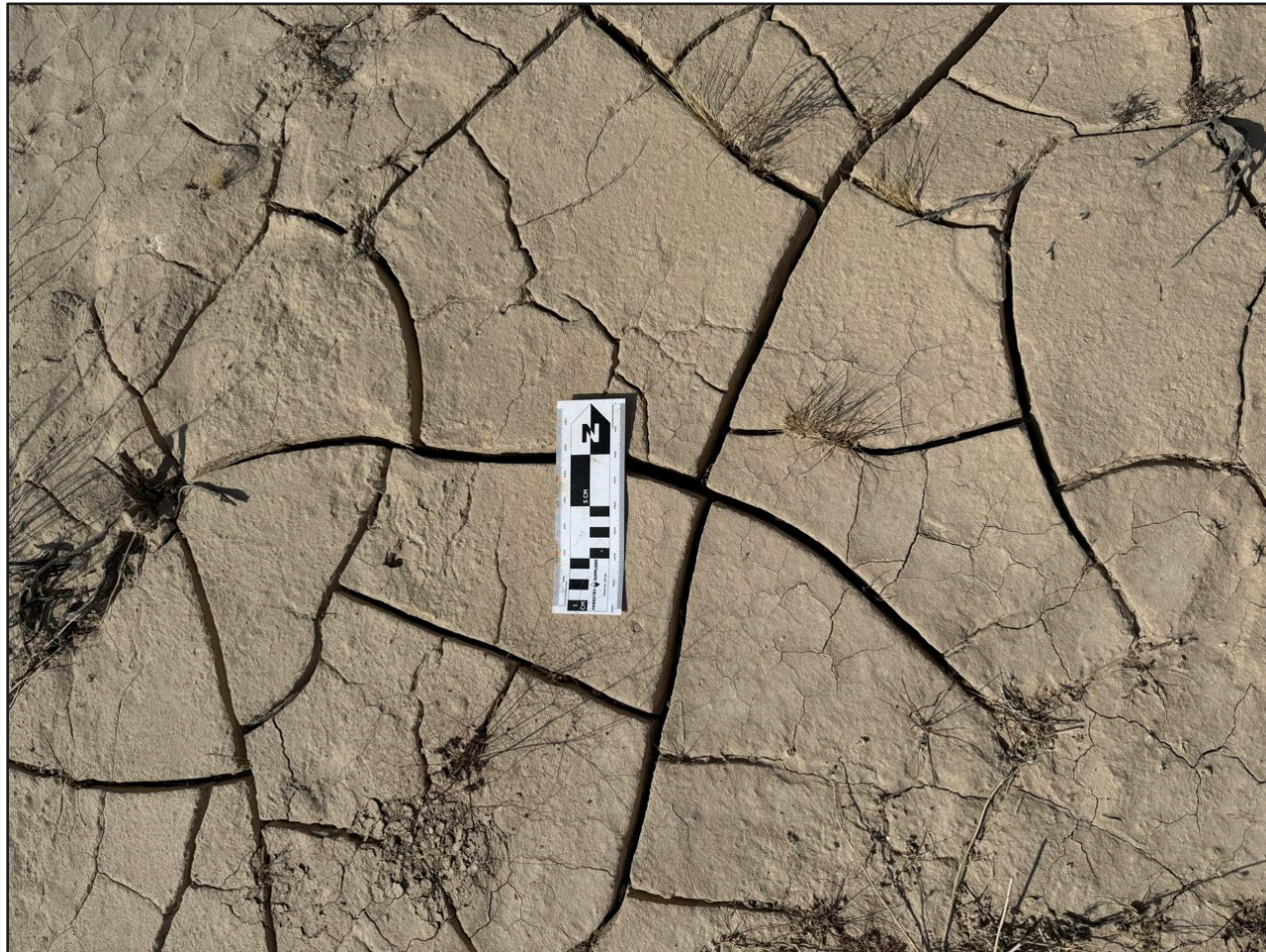
FIGURE 29 PHOTO POINT P20250401-KA-12. YOUNG MIXED ALLUVIAL AND EOLIAN SAND DEPOSIT OVERLYING INTERMEDIATE GROUNDWATER DISCHARGE DEPOSIT (QYAE/QIG). PHOTO DIRECTION: EAST





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FIGURE 30 PHOTO POINT P20250401-KA-12. YOUNG MIXED ALLUVIAL AND EOLIAN SAND DEPOSIT OVERLYING INTERMEDIATE GROUNDWATER DISCHARGE DEPOSIT (QYAE/QIG). PHOTO DIRECTION: PLANAR VIEW





APPENDIX B MUSEUM RECORDS SEARCH RESULTS

From: PaleoRecords@nhm.org
To: PaleoRecords@nhm.org
Cc: [Mat Carson](#)
Subject: Re: Bonanza Peak Solar Project
Date: Sunday, February 2, 2025 10:38:29 AM

WARNING: The sender of this email could not be validated and may not match the person in the "From" field.

EXTERNAL MESSAGE

Hello,

After a preliminary review of our collections database, the NHMLA does not have relevant localities in the region. This does not reflect a lack of paleontological potential for the area, but rather represents an area we have not done much work in. I recommend checking with the University of California Museum of Paleontology, the Nevada State Museum in Carson City, and the San Bernardino County Museum instead, as they may have better records from the area. If for some reason you are unable to obtain a search from these institutions I can go ahead and process this one, but the results will be quite far from the project area.

Thank you,
Alyssa

Alyssa Bell
Records & Collections
she/her/hers
abell@nhm.org

Natural History Museum of Los Angeles County

On Tuesday, January 28, 2025 at 11:54:24 AM UTC-8 Mat Carson wrote:

Hi Alyssa,

Can I please have a paleo records search completed for the Bonanza Peak Solar Project in Inyo County? I've included a map of the Project area on a USGS topo base map. You can send me the invoice via email here. What's the turnaround time for this?

Thanks,

Mat Carson, M.S.
Principal Consultant - Capital Project Delivery
He/Him/His

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Museum
Division of Earth Science

David Myers
Director

Scott Kottkamp
Curator of Earth Science

February 28th, 2025

Environmental Resources Management, Inc.
Attn: Mat Carson
1920 Main Street Suite 300
Irvine, CA 92064

PALEONTOLOGY RECORDS REVIEW for proposed site of Bonanza Peak Solar
project, Inyo County, California

Dear Mr. Carson,

The Division of Earth Science of the San Bernardino County Museum (SBCM) has completed a record search for the above-named project in Inyo County, California. The proposed project site (Bonanza Peak Solar) is on the border with Clark County, Nevada, as shown on the United States Geological Survey (USGS) 7.5-minute Mound Springs, Calvada Springs, and Stump Spring quadrangles.

The results of this search indicate that no paleontological localities were found within the proposed project site, nor within a 10-mile radius of any point from the project's perimeter. There are no records of SBCM having worked in the area around the project site, and thus the results of this report should be interpreted as absence of data rather than absence of fossils. Paleontological resources are commonly found in the greater Mojave Desert, with SBCM localities situated to the west of the project area in Shoshone and Tecopa, south in the Kingston Range, and southeast to east along I-15, near Goodsprings, and in Las Vegas. Common fossil taxa of the Mojave include proboscideans, camelids, equids, leporids, rodents, squamate reptiles, and mollusks. Additional discussion of the geology and sedimentology of the local region around the project site is provided below, to qualify the result of this null report.

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Geologic mapping of that region done by Schmidt and McMackin (2006) as well as Lundstrom et al. (2003) indicates that the project area occurs atop recent alluvial and eolian sediments of Holocene age (e.g., Qye and Qya). The eolian sediments consist of fine sand to clay sized clasts arrayed in low dunes, while the alluvial sediments are poorly sorted mix of gravel, sand, and fine sediments derived from nearby mountain ranges. Just outside the project area, however, are surface deposits of older alluvium of Late Pleistocene (Qoa) or Plio-Pleistocene (QToa). These older sediments likely underlie the recent Holocene sediments at depth and are the most likely geologic units in the vicinity of the project area to be fossiliferous.

This records search covers only the paleontological records of the San Bernardino County Museum. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey. Please do not hesitate to contact us with any further questions that you may have.

Sincerely,



Scott Kottkamp, Curator of Earth Science
Division of Earth Science
San Bernardino County Museum

Literature Cited

- Lundstrom, S.C., Mahan, S.A., Blakely, R.J., Paces, J.B., Young, O.D., Workman, J.B., and Dixon, G.L. 2003. Geologic map of the Mound Spring quadrangle, Nye and Clark Counties, Nevada, and Inyo County, California. U.S. Geological Survey. Miscellaneous Field Studies Map MF-2339. Scale 1:24,000.
Available at: https://ngmdb.usgs.gov/Prodesc/proddesc_54461.htm (accessed 2/28/2025)
- Schmidt, K.M. and McMackin, Matthew. 2006. Preliminary surficial geologic map of the Mesquite Lake 30' x 60' quadrangle, California and Nevada. U.S. Geological Survey. Open-File Report OF-2006-1035. Scale 1:100,000.
Available at: https://ngmdb.usgs.gov/Prodesc/proddesc_75469.htm (Accessed 2/28/2025)



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