Errata to Final Paleontological Technical Study: Gale to Pisgah Substation Telecommunications Lines Project

April 2022 Errata

This document is an Errata to the *Final Paleontological Technical Study* for the Gale to Pisgah Substation Telecommunications Lines Project prepared for the Bureau of Land Management by Paleo Solutions, Inc. dated February 21, 2018. The changes to the *Final Paleontological Technical Study* are shown in underline for text additions and ~~strikethrough~~ for text deletions below.

Section 1.0 Executive Summary

The first paragraph in Section 1.0, Executive Summary, is revised as follows on page 5:

> This report presents the results of the paleontological technical study conducted by Paleo Solutions, Inc. (Paleo Solutions) in support of the Southern California Edison Company (SCE) Gale to Pisgah Substation Telecommunications Lines Project (Project) in unincorporated San Bernardino County, California. SCE is proposing to modify or replace several telecommunication poles along the 28.7-mile long telecommunications line between the Gale and Pisgah substations, which trends parallel to Interstate 40. The telecommunication line extends from near the unincorporated Community of Daggett to Pisgah Crater in San Bernardino County. The Project area is situated on lands administered by the Bureau of Land Management (BLM) Barstow Field Office, encompassing approximately 5.73 miles (15.80 acres in the right-of-way) of the 28.7 total miles of the transmission line corridor; on lands administered by the United States (U.S.) Department of Defense (DOD), encompassing approximately 1.02 miles (3.08 acres); on lands administered by the State of California, encompassing approximately 0.85 miles (2.57 acres in the right-of-way); and private/undetermined property, encompassing approximately 21.06 miles (63.92 acres). All paleontological work was completed in compliance with the National Environmental Policy Act (NEPA), BLM policies and procedures, the California Environmental Quality Act (CEQA), and best practices in mitigation paleontology. All paleontological work was conducted under California BLM Paleontological Use Permit CA-16-03P (Expiration March 16, 2019) and Fieldwork Authorization FA-680-18-03 approved by the Barstow Field Office on October 31, 2017.

The second paragraph in Section 1.0, Executive Summary, is revised as follows on page 5:

> The paleontological potential of the Project area was evaluated based on an analysis of existing paleontological data and a Phase 1 field survey (156.86 acres at a Class III level). The three components of the analysis of existing data included a geologic map review, a literature search, and synthesis of previously conducted institutional record searches of nearby and overlapping SCE projects. The analysis of existing data was supplemented with a pedestrian field survey. Geologic mapping by Dibblee (1967, 1970~~, 2008a-b~~), Dibblee and Minch (2008a-b), and Dibblee and Bassett (1966a-b) indicates that the Project area is primarily underlain by Quaternary older (Pleistocene-age) fan deposits (Qof); younger Quaternary (Holocene-age) alluvial deposits (Qa), clay deposits (Qc), alluvial fan gravel deposits (Qf), and windblown sand (Qs); and Quaternary basalt flows of Pisgah Crater (Qb). The field survey confirmed the presence of these geologic

units; however, the depth to Quaternary older (Pleistocene-age) deposits below younger Quaternary (Holocene-age) deposits (Qa, Qc, Qf, and Qs) remains unknown. Additionally, portions of the Project area have been extensively disturbed at the surface to unknown depths. Miocene to Oligocene andesite (Ta) and andesite intrusion (Tai), and Tertiary brecciated basalt (Tbb) and tuff (Tt); and Quaternary older (Pleistocene-age) alluvium (Qoa) are also mapped in the vicinity of the Project area and, while not observed during the survey, may be present subsurface.

Section 2.1 Project Location

The third paragraph in Section 2.1, Project Location, is revised as follows on page 7:

Geologic mapping by Dibblee (1967, 1970~~, 2008a-b~~), Dibblee and Minch (2008a-b), and Dibblee and Bassett (1966a-b) indicate that the Project area is underlain by Quaternary older fan deposits (Qof), Quaternary basalt flows of Pisgah Crater (Qb), Quaternary alluvial deposits (Qa), Quaternary windblown sand deposits (Qs), Quaternary clay deposits (Qc), and Quaternary alluvial fan gravel deposits (Qf) (Appendix A).

Section 2.2 Project Description

Table 1. Gale to Pisgah Substation Telecommunications Lines Project Summary

The Geologic Maps Section of Table 1, Gale to Pisgah Substation Telecommunications Lines Project Summary, is revised as follows on page 9:

Geologic Map of the Barstow & Daggett 15' Quadrangles, San Bernardino County, California, scale 1:62,500 (Dibblee and Minch, 2008a); Geologic Map of Newberry & Cady Mountain 15' Quadrangles, San Bernardino County, California, scale 1:62,500 (Dibblee and Minch, 2008b). Geologic Map of the Cady Mountains Quadrangle, San Bernardino County, California, scale 1:62,500 (Dibblee and Bassett 1966a); Geologic Map of the Newberry Quadrangle, San Bernardino County, California, scale 1:62,000 (Dibblee and Bassett 1966b).

Section 6.0 Analysis of Existing Data

The first paragraph in Section 6.0, Analysis of Existing Data, is revised as follows on page 17:

The Mojave Desert is one of California's ~~twelve~~ eleven geomorphic provinces (Norris and Webb, 1990). Located on a wedge-shaped fault block, much of the province is bound to the north by the left-lateral Garlock Fault and to the south by the right-lateral San Andreas Fault. The Mojave Desert borders the Transverse Ranges and Colorado Desert provinces, which are located to the northwest and southwest, respectively. The Sierra Nevada and the Basin and Range provinces create the northern boundary, and the Colorado River and the Nevada state line establish the eastern boundary (Norris and Webb, 1990 ~~1976~~). Within the province are north to northeast trending folds, steeply dipping faults, and several major thrust faults (Jahns, 1954).

Section 6.1 Literature Search

The first paragraph of Section 6.1, Literature Search, is revised as follows on page 18:

Geologic mapping indicates that the Project is immediately underlain by Quaternary basalt flows of Pisgah Crater (Qb); Quaternary older (Holocene to Pleistocene) alluvial fan deposits (Qof); and younger Quaternary (Holocene) alluvium, clay, alluvial fan gravels, and windblown sands

(Qa, Qc, Qf, and Qs) (Dibblee, 1967, 1970~~,~~; Dibblee and Minch, 2008a-b; Dibblee and Bassett, 1966a-b). Within a half-mile buffer surrounding the Project centerline, Tertiary (possibly Miocene to Oligocene) igneous rocks (i.e., andesite and andesite intrusion; Ta and Tai, respectively), Tertiary brecciated volcanoclastic rocks (i.e., basalt breccia and tuff breccia; Tbb and Tt, respectively), and Quaternary older (Pleistocene) alluvium (Qoa) have been mapped. Although these geologic units are not present at the surface immediately within the bounds of the Project area, they may be present at shallow depth, and thus, have the potential to be impacted during ground-disturbing activities. Therefore, the geologic units mapped within a half-mile buffer of the Project centerline are also included in this analysis. The paleontological potential of each geologic unit potentially impacted by ground-disturbing activities are discussed below. The geographic distributions of the geologic units in the Project area, as mapped by Dibblee (1967, 1970~~, 2008a-b~~), Dibblee and Minch (2008a-b), and Dibblee and Bassett (1966a-b) are presented in Appendix A and Appendix C.

Section 6.1.1 Igneous Rocks – Tertiary (Ta, Tai)

The third paragraph of Section 6.1.1, Igneous Rocks – Tertiary (Ta, Tai), is revised as follows on page 19:

The following Tertiary igneous rocks are present within a half-mile buffer of the Project area (Dibblee and Bassett, 1966a-b; Dibblee and Minch, 2008a-b):

- Andesite (Ta) – Tertiary (Miocene to Oligocene[?]): Greenish-gray, brown and dark reddish-brown, massive and aphanitic to porphyritic, composed mostly of plagioclase and gradational into andesite breccias; and
- Andesite Intrusion (Tai) – Tertiary (Miocene to Oligocene[?]): Pinkish-, greenish-, to brownish-gray, massive to flow-laminated, microcrystalline, composed mostly of plagioclase.

Section 6.1.2 Brecciated Volcanoclastic Rocks – Tertiary (Tbb, Tt)

Section 6.1.2, Brecciated Volcanoclastic Rocks – Tertiary (Tbb, Tt), is revised as follows on page 19:

Within a half-mile south of the Project area, Tertiary-age brecciated volcanoclastic rocks, comprised of basalt (Tbb) and tuff (Tt) are present, near areas of other mapped igneous rocks of high topographic relief (see Igneous Rocks –Tertiary above). Dibblee and Minch (2008a-b) describes the brecciated basalt as dark-gray to black, porphyritic, subvitreous, mostly massive, with coarse-grained clasts (boulders), poorly sorted, angular to subrounded in form. Based on the high heat and high-energy environment (i.e., volcanic eruption) in which these rocks formed, brecciated basalts have a very low paleontological potential (PFYC 1). On the other hand, fine-grained brecciated tuffs form under conditions that may under certain geologic conditions permit scientifically important fossils to be preserved. Dibblee and Minch (2008a-b) describes the tuff breccia as yellowish- to light-greenish-gray, crudely bedded with angular, cobble-sized andesitic clasts in a matrix of consolidated volcanic ash. Therefore, the tuff breccia has a low paleontological potential (PFYC 2).

Section 6.1.4 Quaternary Older Deposits – Holocene to Pleistocene (Qof, Qoa)

The second paragraph of Section 6.14, Quaternary Older Deposits, is revised as follows on page 19:

Ice Age taxa have been recovered from Pleistocene-age deposits of San Bernardino County, including specimens of rodents (*Peromyscus* sp., *Dipodomys ordii*, *Neotoma* sp., *Thomomys* sp., among others), rabbits (*Lepus* sp.), horse (*Equus conversidens*), badger (*Taxidea taxus*), cats (*Smilodon* sp., *Puma concolor*), mammoth (*Mammuthus* sp.) camel (*Camelops* sp., *Hemiauchenia* sp.), sloth (*Nothrotheriops* sp., *Megalonyx* sp.), tortoise (~~*Opherus agassizi*~~ *Gopherus* sp.) as well as bison, antelope, and many other taxa of mammals (Jefferson, 1991; Reynolds, 1991; Brattstrom, 1961). There are numerous Pleistocene-age localities throughout San Bernardino County and the Mojave Desert, some of which are accumulations of material by woodrats for nests (woodrat middens) in caves, and many of which are deposits from along the shorelines of Pleistocene lakes (Stegner, 2015; Grayson, 2011). While the depositional environment of the cave deposits and lake deposits differs from that of the Project area, there is the potential for a similar fauna to be recovered during Project excavations.

Section 6.1.5 Younger Quaternary Deposits – Holocene (Qa, Qc, Qf, Qs)

Section 6.1.5, Younger Quaternary Deposits – Holocene (Qa, Qc, Qf, Qs), is revised as follows on page 20:

Younger Quaternary deposits typically consist of variable compositions of unconsolidated clay, silt, sand, gravel, and larger clasts. Holocene sediments within the Project area consist of alluvium (Qa), clay (Qc), alluvial fan gravels (Qf), and windblown sands (Qs) (Dibblee, 1967, 1970~~,~~; Dibblee and Minch, 2008a-b; Dibblee and Bassett, 1966a-b). Alluvium (Qa) consists of cobble-pebble gravel and sand near hills, grading outward into finer grained material, such as fine-grained sand, silt, and clay. Clay (Qc) deposits mapped near the Project area consist of light-gray clay or dry mud, derived from alluvium upgradient. Alluvial fan gravels (Qf) consist of coarse gravel to boulders of unsorted, subrounded fragments, derived from adjacent mountains. Windblown sand deposits (Qs) consist of a thin veneer over the surface to small dunes of fine-grained sand, derived from erosion by westerly winds on alluvium, clay, and alluvial fan deposits (Dibblee and Minch, 2008a-b; Dibblee and Bassett, 1966a-b). Holocene-age (less than 11,000 years old) sediments are typically too young to contain fossilized material (Society of Vertebrate Paleontology [SVP], 2010), but they may overlie sensitive older (e.g., Pleistocene- and Pliocene-age) deposits at variable depth. Younger Quaternary deposits are assigned low paleontological potential (PFYC 2) at the surface using BLM (2016) guidelines. However, they have an unknown paleontological potential in the subsurface since there is potential for these deposits to be conformably underlain by older, paleontologically sensitive geologic units.

References

The following reference is revised in the References section on page 35:

Dibblee, T.W., Jr., Minch, J.A., 2008a, Geologic Map of the Barstow & Daggett 15 Minute Quadrangles, San Bernardino County, California: Dibblee Geology Center Map, DF-393, scale 1:62,500.

Dibblee, T.W., Jr., Minch, J.A., 2008b, Geologic Map of the Newberry & Cady Mountain 15 Minute Quadrangles, San Bernardino County, California: Dibblee Geology Center Map, DF-394, scale 1:62,500.

Norris, R.M., Webb, R.W., ~~1976~~ 1990, Geology of California, 2nd ed., John Wiley & Sons, N.Y.