



August 23, 2021

Mary McKenna Lanier
McKenna Lanier Group, Inc.
mary@mckennalanier.com

Subject: Paleontological Resource Assessment for the Perris Service Station Project #20-05173,
27278 Ethanac Road, Perris, California

Dear Ms. McKenna Lanier:

Red Tail Environmental (Red Tail) has completed a paleontological resource assessment for the Perris Service Station Project (Project), located in the City of Perris, County of Riverside, California. This work was completed under contract to McKenna Lanier Group, Inc. This assessment included a records search, geological map and literature review, and a field survey. The purpose of this assessment report is to document identification efforts for paleontological resources as required by the Project's 2nd Review for Preliminary Review Application dated March 10, 2021, the California Environmental Quality Act of 1970 (CEQA) and the City of Perris General Plan Conservation Elements, Goals, Policies and Implementation Measures: Goal IV Cultural Resources, Implementation Measure IV.A. 1 and 4 (City of Perris 2005). The City of Perris (City) is the lead agency for CEQA.

The Project proposes to construct a 7,250 sq. ft. convenience store, 3,978 sq. ft. fueling station canopy and a 2,500 sq. ft. automated carwash facility on a 2.5-acre site located at 27278 Ethanac Road (northeast corner of Trumble Road and Ethanac Road), in the Community Commercial zoning district. The project area is located in Section 10, T5S, R3SW, of the *Romoland, California* USGS 7.5-minute topographic quadrangle (Figures 1, 2, and 3). This letter report was completed by Red Tail paleontologist Benjamin Scherzer, a registered paleontologist for Riverside County.

REGULATORY FRAMEWORK

CEQA provides protection for paleontological resources if they represent "a unique paleontological resource or site" (Section V(c) of Appendix G). CEQA does not provide criteria for "unique," but in their discussion of paleontological resources under CEQA, Scott and Springer (2003) establish five criteria for determining if a fossil or resource is scientifically significant:

1. The fossils provide data on the evolutionary relationships and developmental trends among organisms, both living and extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;

4. The fossils demonstrate unusual or spectacular circumstances in the history of life; and/or
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

In addition, the City of Perris General Plan (2008), Exhibit CN-7, maps the paleontological sensitivity of the Project area as “#2 – High Sensitivity: Pleistocene older fan deposits.” Policy IV.A of the General Plan requires that projects within the City “comply with state and federal regulations and ensure preservation of the significant historical, archaeological and paleontological resources,” with the following Implementation Measures:

- IV.A.1 For all private and public projects involving new construction, substantial grading, or demolition, including infrastructure and other public service facilities, staff shall require appropriate surveys and necessary site investigations in conjunction with the earliest environmental document prepared for a project.
- IV.A.4 In Area 1 and Area 2 shown on the Paleontological Sensitivity Map, palaeontologic monitoring of all projects requiring subsurface excavations will be required once any excavation begins. In Areas 4 and 5, palaeontologic monitoring will be required once subsurface excavations reach five feet in depth, with monitoring levels reduced if appropriate, at the discretion of a certified Project Paleontologist.

RECORDS SEARCH

On June 7, 2021 the Western Science Center (WSC) completed a paleontological records search to locate fossil localities within a 1-mile radius of the Project. The records search did not produce any fossil localities in the Project area or within a 1-mile radius, but did indicate that Pleistocene deposits in the area have produced remains of mammoth, mastodon, sabertooth cat, horse, and other megafauna (Radford, 2021). The record search results are included in Attachment A.

GEOLOGIC MAP AND LITERATURE REVIEW

California is divided into 11 geomorphic provinces, each naturally defined by unique geologic and geomorphic characteristics. The Project is located in the northern portion of the Peninsular Ranges geomorphic province. The Peninsular Ranges province is distinguished by northwest trending mountain ranges and valleys following faults branching from the San Andreas Fault. The Peninsular Ranges are bound to the east by the Colorado Desert and extend north locally to the Santa Monica Mountains (Yerkes and Campbell, 2005; Hillhouse, 2010), west into the submarine continental shelf, and south to the California state line.

The Project area is underlain by Old Alluvial Fan Deposits (*Qof*) from the Pleistocene Epoch (2.5 million years ago to 11,700 years ago). Old Alluvial Fan Deposits are composed of moderately consolidated, reddish-brown sand and gravel (Morton, Bovard, and Morton 2003) (Figure 4).

Per the City’s Paleontological Sensitivity Map (City of Perris 2008) the Project is located within the Paleontological Sensitivity Area #2 – High Sensitivity. Area #2 exhibits surface exposures of older Pleistocene fan deposits that have high potential to contain significant fossil resources.

Mr. Scherzer performed a search of the online University of California Museum of Paleontology and San Diego Natural History Museum collections, the online Paleobiology Database and FAUNMAP, and other published literature for nearby (within 3 miles) fossil localities in similar deposits. This literature search did not produce any documented nearby fossil localities.

PALEONTOLOGICAL SURVEY

On August 8, 2021, Mr. Scherzer performed a pedestrian field survey of the Project, walking 4-meter E-W transects. The ground was almost entirely flat and nearly completely covered with dry vegetation. Occasional disturbance of the topsoil by rodents, along with the surrounding tilled agricultural land, indicated the soil was a reddish-brown clay/silt to medium-grained sand with occasional igneous/metamorphic pebbles (Figures 5, 6). No paleontological resources were observed during the field survey.

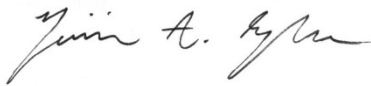
CONCLUSIONS AND RECOMMENDATIONS

This letter signifies the completion of the paleontological assessment for the Project. The paleontological record search and pedestrian field survey of the Project did not identify any previously recorded fossil resources or visible fossil resources. The Project area is mapped within Paleontological Sensitivity Area #2. Per the City's Implementation Measure IV.A.4, paleontological monitoring is required of all projects requiring subsurface excavations within Paleontological Sensitivity Areas 1 and 2. Therefore, it is recommended that a paleontological monitoring program be followed during all ground disturbance for the Project.

Thank you for contacting Red Tail on this request. Should you have any questions regarding this study, please do not hesitate to call me.

Sincerely,

Red Tail Environmental



Benjamin Scherzer, M.S.
Paleontologist

Attachments

- Figure 1. Project Vicinity.
 - Figure 2. Project Area Map shown on the USGS 7.5' Romoland, California Quad Map.
 - Figure 3. Project Area Shown on an Aerial Photograph.
 - Figure 4. Project Area Shown on the Geology Map.
 - Figure 5. Overview of Project area from northeast corner. Exposed soil on the right side is surrounding agricultural land, recently tilled. View to south west. (August 17, 2021)
 - Figure 6. Exposed sediment at surface in northeast area of Project, resulting from rodent activity. (August 17, 2021)
- Attachment A: WSC Records Search Results

References

City of Perris

- 2005 City of Perris General Plan Conservation Element.
<https://www.cityofperris.org/home/showdocument?id=449#:~:text=This%20Conservation%20Element%20is%20arranged,organized%20under%20the%20following%20categories.> Site accessed June 3, 2021.

Hillhouse, J.W.

- 2010 Clockwise rotation and implications for northward drift of the western Transverse Ranges from paleomagnetism of the Piuma Member, Sespe Formation, near Malibu, California: *Geochemistry, Geophysics, Geosystems*, v. 11, no. 7, p. 1–27.

Morton, D.M., Bovard, K.R., and G. Morton

- 2003 Geologic map and digital database of the Romoland 7.5' quadrangle, Riverside County, California, U.S. Geological Survey Open-File Report OF-2003-102, Map scale 1:24,000.

Radford, D.

- 2021 Record search Perris Fueling Station, submitted to Red Tail Environmental, June 7.

Scott, E., and K. Springer

- 2003 CEQA and fossil preservation in southern California: *The Environmental Monitor*, Fall 2003, p. 4-10, 17.

Yerkes, R.F., and R.H. Campbell

- 2005 Preliminary geologic map of the Los Angeles 30' x 60' Quadrangle, southern California: United States Geological Survey Open-File Report 2005–1019, Version 1.0.

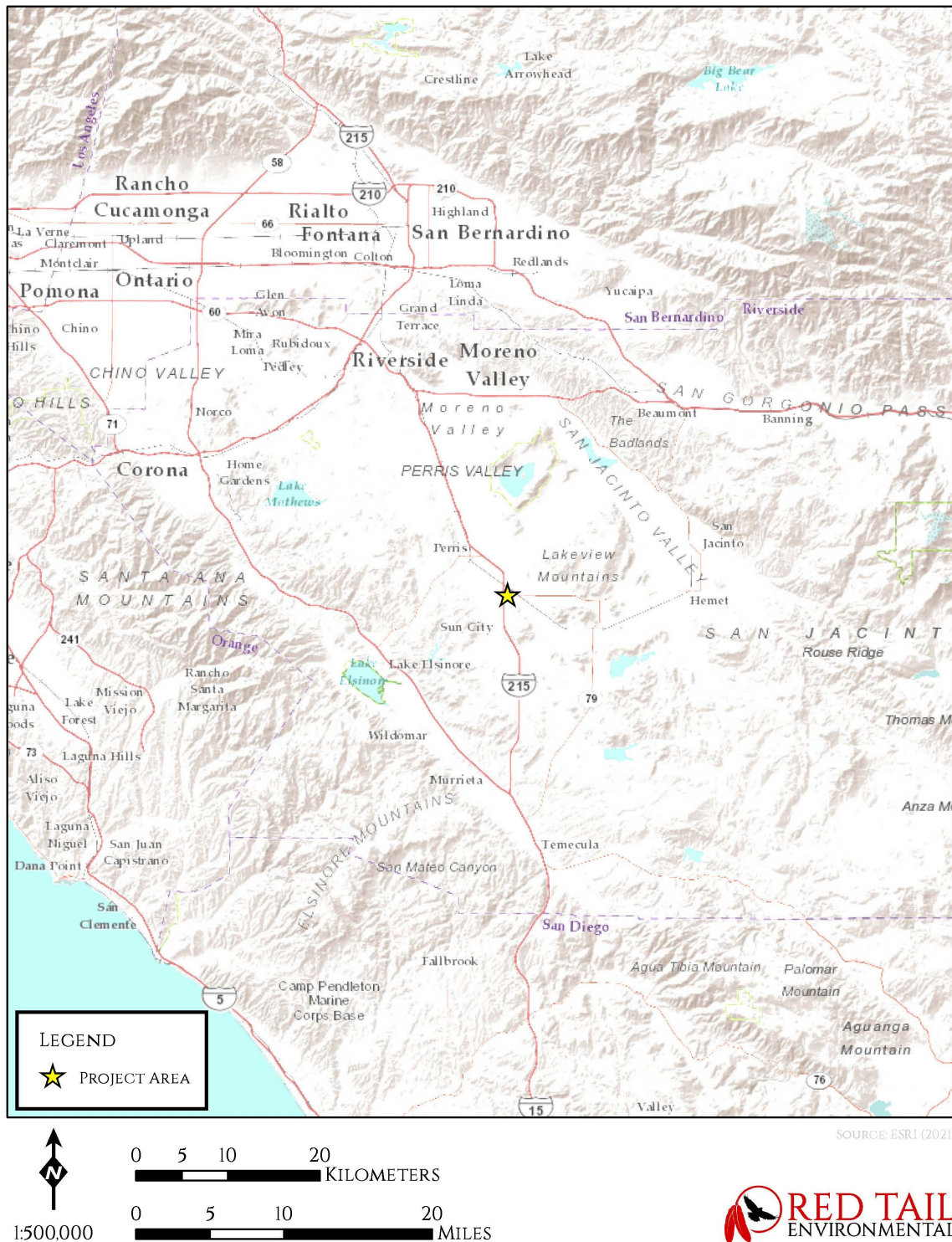


Figure 1. Project Vicinity Map

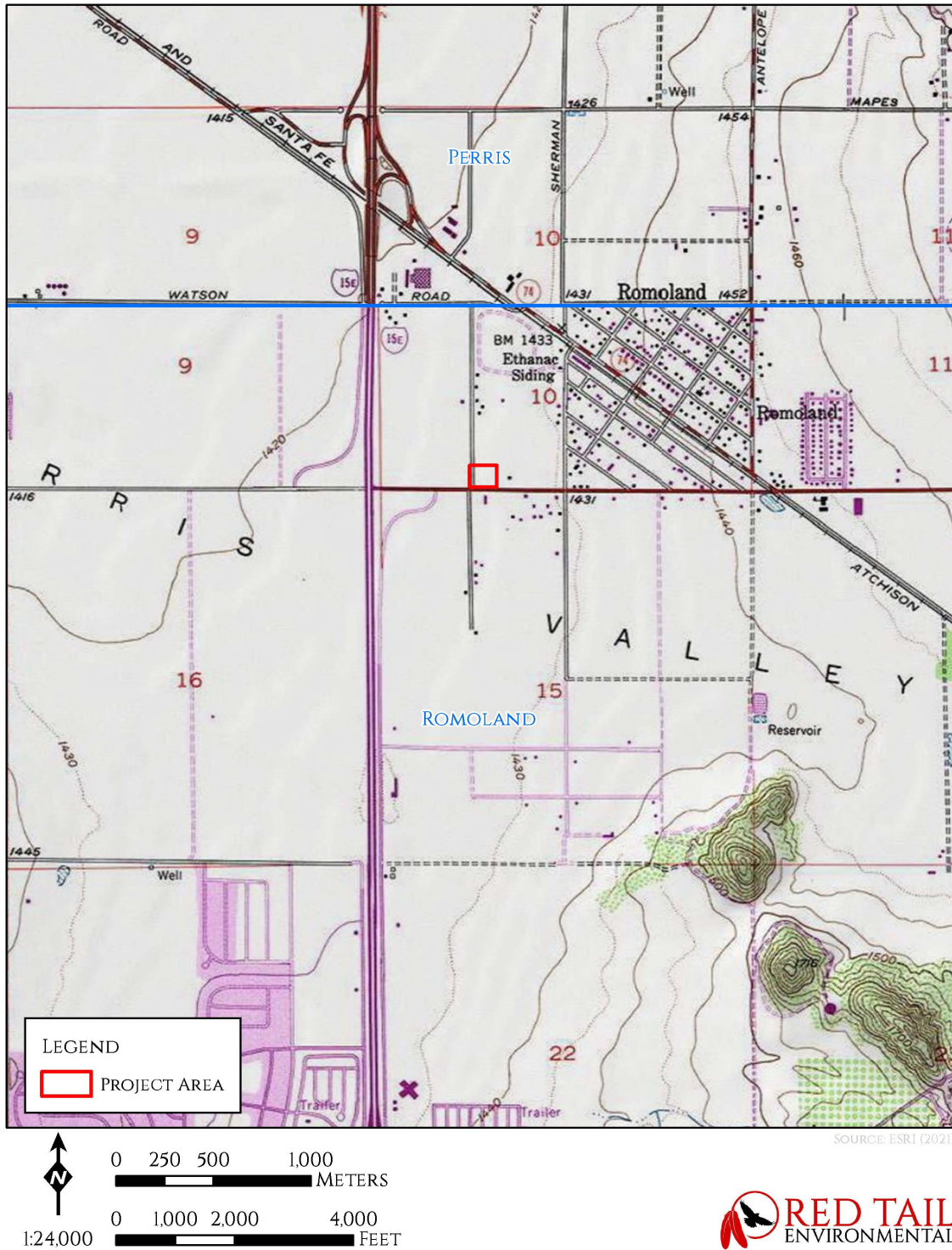


Figure 2. Project Area Map shown on the USGS 7.5' Romoland, California Quad Map.

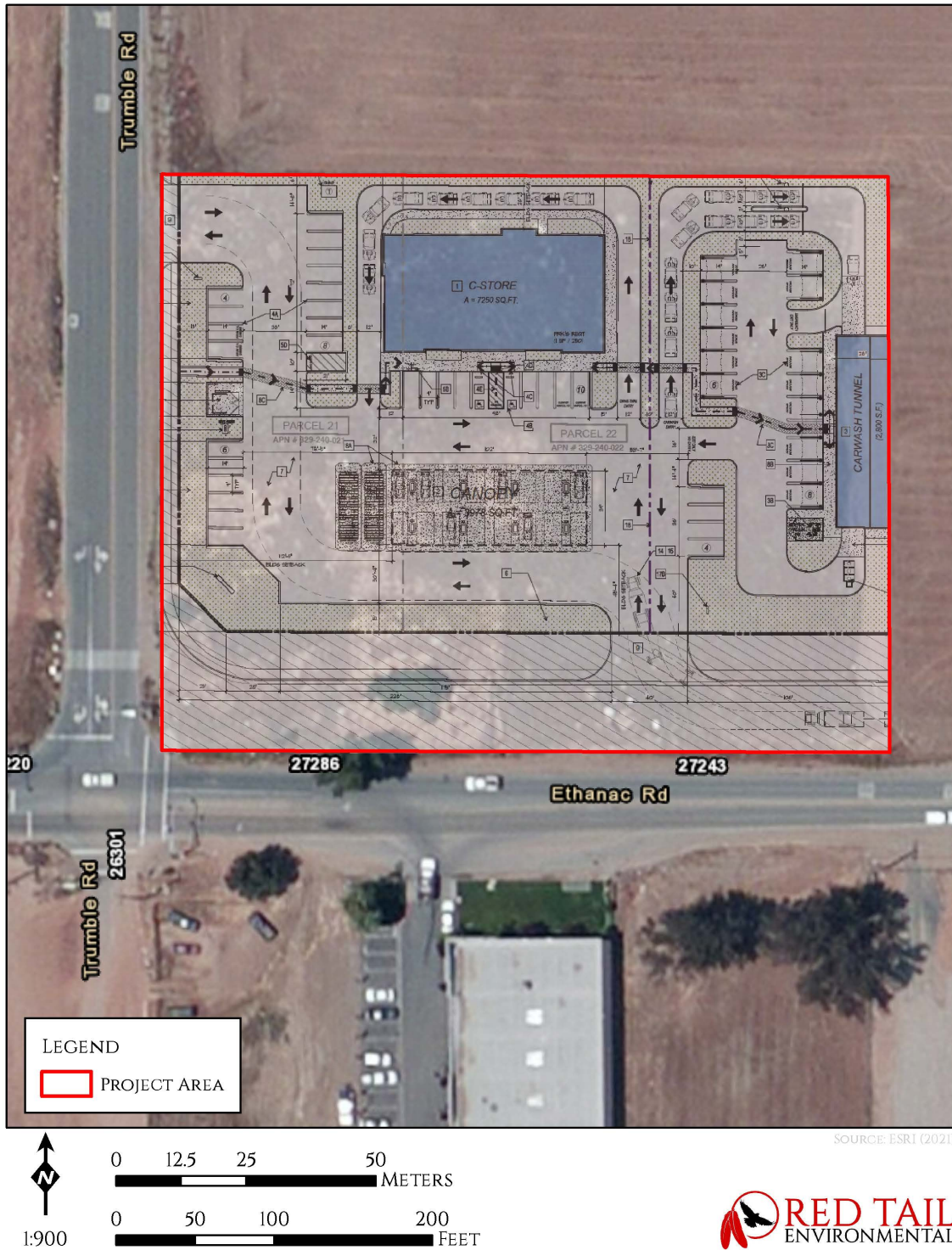


Figure 3. Project Area Shown on an Aerial Photograph.

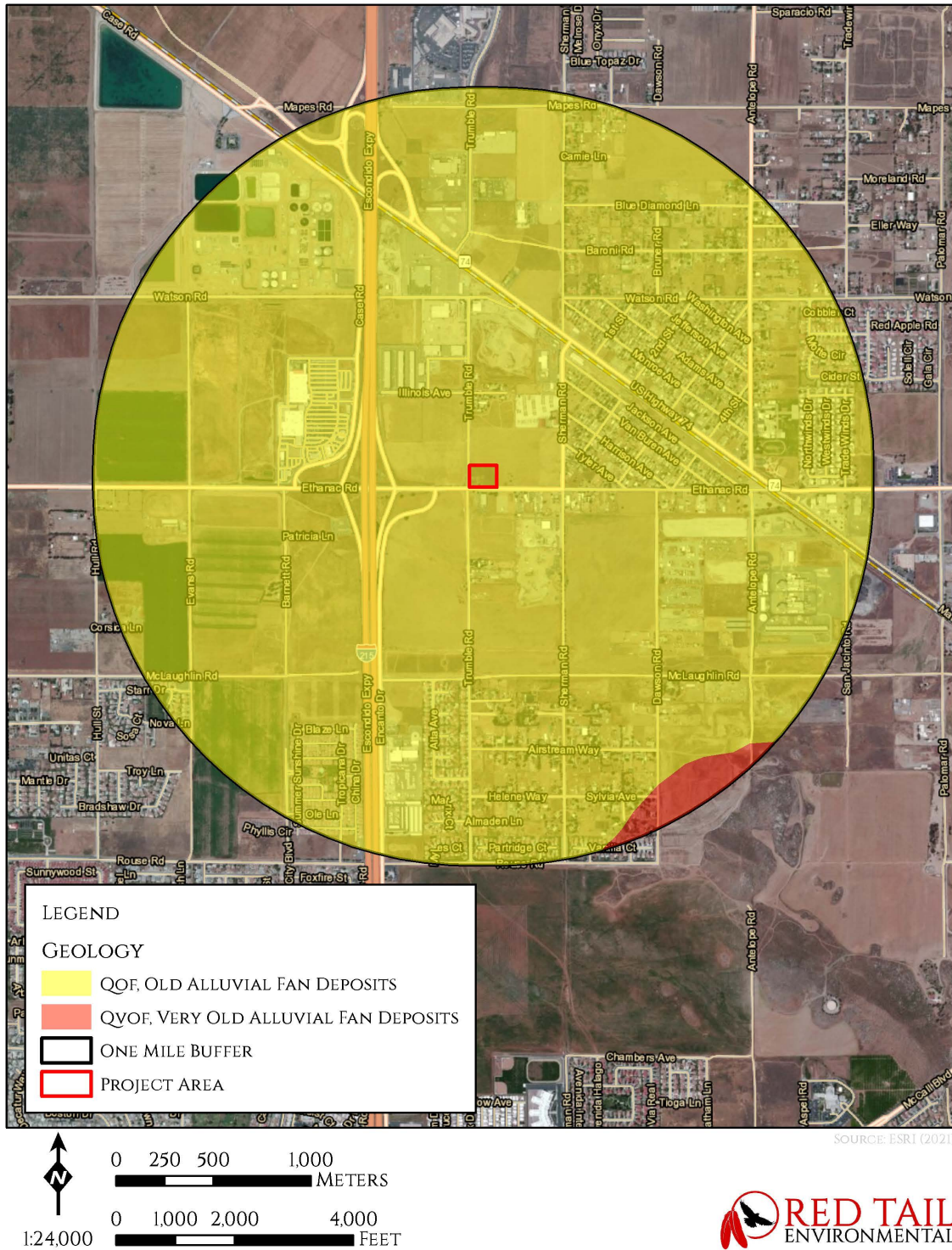


Figure 4. Project Area Shown on the Geology Map.



Figure 5. Overview of Project area from northeast corner. Exposed soil on the right side is surrounding agricultural land, recently tilled. View to south west. (August 17, 2021)



**Figure 6. Exposed sediment at surface in northeast area of Project, resulting from rodent activity.
(August 17, 2021)**

ATTACHMENT A

WSC RECORDS SEARCH RESULTS



Red Tail Environmental, Inc.
Spender Bietz
2627 Ariane Drive
San Diego, CA 92117

June 7, 2021

Dear Mr. Bietz,

This letter presents the results of a record search conducted for the Perris Fueling Station Project in the city of Perris, Riverside County, California. The project site is located at the northeast intersection of Ethanac Road and Trumble Road at 27278 Ethanac Road in Section 10 of Township 5 South and Range 3 West on the *Romoland, CA* USGS 7.5 minute topographic quadrangle.

The geologic unit underlying the project area is mapped entirely as old alluvial fan deposits dating from the middle to late Pleistocene epoch (Morton, Bovard & Morton, 2003). Pleistocene alluvial units are considered to be of high paleontological sensitivity. The Western Science Center does not have localities within the project area, but does have numerous localities within similarly mapped alluvial sediments throughout the region, including those associated with the Diamond Valley Lake Project roughly 6 miles to the southeast. Pleistocene alluvial deposits in southern California are well documented and known to contain abundant fossil resources including those associated with Columbian mammoth (*Mammuthus columbi*), Pacific mastodon (*Mammut pacificus*), aabertooth cat (*Smilodon fatalis*), ancient horse (*Equus sp.*) and many other Pleistocene megafauna.

Any fossils recovered from the Perris Fueling Station Project area would be scientifically significant. Excavation activity associated with development of the area has the potential to impact the paleontologically sensitive Pleistocene alluvial units and it is the recommendation of the Western Science Center that a paleontological resource mitigation plan be put in place to monitor, salvage, and curate any recovered fossils associated with the current study area.

If you have any questions, or would like further information, please feel free to contact me at dradford@westerncentermuseum.org

Sincerely,



A handwritten signature in black ink, appearing to read 'Darla Radford', written in a cursive style.

Darla Radford
Collections Manager

Perris Feuling Station Project

Project area, one mile radius, geologic mapping, and any WSC fossil localities

Legend

-  Project area and one mile radius
-  Qof: Old alluvial fan deposits (middle to late Pleistocene)

