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April 7, 2017

Ms. Stephanie N. Standerfer
Vice President
Albert A. Webb Associates
3788 McCray Street
Riverside, CA 92506
Transmitted via email to stephanie.standerfer@webbassociates.com

RE: Paleontological Resource Assessment for the City of Beaumont General Plan Update Project, City of Beaumont, Riverside County, California

Dear Ms. Standerfer:

At the request of Albert A. Webb Associates, on behalf of the City of Beaumont, Applied EarthWorks, Inc. (Æ) performed a paleontological resource assessment for the City of Beaumont General Plan Update Project (Project) in the City of Beaumont (City), Riverside County, California. The scope of work included a museum records search, a literature and geologic map review, and preparation of this technical memorandum (memo). This memo, which serves as a summary of our findings, was written in accordance with the guidelines set forth by the Society of Vertebrate Paleontology (SVP) (2010) and will satisfy the requirements of the California Environmental Quality Act (CEQA).

Project Description

The Project is located within the City of Beaumont and Sphere of Influence (SOI) in north-central Riverside County, approximately 70 miles east of downtown Los Angeles, within the San Gorgonio Pass region along Interstate 10 (I-10) and State Route 60 (SR 60). Specifically, the Project is mapped within portions of Township 2 South, Range 1 West, Sections 24-36; Township 2 South, Range 2 West, Sections 44-36; Township 3 South, Range 1 West, Sections 1-28 and 32-36; Township 3 South, Range 1 East, Sections 19 and 30-31; Township 3 South, Range 2 West, Sections 1-3 and 12-13; Township 4 South, Range 1 East, Section 6; and Township 4 South, Range 1 West, Sections 1-4 and 10-11 on the El Casco, San Jacinto, and Beaumont, CA 7.5-minute U.S. Geological Survey quadrangles (Attachment A).

According to the City of Beaumont (2006) the Project proposes to "establish a comprehensive vision for buildout of the General Plan Area [1-2]" and "acknowledge and comprehensively address (the) combined environmental effects of existing development within the General Plan Area [3-2]" through "amended and more fully articulated General Plan Update Goals, Policies, and Implementation Programs [3-5]". The specific ground disturbances of a given undertaking governed under the policies of the General Plan Update are unknown at this time; however, a variety of ground-disturbing activities are expected to occur during developments under the General Plan Update, which may include mass grading, excavation, trenching, auguring, among other construction activities. This technical memorandum was prepared in order to demonstrate CEQA compliance and in order to satisfy the environmental reporting requirements of the City.

Regulatory Context

Paleontological resources cannot be replaced once they are destroyed. Therefore, paleontological resources are considered nonrenewable scientific resources and are protected under CEQA. Specifically, in Section V(c) of Appendix G of the CEQA Guidelines, the "Environmental Checklist Form," the question is posed: "Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" In order to determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged). Therefore, mitigation of adverse impacts to paleontological resources is mandated by CEQA. In addition, paleontological resources are addressed under the Multipurpose Open Space Element of the Riverside County General Plan (2008), policies OS 19.8 and 19.9, which state the following:

1. **OS 19.8:** Whenever existing information indicates that a site proposed for development may contain biological, paleontological, or other scientific resources, a report shall be filed stating the extent and potential significance of the resources that may exist within the proposed development and appropriate measures through which the impacts of development may be mitigated;
2. **OS 19.9:** When existing information indicates that a site proposed for development may contain paleontological resources, a paleontologist shall monitor site grading activities, with the authority to halt grading to collect uncovered paleontological resources, curate any resources collected with an appropriate repository, and file a report with the Planning Department documenting any paleontological [County of Riverside Planning Department, 2008, p. OS-37].

The City of Beaumont (2007) General Plan does not have policies that specifically address the treatment of paleontological resources; however, the City does set forth an Implementation Program for cultural resources, including paleontological resources, that is intended to aid in enacting the City's land use and development policies. The cultural resources implementation policy states should "paleontological resources be encountered during excavation and grading activities, all work would cease until appropriate salvage measures are established" in accordance with CEQA guidelines.

Paleontological Resource Potential

Absent specific agency guidelines, most professional paleontologists in California adhere to the guidelines set forth by the SVP (2010) to determine the course of paleontological mitigation for a given project. These guidelines establish protocols for the assessment of the paleontological resource potential of underlying geologic units and outline measures to mitigate adverse impacts that could result from project development. Using baseline information gathered during a paleontological resource assessment, the paleontological resource potential of the geologic unit(s) (or members thereof) underlying a Project area can be assigned to one of four categories defined by SVP (2010). These categories include high, undetermined, low, and no paleontological resource potential.

Methodology

In order to assess whether a particular project area has the potential to contain significant fossil resources at the subsurface, it is necessary to review published geologic mapping to determine the geology and stratigraphy of the area. Geologic units are considered to be "sensitive" for paleontological resources if they are known to contain significant fossils anywhere in their extent. Therefore, a search of pertinent local and regional museum repositories for paleontological localities within and nearby the project area is necessary to determine whether fossil localities have been previously discovered within a particular rock unit. For this Project, a museum records search was conducted at the Los Angeles County Museum of Natural History (LACM) on April 6, 2017.

Resource Context

The Project area is located within the San Gorgonio Pass region of Southern California, south of the San Bernardino Mountains, within the San Jacinto Mountains of the Peninsular Ranges geomorphic province of California (Norris and Webb, 1976). The northwest-southeast oriented Peninsular Ranges extend 125 miles from the Los Angeles Basin to the tip of Baja California. The Peninsular Ranges are bounded by the Elsinore fault zone and Colorado Desert and on the east and the Pacific Coast on the west (Morton and Miller, 2006). The geology in the northern reaches of the range, including the San Jacinto Mountains, consists of Paleozoic banded gneiss, schist, and other older metamorphic rocks; Mesozoic granitic rocks of the southern California batholith; and Cenozoic marine, terrestrial, and Quaternary alluvium deposits. The Project area is situated within the San Jacinto Mountains Block; a relatively low-relief, triangular structural unit between the San Andreas and San Jacinto fault zones that has been uplifted and deformed largely due to movement along the San Jacinto fault (Morton and Miller, 2006). The highest point in the range is San Jacinto Peak at 10,805 feet (Norris and Webb, 1976). The region surrounding the City of Beaumont is a geologically complex area, in part due to movement along the San Andreas fault, Banning fault, San Gorgonio fault, and others (Lancaster et al., 2012; SCEDC, 2013; Yule, 2009).

The Project area is mapped at a scale of 1:24,000 by Dibblee and Minch (2003a-c) and 1:100,000 by Morton and Miller (2006) and Lancaster et al. (2012). According to these published geologic maps, the Project area is underlain by geologic units exposed within the narrow faulted plain of the San Gorgonio Pass, the San Timoteo Badlands, and the rocky highlands of the San Jacinto Mountains. Geologic units include Mesozoic and older granitic and metamorphic bedrock that have a very low paleontological resource potential due to the heat and pressure of their formation; paleontologically sensitive deposits of the Mount Eden Formation, San Timoteo Formation, and Pleistocene alluvium; and, recent surficial alluvial fan and valley deposits, that have low paleontological sensitivity. The geology and paleontology of these units is described below and depicted in Attachment A.

San Timoteo and Mount Eden Formations

The paleontologically sensitive San Timoteo Formation (QTst) and Mount Eden Formation (Tme) are exposed within the San Timoteo Badlands in the eastern and southern portions of the City of Beaumont and SOI (Morton and Miller, 2006). The Mount Eden Formation and San Timoteo Formation were first described by Frick (1921) after their type localities in nearby San Timoteo Canyon (May and Repenning,

1982). The late Miocene to Pliocene Mount Eden Formation is composed of a reddish brown, massive to indistinctly bedded pebbly sandstone and basal conglomerate with decomposed clasts locally derived from Peninsular Ranges basement rocks; thick and indistinctly bedded, moderately to well-indurated, pale tan to reddish brown or gray coarse-grained arkose; local interbeds of fine-grained sandstone and siltstone, including grayish calcareous siltstone; and rare shale laminae (Albright, 1999; Morton and Miller, 2006). Below the Mount Eden Formation, the Pliocene to middle Pleistocene San Timoteo Formation is composed of a basal dark gray-green, fissile mudrock; well bedded, fine-to coarse-grained, moderately to poorly indurated and sorted, tan-brown to gray-yellow lithic arkose; and subordinate pebble and cobble conglomerate deposits composed of subangular to subrounded lithics. The San Timoteo Formation and Mount Eden Formations together are up to 6,000 feet thick in the San Timoteo badlands and is exposed for approximately 20 miles along the San Jacinto fault (Albright, 1999; Morton and Miller, 2006).

The Mount Eden and San Timoteo Formations have yielded an abundant and diverse fauna that includes at least 30 mammalian and reptilian species and hundreds of fossil specimens. Three local faunas have been described from within these deposits, including the Mount Eden Local Fauna [LF] (late Hemphillian North American Land Mammal Age [NALMA]), El Casco LF (Late Blancan/ Irvingtonian NALMA) and Shutt Ranch LF (Irvingtonian NALMA) (Albright, 1999; Woodburne, 2013), which consist of approximately 15 taxa including, cottontail rabbit, pack rat, kangaroo rat, deer mouse, pocket mouse, vole, lemming, dog, rhinoceros, numerous artiodactyls, lizards, and snake, and the latter which includes rodent taxa (Albright, 1999; Repenning, 1987). The fossils recovered from within the Mount Eden and San Timoteo formations are important because they not only provide a more complete fossil record for a tectonically active California during the Late Cenozoic, they constrain dates and assist with magnetostratigraphy, paleogeography, paleoclimate reconstructions, and timing of pre-historic faunal migrations (Albright, 1999). In addition to the Mount Eden LF, El Casco LF, and Shutt LF, fossil specimens from more than 20 mammal species have been recovered from numerous localities within these deposits in the San Timoteo badlands, including taxa of horse, rabbit, rodent, mammoth, deer, camel, ground sloth, horse, and turtle (UCMP online database, 2017).

Quaternary (Pleistocene to Holocene) Surficial Deposits

A large portion of the central Project area is immediately underlain by Pleistocene alluvial fan (Qof, Qvof) and valley (Qoa) deposits. These deposits, referred to as *Quaternary older* and *very old alluvium* disconformably overlie Cretaceous granitic bedrock (gr) and Mesozoic metamorphic intrusive rocks (pKm) at an unknown but likely relatively shallow depth (plutonic igneous rocks and high- to medium-grained metamorphic do not contain fossils due to the high heat and pressure of their formation deep below the surface of the Earth). In general, the alluvial sediments are composed of tan to reddish-brown sandstone and siltstone that was deposited in alluvial fan and local channel environments during the Pleistocene. The deposits are moderately consolidated and poorly indurated, with angular to subangular clasts, local pebble conglomerate lenses, moderate soil formation, and abundant dissection (Morton and Miller, 2006).

Pleistocene age alluvial, fluvial, and lacustrine deposits have proven to yield scientifically significant paleontological resources throughout Southern California from the coastal areas to the inland valleys. South of the Project area, in the vicinity of Lakeview, a diverse assemblage of fossil resources has been

recovered including mammoth, sabre-toothed cat, horse, bison, and numerous small mammals, reptiles, invertebrates, and plant remains (Springer et al., 2009). Further south of the Project area, the largest known open-environment non-asphaltic late Pleistocene fossil assemblage has been documented in Diamond and Domenigoni valleys. Discovered during excavations of the Diamond Valley Lake, this locality has yielded nearly 100,000 identifiable fossils representing over 105 vertebrate, invertebrate, and plant taxa. The vertebrate taxa recovered includes reptiles such as frogs, turtles, and lizards; birds such as robins, swallows, jays, ravens, hawks, and ducks; small mammals such as rabbit, squirrel, mice, and weasels; and large mammals such as fox, bear, coyote, deer, bison, mammoths, mastodons, and ground sloths (Springer et al., 2009). The invertebrate taxa recovered includes ostracodes, snails, termites, slugs, beetles, and bivalves and the plant taxa recovered includes well preserved diatoms, pollen, and wood debris.

Recent alluvial fan (Qf, Qyf), valley (Qa, Qya), wash (Qw), and landslide (Qls) deposits are common throughout the Project area (Lancaster et al., 2012; Morton and Miller, 2006). The younger Quaternary alluvium generally consists of gravel, sand, and clay deposited during the Holocene restricted to valley, gully, wash, and landslide areas. Holocene-age alluvial deposits, particularly those younger than 5,000 years old, are generally too young to contain fossilized material (SVP, 2010), but they may overlie sensitive older deposits at an unknown depth.

Records Search Results

LACM collection records contain two previously recorded localities (LACM 6596 and 65235) directly within the Project boundary from within the San Timoteo Formation. At least 15 additional vertebrate localities (LACM 4540, 5168, 6059, 7618-7622, 1118-1119, 5377, 1120, (CIT) 132-133, and (CIT) 515, have been previously recorded in the vicinity of the Project area from within the Mount Eden Formation, San Timoteo Formation, and Pleistocene alluvial deposits (McLeod, 2017). These localities yielded vertebrate fossil specimens of horse, camel, mastodon, deer, rhinoceros, and fish, depth of recovery unreported (McLeod, 2017). In addition, localities LACM 1014 and 1016, recovered within the western Project area, produced two type specimens of fossil cones of the pine (*Pinus pretuberculata* and *P. hazeni*) and fir tree (*Pseudotsuga premacrocarpa*), as well as apricot tree (*Prunus prefremontii*) and algae plant fossils. The LACM did not provide specific geographic coordinates for the localities within the Project area or vicinity. The results of the museum records search are summarized in Table 1.

Findings and Recommendations

Based on the literature review and museum records search results, the paleontological sensitivity of the Project area was determined in accordance with the SVP's (2010) sensitivity scale. The Mount Eden Formation, San Timoteo Formation, and Pleistocene alluvial deposits are determined to have a high paleontological resource potential because the geologic units have proven to yield significant vertebrate fossils in the vicinity of the Project area and elsewhere (McLeod, 2017). Younger Quaternary alluvial deposits of Holocene age mapped at the surface of the Project area have a low potential to contain intact paleontological resources because they are typically too young to contain fossilized remains.

As a result of the high paleontological resource potential in the Project area, further paleontological resource management, including a field reconnaissance survey of the Project area and construction

Table 1
Vertebrate Localities within the City of Beaumont and the Vicinity of the Project Area

Locality No.	Geologic Unit	Age	Taxa
LACM 1118-1119, 5377	Mount Eden Formation	Miocene-Pliocene	Camelidae (camel), Cervidae (deer), Equidae (horse), and *Teleoceras hicksis* (rhinoceros)
LACM 1120	Mount Eden Formation	Miocene-Pliocene	*Pliauchenia merriami* and *Titanotylopus sp.* (camels)
LACM 7618-7622; LACM (CIT) 132-133, 515	San Timoteo Formation	Plio-Pleistocene	*Equus* (horse) and Camelidae
LACM 6596	San Timoteo Formation	Plio-Pleistocene	*Pliomastodon sp.* (mastodon)
LACM 65235	San Timoteo Formation	Plio-Pleistocene	fish
LACM 4540, 5168, 6059	Pleistocene Alluvium	Pleistocene	*Equus*

Source: McLeod (2017)

monitoring during ground disturbance in the highly sensitive Mount Eden Formation, San Timoteo Formation, and Pleistocene alluvial deposits, is recommended (refer to Attachment B for paleontological sensitivity in the Project area). Our management recommendations for programmatic-level mitigation measures and General Plan policies related to paleontological resources are presented below.

Management Recommendations

In general, the potential for a given project to result in adverse impacts to paleontological resources is directly proportional to the amount of ground disturbance associated with the project. Since this Project entails a General Plan Update, new ground disturbances related to the development of commercial space and residential housing are anticipated. The specific ground disturbances of a given undertaking governed under the policies of the General Plan Update are unknown at this time; however, they will occur within the boundary of the Project area, which is underlain by sedimentary deposits with a low to high potential for buried paleontological resources. As a result, several Programmatic-level management recommendations are set forth, that if implemented as policies within the Beaumont General Plan Update, would reduce adverse impacts to paleontological resources to a less than significant level pursuant to the requirements of CEQA. The following measures have been used by professional paleontologists for many years and have proven to be effective in reducing or eliminating adverse impacts to paleontological resources as a result of private and public development projects throughout California.

- **Worker's Environmental Awareness Training.** Prior to the start of construction within a given development site within the Project area, all field personnel should be briefed regarding the types of fossils that could be found and the procedures to follow should paleontological resources be encountered. This training should be accomplished at the pre-grade kick-off meeting or morning

tailboard meeting and should be conducted by a Qualified Paleontologist, as defined by SVP (2010) guidelines. Specifically, the training should provide a description of the fossil resources that may be encountered, outline steps to follow in the event that a fossil discovery is made, and provide contact information for the Qualified Paleontologist and on-site monitor(s). The training should be developed by the Qualified Paleontologist and may be conducted concurrent with other environmental training (e.g., cultural and natural resources awareness training, safety training, etc.).

- **Pre-Construction Survey**. It is recommended that prior to any ground-disturbing activities, a Qualified Paleontologist be retained to conduct a field reconnaissance survey of any development site within the Project area that is underlain by a geologic unit with high paleontological sensitivity. The purpose of the field survey will be to visually inspect the ground surface for exposed fossils or traces thereof and to evaluate geologic exposures for their potential to contain preserved fossil material at the subsurface. Particular attention should be paid to rock outcrops and any areas where geologic sediments are well exposed. All fossil occurrences observed during the course of fieldwork, significant or not, should be adequately documented and recorded at the time of discovery. The data collected for each fossil occurrence should include, at minimum, the following information: Universal Transverse Mercator (UTM) coordinates, approximate elevation, description of taxa, lithologic description, and stratigraphic context (if known). In addition, each locality should be photographically documented with a digital camera. If feasible, with prior consent of the land owner(s), all significant or potentially significant fossils should be collected at the time they are observed in the field, pursuant to SVP (2010) guidelines.

- **Construction Monitoring**. Prior to the commencement of ground-disturbing activities, a Qualified Paleontologist will be retained to prepare and implement a Paleontological Resource Impact Mitigation Program (PRIMP) for any development site or undertaking in the Project area that plans to disturb geologic units with a high paleontological resource potential. Full-time monitoring is recommended for construction activities (e.g., grading, excavation, ripping, trenching, etc.) that will disturb previously undisturbed deposits determined to have a high paleontological sensitivity (i.e, the Mount Eden Formation [Tme], San Timoteo Formation [QTst], and Pleistocene alluvial fan [Qof, Qvof] and valley [Qoa] deposits), in accordance to criteria set forth by SVP (2010). Monitoring should not be required in highly sensitive units during auguring of less than 1 foot in diameter, or in areas of previous disturbance or soil development, as determined by the Qualified Paleontologist. In addition, spot checking may also occur at the discretion of the Qualified Paleontologist in areas underlain by younger Quaternary alluvial deposits (Qa, Qya, Qf, Qyf, Qw, Qls) in order to determine if underlying sensitive geologic units are being impacted by construction, and at what depth.

  Monitoring should include the visual inspection of excavated or graded areas, trench sidewalls, spoils, and any other disturbed sediment. In the event that a paleontological resource is discovered, the approved paleontological monitor will have the authority to divert temporarily the construction equipment around the find until it is assessed for scientific significance and collected. In areas of high sensitivity, monitoring efforts can be reduced or eliminated at the discretion of the Qualified Paleontologist if no fossil resources are encountered after 50 percent

of the excavations are completed, or if buried crystalline bedrock, which has no paleontological resource potential, is encountered at depth within the area of excavation.

- **Fossil Preparation, Curation, and Reporting.** Upon completion of fieldwork, all significant fossils collected will be prepared in a properly equipped paleontology laboratory to a point ready for curation. Preparation will include the careful removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossils specimens will be identified to the lowest taxonomic level, cataloged, analyzed, and delivered to a regionally-accredited museum repository such as the Western Science Center, Raymond Alf Museum, or the Natural History Museum of Los Angeles County for permanent curation and storage. The cost of curation is assessed by the repository and is the responsibility of the land owner.

  At the conclusion of laboratory work and museum curation, a final report should be prepared describing the results of the paleontological mitigation monitoring efforts associated with the specific undertaking under the Project. The report will include a summary of the field and laboratory methods, an overview of the geology and paleontology within the development site, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If the monitoring efforts produced fossils, then a copy of the report will also be submitted to the curation facility.

It has been a pleasure assisting you with this Project. If you have any questions, please do not hesitate to contact me at hclifford@appliedearthworks.com or (626) 578-0119.

Sincerely,

Heather Clifford
Associate Paleontologist
Applied EarthWorks, Inc.

References

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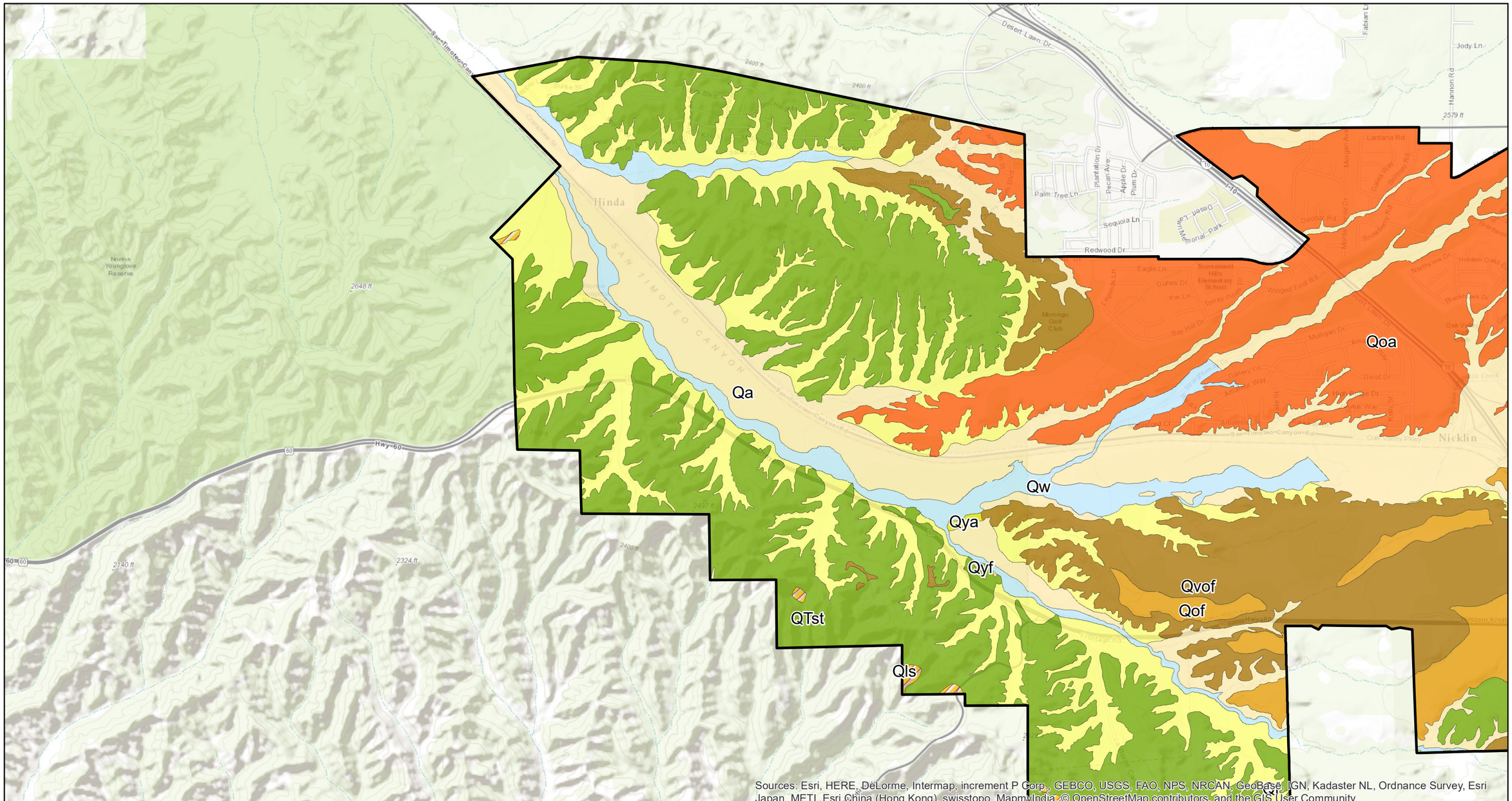
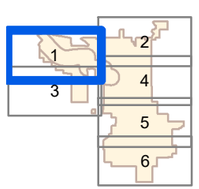
ATTACHMENT A
MAP OF GEOLOGICAL UNITS IN THE CITY OF BEAUMONT GENERAL PLAN UPDATE AREA





Legend

- Project Area
- Qa, Alluvial valley deposits, late Holocene
- Qw, Alluvial wash deposits, late Holocene
- Qf, Alluvial fan deposits, late Holocene
- Qls, Landslide deposits, Holocene
- Qyf, Young alluvial fan deposits, mid-early Holocene
- Qya, Young alluvial valley deposits, mid-early Holocene
- Qoa, Old alluvial valley deposits, late to middle Pleistocene
- Qof, Old alluvial fan deposits, late to middle Pleistocene
- Qvof, Very old alluvial valley deposits, middle to late Pleistocene
- QTst, San Timoteo Formation (undifferentiated, Pleistocene to Pliocene)
- Tme, Mount Eden Formation, Pliocene to Miocene
- gr, granitic rock including Tonalite of Lamb Canyon, Cretaceous
- pKm, undifferentiated metasedimentary rock, Mesozoic and older

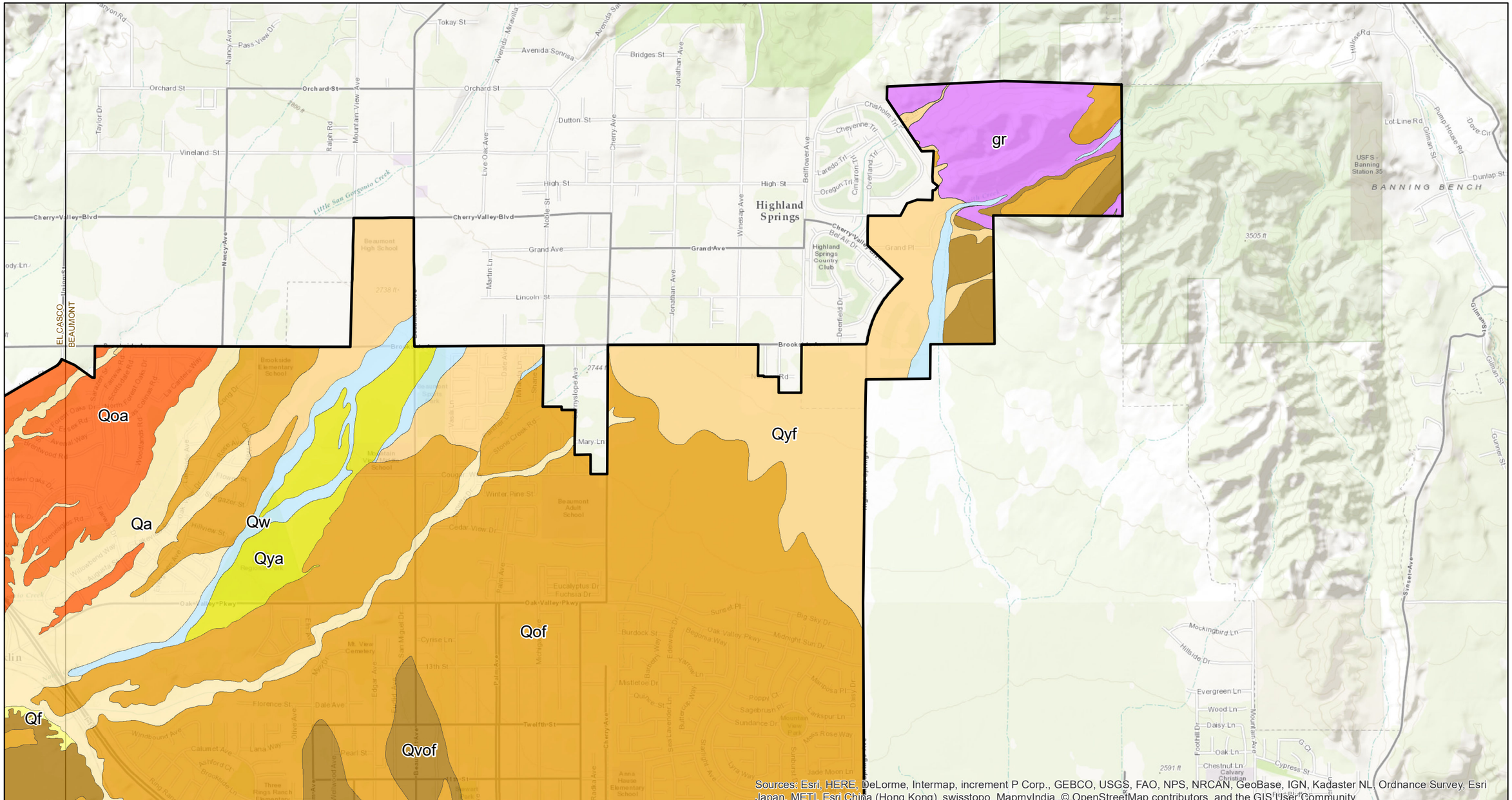
SCALE 1:24,000

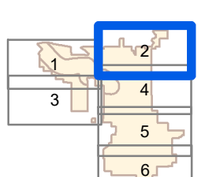
1 0.5 0 1 Miles

1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

El Casco, CA 7.5' USGS Quadrangle
Geologic Units: Lancaster et al. (2012); Morton and Miller (2006)





Legend

- Project Area
- Qa, Alluvial valley deposits, late Holocene
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- Qyf, Young alluvial fan deposits, mid-early Holocene
- Qya, Young alluvial valley deposits, mid-early Holocene
- Qoa, Old alluvial valley deposits, late to middle Pleistocene
- Qof, Old alluvial fan deposits, late to middle Pleistocene
- Qvof, Very old alluvial valley deposits, middle to late Pleistocene
- QTst, San Timoteo Formation (undifferentiated, Pleistocene to Pliocene)
- Tme, Mount Eden Formation, Pliocene to Miocene
- gr, granitic rock including Tonalite of Lamb Canyon, Cretaceous
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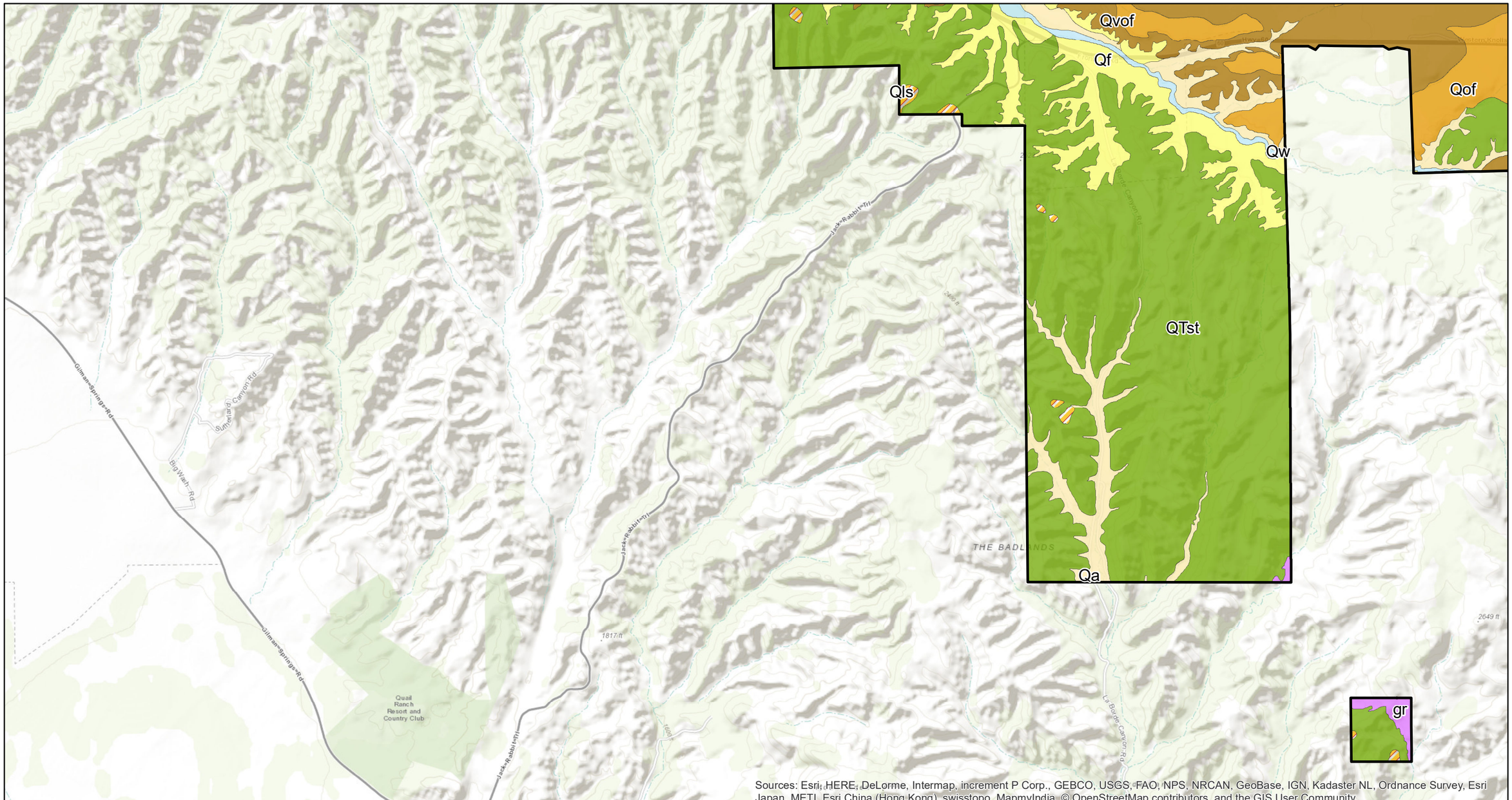
SCALE 1:24,000

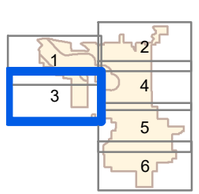
1 0.5 0 1 Miles

1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

Beaumont and El Casco, CA 7.5' USGS Quadrangle
Geologic Units: Lancaster et al. (2012); Morton and Miller (2006)





Legend

- Project Area
- Qa, Alluvial valley deposits, late Holocene
- Qw, Alluvial wash deposits, late Holocene
- Qf, Alluvial fan deposits, late Holocene
- Qls, Landslide deposits, Holocene
- Qyf, Young alluvial fan deposits, mid-early Holocene
- Qya, Young alluvial valley deposits, mid-early Holocene
- Qoa, Old alluvial valley deposits, late to middle Pleistocene
- Qof, Old alluvial fan deposits, late to middle Pleistocene
- Qvof, Very old alluvial valley deposits, middle to late Pleistocene
- QTst, San Timoteo Formation (undifferentiated, Pleistocene to Pliocene)
- Tme, Mount Eden Formation, Pliocene to Miocene
- gr, granitic rock including Tonalite of Lamb Canyon, Cretaceous
- pKm, undifferentiated metasedimentary rock, Mesozoic and older

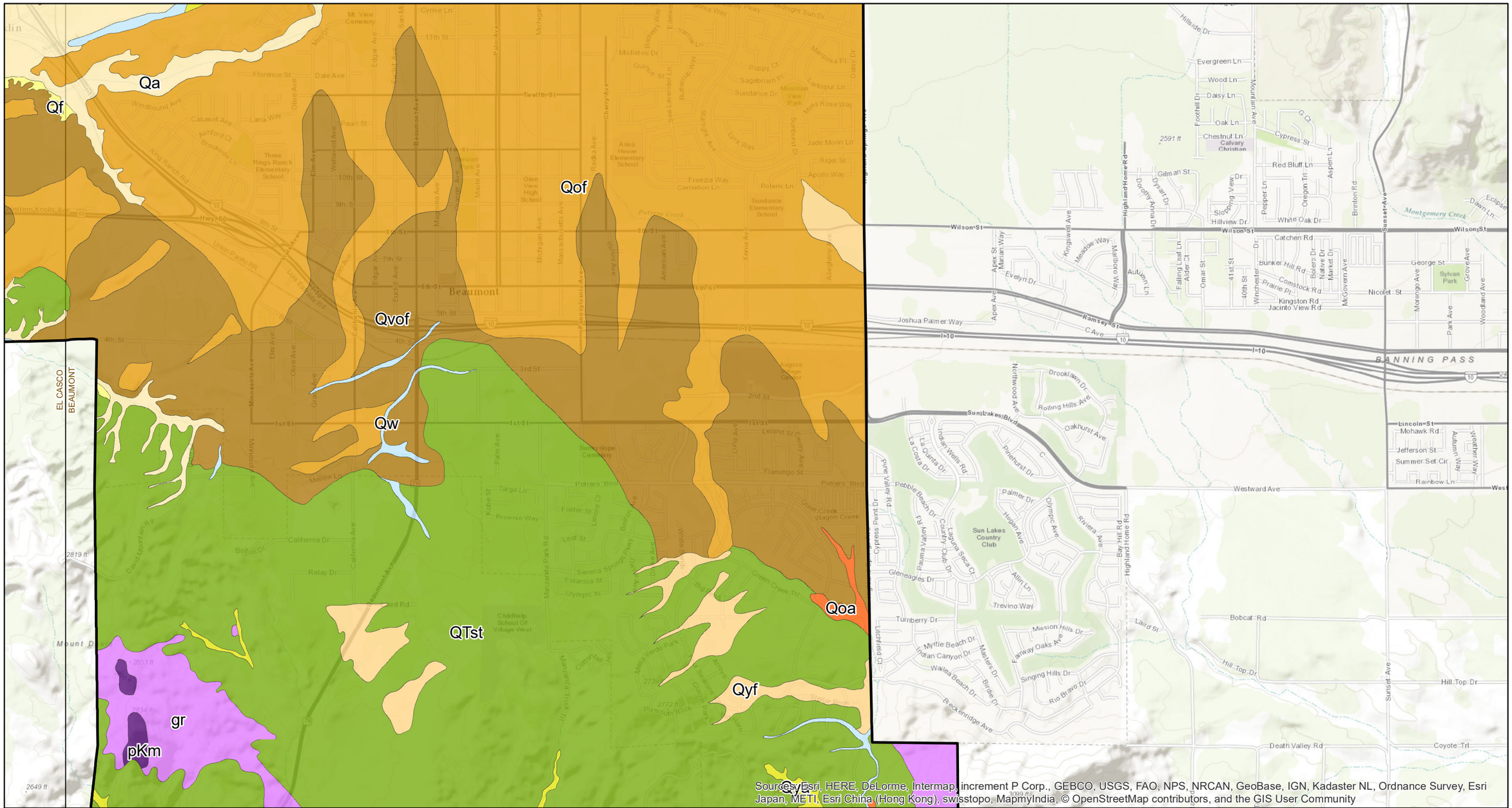
SCALE 1:24,000

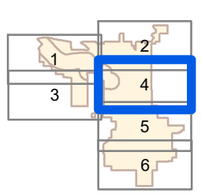
1 0.5 0 1 Miles

1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

El Casco, CA 7.5' USGS Quadrangle
Geologic Units: Lancaster et al. (2012); Morton and Miller (2006)





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1 0.5 0 1 Miles

1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

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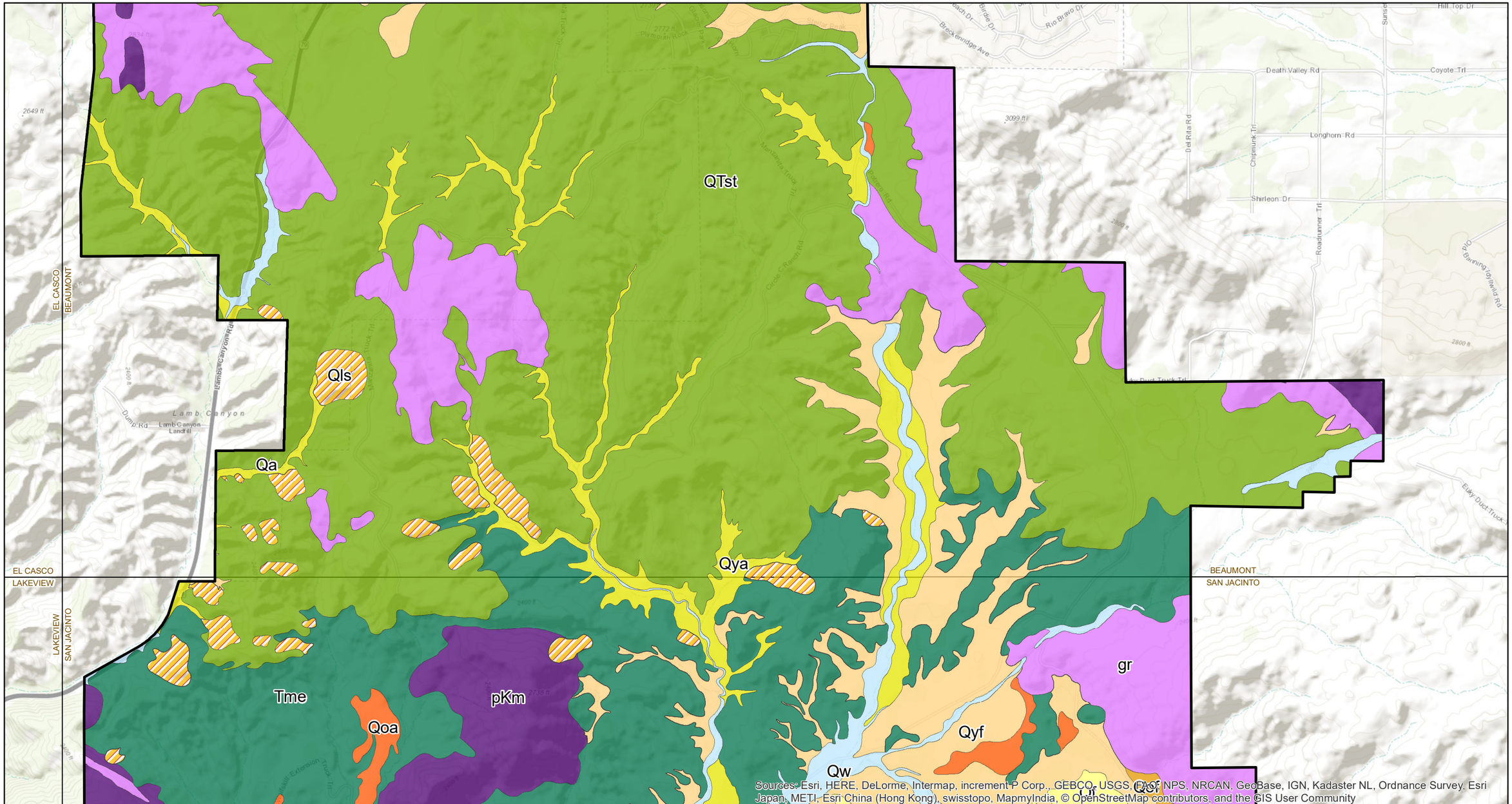
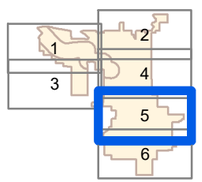
Beaumont and El Casco, CA 7.5' USGS Quadrangle
Geologic Units: Lancaster et al. (2012); Morton and Miller (2006)





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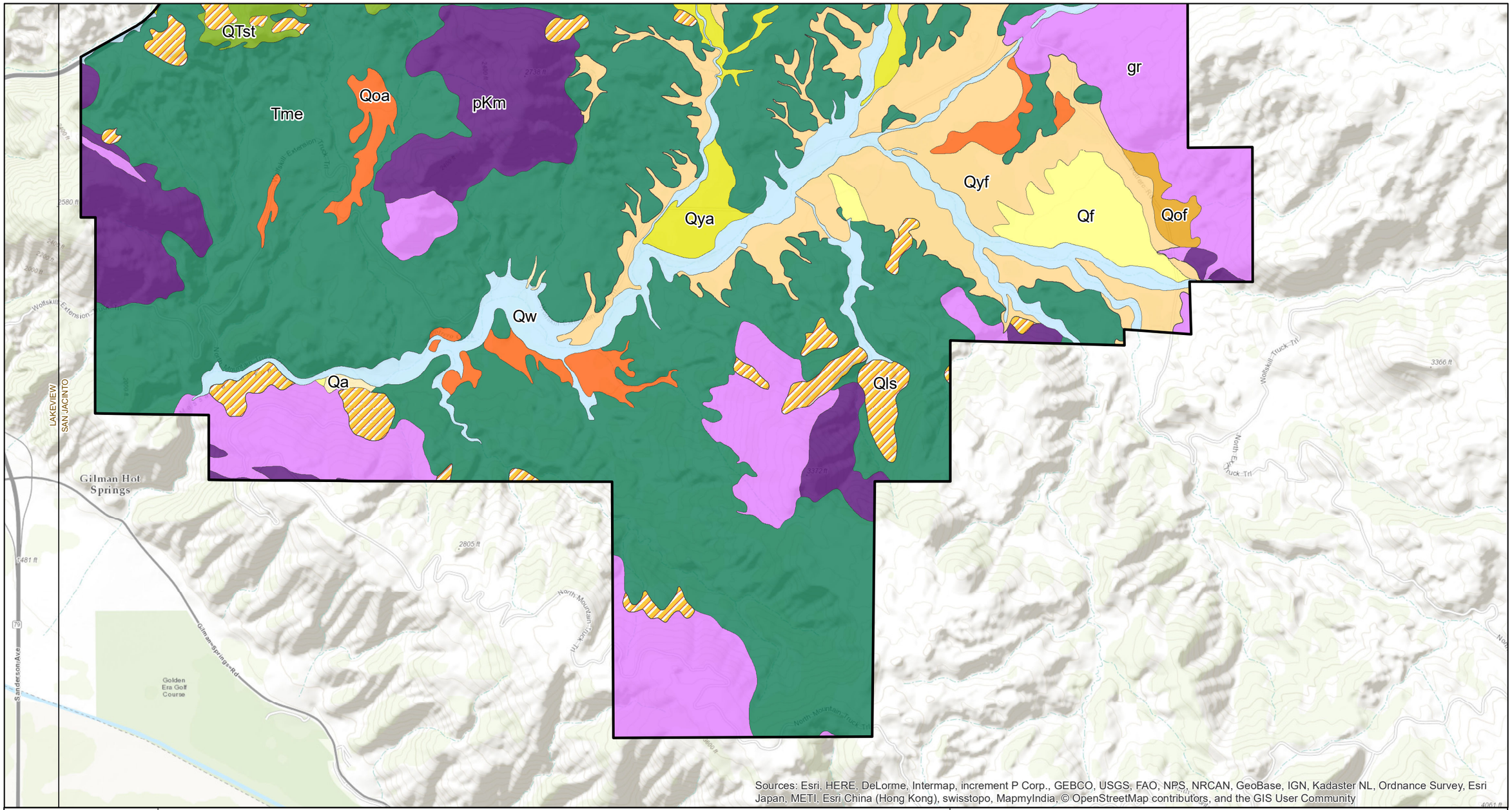
SCALE 1:24,000

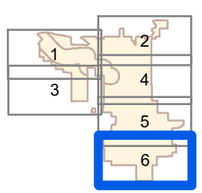
1 0.5 0 1 Miles

1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

Beaumont, El Casco, and San Jacinto, CA 7.5' USGS Quadrangle
Geologic Units: Lancaster et al. (2012); Morton and Miller (2006)





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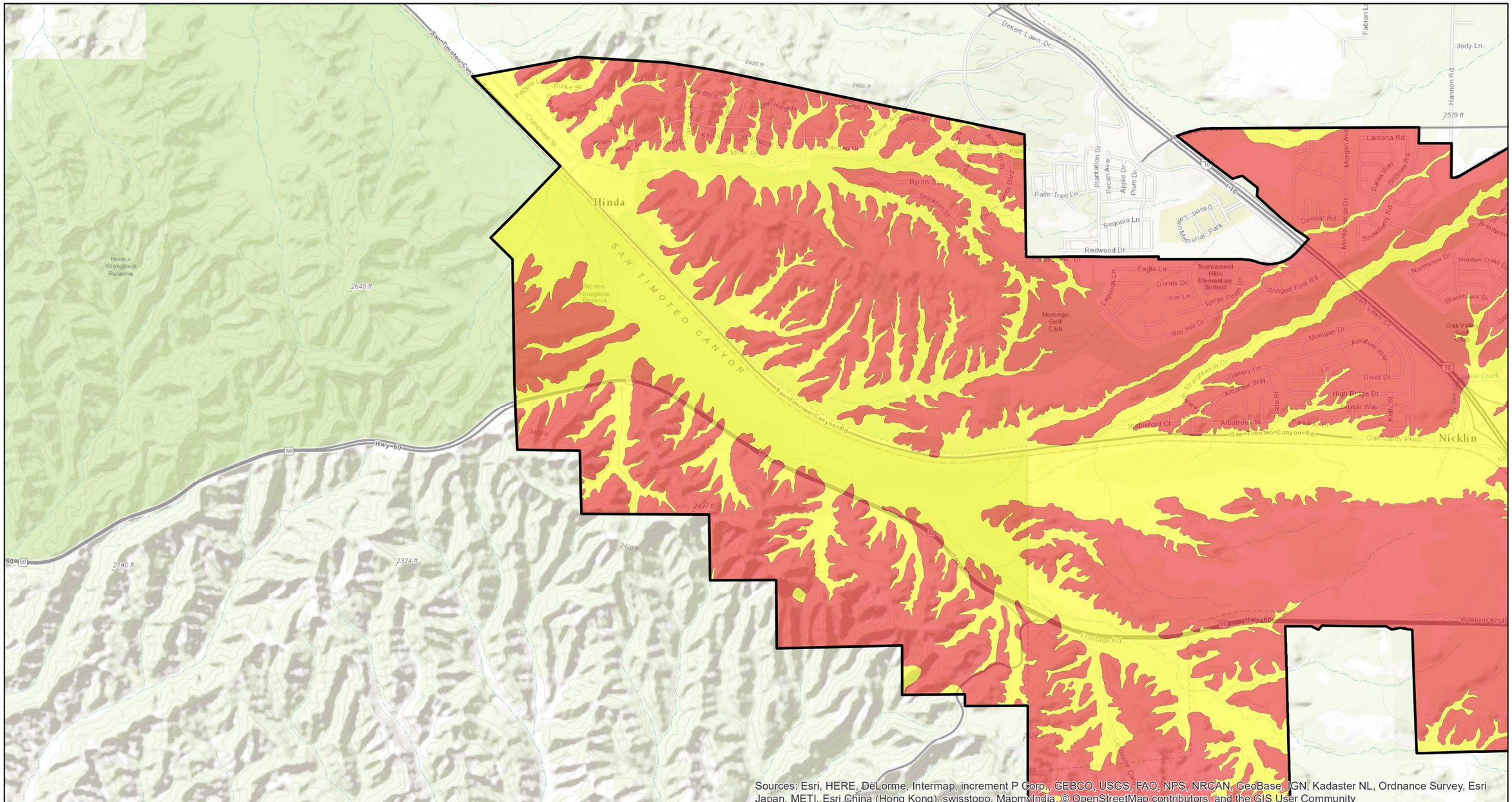
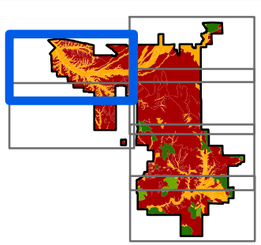
San Jacinto, CA 7.5' USGS Quadrangle
Geologic Units: Lancaster et al. (2012); Morton and Miller (2006)

ATTACHMENT B
MAP OF PALEONTOLOGICAL SENSITIVITY IN THE CITY OF BEAUMONT GENERAL PLAN UPDATE AREA





Legend

- Project Area
- High Paleontological Sensitivity
- Low Paleontological Sensitivity
- Low to no Paleontological Sensitivity
- None Paleontological Sensitivity

SCALE 1:24,000

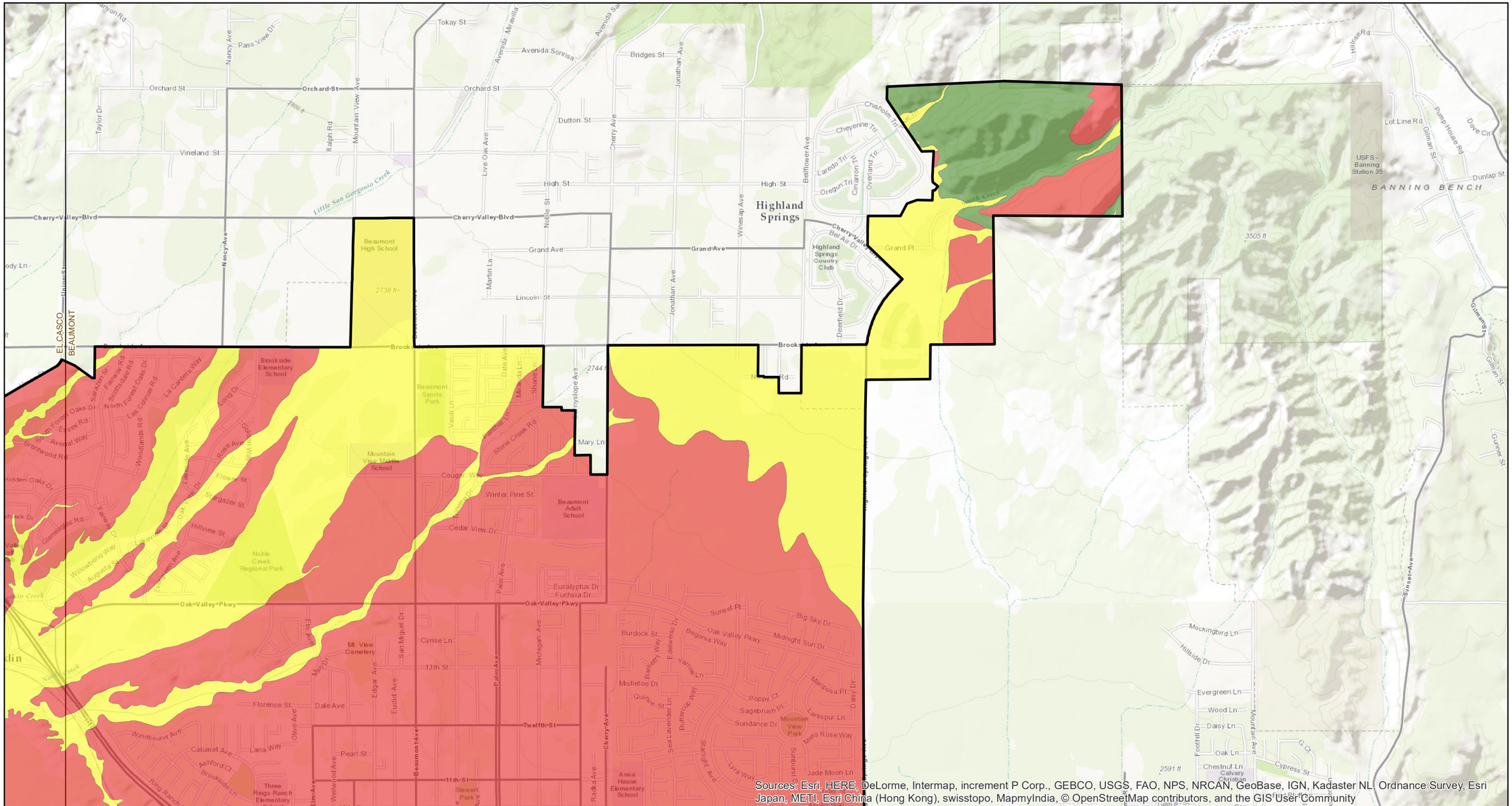
1 0.5 0 1 Miles

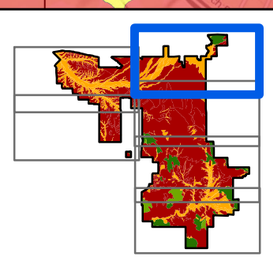
1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

El Casco, CA 7.5' USGS Quadrangle

Paleontological Sensitivity in the City of Beaumont General Plan Update Project Area.





Legend

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SCALE 1:24,000

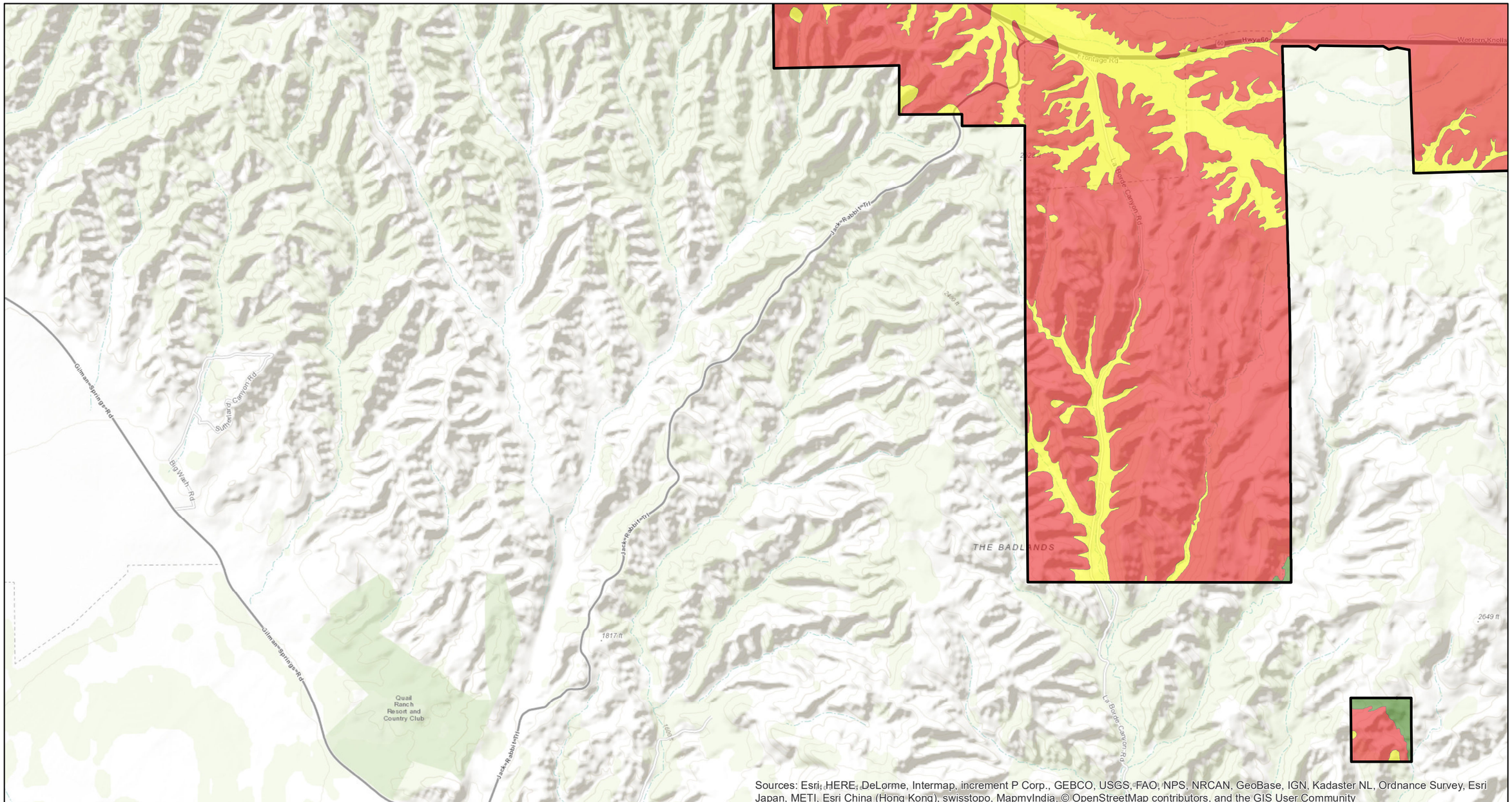
1 0.5 0 1 Miles

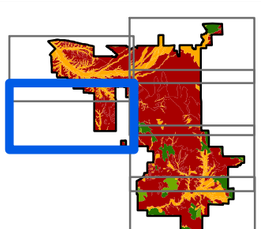
1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

Beaumont and El Casco, CA 7.5' USGS Quadrangle

Paleontological Sensitivity in the City of Beaumont General Plan Update Project Area.





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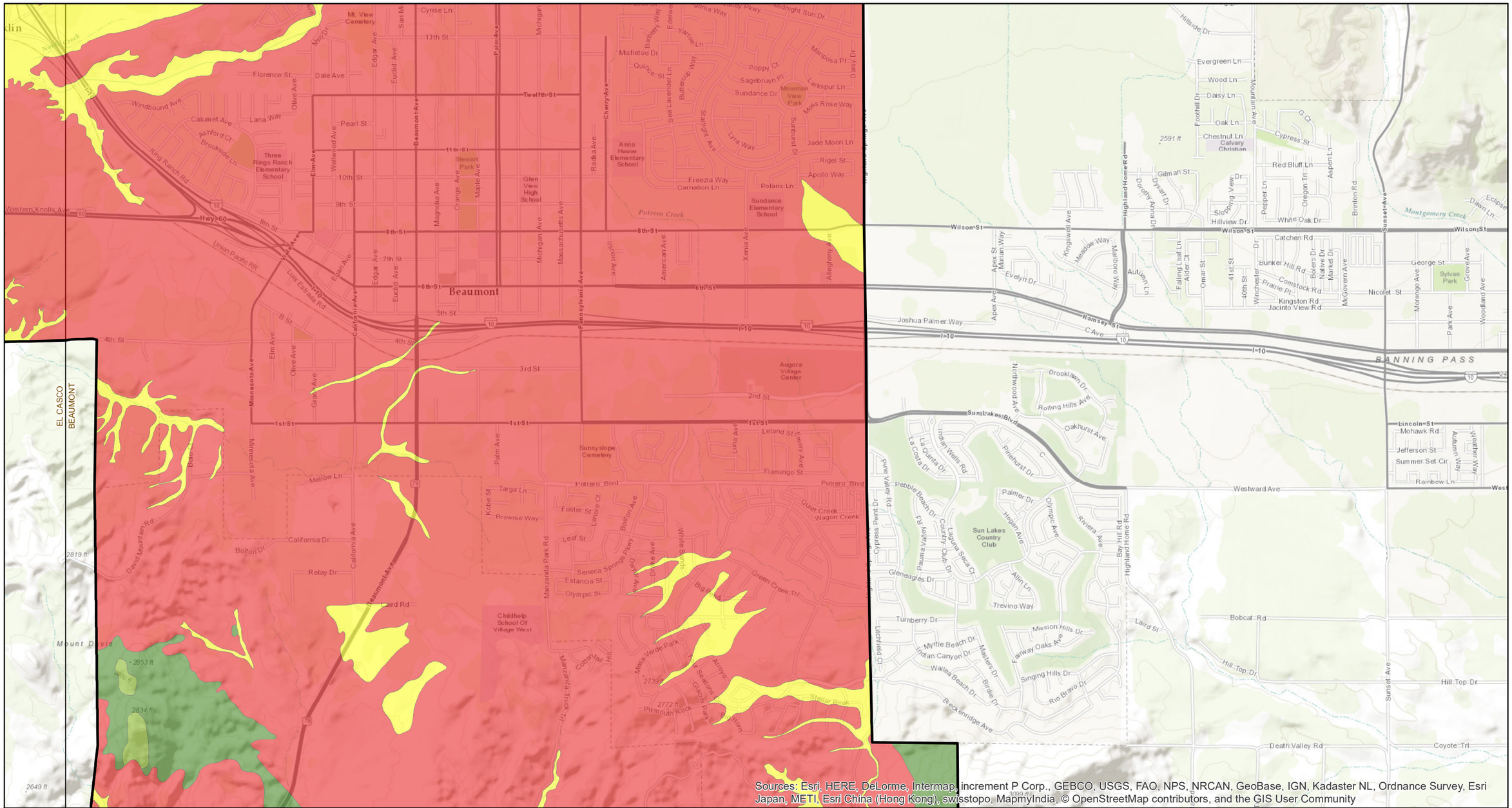

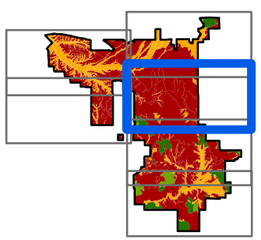

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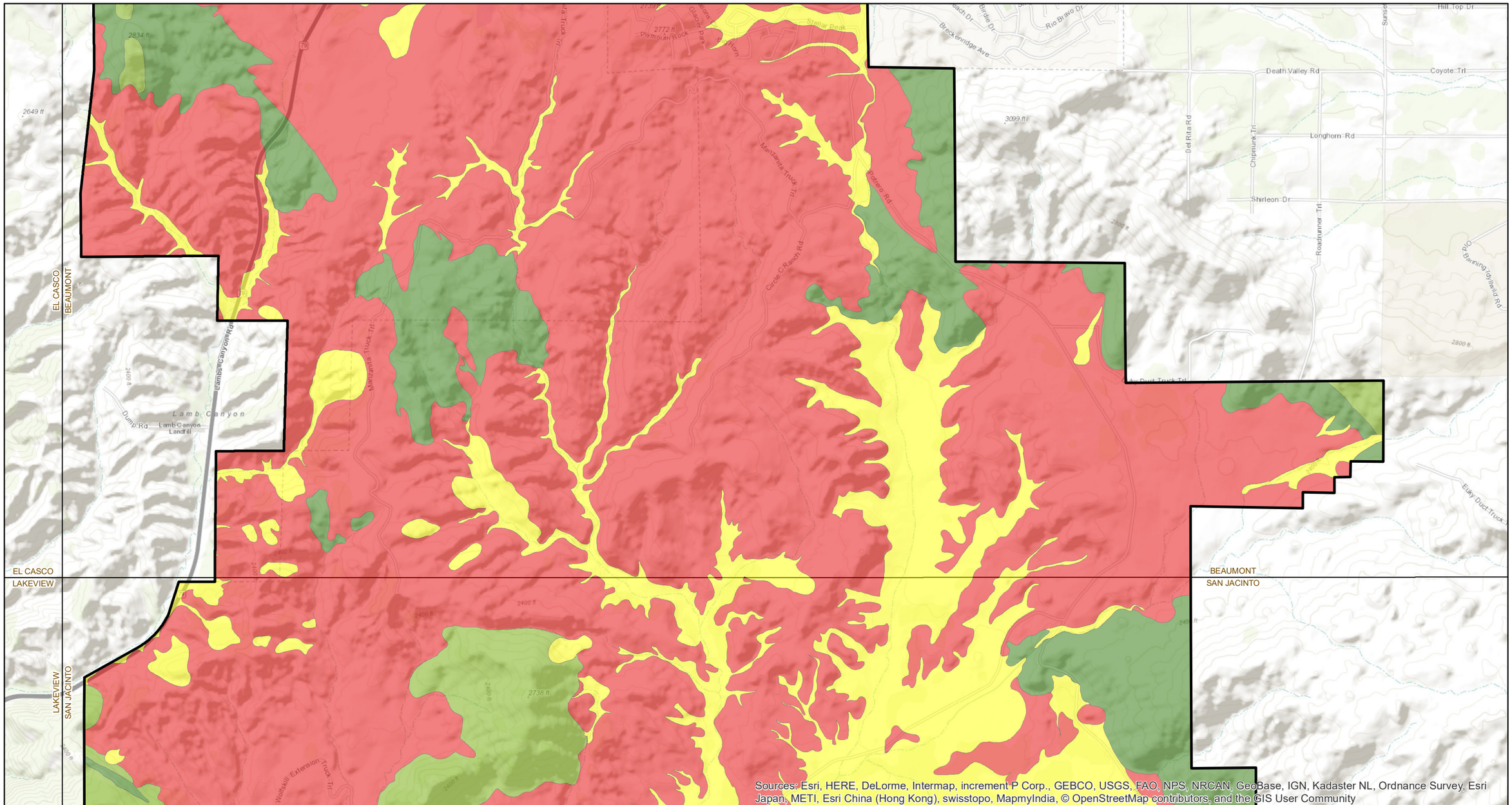

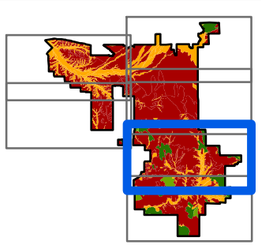

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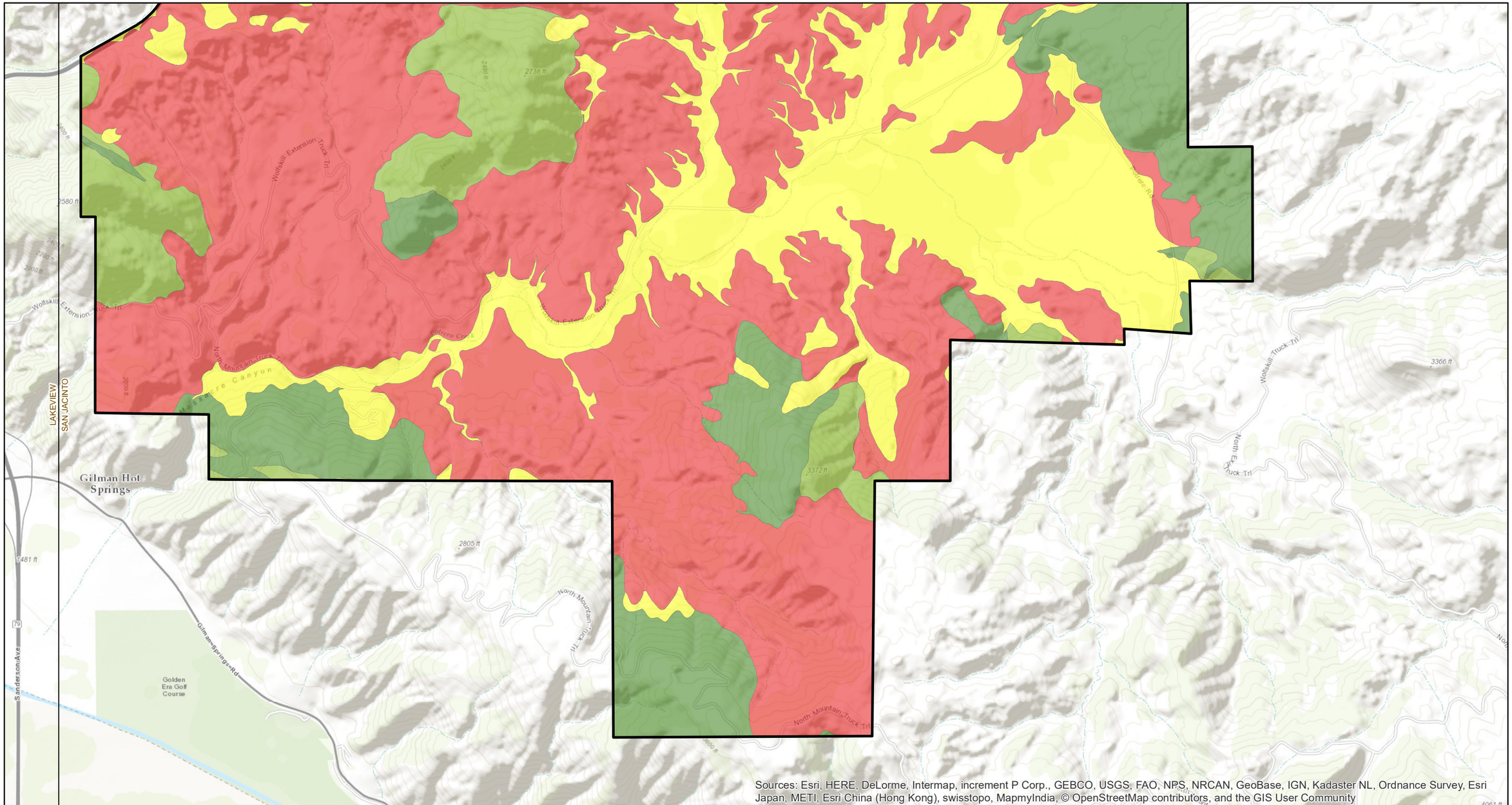
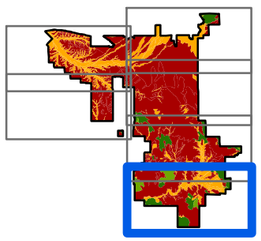
Beaumont, El Casco, and San Jacinto, CA 7.5' USGS Quadrangle

Paleontological Sensitivity in the City of Beaumont General Plan Update Project Area.





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San Jacinto, CA 7.5' USGS Quadrangle

Paleontological Sensitivity in the City of Beaumont General Plan Update Project Area.