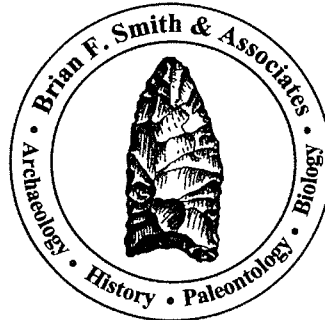


APPENDIX L  
PALEONTOLOGICAL RESOURCES  
TECHNICAL REPORT

**PALEONTOLOGICAL RESOURCE ASSESSMENT FOR  
SAN DIEGO STATE UNIVERSITY 2007 CAMPUS MASTER PLAN REVISION,  
CITY OF SAN DIEGO, SAN DIEGO COUNTY, CALIFORNIA**

*Prepared for:*

*Dudek & Associates  
605 Third Street  
Encinitas, California 92024*



*Prepared by:*

*George L. Kennedy, Ph.D., Senior Paleontologist*

*Brian F. Smith and Associates  
Consultants in Archaeology, History, Paleontology and Biology  
14010 Poway Road, Suite A, Poway, California 92064  
[www.bfsa-ca.com](http://www.bfsa-ca.com)*

*12 April 2007*

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*12 April 2007*

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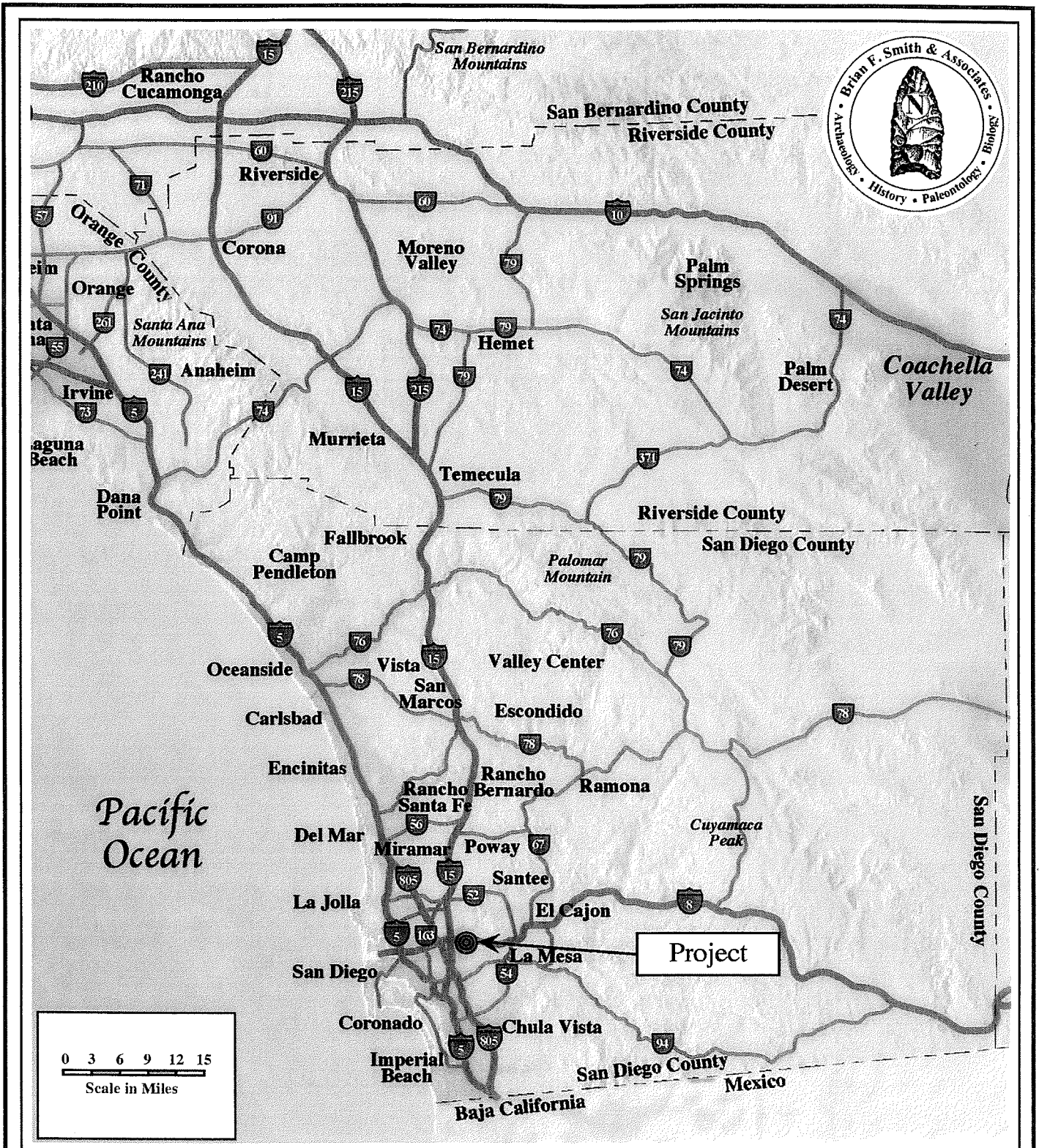
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## 1.0 INTRODUCTION

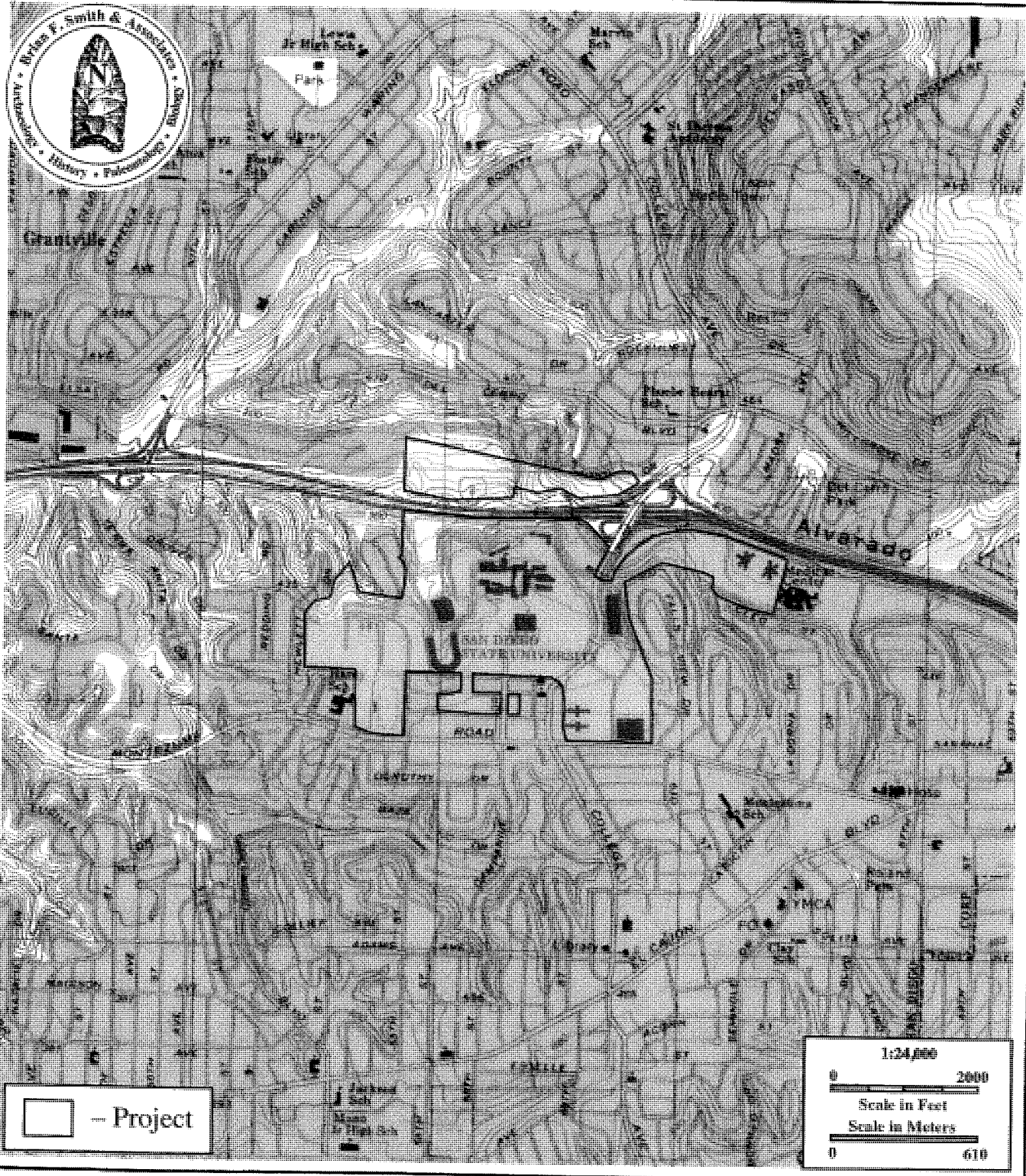
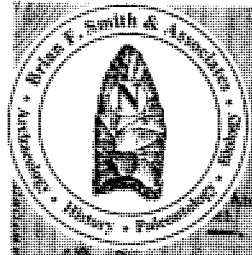
A paleontological resource assessment has been conducted for the San Diego State University (SDSU) campus and surrounding areas as a prelude to determining the need to implement Mitigation, Monitoring, and Reporting Programs (MMRPs) to mitigate against the possible loss of nonrenewable paleontological resources (*i.e.*, fossils) during construction of six proposed project components contained in the SDSU 2007 Master Plan Revision. The California Environmental Quality Act (CEQA) considers the potential loss of nonrenewable cultural resources, including fossils, as a justification to implement mitigation measures.

The coastal plain of San Diego County has produced a rich and diverse fossil record that is well documented in the published literature. In addition, the San Diego Natural History Museum (SDNHM) in San Diego and the Natural History Museum of Los Angeles County (LACMIP) in Los Angeles have extensive collections of fossils from this area. A summary of the paleontological resources of San Diego County (Deméré and Walsh, 1993) provides relevant information on the paleontology, distribution, and resource sensitivity of all of the local sedimentary formations, and is the single most useful document used by environmental planners when assessing the paleontological resource potential and mitigation requirements for local construction projects. This report, in conjunction with the published geologic maps of the coastal plain areas of the county (Kennedy, 1975; Kennedy and Peterson, 1975; Kennedy and Tan, 1977; Tan and Kennedy, 1996), is indispensable in the evaluation process.

This paleontological resource assessment is based on the above-mentioned documents, as well as information derived from collections and records searches by the Department of Paleontology at the San Diego Natural History Museum in San Diego. Based on the published geologic map of the area (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B), seven geologic units or formations are present in the footprint of the SDSU 2007 Master Plan Revision (Figures 1.0–1 through 1.0–5). The nature of these formations and their likelihood of yielding unique paleontological resources are also discussed in relation to the location of the proposed project component areas (Figures 1.0–4 and 1.0–5). All of the project areas are located in formational units that are proven to be fossiliferous, and all will need the implementation of Mitigation, Monitoring, and Reporting Programs to satisfy environmental concerns for the preservation of potential nonrenewable paleontological resources (*i.e.*, fossils) during excavation and grading activities concomitant with construction of the proposed project components.

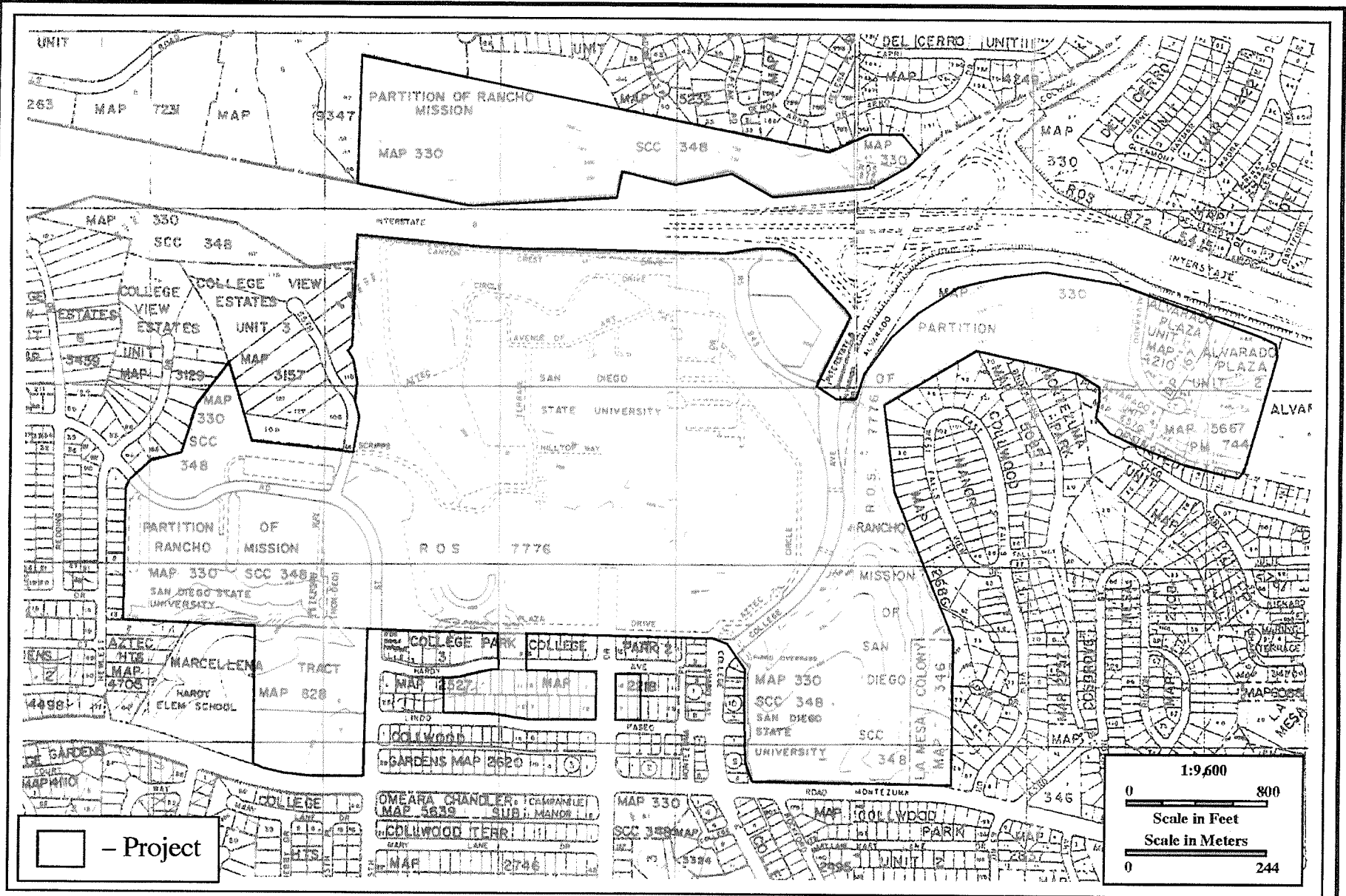


**Figure 1.0-1**  
**General Location Map**  
 SDSU 2007 Campus Master Plan Revision



**Figure 1.0-2**  
**Project Location Map**  
SDSU 2007 Campus Master Plan Revision  
USGS *La Mesa* Quadrangle (7.5 minute series)



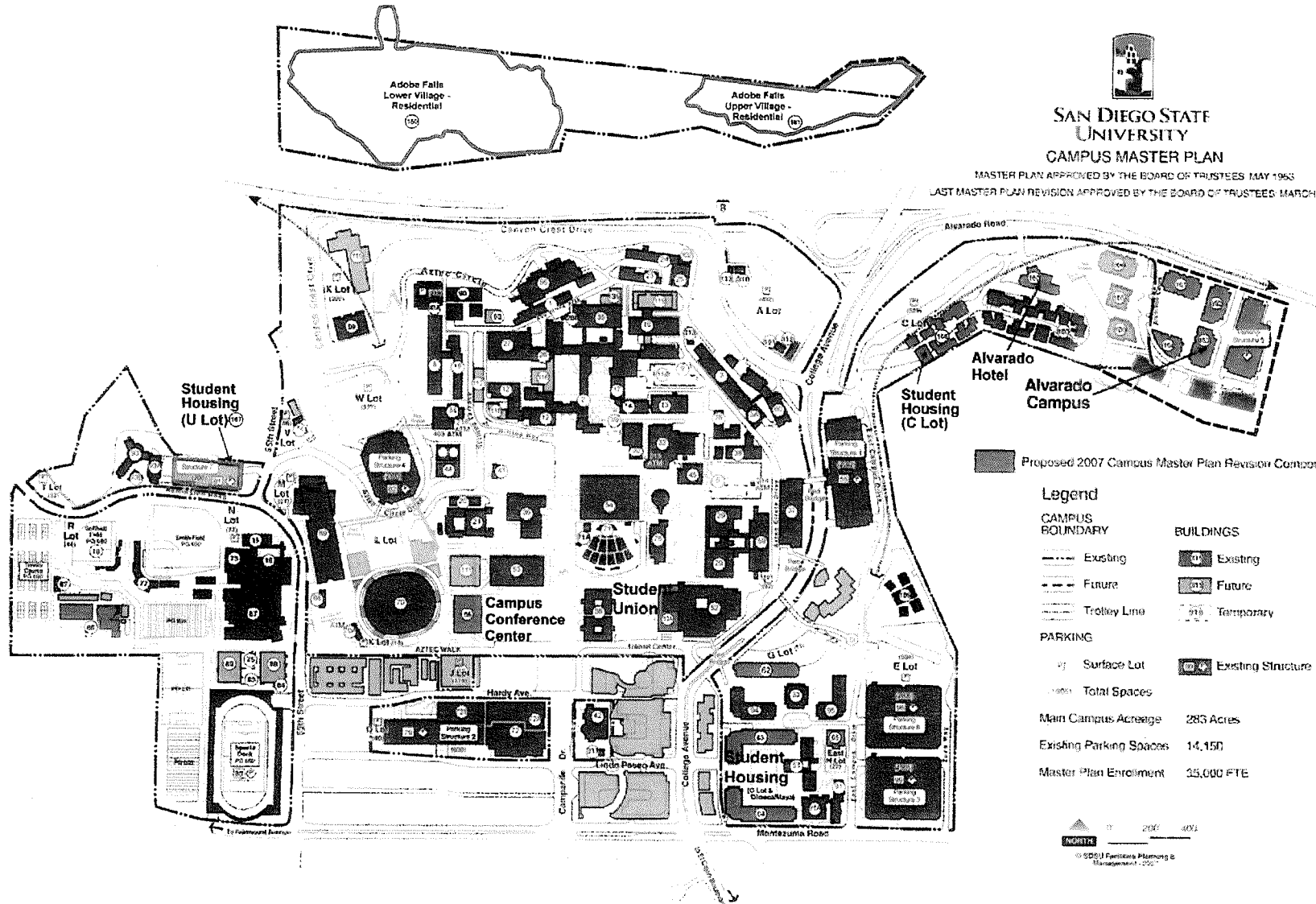


**Figure 1.0-3**  
**Project Location Map**  
 SDSU 2007 Campus Master Plan Revision  
 Shown on The City of San Diego 1" to 800' Scale Engineering Map

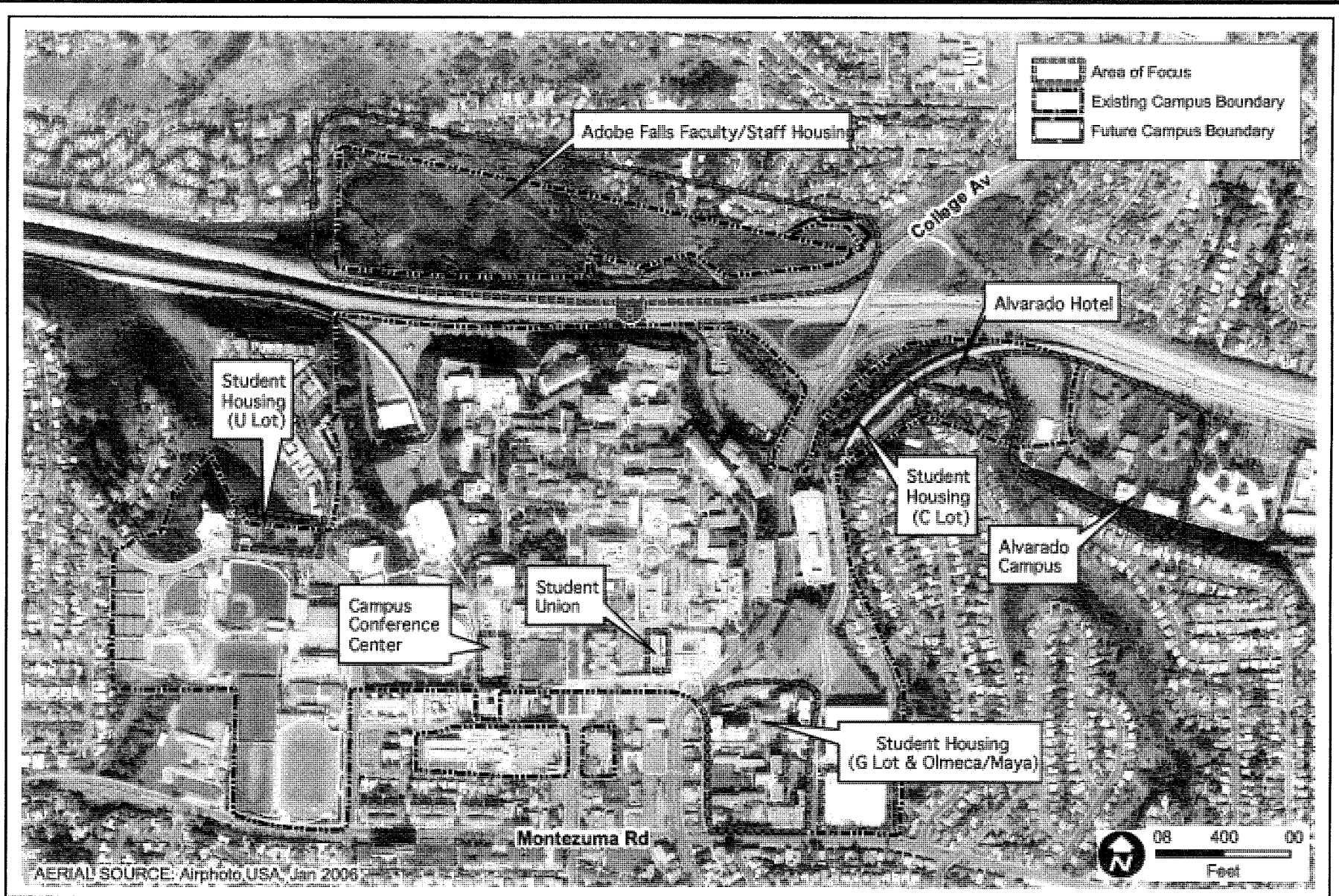


**SAN DIEGO STATE UNIVERSITY**  
**CAMPUS MASTER PLAN**

MASTER PLAN APPROVED BY THE BOARD OF TRUSTEES: MAY 1963  
 LAST MASTER PLAN REVISION APPROVED BY THE BOARD OF TRUSTEES: MARCH 2001



**Figure 1.0-4**  
**Project Development Map**  
 SDSU 2007 Campus Master Plan Revision



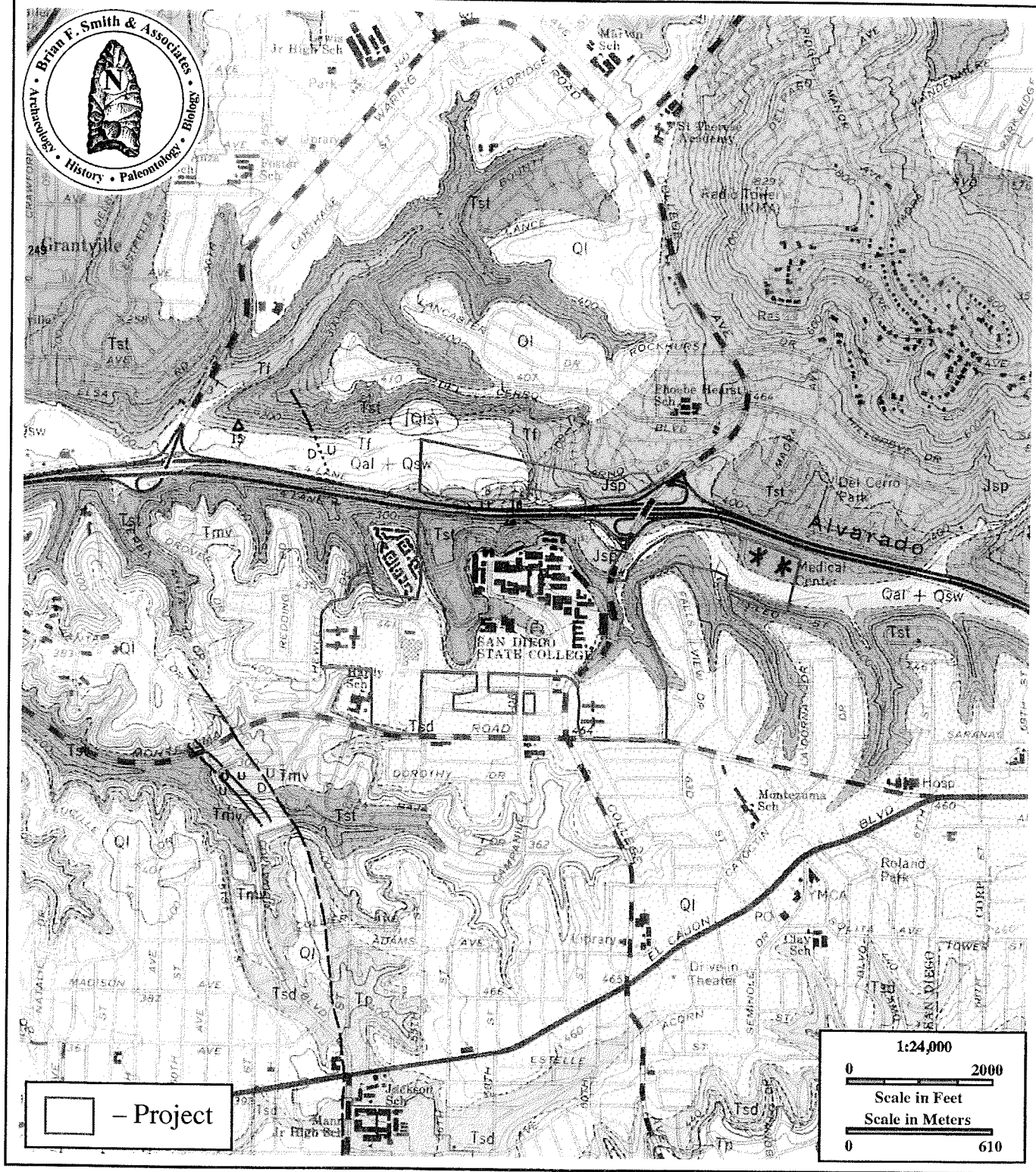
**Figure 1.0-5**  
**Aerial Photo of SDSU Campus Showing Areas of Focus**  
SDSU 2007 Campus Master Plan Revision

## **2.0 GEOLOGIC AND STRATIGRAPHIC SETTING**

The San Diego State University campus is located in the City of San Diego approximately ten miles east of the coastline. Most of the developed parts of the campus are located in the area southwest from the intersection of the Interstate 8 (I-8) freeway and College Avenue (Figures 1.0–1 through 1.0–3). Much of the older developed parts of the campus lie on the northern edge of the mesa that overlooks the eastward-trending tributary extension of Mission Valley proper. Headward erosion and incision into the mesa from the north has divided the campus into several plateau areas separated by several steep-sided canyons. Some of the canyon areas have since been infilled, whereas others remain open. The canyon walls and artificial cuts along them provide good exposures for several of the geologic formations on campus (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B).

### **2.1 Published Geology (after Kennedy and Peterson, 1975)**

The geology of the SDSU campus area is shown on the published geologic map of the U. S. Geological Survey 7.5-minute, 1:24,000-scale, La Mesa, California topographic quadrangle (Figures 2.0–1 (map) and 2.0–2 (explanation), after Kennedy and Peterson, 1975, pl. 3B). The geology of the area is relatively simple, and consists of a basement complex of Lower Cretaceous (~ 128 to ~ 116 million year old) metavolcanic rocks (Santiago Peak Volcanics) unconformably overlain by a sequence of middle Eocene (~ 46 to ~ 42 million year old) fluvial and marine sediments (in ascending order, the Friars Formation, Stadium Conglomerate, and Mission Valley Formation), and the middle to upper Pliocene (~ 4 to ~ 2 million year old) San Diego Formation, all of which are unconformably capped by marine and fluvial sediments of the lower Pleistocene (~ one million year old) Lindavista Formation. The metavolcanic rocks are mainly tuff breccias that overlie andesitic flows that form the core of Cowles Mountain, to the north (Walawender, 2000). The middle Eocene formations are best exposed in the sides of the canyons that incise the campus from the north. Mapped surface exposures of the San Diego Formation are present only near the southwest corner of the campus area. The formation is also present in the shallow subsurface below the Lindavista Formation in the southeastern parts of the campus along College Avenue and southward beyond Montezuma Road (see plotted fossil localities on Figure 3.0–2). The Lindavista Formation consists of terrace materials that originally covered all of the flat-lying areas of the mesa. The present existence of Lindavista Formation sediments in any particular area has probably been most severely affected by urban development and by cut and fill surface landscaping activities, both on the SDSU campus areas and in the surrounding neighborhoods. The geologic formations and their potential for yielding fossils are discussed in Section 2.2.

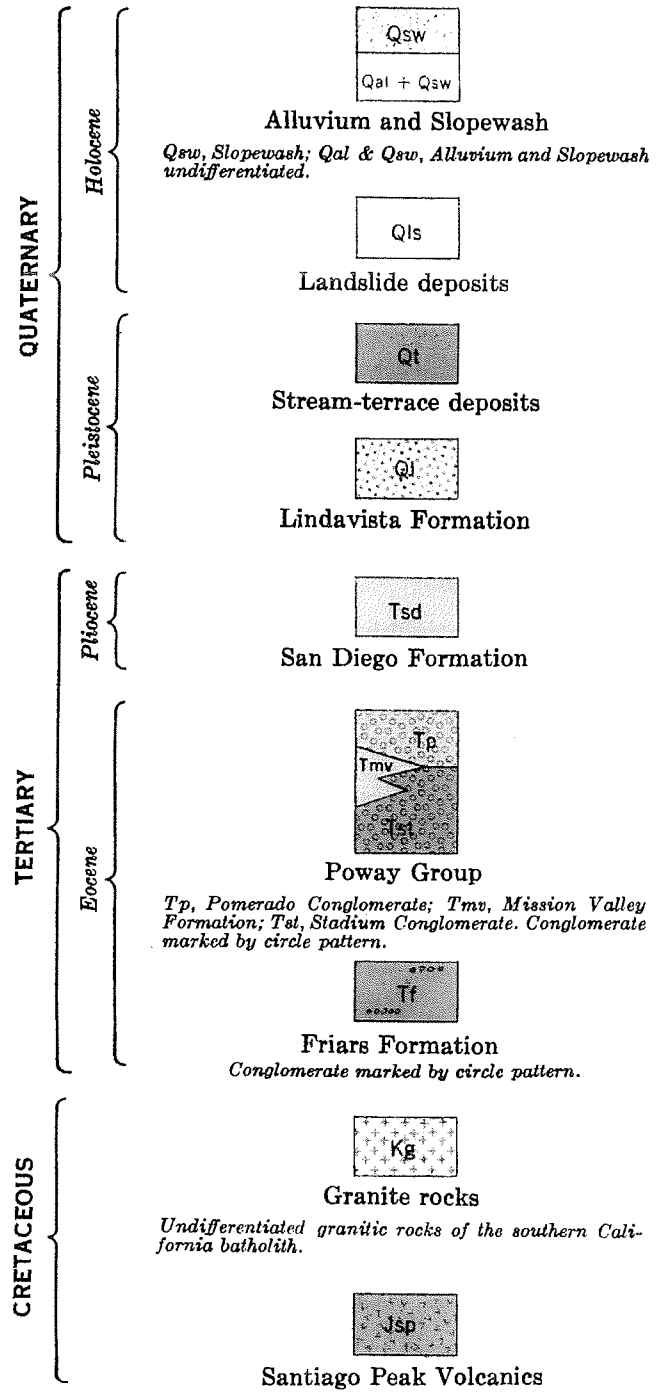


**Figure 2.0-1  
Geologic Map**

SDSU 2007 Campus Master Plan Revision

Geology of La Mesa Quadrangle after Kennedy and Peterson (1975)

## EXPLANATION



**Figure 2.0-2**  
**Geologic Map Explanation**  
 SDSU 2007 Campus Master Plan Revision  
 Modified from Kennedy and Peterson (1975)

## 2.2 Geologic Formations

Based on the published geologic map of the U. S. Geological Survey 7.5-minute, 1:24,000-scale La Mesa, California quadrangle (Figures 2.0–1 (map) and 2.0–2 (explanation), after Kennedy and Peterson, 1975, pl. 3B), seven geologic units or formations are identified within the footprint of the San Diego State University campus and ancillary properties. These geologic map units and their abbreviations are, from youngest to oldest, Holocene (<10,000 year old) and uppermost Pleistocene alluvium and slope wash (Qal + Qsw on Figure 2.0–1), the lower Pleistocene (~ 1 million year old) Lindavista Formation (Ql), the upper to middle Pliocene (~ 2 to ~ 4 million year old) San Diego Formation (Tsd), the middle Eocene (~ 42 to ~ 46 million year old) Mission Valley Formation (Tmv), Stadium Conglomerate (Tst), and Friars Formation (Tf), and the Lower Cretaceous (~ 116 to ~ 128 million year old) Santiago Peak Volcanics (Jsp). These formations and their potential for yielding fossils are discussed below.

### 2.2.1 Alluvium and Slope Wash (Holocene and upper Pleistocene)

The term “alluvium” is a general one used for geologically young, unconsolidated, fine-grained to coarse-grained materials such as clay, silt, sand, and gravel that have been deposited by streams or running water, and usually accumulating in topographic depressions or in the bottoms of canyons or stream beds (Neuendorf *et al.*, 2005). Alluvial deposits are often thin and surficial in nature, and not often mapped except in larger streambeds or canyon bottoms. Surficial alluvial deposits are generally considered to be geologically quite young and assigned a Holocene (<10,000 years) or latest Pleistocene age.

Mapped areas of alluvium and slope wash (Figure 2.0–1, as Qal + Qsw) are present in Alvarado Canyon, east of the main campus in the area of the Alvarado medical complex (Core Site and adjacent Parking Lot D), and possibly including areas marginal to the proposed Alvarado Hotel and the Villa Alvarado Student Housing expansion in Parking Lot C), and in the area below and to the north of the Interstate 8 freeway in the western half of the area identified as Adobe Falls Faculty/Staff Housing on Figure 1.0–5. A small extension of alluvium below the east side of College Avenue has since been removed or covered by canyon infilling during construction of Parking Structure 1 and adjacent parking lots.

Geologically young alluvial materials rarely yield any fossils, and locally such deposits are assigned a “low paleontological resource sensitivity” by Deméré and Walsh (1993) and typically do not require paleontological monitoring during construction activities (*cf.* City of San Diego Paleontology Guidelines, 2002). There are no known or recorded fossil localities from alluvial deposits within a one-mile radius of the SDSU campus (San Diego Natural History Museum collection records).

A requirement for monitoring for paleontological resources (*i.e.*, fossils) in areas mapped as alluvium or slope wash is not considered to be necessary.

### 2.2.2 *Lindavista Formation (lower Pleistocene)*

The Lindavista Formation includes a number of different lithologies, including rust-colored, very well sorted dune sands (on local “beach ridges”), coarse-grained, often poorly sorted sands and sandstones, pebbly sandstones, and pebble-cobble conglomerates, all of which overlie older Tertiary formational units from San Onofre, in northern San Diego County, to northern Baja California (Tan and Kennedy, 1996; Kennedy, 1975; Kennedy and Peterson, 1975; and Kennedy and Tan, 1977). The environments of deposition for the Lindavista Formation include shallow marine, fluvial, eolian, and terrestrial. The formation has been assigned a rough age estimate of about one million years, based on the extent of racemization of amino acids in fossil mollusks, but the formation also includes sediments on multiple marine terraces that are both older and younger than the dated fossil deposits in the Tierrasanta community of San Diego (*cf.* Kern and Rockwell, 1992 [1993]).

The Lindavista Formation is mapped (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B) across much of the San Diego mesa, including the southern half of the SDSU campus above any of the canyon areas. Remnants of Lindavista Formation sediments may still be present on the top of the mesa in the area of the proposed Student Housing expansion project in Parking Lot U, in the area of the proposed Campus Conference Center east of Cox Arena and old Aztec Bowl, in the area of the present Student Union (Aztec Center), and in the area of the proposed Student Housing project site northeast of the intersection of College Avenue and Montezuma Road (Parking Lots G and H, and Olmeca and Maya areas). The presence of Lindavista Formation sediments may depend on how much topographic planation has occurred previously in the areas as a result of past construction projects and landscape contouring related to those changes. The presence or absence of Lindavista Formation sediments should be determined by geotechnical studies on a case-by-case basis prior to initiation of future construction projects.

Fossils are unusual in the Lindavista Formation and the only published marine invertebrate fauna, dominated by bivalve mollusks and barnacles, is from the Tierrasanta community of San Diego (Kennedy, 1973), several miles to the north-northwest of the SDSU campus area. In other areas, the most common fossils from the Lindavista Formation are boreholes made by rock-boring clams that have bored into the underlying bedrock when those areas were covered by the ocean during past interglacial sea-level highstands (SDNHM and LACMIP collection records). Only rarely is any trace left of the original boring organism.



Because of the general paucity of fossils in the Lindavista Formation in the San Diego coastal plain, the formation has been assigned a “moderate paleontological resource sensitivity” by Deméré and Walsh (1993). However, for the purposes of this report and because of the lack of any known or recorded fossil localities from the Lindavista Formation within a one-mile radius of the SDSU campus area (San Diego Natural History Museum collection records), local exposures of the formation are regarded as having a “low paleontological resource potential.”

Paleontological monitoring is not believed to be necessary and is not recommended in those areas of the SDSU campus where the Lindavista Formation is the *only* formation that is exposed or will be potentially affected by construction related activities. Where the Lindavista Formation and any underlying formations are likely to be encountered during construction-related activities, paleontological monitoring should be implemented from the start of excavation. The presence of any underlying formations that potentially might be affected should be documented by geotechnical investigations prior to any construction related activities (*cf.* geologic map, Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B).

### 2.2.3 San Diego Formation (middle to upper Pliocene)

The San Diego Formation is a marine sedimentary unit that is thought to represent deposition in a large, open embayment similar in size and configuration to that of Monterey Bay in central California (Deméré and Walsh, 1993; Abbott, 1999). Typical exposures consist of yellowish-gray siltstones and fine-grained, friable sandstones, but local pebble gravels are present on Mount Soledad, and coarser-grained sands are more common in shallower sediments in the southern part of the county. Exposures of the formation are present on the south and southwest sides of the Mount Soledad structural block, and on the south side of Mission Valley and southward as far as northwestern Baja California (*e.g.*, Rowland, 1972). The formation extends eastward into parts of western La Mesa and Lemon Grove. The San Diego Formation on Mount Soledad is about 3.8 to 4.2 million years old, based on the overlapping age ranges of its contained microfossils (foraminifera and calcareous nannoplankton) (Boettcher, 2001; Kling, 2001). Farther south, for example in Chula Vista, surface exposures of the formation represent younger, stratigraphically higher, parts of the formation (Deméré and Walsh, 1993).

Mapped exposures of the San Diego Formation on the SDSU campus are limited to the southwestern edge of campus above Montezuma Road (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B). However, the results of recent paleontological monitoring on College Avenue near Montezuma Road (see below) now allow us to reinterpret an earlier record of unidentified “shell fragments” (Baker, 1964) as probably belonging to the San Diego Formation, and in turn would be suggestive of a more northerly distribution of San Diego Formation sediments than previously mapped. The formation is thus interpreted to be present in the shallow

subsurface below the Lindavista Formation in the southeastern parts of the campus as documented along College Avenue and southward beyond Montezuma Road (*cf.* Figure 3.0–2).

The San Diego Formation is often abundantly fossiliferous, and has yielded a wide variety of fossils, from microscopic forms (calcareous nannoplankton and foraminifera) to large marine mammals (whales). Fossil types that can be said to typify the formation include marine microfossils (foraminifera, ostracods) as well as larger invertebrates, such as corals, bryozoans (“moss animals”), brachiopods (“lamp shells”), sea urchins, sand dollars, bivalve and gastropod mollusks, crabs and decapod crustaceans, and barnacles (*e.g.*, Grant and Gale, 1931; Grant and Hertlein, 1938; Gunther, 1964; Hertlein and Grant, 1944a, 1944b, 1960, 1972; Ingle, 1967; Le Roy, 1943; Mandel, 1973; Moore, 1968; Nations, 1975; Ross, 1999; Rowland, 1972; Valentine, 1976; Wicander, 1970; Zullo, 1969, 1979).

The San Diego Formation has also yielded a rich assemblage of fossil vertebrates, including cartilaginous fish (sharks and rays), bony fish, sea birds, and a variety of marine mammals, including dolphins, walruses, sea cow, and several species of whales (Barnes, 1973; Deméré, 1981a, 1981b; Chandler, 1990; and references in Deméré and Walsh, 1993). A variety of terrestrial mammals (*e.g.*, rodents, rabbit, horse, camel, sloth, mammoth and others) are also known from both the lower and upper parts of the formation in more southerly parts of San Diego County (Deméré and Walsh, 1993; Wagner *et al.*, 2000).

The San Diego Formation also yields occasional fossil plant material, although the only published floral assemblage is from the Chula Vista area, many miles to the south of the SDSU campus area (Axelrod, 1986; Axelrod and Deméré, 1984).

Because the San Diego Formation is so typically fossiliferous, and because previously collected fossil localities are recorded from most of the known exposures of the formation (where it is not severely weathered), Deméré and Walsh (1993) have assigned a “high paleontological resource sensitivity” to the formation. For the same reasons, the formation is regarded as having a “high paleontological resource potential.”

Prior to 2005, there were no known or previously recorded fossil localities from the San Diego Formation within a one-mile radius of the SDSU campus area (San Diego Natural History Museum collection records), although fossils were well known from a little farther south in the Chollas Valley area of San Diego. However, excavation activities concomitant with new sewer line construction for the proposed SDSU Sorority Row housing project on the 5000 block of College Avenue resulted in the discovery and collection of abundant marine vertebrate and invertebrate fossils from San Diego Formation sediments exposed in the sewer line trenches (Figure 3.0–2, and Kennedy *et al.*, 2005). Because exposures at the head of the drainage canyon

were covered by alluvium, vegetation and years of accumulated cultural debris (trash and landscaping trimmings), the formation had not been mapped as present this far east (*cf.* Figure 2.0–1, after Kennedy and Peterson, 1975). Invertebrate fossils recovered from the sewer line trenches are dominantly bivalve and gastropod mollusks, whereas most of the microvertebrate fossils are vertebrae and otic capsules of small schooling fishes (*i.e.*, herring) (Appendix, and Kennedy *et al.*, 2005).

Paleontological monitoring is recommended in those areas where the San Diego Formation is exposed at the surface (in the southwestern part of the SDSU campus and vicinity) (*cf.* geologic map, Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B) or where it is present or probably present in the shallow subsurface below the Lindavista Formation in the southern and southeastern parts of the SDSU campus area and southward (*cf.* fossil locality maps, Figures 3.0–1 and 3.0–2).

#### 2.2.4 Mission Valley Formation (*middle Eocene*)

The Mission Valley Formation in its type area in Mission Valley consists of light gray-colored siltstones and fine-grained marine sandstones (Kennedy and Moore, 1971). In the eastern areas of outcrop, the formation consists largely of medium-grained, fluvial sandstones and green and brown non-marine mudstones (Deméré and Walsh, 1993). The Mission Valley Formation has been dated by argon-argon methods at about 42 million years (J. D. Obradovich, *in Berry*, 1991).

In the vicinity of the SDSU campus, the Mission Valley Formation has been mapped above the Stadium Conglomerate in the main (older) part of campus, and around the edges of the mesa areas near the tops of the canyons that incise the mesa from the north (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B). The Mission Valley Formation should also be present in the shallow subsurface below the overlying Lindavista Formation across much of the campus, except where it is overlain by the San Diego Formation in the southern parts of the campus and southward. Where covered by the Lindavista Formation, the presence or absence of San Diego Formation sediments above the Mission Valley Formation should be confirmed by geotechnical investigations prior to initiation of any construction projects.

The marine parts of the Mission Valley Formation have produced a variety of abundant and generally well preserved fossils, including microfossils (foraminifera), bivalve and gastropod mollusks, decapod crustaceans (crabs and relatives), sea urchins and trace fossils (*e.g.*, Kern, 1978; Deméré *et al.*, 1979; Givens and Kennedy, 1979; Schweitzer and Feldmann, 2002; see also references in Deméré and Walsh, 1993). Vertebrate fossils from the Mission Valley Formation include a variety of cartilaginous fish (sharks and rays), as well as teeth, bones and

otoliths (ear stones) of bony fish. Fluvial sediments of the Mission Valley Formation often yield pieces of petrified wood, as well as a diverse assemblage of terrestrial mammals (*e.g.*, opossums, insectivores, bats, primates, rodents and larger grazing animals) (*e.g.*, Lillegraven, 1973; Golz, 1976; Golz and Lillegraven, 1977; Walsh, 1991, 1996, 1997; and Walsh *et al.*, 1996). Because of its well documented fossil record, the Mission Valley Formation has been assigned a “high paleontological resource sensitivity” by Deméré and Walsh (1993). For the same reasons, the formation is regarded as having a “high paleontological resource potential.”

Museum collections and records searches identified four fossil localities in the Mission Valley Formation in the vicinity of the SDSU campus (Figures 3.0–1 and 3.0–2). Three localities near the southwest part of campus (SDNHM localities 3426, 3427, and 3429) yielded a variety of isolated small-mammal teeth, lizard jaw fragments and scutes, as well as shark and ray teeth and bony-fish vertebrae (see faunal lists in Appendix). The fossil vertebrates from these localities are cited in two papers by Walsh (1991, 1996). The fossil locality from an area northeast of campus yielded several species of marine bivalve mollusks and one species of marine gastropod (SDNHM locality 3746; see Appendix for faunal list).

Paleontological monitoring is recommended in those areas where the Mission Valley Formation is mapped or exposed or may be present in the subsurface below the San Diego Formation and/or the Lindavista Formation (*cf.* geologic map, Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B).

### ***2.2.5 Stadium Conglomerate (middle Eocene)***

The Stadium Conglomerate in its type area in Mission Valley near Qualcomm Stadium consists of two cobble conglomerate units that may be up to 200 feet thick. Sandstone lenses are common throughout the unit. On the basis of overlapping age ranges, the upper part of the formation, as exposed in Murphy Canyon is assigned a middle Eocene age (~ 43 million years) (Walsh, 1991; Deméré and Walsh, 1993). In the vicinity of the SDSU campus, the Stadium Conglomerate is overlain by the Mission Valley Formation and exposed only in the canyon areas below the tops of the mesa areas. Mapped exposures of the Stadium Conglomerate are present along the northern mesa edge in the vicinity of Parking Lot U, in the canyon of old Aztec Bowl and eastward below the proposed Campus Conference Center site, along College Avenue and probably extending below the areas of Aztec Center (Student Union) and in proposed Student Housing sites (Parking Lots C and G, and in the Olmeca and Maya residence hall areas), and in the areas of the proposed Alvarado Hotel and Alvarado Campus projects (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B). Mapped exposures of Stadium Conglomerate below the north side of the Interstate 8 freeway (*cf.* Figure 3.0–2) may have to be re-evaluated, based on the

formational assignment to the Friars Formation higher upsection at SDNHM localities 3414 and 3430 (SDNHM collection records).

The upper member of the Stadium Conglomerate west of campus has yielded microfossils (foraminifera) as well as marine mollusks (see references in Deméré and Walsh, 1993). In the eastern part of the outcrop area, the formation is largely non-marine, and has yielded a diverse assemblage of terrestrial mammals, such as opossums, insectivores, primates, rodents, carnivores, rhinoceros, and artiodactyls (*e.g.*, Lillegraven, 1973; Golz, 1976; Golz and Lillegraven, 1977; Walsh, 1991; and references in Deméré and Walsh, 1993). Because of the well documented fossil record of the formation, the Stadium Conglomerate has been assigned a “high paleontological resource sensitivity” by Deméré and Walsh (1993). For the same reasons, the formation is regarded as having a “high paleontological resource potential.”

A museum collections and records search identified a single fossil locality (SDNHM locality 3701) in the Stadium Conglomerate northwest of the SDSU campus along Waring Road (Figures 3.0–1 and 3.0–2). The microvertebrate screen-washed sample yielded a variety of small-mammal teeth as well as a bat molar (see faunal list in Appendix). The vertebrate fauna from this locality is referenced in two papers by Walsh (1996, 1997).

Paleontological monitoring is recommended in those areas where the Stadium Conglomerate is mapped or exposed or may be present in the subsurface below the Lindavista Formation, the San Diego Formation (*i.e.*, the southern part of the SDSU campus area), or the Mission Valley Formation (*cf.* geologic map, Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B).

### **2.2.6 Friars Formation (middle Eocene)**

The Friars Formation is almost entirely fluvial in origin and consists mainly of light-gray, medium-grained sandstones and greenish, reddish, and brown siltstones and mudstones (Kennedy and Moore, 1971; Kennedy, 1975; Deméré and Walsh, 1993). Occasional marine facies are also present in the western areas of outcrop, but too far west to be present in the vicinity of the SDSU campus. The Friars Formation is the oldest, and stratigraphically lowest, of the middle Eocene formations in the area. Mapped exposures of the formation are limited to the north side of the Interstate 8 (I-8) freeway, in the vicinity of the proposed Adobe Falls Faculty/Staff Housing area (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B). However, two fossil localities (Figures 3.0–1 and 3.0–2; SDNHM localities 3414 and 3430) collected in the artificial cuts for Parking Lot X on the north side of the main campus have been assigned to the Friars Formation by Walsh (1996). If correctly assigned, then parts of the campus mapped as the Stadium Conglomerate by Kennedy and Peterson (1975) may need to be re-evaluated. The

contact between the Friars Formation and the overlying Stadium Conglomerate is placed at about the 340 to 350 foot elevation contour (Appendix, SDNHM locality 3430 description). The Friars Formation has been assigned an age of ~ 45 to ~ 46 million years on the basis of its included vertebrate assemblages (Deméré and Walsh, 1993).

The eastern, non-marine exposures of the Friars Formation have produced rich and diverse assemblages of terrestrial vertebrate fossils, such as opossums, insectivores, primates, rodents, artiodactyls, and perissodactyls (*e.g.*, Lillegraven, 1973; Golz, 1976; Golz and Lillegraven, 1977; and references in Deméré and Walsh, 1993). The Friars Formation has also yielded important fossil leaf assemblages (*e.g.*, Myers, 2003). Because of the well documented fossil record of the formation, the Friars Formation has been assigned a “high paleontological resource sensitivity” by Deméré and Walsh (1993). For the same reasons, the formation is regarded as having a “high paleontological resource potential.”

A museum collections and records search identified two fossil localities assigned to the Friars Formation on the north side of the main SDSU campus in artificial cuts on the south side of Parking Lot X (Figure 3.0–1). The two localities (SDNHM localities 3414 and 3430) yielded a variety of isolated small-mammal teeth and lizard teeth, jaw fragments and scutes (see faunal lists in Appendix). The fossil vertebrates from these two localities are referenced in Walsh (1996).

Paleontological monitoring is recommended in those areas where the Friars Formation is mapped or exposed or may be present in the subsurface below the Stadium Conglomerate (*cf.* Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B).

### ***2.2.7 Santiago Peak Volcanics (Lower Cretaceous)***

The name Santiago Peak Volcanics is based on exposures of slightly to moderately metamorphosed volcanic rocks in the Santa Ana Mountains of Orange County, California. Similar rocks are present in a discontinuous belt that extends from Orange and Riverside Counties southward to northwestern Baja California. Lithologically, the formation is composed mainly of volcanic breccias, and lesser amounts of volcanic tuffs and flow rocks (Deméré and Walsh, 1993; Abbott, 1999; Walawender, 2000). Based on several argon-argon age determinations, the metavolcanic rocks can be assigned an age somewhere in the range between ~ 128 and ~ 116 million years ago. Previous late Jurassic age estimates for fossils from the metasedimentary rocks in northern San Diego County are based on exposures that are now regarded as representing a distinctly older metasedimentary unit (Abbott, 1999; Walawender, 2000).

Local exposures of the Santiago Peak Volcanics are present on the northeast side of the SDSU campus, and northeastward, comprising most of Cowles Mountain. The metavolcanic rocks on the SDSU campus and vicinity of Del Cerro are mainly tuff breccias that overlie the intrusive rocks that make up the core of Cowles Mountain (Walawender, 2000). As mapped (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B), the metavolcanics are present in the eastern half of the Adobe Falls Faculty/Staff Housing area, and possibly along the margin of Alvarado Creek in the areas of the proposed Student Housing expansion and Alvarado Hotel in Parking Lot C, and the Alvarado Campus area.

The well known reports of Late Jurassic fossils, marine bivalves and belemnites (Fife *et al.*, 1967; Abbott, 1999), from metasedimentary rocks in northern San Diego County previously assigned to the Santiago Peak Volcanics are now best assigned to a distinctly older, unnamed formational unit (Abbott, 1999; Walawender, 2000). Although the volcanic breccias have been reported to yield some fossil wood (Deméré and Walsh, 1993), the presence of fossils in these metavolcanic sediments is so unlikely that the formation has been assigned a “marginal paleontological resource sensitivity” (Deméré and Walsh, 1993). However, a single marine clam found as float below Parking Lot A on the northeast side of campus is of a type otherwise unknown from the San Diego area, and if possibly derived from weathered tuff breccias in this area would represent a very important discovery. However, until a pending study is completed, the likelihood of this being proven is still too slight to require monitoring of exposures of the Santiago Peak Volcanics during mitigation activities concomitant with future construction projects.

A collections and records search at the San Diego Natural History Museum did not reveal any fossil localities in the Santiago Peak Volcanics in the vicinity of the SDSU campus or surrounding areas. The paleontological resource potential of local exposures of the Santiago Peak Volcanics is regarded as being too low to require paleontological monitoring.

Paleontological monitoring is not recommended nor considered necessary in those areas where the Santiago Peak Volcanics are mapped or exposed (*cf.* geologic map, Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B).

### **3.0 MUSEUM COLLECTIONS AND RECORDS SEARCHES**

A museum collections and records search was conducted by the San Diego Natural History Museum's Department of Paleontology (SDNHM) in order to document the presence of recorded fossil localities within a one-mile radius of the perimeter of the SDSU campus. The records search completed in late 2004 identified seven fossil localities in the vicinity, two of which are located on the SDSU campus (Figures 3.0-1 and 3.0-2). The two SDSU campus localities (SDNHM localities 3414 and 3430) are recorded as from the middle Eocene Friars Formation, although mapped as Stadium Conglomerate on Figure 2.0-1 (after Kennedy and Peterson, 1975, pl. 3B). Locality descriptions for each of the localities, and their resulting faunal elements, are given in the Appendix. Four localities (SDNHM localities 3426, 3427, 3429, and 3746) represent the middle Eocene Mission Valley Formation. The first three of these are located just southwest of the campus area (Figures 3.0-1 and 3.0-2), and the fourth is located about a mile northeast of the campus. The seventh locality (SDNHM locality 3701) represents the Stadium Conglomerate and is located on Waring Road about a mile northwest from the campus (Figures 3.0-1 and 3.0-2).

An updated collections and record search by the Department of Paleontology at the San Diego Natural History Museum in February 2007 resulted in the addition of seven more fossil localities, all from the Pliocene San Diego Formation from a sewer line trenching project along College Avenue and vicinity south of the SDSU campus (Figures 3.0-1 and 3.0-2; SDNHM localities 5498 through 5504). Exposures of the San Diego Formation are not shown this far east on the geologic map of the area (*cf.* Figure 2.0-1, after Kennedy and Peterson, 1975, pl. 3B). These latter collections (Kennedy *et al.*, 2005), when considered in conjunction with the early geologic report of Baker (1964) of "shell fragments" from a similar stratigraphic setting from a proposed construction project at 5195 College Avenue (Figure 3.0-2), support a subsurface distribution of the San Diego Formation below the Lindavista Formation in the southern and/or southeastern parts of the SDSU campus and southward.

Because collections and records searches of public and private institutions that hold paleontological collections only provide information on what has already been found, they provide only a minimum indication of what may be present in an area or may potentially be uncovered in the future. As such, they are guideposts for future investigations, and serve to aide in the process of identifying areas that may need mitigation in the future, rather than being a replacement for them. Formal locality descriptions and lists of fossils from each locality, if available, are given in the Appendix. The fossil localities are discussed below in numerical order.



SDNHM locality 3414. Friars Formation. This locality represents a microvertebrate screen-washed sample from a north-facing cut on the south side of Parking Lot X, on the north side of the main SDSU campus (Figures 3.0–1 and 3.0–2). Fossils from SDNHM locality 3414 represent the disarticulated remains of small mammals and lizards and consist mainly of isolated teeth and jaw fragments. The fauna is referenced in Walsh (1996).

SDNHM locality 3426. Mission Valley Formation. This locality represents a microvertebrate screen-washed sample from a west-facing roadcut on Collwood Boulevard about 470 meters south of Montezuma Road, southwest of the SDSU campus (Figures 3.0–1 and 3.0–2). Fossils from SDNHM locality 3426 consist primarily of isolated small-mammal teeth, lizard jaw fragments and scutes and are cited in Walsh (1996).

SDNHM locality 3427. Mission Valley Formation. This locality represents a microvertebrate screen-washed sample from a west-facing roadcut on the east side of Collwood Boulevard about 120 meters south of Montezuma Road, southwest of the SDSU campus (Figures 3.0–1 and 3.0–2). Fossils from SDNHM locality 3427 include a few shark teeth, ray teeth, and several bony-fish vertebrae. The fossils have not been curated by the museum and an identified faunal list is not available for them.

SDNHM locality 3429. Mission Valley Formation. This locality represents a microvertebrate screen-washed sample from a large south-facing roadcut on the north side of the intersection of Collwood Boulevard and Montezuma Road, southwest of the SDSU campus (Figures 3.0–1 and 3.0–2). Fossils from SDNHM locality 3429 are comprised mostly of shark teeth, bony-fish teeth and vertebrae, and a few isolated teeth of small mammals. The fossils have not been curated by the museum, but are cited in Walsh (1991, 1996).

SDNHM locality 3430. Friars Formation. This locality represents a microvertebrate screen-washed sample from a north-facing cut on the southeast side of Parking Lot X, on the north side of the main SDSU campus (Figures 3.0–1 and 3.0–2). Fossils at SDNHM locality 3430 consist primarily of isolated small-mammal teeth and lizard jaw fragments and scutes. The fauna is referenced in Walsh (1996).

SDNHM locality 3701. Stadium Conglomerate. This locality represents a microvertebrate screen-washed sample from a large west-facing roadcut on the east side of Waring Road northwest of the SDSU campus (Figures 3.0–1 and 3.0–2). Fossils from SDNHM locality 3701 include a bat tooth, and teeth of small rodents. The fauna is referenced in Walsh (1996, 1997).

SDNHM locality 3746. Mission Valley Formation. This locality represents fossils collected during grading activities during construction of the Alvarado Water Filtration Plant in 1999 (Figures 3.0–1 and 3.0–2). Fossils from this locality are all marine mollusks, and include one gastropod and several species of bivalves (clams) (see Appendix for faunal list).

SDNHM locality 5498. San Diego Formation. This locality represents fossils collected during a sewer line construction project for the proposed SDSU Sorority Row housing project at 5030 College Avenue, south of the SDSU campus (Figures 3.0–1 and 3.0–2). This is a general number for specimens recovered from excavation stockpiles but without more specific locality data. Fossils are mainly marine bivalve and gastropod mollusks. The fauna is referenced in Kennedy *et al.* (2005).

SDNHM locality 5499. San Diego Formation. This locality represents fossils collected along the northern part of the 5000 block of College Avenue and the 5000 block of College Place during a sewer line construction project for the proposed SDSU Sorority Row housing project south of the SDSU campus (Figures 3.0–1 and 3.0–2). Fossils are mainly marine bivalve and gastropod mollusks. The fauna is treated by Kennedy *et al.* (2005).

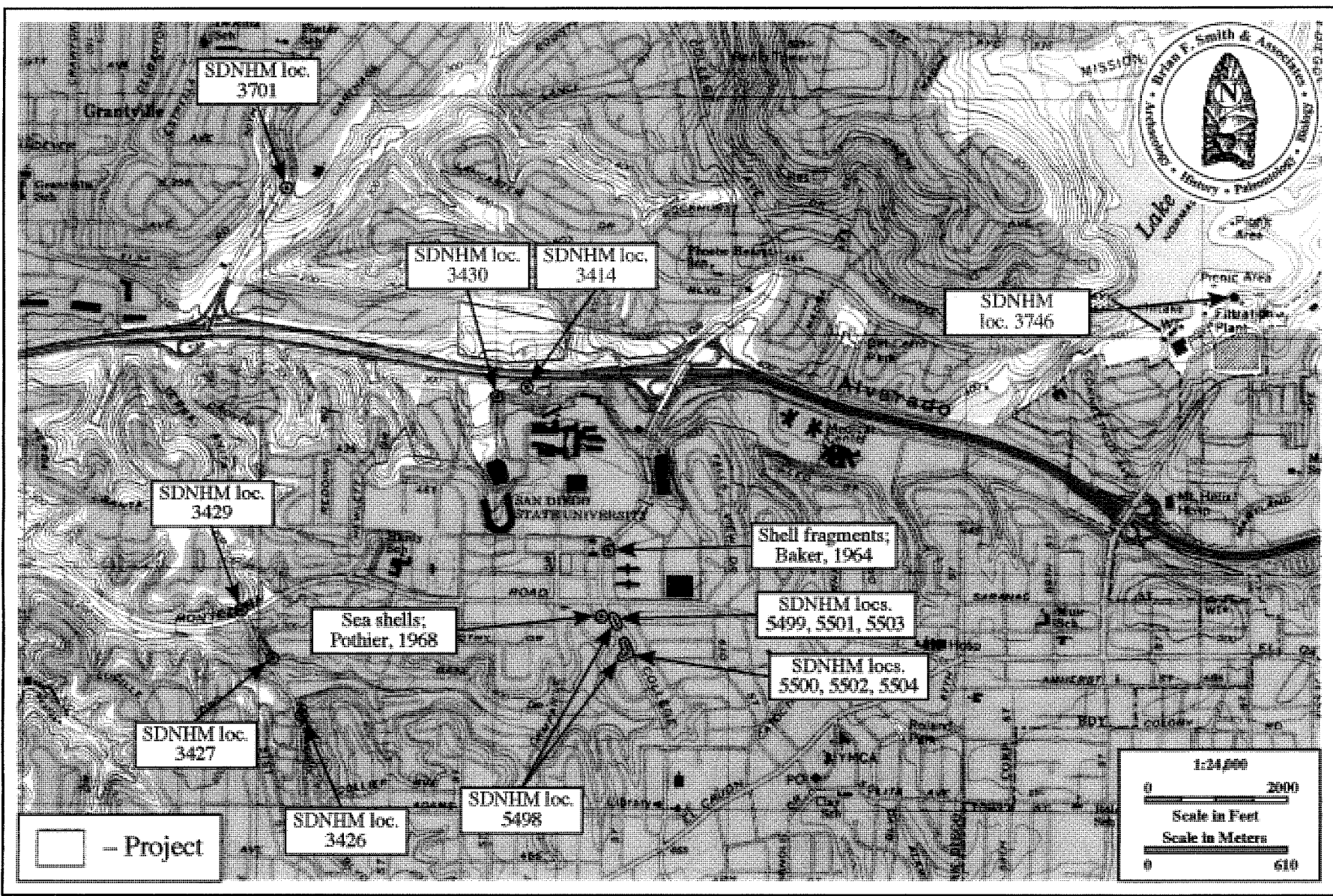
SDNHM locality 5500. San Diego Formation. This locality represents fossils collected from spoil piles along the southern part of the 5000 block of College Avenue and the 4900 block of Cresita Drive during a sewer line construction project for the proposed SDSU Sorority Row housing project south of the SDSU campus (Figures 3.0–1 and 3.0–2). Fossils are mainly marine bivalve and gastropod mollusks. The fauna is treated by Kennedy *et al.* (2005).

SDNHM locality 5501. San Diego Formation. This locality represents fossils collected from spoil piles in the 5000 block of College Place during a sewer line construction project for the proposed SDSU Sorority Row housing project south of the SDSU campus (Figures 3.0–1 and 3.0–2). Fossils, including aragonitic forms, are mainly marine bivalve and gastropod mollusks, as well as a microvertebrate fauna consisting of cartilaginous fish (shark and ray) teeth and bony-fish vertebrae and otic capsules of a small schooling fish (herring). The fauna from this locality is treated by Kennedy *et al.* (2005).

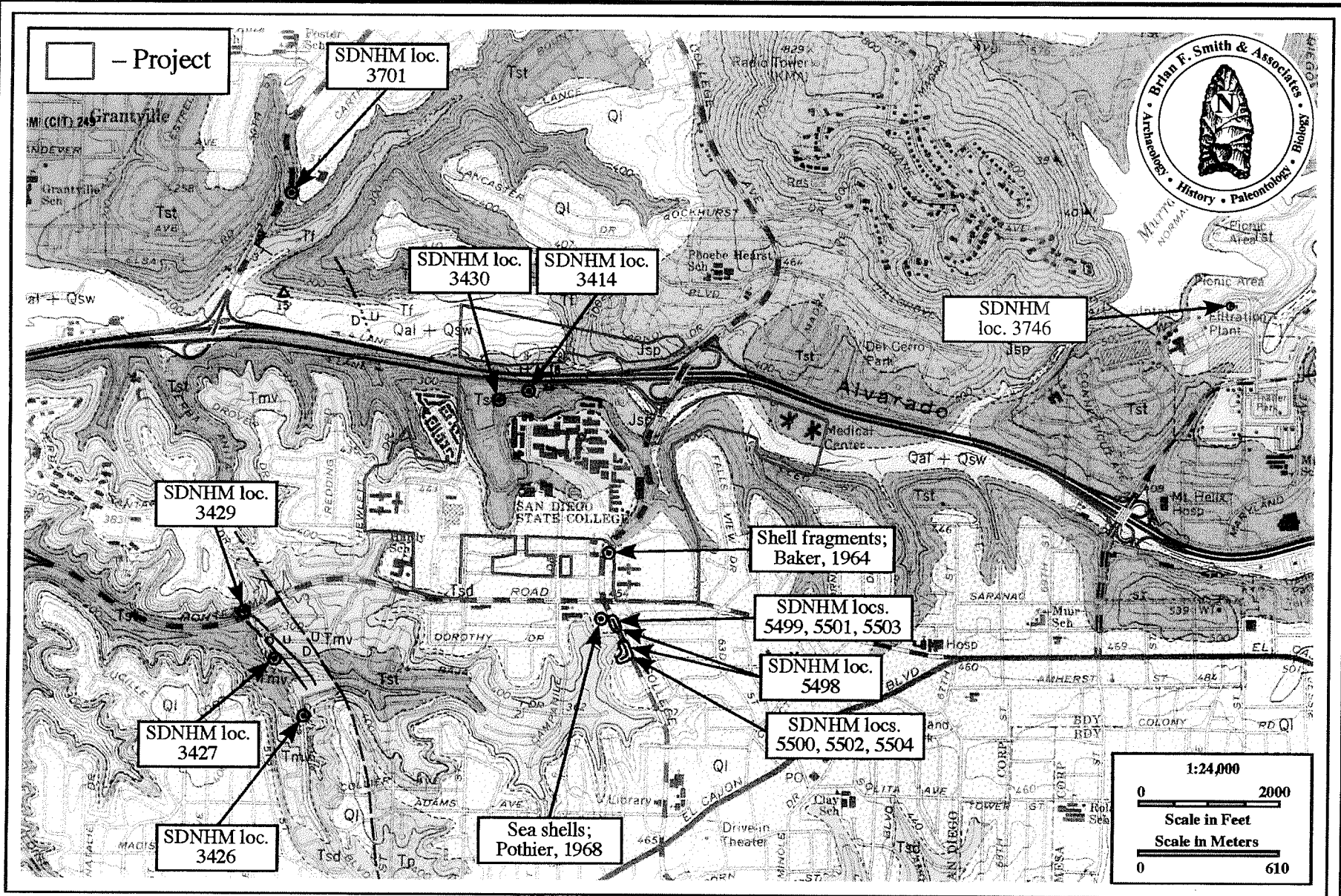
SDNHM locality 5502. San Diego Formation. This locality represents a single fossil sand dollar collected from a sewer-lateral trench in front of the private residence at 5020 College Avenue during a sewer line construction project for the proposed SDSU Sorority Row housing project south of the SDSU campus (Figures 3.0–1 and 3.0–2). The specimen is referenced by Kennedy *et al.* (2005).

SDNHM locality 5503. San Diego Formation. This locality represents fossils collected along the southern part of the 5000 block of College Avenue and along the northern part of the 4900 block of Cresita Drive during a sewer line construction project for the proposed SDSU Sorority Row housing project south of the SDSU campus (Figures 3.0–1 and 3.0–2). Fossils are mainly marine bivalve and gastropod mollusks. The fauna is treated by Kennedy *et al.* (2005).

SDNHM locality 5504. San Diego Formation. This locality represents fossils collected along the northern part of the 5000 block of College Avenue and the 5000 block of College Place during a sewer line construction project for the proposed SDSU Sorority Row housing project south of the SDSU campus (Figures 3.0–1 and 3.0–2). Fossils are mainly marine bivalve and gastropod mollusks. The fauna from this locality is treated by Kennedy *et al.* (2005).



**Figure 3.0-1**  
**Fossil Locality Map**  
SDSU 2007 Campus Master Plan Revision  
USGS La Mesa Quadrangle (7.5 minute series)



**Figure 3.0-2**  
**Fossil Locality Map**  
SDSU 2007 Campus Master Plan Revision  
Geology after Kennedy and Peterson (1975)

#### **4.0 PALEONTOLOGICAL MITIGATION OF PROPOSED COMPONENTS OF SDSU 2007 MASTER PLAN REVISION**

Physical improvements to the SDSU campus are proposed for six project components at eight campus locations, as shown on Figures 1.0–4 and 1.0–5. These project components and their locations are: 1) the Adobe Falls Faculty/Staff Housing areas on the north side of the Interstate 8 (I-8) freeway; 2), Alvarado Campus, which includes the current area of the Alvarado medical complex (“Core Site”) and part of Parking Lot D; 3), a new Campus Conference Center in the area of the tennis courts east of Cox Arena; 4), expansion of the current Student Union (Aztec Center); 5), proposed Student Housing expansion in three areas on campus, a) in Parking Lot G and areas of current Olmeca and Maya student residence halls, b) Villa Alvarado Residence Hall expansion in Parking Lot C, and c) in Parking Lot U along Remington Road; and 6), the proposed Alvarado Hotel in Parking Lot C. Although the geologic settings at each of these areas differ slightly (*cf.* Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B), all of the project areas contain exposures of formations that have a proven fossil record (Deméré and Walsh, 1993), and will thus require a paleontological mitigation, monitoring and reporting program be implemented upon beginning of construction (*i.e.*, excavation related activities).

Impacts to paleontological resources generally are confined to a particular project site [*i.e.*, the SDSU campus]; the effects of two or more projects that occur at different locations are not affected by, and would not impact, the areal extent of the sedimentary formation(s) under consideration. Furthermore, as discussed below, mitigation is proposed to reduce any direct impacts to potential paleontological resources attributable to the proposed project components to a level below significant. Therefore, the proposed SDSU project would not result in significant cumulative impacts to paleontological resources.

The six project components identified in the SDSU 2007 Master Plan Revision and the fossiliferous formations that will need to be mitigated are discussed below.

##### **4.1 Adobe Falls Faculty/Staff Housing (North of Interstate 8)**

The Adobe Falls Faculty/Staff Housing development area is divided into a western and an eastern part (Figures 1.0–4, 1.0–5, and 4.0–1). The western part (Adobe Falls Lower Village on Figure 1.0–4) is mainly in areas mapped as Quaternary alluvium and slope wash, which overlie the middle Eocene Friars Formation. Because the Friars Formation has yielded important invertebrate and vertebrate faunas as well as floral assemblages, it has been assigned a “high paleontological resource sensitivity” (Deméré and Walsh, 1993), and thus will require paleontological monitoring of any construction-related activities that might adversely affect any paleontological resources. Terrestrial vertebrate fossils have been recovered previously from the

Friars Formation on the south side of the Interstate 8 freeway on the north side of the SDSU campus (Figure 3.0–2, SDNHM localities 3414 and 3430). The nature of any construction projects, and the depth to which surficial materials (*i.e.*, alluvium and slope wash) are excavated will determine the degree to which the area will require monitoring. A geotechnical study prior to any construction activities should help delimit the areas that will need paleontological monitoring. The eastern area (Adobe Falls Upper Village on Figure 1.0–4) is mapped as Santiago Peak Volcanics. Although the Lower Cretaceous parts of the formation are not typically known to be fossiliferous and are only assigned a “marginal paleontological resource sensitivity” (Deméré and Walsh, 1993), a fossil marine clam of a type not otherwise known from San Diego County was found as float below Parking Lot A, with a possible source being the weathered outcrops of the tuff breccias exposed on campus. Although the possibility that this single fossil came from local exposures of the Santiago Peak Volcanics is tenuous at best, it does suggest that a further study might be indicated. If, by the slightest chance, the local exposures did yield identifiable fossils, monitoring of nearby exposures of the volcanoclastic (tuff-breccia) parts of the formation would be highly justified.

#### **4.2 Alvarado Campus (Parking Lot D and Core Site / Alvarado Medical Center)**

The Alvarado Campus project area (Figures 1.0–4, 1.0–5, and 4.0–2), encompassing the present Alvarado medical complex (Core Site) and part of Parking Lot D, is located on mapped exposures of the middle Eocene Stadium Conglomerate. A small exposure of Santiago Peak Volcanics is present on the west side of the project area, and the creek bed of Alvarado Creek is mapped as alluvium (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B). Exposures here of Santiago Peak Volcanics and streambed alluvium along the present creek need not be monitored. The Stadium Conglomerate, however, is assigned a “high paleontological resource sensitivity” by Deméré and Walsh (1993), and will require paleontological monitoring of construction projects that might adversely affect any fossil resources. The Stadium Conglomerate has yielded microvertebrate fossils in exposures to the northwest of campus (Figures 3.0–1 and 3.0–2, SDNHM locality 3701), indicating the need for paleontological monitoring for this project.

#### **4.3 Campus Conference Center (Tennis courts east of Cox Arena)**

The proposed new Campus Conference Center, which will include one subterranean level, will be constructed in the present location of the tennis courts east of Cox Arena and old Aztec Bowl (Figures 1.0–4, 1.0–5, and 4.0–3). The major part of the sidewalls of old Aztec Bowl are mapped as the middle Eocene Stadium Conglomerate (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B). The nature of the cobbles and boulders from this unit, and of sandstone lenses within the formation, are evident in old photographs taken during the construction of

Aztec Bowl (see Appendix J in the San Diego State University Student Activity Center, vol. 2, Appendices to Draft Supplement to Final Supplemental Environmental Impact Report). The middle Eocene Mission Valley Formation is also mapped around the perimeter of Aztec Bowl, and the adjoining mesa top is mapped as the lower Pleistocene Lindavista Formation. The presence or absence of Mission Valley Formation sediments, as well as possible San Diego Formation sediments (see Subsection 2.2.3), should be confirmed by a geotechnical study before the advent of any construction-related excavation work. However, both the Mission Valley and San Diego Formations, as well as the Stadium Conglomerate, are all assigned a “high paleontological resource sensitivity” by Deméré and Walsh (1993), and thus would require paleontological monitoring to mitigate against the potential loss of nonrenewable paleontological resources (*i.e.*, fossils) during any construction-related activities. The Lindavista Formation has been assigned a “moderate paleontological resource sensitivity” by Deméré and Walsh (1993), but is regarded herein as having a low paleontological resource potential in this area.

#### 4.4 Student Union (west side of Aztec Center)

Proposed additions to the current Student Union planned for the west side of Aztec Center and areas of the La Tienda Building and arched breezeway will include one level below grade (Figures 1.0–4, 1.0–5, and 4.0–4). Geologically, the area is mapped as being underlain by the lower Pleistocene Lindavista Formation, which itself unconformably overlies the middle Eocene Mission Valley Formation and Stadium Conglomerate (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B). However, the recorded presence of (fossil) shell fragments (Baker, 1964; see also Subsection 2.2.3) in the shallow subsurface at 5195 College Avenue, adjacent to the present pedestrian foot bridge over College Avenue and across from Aztec Center, supports the probable shallow subsurface distribution of the Pliocene San Diego Formation sediments into the southern parts of the SDSU campus (*cf.* Figure 3.0–2). The recorded stratigraphy (Baker, 1964) here is in accord with that observed near the intersection of College Avenue and Montezuma Road, where the San Diego Formation sediments were abundantly fossiliferous (*cf.* Kennedy *et al.*, 2005, and Appendix). The presence or absence of San Diego Formation and Mission Valley Formation sediments should be confirmed by a geotechnical study prior to the initiation of any mitigation efforts. The Stadium Conglomerate, Mission Valley Formation and the San Diego Formation are all assigned a “high paleontological resource sensitivity” by Deméré and Walsh (1993), and would thus require paleontological monitoring to mitigate against the possible loss of nonrenewable paleontological resources (*i.e.*, fossils) during construction-related activities. The Lindavista Formation has been assigned a “moderate paleontological resource sensitivity” by Deméré and Walsh (1993), but is regarded herein as having a low paleontological resource potential in this area. The San Diego Formation has yielded the closest well documented fossil remains (*cf.* Baker, 1964, Pothier, 1968, and Kennedy *et al.*, 2005), along College Avenue (Figures 3.0–1 and 3.0–2), and is the formation most likely



to yield further fossil remains during paleontological monitoring of any construction-related excavations. The Mission Valley Formation and Stadium Conglomerate have also yielded microvertebrate fossils in exposures to the southwest and northwest of campus (Figures 3.0–1 and 3.0–2), further supporting the necessity for paleontological monitoring for this project.

#### **4.5 Student Housing (Parking Lots C, G and U, and Olmeca and Maya areas)**

The proposed Student Housing expansion will entail new construction projects in three areas on campus, being: 1) construction of a 10-story residence hall in Parking Lot G, construction of two 10-story residence halls to replace Olmeca and Maya halls, planned for demolition, and construction of a new 2-story housing administration (OHAREO) office building north of the East H Parking Lot, all in the southeastern part of campus (Figure 4.0–5); 2) construction in Parking Lot C of 50 new two-bedroom apartments in the Villa Alvarado Residence Hall complex (Figure 4.0–6); and 3) construction of a 10-story residence hall atop an already planned parking structure in Parking Lot U along Remington Road (Figure 4.0–7). Because the geology in each area is different, they are treated separately below.

##### ***4.5.1 Parking Lot G and Olmeca and Maya areas***

The area as mapped (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B) consists of the middle Eocene Stadium Conglomerate overlain, at least in part, by the lower Pleistocene Lindavista Formation (Figures 1.0–4, 1.0–5, and 4.0–5). Based on this study (see Subsection 2.2.3), the Pliocene San Diego Formation is probably also present in the shallow subsurface, below the Lindavista Formation and above the Mission Valley Formation (see stratigraphic remarks in Baker, 1964) and Stadium Conglomerate. The San Diego and Mission Valley Formations and the Stadium Conglomerate are assigned a “high paleontological resource sensitivity” by Deméré and Walsh (1993), and would thus require paleontological monitoring to mitigate against the potential loss of nonrenewable paleontological resources (*i.e.*, fossils) during construction-related activities. The Lindavista Formation has been assigned a “moderate paleontological resource sensitivity” by Deméré and Walsh (1993), but is regarded herein as having a low paleontological resource potential in this area. The San Diego Formation has yielded fossil shell remains (*cf.* Baker, 1964, and Subsection 2.2.3) along College Avenue adjacent to the areas of the present Olmeca and Maya residence halls. The Mission Valley Formation and Stadium Conglomerate have also yielded microvertebrate fossils in exposures to the southwest and northwest of campus (Figures 3.0–1 and 3.0–2), further supporting the necessity for paleontological monitoring for this project.

#### **4.5.2 Parking Lot C, Villa Alvarado Residence Hall complex**

The proposed site for additions to the Villa Alvarado Residence Hall complex is located in the present area of Parking Lot C between the proposed Alvarado Hotel and the main SDSU campus (Figures 1.0–4, 1.0–5, and 4.0–6). The area of Parking Lot C is mapped as the middle Eocene Stadium Conglomerate (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B), but its thickness above the underlying Santiago Peak Volcanics has not been determined. The Stadium Conglomerate is assigned a “high paleontological resource sensitivity” by Deméré and Walsh (1993), and would thus require paleontological monitoring to mitigate against the possible loss of nonrenewable paleontological resources (*i.e.*, fossils) during construction-related activities. The Stadium Conglomerate has yielded microvertebrate fossils in exposures to the northwest of campus (Figures 3.0–1 and 3.0–2), supporting the necessity for paleontological monitoring for this project.

Detailed project construction plans that might show the limits of grading and excavation activities for the proposed Villa Alvarado student housing additions are not available and it is unknown if construction activities might also impact the Lower Cretaceous Santiago Peak Volcanics, Quaternary stream-bed alluvial deposits or previously placed fill materials. Paleontological monitoring of these units would not be required if determined to be present.

#### **4.5.3 Parking Lot U along Remington Road**

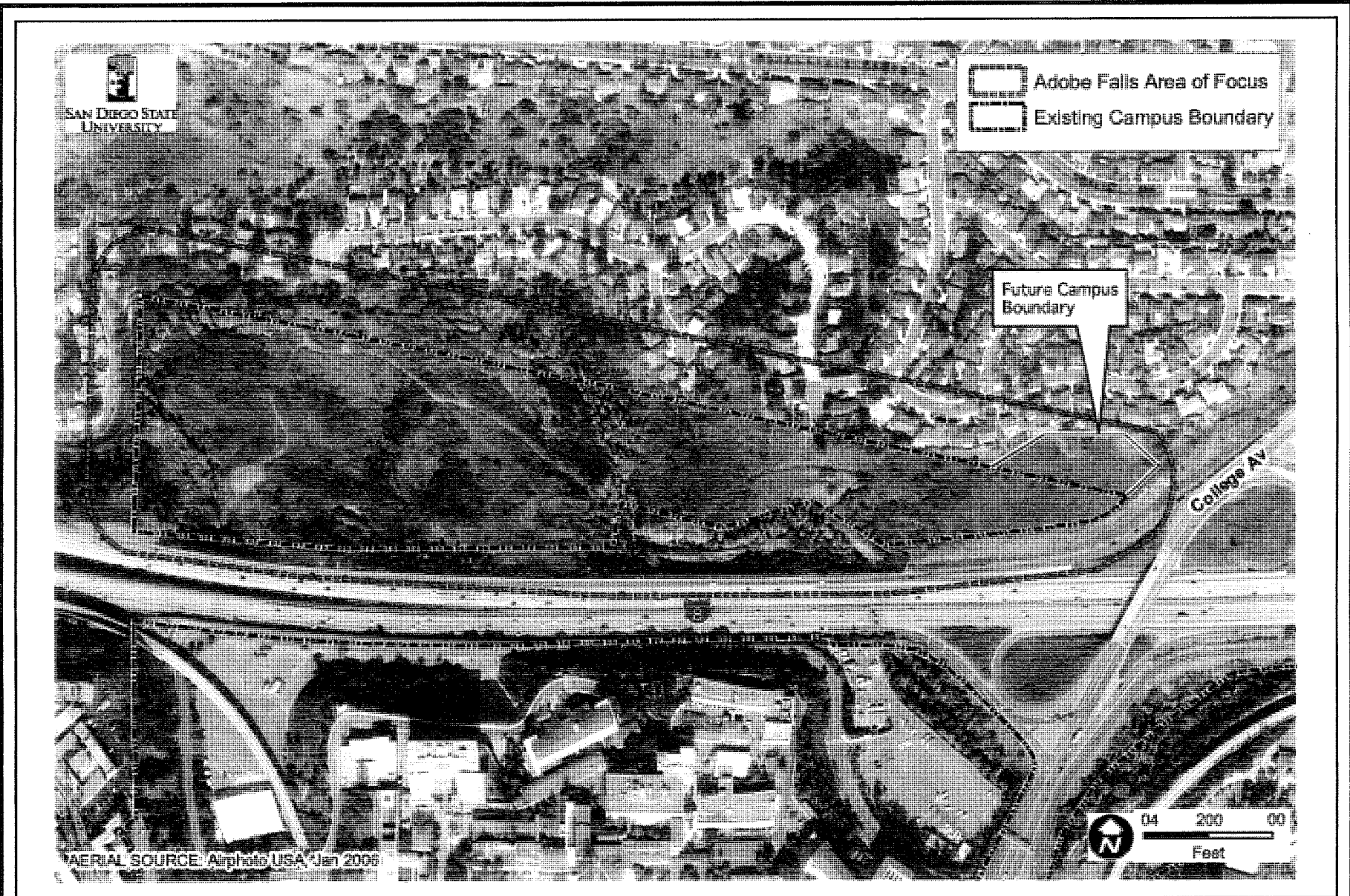
A new 10-story residence hall addition atop a previously planned parking structure are proposed to be constructed in the present location of Parking Lot U, along the north side of Remington Road in the westernmost part of the SDSU campus (Figures 1.0–4, 1.0–5, and 4.0–7). The area of Parking Lot U is mapped as the lower Pleistocene Lindavista Formation, which overlies the middle Eocene Mission Valley Formation and Stadium Conglomerate. The Pliocene San Diego Formation is also exposed below the Lindavista Formation on the southwest part of campus above Montezuma Road (*cf.* Figure 2.0–1), but it is unknown to what extent the formation may also be present in the shallow subsurface farther northward toward the project site. The presence or absence of Mission Valley Formation sediments, as well as possible San Diego Formation sediments (see Subsection 2.2.3), should be confirmed by a geotechnical study before the advent of any construction-related excavation work. The Mission Valley and San Diego Formations, as well as the Stadium Conglomerate, are all assigned a “high paleontological resource sensitivity” by Deméré and Walsh (1993), and thus would require paleontological monitoring to mitigate against the potential loss of nonrenewable paleontological resources (*i.e.*, fossils) during any construction-related activities. The Mission Valley Formation and Stadium Conglomerate have also yielded microvertebrate fossils in exposures to the southwest and northwest of campus (Figures 3.0–1 and 3.0–2), further supporting the necessity for

paleontological monitoring for this project. The Lindavista Formation has been assigned a “moderate paleontological resource sensitivity” by Deméré and Walsh (1993), but is regarded herein as having a low paleontological resource potential in this area.

#### **4.6 Alvarado Hotel (Parking Lot C)**

The proposed site for the new Alvarado Hotel in the present area of Parking Lot C is located between the proposed Alvarado Campus and the main SDSU campus (Figures 1.0–4, 1.0–5, and 4.0–8). The area of the new hotel is mapped as the middle Eocene Stadium Conglomerate (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B). The Stadium Conglomerate is assigned a “high paleontological resource sensitivity” by Deméré and Walsh (1993), and would thus require paleontological monitoring to mitigate against the possible loss of nonrenewable paleontological resources (*i.e.*, fossils) during construction-related activities. The Stadium Conglomerate has yielded microvertebrate fossils in exposures to the northwest of campus (Figures 3.0–1 and 3.0–2), supporting the necessity for paleontological monitoring for this project.

Detailed project construction plans that might show the limits of grading and excavation activities for the proposed Alvarado Hotel are not available and it is unknown if construction activities might also impact the Lower Cretaceous Santiago Peak Volcanics, Quaternary stream-bed alluvial deposits or previously placed fill materials. Paleontological monitoring of these units would not be required if determined to be present.



**Figure 4.0-1**  
**Aerial Photo Showing Adobe Falls Area of Focus**  
SDSU 2007 Campus Master Plan Revision



**Figure 4.0-2**  
**Aerial Photo Showing Alvarado Campus Area of Focus**  
SDSU 2007 Campus Master Plan Revision



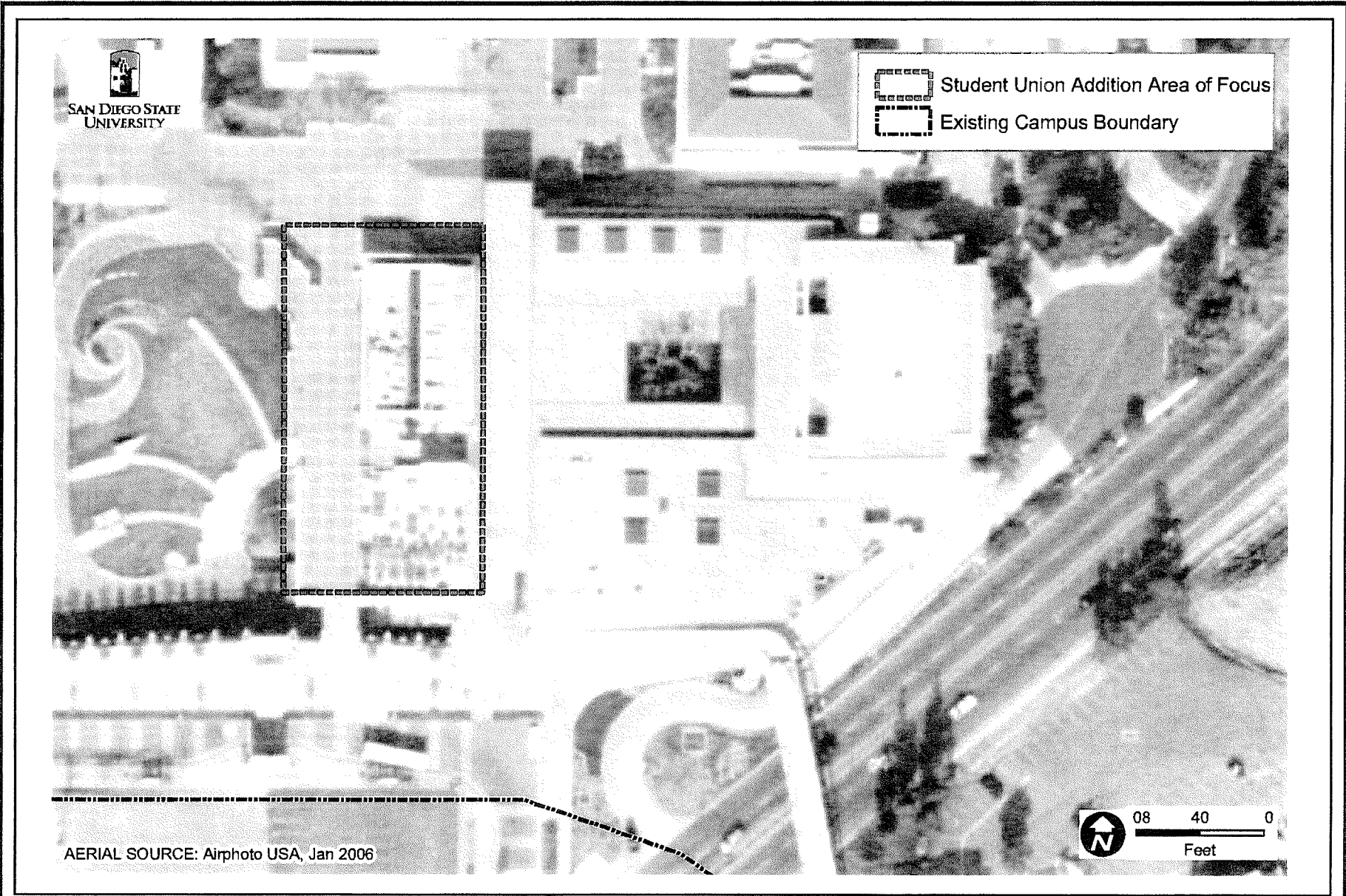
Student Union Area of Focus  
Existing Campus Boundary



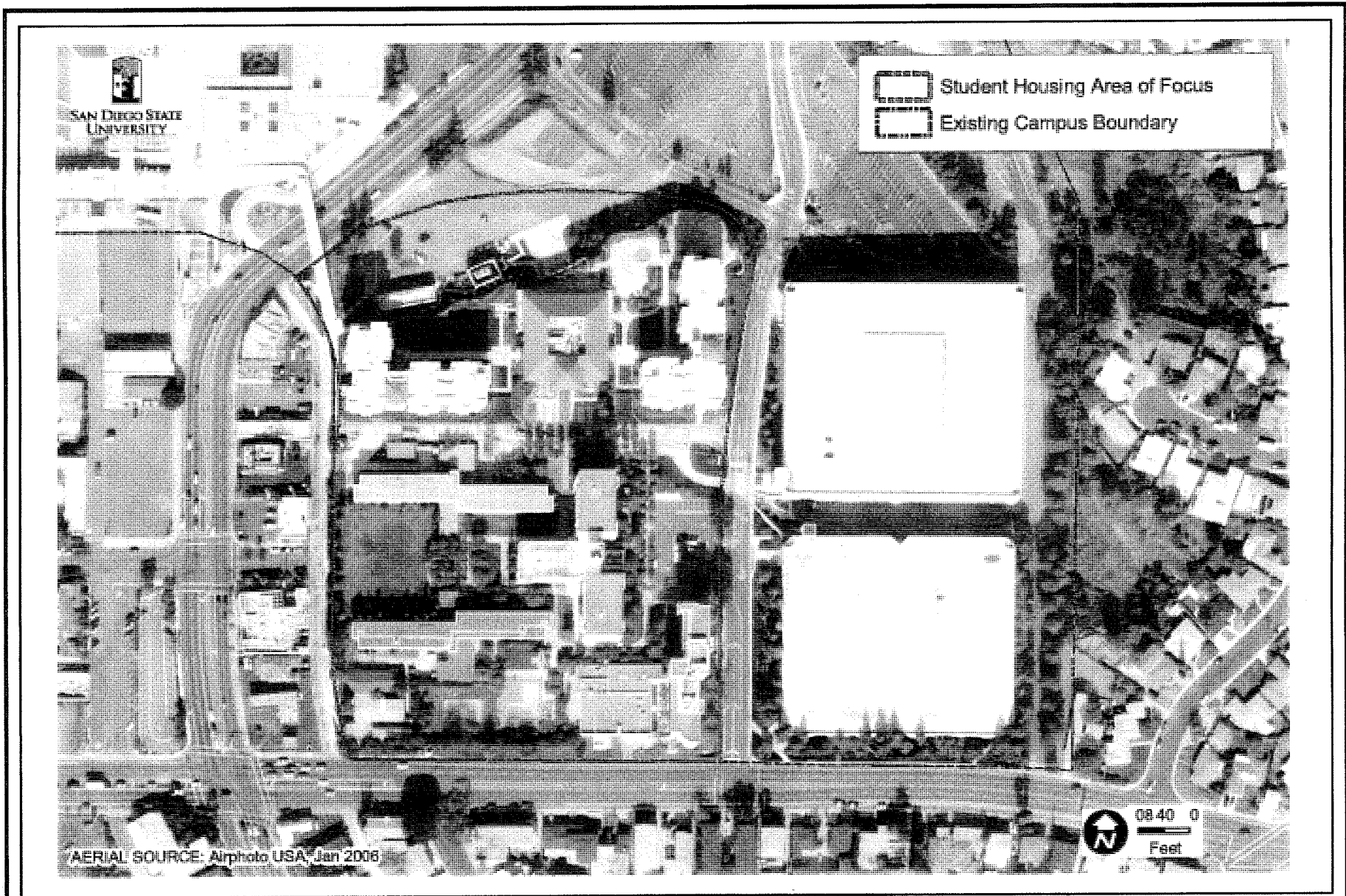
AERIAL SOURCE: Airphoto USA, Jan 2006

08 40 0  
Feet

**Figure 4.0-3**  
**Aerial Photo Showing Campus Conference Center Area of Focus**  
SDSU 2007 Campus Master Plan Revision



**Figure 4.0-4**  
**Aerial Photo Showing Student Union Area of Focus**  
SDSU 2007 Campus Master Plan Revision

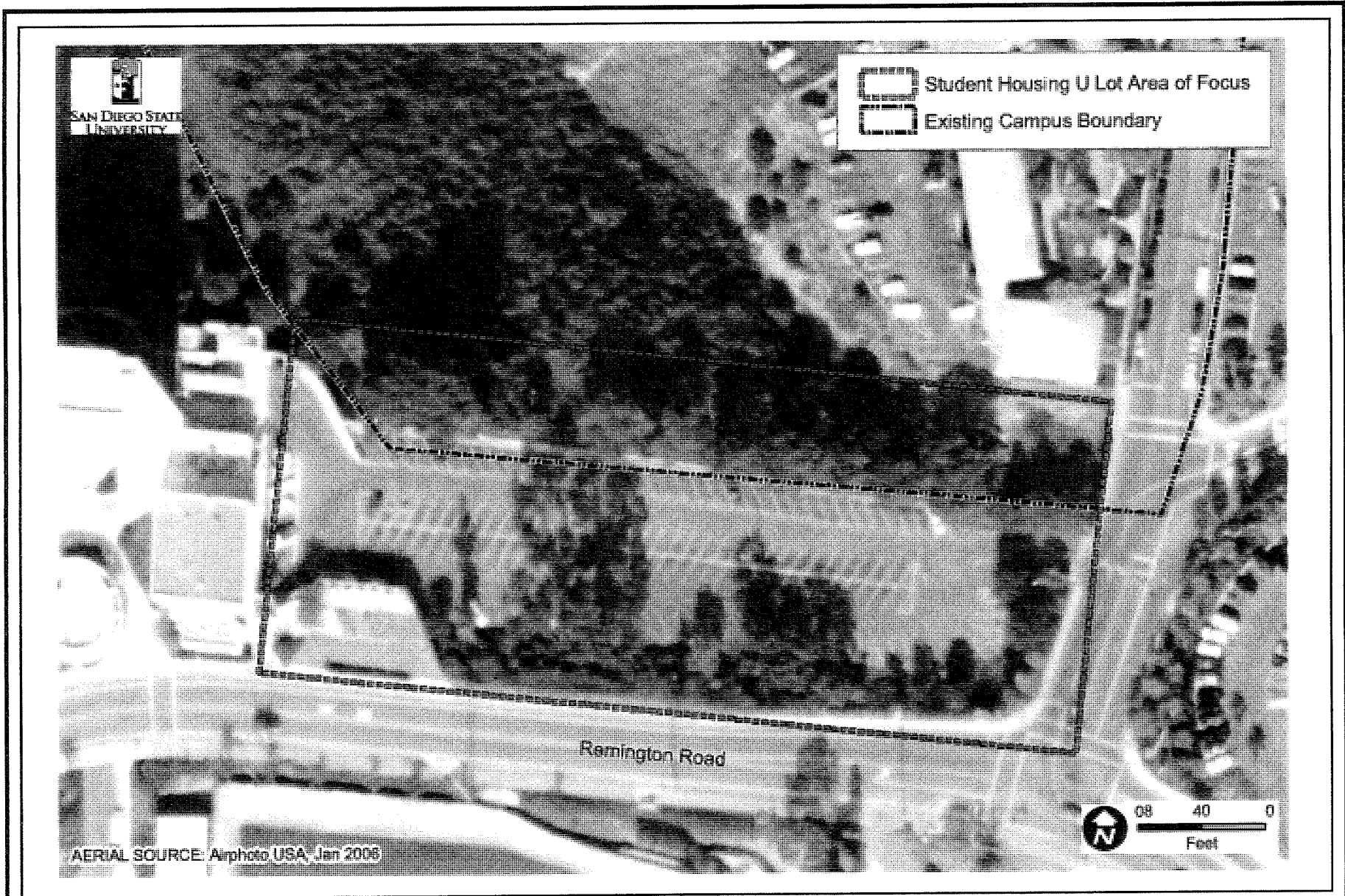


**Figure 4.0-5**  
**Aerial Photo Showing Student Housing Area of Focus (G Lot, Olmeca, and Maya Areas)**  
SDSU 2007 Campus Master Plan Revision

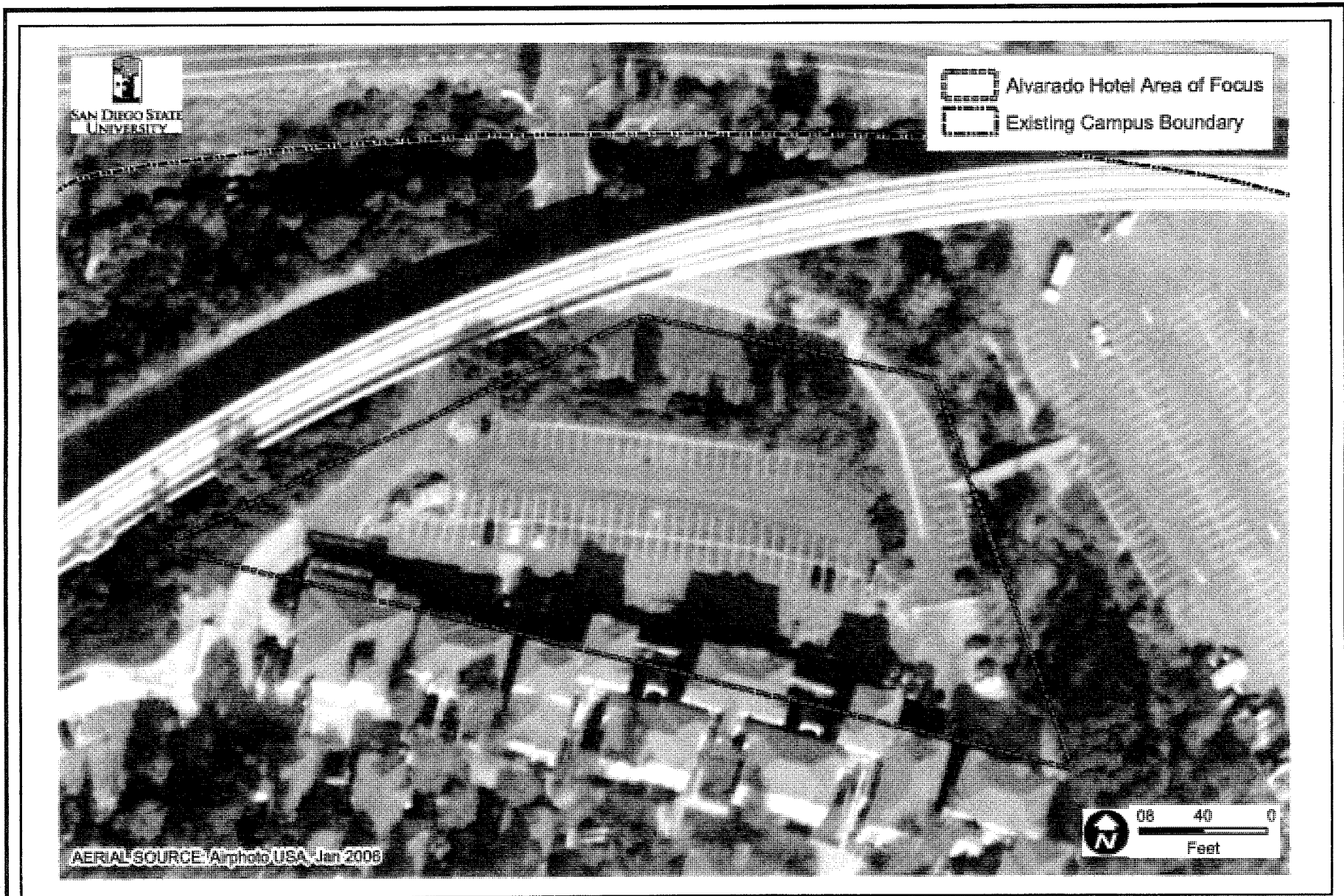




**Figure 4.0-6**  
**Aerial Photo Showing Student Housing Area of Focus (Villa Alvarado and Parking Lot C)**  
SDSU 2007 Campus Master Plan Revision



**Figure 4.0-7**  
**Aerial Photo Showing Student Housing Area of Focus (Parking Lot U)**  
SDSU 2007 Campus Master Plan Revision



**Figure 4.0-8**  
**Aerial Photo Showing Alvarado Hotel Area of Focus**  
SDSU 2007 Campus Master Plan Revision

## 5.0 SUMMARY

A paleontological resource assessment has been made of the San Diego State University campus and immediately surrounding areas (Figures 1.0–2 through 1.0–5) in response to environmental concerns generated by the proposed SDSU 2007 Campus Master Plan Revision. The six proposed project components are: 1) Adobe Falls Faculty/Staff Housing, on the north side of the Interstate 8 freeway; 2) Alvarado Campus, in the area of the Alvarado medical complex (Core Site) and Parking Lot D; 3) a new Campus Conference Center, in the tennis court area east of Cox Arena; 4) additions to the current Student Union, on the west side of Aztec Center; 5) Student Housing expansion, in three separate locations on campus: a) in the areas of Parking Lot G and the current Olmeca and Maya student residence halls, b) in Parking Lot C along Alvarado Creek, and c) in Parking Lot U along Remington Road; and 6) a new Alvarado Hotel, in the eastern part of Parking Lot C. Based on the presence of one or more geologic formations with proven paleontological resources (*i.e.*, proven fossil record), all eight of the proposed project component locations will require that a Mitigation, Monitoring, and Reporting Program (MMRP) be implemented in order to mitigate against the potential loss of nonrenewable paleontological resources (*i.e.*, fossils) during the course of trenching, excavation and/or roadway and mass grading activities concomitant with construction of these developments.

The published geologic map of the campus area (Figure 2.0–1, after Kennedy and Peterson, 1975, pl. 3B) documents the presence of five geologic formations that locally have yielded fossil invertebrates, fossil vertebrates, and/or fossil plants. These formations are, from youngest to oldest, the lower Pleistocene (~ 1 million year old) Lindavista Formation, the upper to middle Pliocene (~ 2 to ~ 4 million year old) San Diego Formation, and the middle Eocene (~ 42 to ~ 46 million year old) Mission Valley Formation, Stadium Conglomerate and Friars Formation. The Lower Cretaceous (~ 120 million year old) Santiago Peak Volcanics may possibly be locally fossiliferous pending a further investigation. Late Jurassic fossils are known from other parts of the “Santiago Peak Volcanics” several miles distant from the campus, but these rocks are currently regarded as representing a distinctly older formation. Deméré and Walsh (1993) have assigned “paleontological resource sensitivity” ratings to all of the formations in San Diego County. Of the formations identified within the footprint of the SDSU planned campus developments, the Lindavista Formation is assigned a “moderate paleontological resource sensitivity” rating, and the San Diego Formation, the Mission Valley Formation, the Stadium Conglomerate, and the Friars Formation have all been assigned a “high paleontological resource sensitivity” rating by Deméré and Walsh (1993). The metavolcanic parts (andesitic flows and tuff breccias) of the Santiago Peak Volcanics have been assigned a “marginal paleontological resource sensitivity.”

Because paleontological resources (*i.e.*, fossils) are typically buried within the underlying geologic formations, paleontological mitigation measures are typically implemented on the basis of the formation's "paleontological resource potential," a measure of the likelihood of yielding potentially scientifically significant paleontological resources during any construction-related excavation in the formation. The "paleontological resource potential" is based on the proven record of previous fossil discoveries in the formation as documented by existing museum collections and/or published scientific literature. For the proposed SDSU project components, the San Diego Formation, Mission Valley Formation, Stadium Conglomerate and Friars Formation are assigned a "high paleontological resource potential," the Lindavista Formation is assigned a "low paleontological resource potential," and the Santiago Peak Volcanics is assigned a "marginal paleontological resource potential."

The proposed project component locations (see Figures 1.0–4 and 1.0–5) and the fossiliferous formations that would be impacted by construction related activities are: 1) Adobe Falls Faculty/Staff Housing: Friars Formation and possibly Santiago Peak Volcanics; 2) Alvarado Campus: Stadium Conglomerate; 3) Campus Conference Center: Lindavista Formation, possibly San Diego Formation, Mission Valley Formation, Stadium Conglomerate; 4) Student Union: Lindavista Formation, possibly San Diego Formation, Mission Valley Formation, Stadium Conglomerate; 5) Student Housing expansion, Parking Lot G and Olmeca/Maya areas: Lindavista Formation, San Diego Formation, Mission Valley Formation, Stadium Conglomerate; 6) Student Housing expansion, Parking Lot C along Alvarado Creek: Stadium Conglomerate; 7) Student Housing expansion, Parking Lot U: Lindavista Formation, Mission Valley Formation, possibly Stadium Conglomerate; and 8) Alvarado Hotel: Stadium Conglomerate. However, because much of the campus area has already been subjected to surficial modifications as a result of building construction, grading, landscaping, and canyon infilling, the presence of any particular formation, or combination of formations, should be confirmed by geotechnical investigations prior to initiation of construction-related activities.

In addition to paleontological monitoring, standard requirements of paleontological MMRPs, such as implemented within the City of San Diego (*cf.* San Diego City Paleontology Guidelines, 2002), include provisions for the paleontologist or paleontological monitor to stop work in the immediate vicinity of any discovery for the assessment and/or salvage collection of fossils, initiation of a microvertebrate screen-washing program if appropriate, laboratory cleaning, preparation and/or repair of recovered fossils to a point of identification, curatorial processing (*e.g.*, sorting, identification, labeling, numbering, cataloguing, and data entry into a specimen/species lot and/or locality computer database system) before depositing the fossils into an appropriate scientific or educational institution (*e.g.*, the Department of Geological Sciences at San Diego State University) that can provide long term archival conservation of the fossils for future scientific and/or educational study. The results of the paleontological MMRP must be

documented in a final report that is submitted to the lead agency upon completion of paleontological monitoring. The report should include, at a minimum, appropriate background information on the geographic and geologic setting, lists of any fossils collected and their paleontological significance, and appropriate graphics to document the geology, stratigraphy and distribution (location) of any fossil discoveries.

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**Appendix**

**Results of Museum Collections and Records Searches,  
San Diego Natural History Museum,  
Department of Paleontology**

DATE 07/21/03  
TIME 12:42:32

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARD

LOCALITY #- 3414

LOCALITY # LOCALITY NAME  
3414 SDSU Parking Lot 1

FIELD NUMBER

LOCATION

COUNTRY U.S.A.  
STATE CA  
COUNTY San Diego  
CITY San Diego

LATITUDE 32°46'43"N VARIANCE  
LONGITUDE 117° 4'22"W

UTM 0 0 0 VARIANCE

SECT TWNSP DIREC RANGE DIR  
16 S 2 W

MAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1967

LOCATION IN SECTION unsurveyed

ELEVATION 295 FT

STRATIGRAPHIC POSITION

GROUP La Jolla Group  
FORMATION Friars Formation  
MEMBER

INFORMAL NAME  
ERA Cenozoic  
SYSTEM Paleogene  
SER/EPOCH middle Eocene  
AGE/STAGE  
NALMA early Uintan  
ZONE NAME

LITHOLOGY DEPOSITIONAL ENVIRONMENT  
sltst fluvial  
CITATION  
see below  
DONATED BY  
0 0

FIELD NOTES  
S.L. Walsh  
COLLECTOR  
S.L. Walsh 17 Aug 1985  
COMPILED BY  
S.L. Walsh 16 Jan 1988

PHOTOS ACCESS NO.

ENTERED BY  
H.P. Don Vito 23 May 1995

LOCALITY DESCRIPTION

Microvertebrate fossils from a 2 meter-thick (at least) bed of brownish friable siltstone exposed about 2 meters above Parking Lot X on the north side of SDSU in large, artificial north-facing roadcut on south side of lot. Locality is approximately 50 meters south of the south side of I-8, and approximately 35 meters west of the asphalt pathway leading from Lot X up to the Arts Building at SDSU. The fossiliferous siltstone contains common caliche nodules and is a mottled pale-red to greenish in color. The base of this siltstone bed has not been seen. Overlying the siltstone is a white, medium-grained sandstone. Near the top of the roadcut, the Friars Formation is overlain by the Stadium Conglomerate. Fossils at locality 3414 are highly disarticulated and consist mainly of isolated teeth and jaw fragments of mammals and lizards. Approximately 450 pounds of matrix has been screenwashed to date.  
Lat. and Long.: 32 degrees 46' 43.2" N Lat; 117 degrees 04' 22.5" W Long.

Elevation: approx 295'

Citation: Walsh, S.L., 1995, "Middle Eocene Mammal Faunas of San Diego County, California" in The Terrestrial Eocene-Oligocene Transition in North America. Cambridge University Press.

LOCALITY 3414

# Paleontology Collection Data Access

## San Diego Natural History Museum

### Search Results

SDNHM loc. 3414

Specimen #	Genus/Species	Upper Taxon	Rock Unit	Time Unit
36093	cf. <i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
36094	cf. <i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
36095		Mammalia	Friars Formation	early Uintan
36096		Mammalia	Friars Formation	early Uintan
36097		Mammalia	Friars Formation	early Uintan
36098		Mammalia	Friars Formation	early Uintan
36099		Mammalia	Friars Formation	early Uintan
36100		Mammalia	Friars Formation	early Uintan
36101		Mammalia	Friars Formation	early Uintan
36102	cf. <i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
36103	cf. <i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
36104	cf. <i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
36105	cf. <i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
36106	cf. <i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
36107	cf. <i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
36108	cf. <i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
36109	cf. <i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
36110		Mammalia	Friars Formation	early Uintan
36111		Mammalia	Friars Formation	early Uintan
36112		Mammalia	Friars Formation	early Uintan
36113		Mammalia	Friars Formation	early Uintan
36114		Mammalia	Friars Formation	early Uintan
36115		Mammalia	Friars Formation	early Uintan
36116		Mammalia	Friars Formation	early Uintan
36117		Mammalia	Friars Formation	early Uintan
36118		Mammalia	Friars Formation	early Uintan
36119		Mammalia	Friars Formation	early Uintan
36120		Mammalia	Friars Formation	early Uintan
36121		Mammalia	Friars Formation	early Uintan
36122		Mammalia	Friars Formation	early Uintan
36123		Mammalia	Friars Formation	early Uintan
36124		Mammalia	Friars Formation	early Uintan
36125		Mammalia	Friars Formation	early Uintan

36126		Mammalia	Friars Formation	early Uintan
36127		Artiodactyla?	Friars Formation	early Uintan
41301	cf. <i>Crypholestes</i> sp.	Sespedectidae	Friars Formation	early Uintan
41302	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41303	<i>Batodonoides</i> powayensis	Geolabididae	Friars Formation	early Uintan
41304	cf. <i>Batodonoides</i> sp.	Geolabididae	Friars Formation	early Uintan
41305	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41306	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41307	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41308	<i>Peratherium</i> sp. cf. <i>P. knighti</i>	Didelphidae	Friars Formation	early Uintan
41309		Marsupialia	Friars Formation	early Uintan
41310	cf. <i>Aethomylos</i> sp.	Incertae sedis	Friars Formation	early Uintan
41311	<i>Centetodon</i> sp. cf. <i>C. bembicophagus</i>	Geolabididae	Friars Formation	early Uintan
41312	cf. <i>Batodonoides</i> sp.	Geolabididae	Friars Formation	early Uintan
41313	cf. <i>Batodonoides</i> sp.	Geolabididae	Friars Formation	early Uintan
41314	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41315	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41316	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41317	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41318	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41319	<i>Microparamys</i> sp. cf. <i>M. minutus</i>	Ischyromyidae	Friars Formation	early Uintan
41320	<i>Microparamys</i> sp. cf. <i>M. minutus</i>	Ischyromyidae	Friars Formation	early Uintan
41321	<i>Microparamys</i> sp. cf. <i>M. minutus</i>	Ischyromyidae	Friars Formation	early Uintan
41322	<i>Metanoiamys</i> agorus	Eomyidae	Friars Formation	early Uintan
41323	<i>Metanoiamys</i> agorus	Eomyidae	Friars Formation	early Uintan
41324	<i>Metanoiamys</i> agorus	Eomyidae	Friars Formation	early Uintan
41325	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41326	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41327	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41328	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41329	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41330	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41331	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41332	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41333	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41334	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41335	<i>Sciuravus</i> powayensis	Sciuravidae	Friars Formation	early Uintan
41336		Rodentia	Friars Formation	early Uintan
41337		Artiodactyla	Friars Formation	early Uintan



41338	cf. <i>Crypholestes</i> sp.	Sespedectidae	Friars Formation	early Uintan
41339	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41340	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41341	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41342	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41343	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41344	<i>Microparamys</i> sp. cf. <i>M. minutus</i>	Ischyromyidae	Friars Formation	early Uintan
41345	<i>Metanoiamys</i> agorus	Eomyidae	Friars Formation	early Uintan
41346	<i>Metanoiamys</i> agorus	Eomyidae	Friars Formation	early Uintan
41347	<i>Metanoiamys</i> agorus	Eomyidae	Friars Formation	early Uintan
41348	<i>Metanoiamys</i> agorus	Eomyidae	Friars Formation	early Uintan
41349	<i>Metanoiamys</i> agorus	Eomyidae	Friars Formation	early Uintan
41350	<i>Peratherium</i> sp. cf. <i>P. knighti</i>	Didelphidae	Friars Formation	early Uintan
41351	<i>Peradectes</i> sp.	Didelphidae	Friars Formation	early Uintan
41352	<i>Peradectes</i> sp.	Didelphidae	Friars Formation	early Uintan
41353	<i>Patriolestes</i> novaceki	Sespedectidae	Friars Formation	early Uintan
41354	<i>Batodonoides</i> powayensis	Geolabididae	Friars Formation	early Uintan
41355	<i>Batodonoides</i> powayensis	Geolabididae	Friars Formation	early Uintan
41356	<i>Centetodon</i> sp. cf. <i>C. bembicophagus</i>	Geolabididae	Friars Formation	early Uintan
41357	<i>Centetodon</i> sp. cf. <i>C. bembicophagus</i>	Geolabididae	Friars Formation	early Uintan
41358	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41359	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41360	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41361	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41362	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41363	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41364	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan
41365	<i>Crypholestes</i> vaughni	Sespedectidae	Friars Formation	early Uintan

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DATE 07/21/03  
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SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARD

LOCALITY #- 3426

LOCALITY # LOCALITY NAME  
3426 Collwood South

FIELD NUMBER

LOCATION

COUNTRY U.S.A.  
STATE CA  
COUNTY San Diego  
CITY San Diego

LATITUDE 32°45'59"N VARIANCE  
LONGITUDE 117° 4'58"W

UTM 11 492250 3625220 VARIANCE

SECT TWPNSP DIREC RANGE DIR  
16 S 2 W

MAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1975 PR

LOCATION IN SECTION unsurveyed

ELEVATION 280 FT

STRATIGRAPHIC POSITION

GROUP Poway Group  
FORMATION Mission Valley Formation  
MEMBER  
INFORMAL NAME

ERA Cenozoic  
SYSTEM Paleogene  
SER/EPOCH middle Eocene  
AGE/STAGE  
NALMA late Uintan  
ZONE NAME

LITHOLOGY DEPOSITIONAL ENVIRONMENT  
mdst fluvial  
CITATION  
see below  
DONATED BY  
0 0

FIELD NOTES  
SLW Notebook #3  
COLLECTOR  
S.L. Walsh 5 Jul 1988  
COMPILED BY  
S.L. Walsh 24 Oct 1996

PHOTOS ACCESS NO.

ENTERED BY  
H.P. Don Vito 26 Oct 1996

LOCALITY DESCRIPTION

West facing roadcut on east side of Collwood Blvd., 470 meters south of Montezuma Road. Main quarry located directly across Collwood Blvd. from bus stop sign that is 15 meters south of Collwood Lane (4600 Collwood).

Light brown, blocky, sandy mudstone bed containing bone fragments and caliche nodules, about 2 meters thick, at least 15 meters in lateral outcrop exposure.

Vertebrate-bearing bed overlies white sandstone of Mission Valley Formation and is overlain by resistant ledge of concretionary, pink siltstone/mudstone, which grades (?) upward into two meters of white, very fine-grained sandstone, in turn erosionally overlain by two meters of clast supported Poway-type conglomerate, then 5.8 meters of medium-grained, yellowish to light gray, friable sandstone, then 0.5 meters of greenish and pinkish siltstone, which is then disconformably overlain by yellowish, very fine-grained sandstones of the Pliocene San Diego Formation.

Collected entirely by bulk sampling as follows: 5 July 1988: 400 lbs from "main quarry"; 15 July 1988: 200 lbs from main quarry, 200 lbs from 40' south of main quarry, and 200 lbs from 15' north of main quarry; 23 Oct 1988: 300 lbs from south quarry; 8 and 11 Dec 1988: 1250 lbs from main quarry.

Entirely a microvertebrate site, primarily isolated mammal teeth and the usual lizard jaw fragments and scutes.

Locality is still accessible in roadcut.

Collector/date - S.L. Walsh, 7 July 1988, 15 July 1988, 23 Oct 1988, 8 and 11 Dec 1988

Citation: Walsh, S.L., 1996, Middle Eocene Faunas of San Diego County, California, in Prothero, D.R. & R.J. Emry (eds.) "The Terrestrial Eocene-Oligocene Transition in North America," Cambridge University Press, pp. 75-119.

LOCALITY 3426

# Paleontology Collection Data Access

## San Diego Natural History Museum

### Search Results

SDNHM loc. 3426

Specimen #	Genus/Species	Upper Taxon	Rock Unit	Time Unit
42166	Peradectes californicus	Didelphidae	Mission Valley Formation	late Uintan
42167	Peradectes californicus	Didelphidae	Mission Valley Formation	late Uintan
42168	Peradectes californicus	Didelphidae	Mission Valley Formation	late Uintan
42169	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42170	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42171	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42172	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42173	cf. Sespedectes sp.	Sespedectidae	Mission Valley Formation	late Uintan
42174	cf. Sespedectes sp.	Sespedectidae	Mission Valley Formation	late Uintan
42175	Microparamys sp.	Ischyromyidae	Mission Valley Formation	late Uintan
42176	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42177	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42178	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42179	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42180	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42181	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42182	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42183	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42184	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42185	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42186	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42187	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42188	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42189	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42190	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42191	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42192	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42193	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42194	cf. Sespedectes sp.	Sespedectidae	Mission Valley Formation	late Uintan
42195	cf. Proterixoides sp.	Sespedectidae	Mission Valley Formation	late Uintan
42196	Peradectes californicus	Didelphidae	Mission Valley Formation	late Uintan
42197	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42198	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan

42199	<i>Sespedectes singularis</i>	Sespedectidae	Mission Valley Formation	late Uintan
42200	<i>Microparamys</i> sp.	Ischyromyidae	Mission Valley Formation	late Uintan
42201	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42202	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42203	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42204	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42205	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42206	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42207	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42208	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42209	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42210	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42211	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42212	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42213	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42214	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42215	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42216	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42217	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42218	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42219	<i>Peradectes californicus</i>	Didelphidae	Mission Valley Formation	late Uintan
42220	<i>Peradectes californicus</i>	Didelphidae	Mission Valley Formation	late Uintan
42221	<i>Sespedectes singularis</i>	Sespedectidae	Mission Valley Formation	late Uintan
42222	<i>Microparamys</i> sp.	Ischyromyidae	Mission Valley Formation	late Uintan
42223	<i>Microparamys</i> sp.	Ischyromyidae	Mission Valley Formation	late Uintan
42224	cf. <i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42225	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42226	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42227	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42228	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42229	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42230	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42231	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42232	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42233	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42234	<i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42235		Rodentia	Mission Valley Formation	late Uintan
42236	cf. <i>Simimys</i> sp.	Incertae sedis	Mission Valley Formation	late Uintan
42237		Marsupialia	Mission Valley Formation	late Uintan

42238	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42239	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42240	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42241	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42242	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42243	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42244	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42245	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42246	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42247	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42248	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42249	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42250	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42251	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42252	Simimys sp.	Incertae sedis	Mission Valley Formation	late Uintan
42253	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42254	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42255	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42256		Mammalia	Mission Valley Formation	late Uintan
42257	Peradectes californicus	Didelphidae	Mission Valley Formation	late Uintan
42258	Peradectes californicus	Didelphidae	Mission Valley Formation	late Uintan
42259	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42260	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42261	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42262	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42263	Sespedectes singularis	Sespedectidae	Mission Valley Formation	late Uintan
42264	Proterixoides sp.	Sespedectidae	Mission Valley Formation	late Uintan
42265	Proterixoides sp.	Sespedectidae	Mission Valley Formation	late Uintan

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DATE 07/21/03  
TIME 12:44:27

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARD

LOCALITY #- 3427

LOCALITY # LOCALITY NAME  
3427 Collwood and Montezuma

FIELD NUMBER

LOCATION

COUNTRY U.S.A.  
STATE CA  
COUNTY San Diego  
CITY San Diego

LATITUDE 32°46' 6"N VARIANCE  
LONGITUDE 117° 5' 3"W

UTM 11 492120 3625420 VARIANCE

SECT TWNSP DIREC RANGE DIR  
16 S 2 W

MAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1975PR

LOCATION IN SECTION unsurveyed

ELEVATION 270 FT

STRATIGRAPHIC POSITION

GROUP Poway Group  
FORMATION Mission Valley Formation  
MEMBER  
INFORMAL NAME

ERA Cenozoic  
SYSTEM Paleogene  
SER/EPOCH middle Eocene  
AGE/STAGE  
NALMA late Uintan  
ZONE NAME

LITHOLOGY DEPOSITIONAL ENVIRONMENT

sdst marine

CITATION

DONATED BY

0 0

FIELD NOTES

S.L. Walsh Notebook #3  
COLLECTOR  
S.L. Walsh 15 Jul 1988  
COMPILED BY  
S.L. Walsh 29 Jul 1998

PHOTOS ACCESS NO.

ENTERED BY  
S.L. Walsh 29 Jul 1998

LOCALITY DESCRIPTION

West-facing roadcut on the east side of Collwood Blvd., about 120 meters south of Montezuma Road, and 35 meters south of a traffic sign indicating via arrows: "left turn only," "left and right turn okay," and "right turn only."

35 pounds of very light gray very fine-grained sandstone was collected from about 3 meters above sidewalk level. When washed, this matrix yielded a few shark teeth, ray teeth, and several fish vertebrae.

Locality still accessible in roadcut. LOCALITY 3427

SDNHM loc 3427

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Paleontology Collection Database ←

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*specimens not created*

LOCALITY #- 3429

DATE 07/21/03  
TIME 12:44:28

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARD

LOCALITY # LOCALITY NAME  
3429 Cylindrocanthus Spot

FIELD NUMBER

LOCATION  
COUNTRY U.S.A.  
STATE CA  
COUNTY San Diego  
CITY San Diego

LATITUDE 32°46'12"N VARIANCE  
LONGITUDE 117° 5' 7"W

SECT TWPSP DIREC RANGE DIR  
16 S 2 W

UTM 11 492000 3625610 VARIANCE

LOCATION IN SECTION unsurveyed

ELEVATION 280 FT

MAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1975 PR

STRATIGRAPHIC POSITION

GROUP Poway Group  
FORMATION Mission Valley Formation  
MEMBER  
INFORMAL NAME

ERA Cenozoic  
SYSTEM Paleogene  
SER/EPOCH middle Eocene  
AGE/STAGE  
NALMA late Uintan  
ZONE NAME

LITHOLOGY DEPOSITIONAL ENVIRONMENT  
sdst marine  
CITATION  
Walsh, S.L., 1991, SEPM vol 68:149-168.  
DONATED BY  
0 0

FIELD NOTES  
SLW Notebook #3  
COLLECTOR  
S.L. Walsh 15 Jul 1988  
COMPILED BY  
S.L. Walsh 24 Oct 1996

PHOTOS ACCESS NO.

ENTERED BY  
H.P. Don Vito 25 Oct 1996

LOCALITY DESCRIPTION

Large south facing cut on north side of intersection of Montezuma Road and Collwood Blvd. Sample site located 70' west of this intersection 0'-3' above base of cut.

Very light grey, medium-grained, biotite-rich, pebbly sandstone.

The base is not exposed in immediate sample spot, but roadcut outcrops to west composed of very fine-grained to fine-grained concretionary sandstones of the Mission Valley Formation. Sample spot is at least several tens of feet above the Stadium-Mission Valley Contact. Sample spot is overlain by several tens of feet of very fine to fine-grained sandstone of the Mission Valley Formation, then cobble conglomerates of either Pomerado Conglomerate or basal San Diego Formation.

Collected entirely by bulk sample as follows: 15 July 1988: 42 lbs from main conglomeratic horizon; 7 Aug 1998: 450 lbs from same spot as 15 July, + 270 lbs from immediately overlying horizontally laminated sandstone directly above the conglomerate.

Fossils comprised mostly shark teeth, fish teeth and vertebrae, plus a few isolated teeth of Simimys, Sespedectes and Paremys. Also a dorsal spine of Cylindrocanthus.

Locality is still extant.

Collector/date - S.L. Walsh, 15 July 1988 and 7 Aug 1988

Citation: Walsh, S.L., 1995, "Middle Eocene Mammal Faunas of San Diego County, California" in The Terrestrial Eocene-Oligocene Transition in North America. Cambridge University Press.

LOCALITY 3429



SDNHM loc 3429

No specimens were found matching your search criteria.  
Return to search:

Botany Type Specimen Database  
Paleontology Collection Database ←

**BRCC | Home**



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*Specimens not created*

LOCALITY #- 3430

DATE 07/21/03  
TIME 12:44:29SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARDLOCALITY # LOCALITY NAME  
3430 SDSU Parking Lot 2

FIELD NUMBER

LOCATION  
COUNTRY U.S.A.  
STATE CA  
COUNTY San Diego  
CITY San DiegoLATITUDE 32°46'42"N VARIANCE  
LONGITUDE 117° 4'25"W

UTM 11 493100 3626540 VARIANCE

SECT TWNSP DIREC RANGE DIR  
16 S 2 WMAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1975 PR

LOCATION IN SECTION unsurveyed

ELEVATION 320 FT

STRATIGRAPHIC POSITION  
GROUP La Jolla Group  
FORMATION Friars Formation  
MEMBER  
INFORMAL NAMEERA Cenozoic  
SYSTEM Paleogene  
SER/EPOCH middle Eocene  
AGE/STAGE  
NALMA early Uintan  
ZONE NAMELITHOLOGY DEPOSITIONAL ENVIRONMENT  
sltst fluvial  
CITATION  
see below  
DONATED BY  
0 0FIELD NOTES  
SLW Notebook  
COLLECTOR  
S.L. Walsh 17 Aug 1985  
COMPILED BY  
S.L. Walsh 24 Oct 1996PHOTOS ACCESS NO.  
YENTERED BY  
H.P. Don Vito 27 Oct 1996

## LOCALITY DESCRIPTION

North facing cut on southeast side of oddly-shaped parking lot X on north side of campus of San Diego State University, 100 feet south of Crest Drive. Sample site is 5-6 meters above parking lot level.

Red, green and brown, silty mudstone. Contacts obscured by slopewash.

Sample site occurs directly below white caliche bed; over and underlying lithologies obscured by slopewash, but probably mostly white, fine-grained sandstone and multicolored siltstone of Friars Formation. Lower member of Stadium Conglomerate is poorly exposed on this cut perhaps 20-30' above sample level.

Samples were collected on the following dates: 17 Aug 1985: 39 lbs of matrix and 19 Nov 1988: 500 lbs of matrix collected.

Entirely microvertebrate site, mostly isolated mammal teeth, and usual lizard scutes and jaw fragments. Typical early Uintan assemblage.

Locality is still accessible.

Collector/date: S.L. Walsh, 17 Aug 1985 and 19 Nov 1988

Citation: Walsh, S.L., 1996, Middle Eocene Faunas of San Diego County, California, in Prothero, D.R. &amp; R.J. Emry (eds.) "The Terrestrial Eocene-Oligocene Transition in North America," Cambridge University Press, pp. 75-119.

LOCALITY 3430

# Paleontology Collection Data Access

## San Diego Natural History Museum

### Search Results

SDNHM loc 3430.

Specimen #	Genus/Species	Upper Taxon	Rock Unit	Time Unit
36128	cf. <i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
36129	<i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
36130	<i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
36131	<i>Sciuravus</i> sp.	Sciuravidae	Friars Formation	early Uintan
41456	<i>Batodonoides powayensis</i>	Geolabididae	Friars Formation	early Uintan
41457	<i>Microparamys</i> sp. cf. <i>M. minutus</i>	Ischyromyidae	Friars Formation	early Uintan
41458	<i>Microparamys</i> sp. cf. <i>M. minutus</i>	Ischyromyidae	Friars Formation	early Uintan
41459	<i>Metanoiamys agorus</i>	Eomyidae	Friars Formation	early Uintan
41460	<i>Metanoiamys agorus</i>	Eomyidae	Friars Formation	early Uintan
41461	<i>Metanoiamys agorus</i>	Eomyidae	Friars Formation	early Uintan
41462	<i>Sciuravus powayensis</i>	Sciuravidae	Friars Formation	early Uintan
41463	<i>Sciuravus powayensis</i>	Sciuravidae	Friars Formation	early Uintan
41464	<i>Peradectes</i> sp.	Didelphidae	Friars Formation	early Uintan
41465	<i>Aethomylos simplicidens</i>	Incertae sedis	Friars Formation	early Uintan
41466		Insectivora	Friars Formation	early Uintan
41467	<i>Crypholestes vaughni</i>	Sespedectidae	Friars Formation	early Uintan
41468	<i>Crypholestes vaughni</i>	Sespedectidae	Friars Formation	early Uintan
41469	<i>Crypholestes vaughni</i>	Sespedectidae	Friars Formation	early Uintan
41470	<i>Crypholestes vaughni</i>	Sespedectidae	Friars Formation	early Uintan
41471	<i>Uintasorex montezumicus</i>	Microsyopidae	Friars Formation	early Uintan
41472	<i>Microparamys</i> sp. cf. <i>M. minutus</i>	Ischyromyidae	Friars Formation	early Uintan
41473	<i>Sciuravus powayensis</i>	Sciuravidae	Friars Formation	early Uintan
41474	<i>Sciuravus powayensis</i>	Sciuravidae	Friars Formation	early Uintan
41475	<i>Sciuravus powayensis</i>	Sciuravidae	Friars Formation	early Uintan
41476	<i>Sciuravus powayensis</i>	Sciuravidae	Friars Formation	early Uintan
41477	<i>Sciuravus powayensis</i>	Sciuravidae	Friars Formation	early Uintan
41478	<i>Sciuravus powayensis</i>	Sciuravidae	Friars Formation	early Uintan
41479	<i>Sciuravus powayensis</i>	Sciuravidae	Friars Formation	early Uintan
41480	<i>Pareumys</i> sp. cf. <i>P. grangeri</i>	Cylindrodontidae	Friars Formation	early Uintan
41481	<i>Pareumys</i> sp. cf. <i>P. grangeri</i>	Cylindrodontidae	Friars Formation	early Uintan
41482	<i>Pareumys</i> sp. cf. <i>P. grangeri</i>	Cylindrodontidae	Friars Formation	early Uintan
41483	<i>Metanoiamys agorus</i>	Eomyidae	Friars Formation	early Uintan
41484	<i>Metanoiamys agorus</i>	Eomyidae	Friars Formation	early Uintan

41485	Metanoiamys agorus	Eomyidae	Friars Formation	early Uintan
41486	Metanoiamys agorus	Eomyidae	Friars Formation	early Uintan
41487	Metanoiamys agorus	Eomyidae	Friars Formation	early Uintan
41488	Metanoiamys agorus	Eomyidae	Friars Formation	early Uintan
41489	cf. Peratherium sp.	Didelphidae	Friars Formation	early Uintan
41490		Insectivora?	Friars Formation	early Uintan
41491		Insectivora?	Friars Formation	early Uintan
41492		Insectivora?	Friars Formation	early Uintan
41493		Insectivora?	Friars Formation	early Uintan
41494		Primates	Friars Formation	early Uintan
41495		Rodentia	Friars Formation	early Uintan
41496		Rodentia	Friars Formation	early Uintan
41497		Insectivora?	Friars Formation	early Uintan
58942	Patriolestes novaceki	Sespedectidae	Friars Formation	early Uintan
<b>Next Set</b>				

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DATE 07/21/03  
TIME 12:45:33

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARD

LOCALITY #- 3701

LOCALITY # LOCALITY NAME  
3701 Waring Road

FIELD NUMBER

LOCATION

COUNTRY U.S.A.  
STATE CA  
COUNTY San Diego  
CITY San Diego

LATITUDE 32°47' 9"N VARIANCE  
LONGITUDE 117° 5' 1"W

UTM 0 0 0 VARIANCE

SECT TWNSP DIREC RANGE DIR  
16 S 2 W

MAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1975PR

LOCATION IN SECTION unsurveyed

ELEVATION 220 FT

STRATIGRAPHIC POSITION

GROUP Poway Group  
FORMATION Stadium Conglomerate  
MEMBER  
INFORMAL NAME Lower member

ERA Cenozoic  
SYSTEM Paleogene  
SER/EPOCH middle Eocene  
AGE/STAGE  
NALMA early Uintan  
ZONE NAME

LITHOLOGY DEPOSITIONAL ENVIRONMENT  
pebb cong fluvial Channel base  
CITATION  
see below  
DONATED BY  
S.L. Walsh 0 0

FIELD NOTES  
S.L. Walsh Notebook #7, 22 Sept 1993  
COLLECTOR  
S.L. Walsh 22 Sep 1993  
COMPILED BY  
S.L. Walsh 13 Oct 1993

PHOTOS ACCESS NO.  
Y  
ENTERED BY  
S.L. Walsh 13 Oct 1993

LOCALITY DESCRIPTION

1-2-foot-thick bed of red and green siltstone-pebble and caliche nodule-pebble conglomerate exposed in the lower level of the large west-facing cut on the east side of Waring Rd, about 180 yards N of the NE corner of the intersection of Waring and Adobe Falls roads, about 70 yards south of the "speed limit 35" sign and combination telephone pole/streetlight on the east side of Waring. The fossiliferous bed occurs in a recent 30-foot-wide slump scarp in the overgrown cut, 10-12 feet above Waring Road-level. The foss. bed overlies a 6"-thick hard white caliche layer, which in turn overlies at least 2 feet of white fine-grained sandstone, which presumably overlies cobble conglomerate. The foss bed is overlain by a 1-foot-thick bed of matrix-supp. cobble and pebble cong., which is overlain by 1 foot of white med. gr. sandstone, which is overlain by at least 6 feet of light gray matrix supp. cobble and pebble conglomerate. I collected a 35-lb sample of the foss. bed, which yielded a bat Mx/, a Crypholestes "major" m/2, and a Pauromys or Simimys m/3.

Time: Late early Uintan, middle Eocene

Citation: Walsh, S.L., 1995, "Middle Eocene Mammal Faunas of San Diego County, California" in The Terrestrial Eocene-Oligocene Transition in North America. Cambridge University Press.

Walsh, S.L., 1997, New Specimens of Metanoimys, Pauromys, and Simimys (Rodentia: Myomorpha) from the Uintan (middle Eocene) of San Diego County, California, and Comments on the Relationships of Selected Paleogene Myomorpha, SDSNH Proceedings, # 32, pp. 1-20.

LOCALITY 3701

# Paleontology Collection Data Access

## San Diego Natural History Museum

### Search Results

SDNHM loc. 3701

Specimen #	Genus/Species	Upper Taxon	Rock Unit	Time Unit
47988	Crypholestes new large sp.	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
47989		Chiroptera	Stadium Conglomerate, lower member	late Uintan
47990	Microparamys sp. cf. M. minutus	Ischyromyidae	Stadium Conglomerate, lower member	late Uintan
47991	Pauromys sp.	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
47992		Mammalia	Stadium Conglomerate, lower member	late Uintan
47993		Squamata	Stadium Conglomerate, lower member	late Uintan
47995		Pulmonata	Stadium Conglomerate, lower member	late Uintan
47996		Chordata	Stadium Conglomerate, lower member	late Uintan
47997	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
47998	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
47999	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48000	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48001	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48002	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48003	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48004	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48005	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48006	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48007	Uintasorex sp.	Microsycopidae	Stadium Conglomerate, lower member	late Uintan
48008	Uintasorex sp.	Microsycopidae	Stadium Conglomerate, lower member	late Uintan
48009	Microparamys sp. cf. M. minutus	Ischyromyidae	Stadium Conglomerate, lower member	late Uintan
48010	Microparamys sp. cf. M. minutus	Ischyromyidae	Stadium Conglomerate, lower member	late Uintan
48011	Pauromys lillegraveni	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48012	Pauromys lillegraveni	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48013	Pauromys lillegraveni	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48014	Pauromys lillegraveni	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48015	Pauromys lillegraveni	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48016	Pauromys lillegraveni	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48017	Pauromys sp.	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48018	cf. Eohaplomys sp.	Ailuravinae	Stadium Conglomerate, lower member	late Uintan
48019	cf. Eohaplomys sp.	Ailuravinae?	Stadium Conglomerate, lower member	late Uintan
48020	Sciuravus sp.	Sciuravidae	Stadium Conglomerate, lower member	late Uintan
48021	cf. Leptoreodon sp.	Protoceratidae	Stadium Conglomerate, lower member	late Uintan

# Paleontology Collection Data Access

## San Diego Natural History Museum

### Search Results

SDNHM loc. 3701

Specimen #	Genus/Species	Upper Taxon	Rock Unit	Time Unit
47988	Crypholestes new large sp.	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
47989		Chiroptera	Stadium Conglomerate, lower member	late Uintan
47990	Microparamys sp. cf. M. minutus	Ischyromyidae	Stadium Conglomerate, lower member	late Uintan
47991	Pauromys sp.	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
47992		Mammalia	Stadium Conglomerate, lower member	late Uintan
47993		Squamata	Stadium Conglomerate, lower member	late Uintan
47995		Pulmonata	Stadium Conglomerate, lower member	late Uintan
47996		Chordata	Stadium Conglomerate, lower member	late Uintan
47997	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
47998	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
47999	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48000	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48001	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48002	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48003	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48004	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48005	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48006	Crypholestes vaughni	Sespedectidae	Stadium Conglomerate, lower member	late Uintan
48007	Uintasorex sp.	Microsycopidae	Stadium Conglomerate, lower member	late Uintan
48008	Uintasorex sp.	Microsycopidae	Stadium Conglomerate, lower member	late Uintan
48009	Microparamys sp. cf. M. minutus	Ischyromyidae	Stadium Conglomerate, lower member	late Uintan
48010	Microparamys sp. cf. M. minutus	Ischyromyidae	Stadium Conglomerate, lower member	late Uintan
48011	Pauromys lillegraveni	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48012	Pauromys lillegraveni	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48013	Pauromys lillegraveni	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48014	Pauromys lillegraveni	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48015	Pauromys lillegraveni	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48016	Pauromys lillegraveni	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48017	Pauromys sp.	Incertae sedis	Stadium Conglomerate, lower member	late Uintan
48018	cf. Eohaplomys sp.	Ailuravinae	Stadium Conglomerate, lower member	late Uintan
48019	cf. Eohaplomys sp.	Ailuravinae?	Stadium Conglomerate, lower member	late Uintan
48020	Sciuravus sp.	Sciuravidae	Stadium Conglomerate, lower member	late Uintan
48021	cf. Leptoreodon sp.	Protoceratidae	Stadium Conglomerate, lower member	late Uintan

48022	Protoceratidae	Stadium Conglomerate, lower member	late Uintan
48023	Protoceratidae	Stadium Conglomerate, lower member	late Uintan
48024	Mammalia	Stadium Conglomerate, lower member	late Uintan
48025	Mammalia	Stadium Conglomerate, lower member	late Uintan
48026	Mammalia	Stadium Conglomerate, lower member	late Uintan
48027	Mammalia	Stadium Conglomerate, lower member	late Uintan
48028	Mammalia	Stadium Conglomerate, lower member	late Uintan
48029	Mammalia	Stadium Conglomerate, lower member	late Uintan
48030	Mammalia	Stadium Conglomerate, lower member	late Uintan
48031	Mammalia	Stadium Conglomerate, lower member	late Uintan
48032	Mammalia	Stadium Conglomerate, lower member	late Uintan
48033	Chordata	Stadium Conglomerate, lower member	late Uintan
48034	Chordata	Stadium Conglomerate, lower member	late Uintan
48035	Squamata	Stadium Conglomerate, lower member	late Uintan
48036	Gastropoda	Stadium Conglomerate, lower member	late Uintan

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DATE 12/09/04  
TIME 12:32:09

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARD

LOCALITY #- 3746

LOCALITY # LOCALITY NAME  
3746 Alvarado Water Filtration Plant

FIELD NUMBER  
RAC3March99-1

LOCATION

COUNTRY U.S.A.  
STATE CA  
COUNTY San Diego  
CITY La Mesa

LATITUDE 32°46'56"N VARIANCE  
LONGITUDE 117° 2'25"W

UTM 11 496220 3626960 VARIANCE

SECT TWPNSP DIREC RANGE DIR  
16 S 1 W

MAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1967

LOCATION IN SECTION unsurveyed

ELEVATION 548 FT

STRATIGRAPHIC POSITION

GROUP Poway Group  
FORMATION Mission Valley Formation  
MEMBER  
INFORMAL NAME

ERA Cenozoic  
SYSTEM Paleogene  
SER/EPOCH middle Eocene  
AGE/STAGE  
NALMA late Uintan  
ZONE NAME

LITHOLOGY DEPOSITIONAL ENVIRONMENT

mdst marine

CITATION

DONATED BY

City of San Diego Water Treatment District 3 Mar 1999

FIELD NOTES

R.A. Cerutti  
COLLECTOR  
R.A. Cerutti 3 Mar 1999  
COMPILED BY  
R.A. Cerutti 4 Mar 2000

PHOTOS ACCESS NO.

Y

ENTERED BY

H.M. Wagner 7 Mar 2000

LOCALITY DESCRIPTION

Fossils were collected during monitoring of grading excavations at the Alvarado Water Filtration Plant. The Plant is located north of Lake Murray Boulevard and west of Baltimore Drive. The filtration plant is on the east shore of Lake Murray Reservoir near the dam and just west of Kiowa Drive the entrance to the reservoir and boathouse. Locality 3746 was discovered in the east sidewall of a blending vault pipeline trench north of the existing Earl Thomas Reservoir.

Fossils were collected from a dark green silty mudstone.

The fossil-bearing green mudstone was interbedded with white-gray, medium-grained sandstones. The mudstone appeared to be a lense-like body (channel fill) within the sandstones and occurred 4 feet above the contact with the underlying Stadium Conglomerate.

Fossils were collected by hand-quarrying with small hand-tools and a hoe pick.

Fossils collected from this site consist of steinkerns of marine molluscs including gastropods and pelecypods.

The site has been covered over.

DONATED BY: City of San Diego Water Treatment District.

LOCALITY: 3746

# Paleontology Collection Data Access

## San Diego Natural History Museum

### Search Results

SDNHM loc. 3746

Specimen #	Genus/Species	Upper Taxon	Rock Unit	Time Unit
75712	Loxotrema sp.	Melaniidae	Mission Valley Formation	late Uintan
75713	Pteria sp.	Pteriidae	Mission Valley Formation	late Uintan
75714	cf. Venericardia sp.	Carditidae	Mission Valley Formation	late Uintan
75715		Veneridae	Mission Valley Formation	late Uintan
75716	Tellina sp. cf. T. soledadensis	Tellinidae	Mission Valley Formation	late Uintan
75717	cf. Tellina sp.	Tellinidae	Mission Valley Formation	late Uintan
75718		Tellinidae	Mission Valley Formation	late Uintan

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DATE 02/21/07  
TIME 15:21:50

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARD

LOCALITY #- 5498

LOCALITY # LOCALITY NAME  
5498 SDSU Sorority Row

FIELD NUMBER  
see below

LOCATION

COUNTRY USA  
STATE CA  
COUNTY San Diego  
CITY San Diego

LATITUDE 0° 0' 0" VARIANCE  
LONGITUDE 0° 0' 0"

UTM 11 0 0 VARIANCE

SECT TWNSP DIREC RANGE DIR  
16 S 2 W

MAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1967(1975)

STRATIGRAPHIC POSITION

GROUP  
FORMATION San Diego Formation  
MEMBER  
INFORMAL NAME

ERA Cenozoic  
SYSTEM Neogene  
SER/EPOCH Pliocene  
AGE/STAGE  
NALMA  
ZONE NAME

LOCATION IN SECTION

ELEVATION 439 FT

LITHOLOGY	DEPOSITIONAL ENVIRONMENT	FIELD NOTES	PHOTOS	ACCESS NO.
sdst	marine, shallow inner sublittoral	COLLECTOR B.E.Comeau; R.B.Savitch; C.E.Lambert; G.L.Kennedy	5	Msy 2005
CITATION Kennedy, Stewart & Shiller, 2005, Paleo. Monitoring Report		COMPILED BY G.L. Kennedy		ENTERED BY M.K. Soetaert
DONATED BY SDSU Foundation, Facilities Management Dept.				15 Dec 2005
				2 Dec 2005

LOCALITY DESCRIPTION

Fossils were recovered during paleontological monitoring of the SDSU Sorority Row Sewer Improvement Project in the College (SDSU) area of the City of San Diego, San Diego County, California. This locality number is assigned to specimens (SDSNH loc. 5498) derived from two concretionary sandstone horizons, but not distinguishable at the time of collection because the excavator bucket removed sedimentary material from both horizons as it was trenching. Included also are specimens derived from the composite pile in the staging area. Because of the lack of provenance for these specimens, only the less common and/or better preserved specimens have been archived from this locality.

Fossils were collected from a rubbly, concretionary, fossiliferous, generally fine-grained, variably very indurated to lightly indurated, tan to light gray sandstone, often with rusty brown oxidation of voids where fossil shells had been.

From top to bottom, the stratigraphic section consists of 1 foot of concrete pavement and underlying asphaltic roadbed gravel; up to 0.4 feet of fill material below the pavement, but only present in places; approx. 3 feet of Lindavista Formation, composed of (1), of up to 3 feet of dirty, tan to brown, coarse to very coarse-grained sandstone with a pebble-cobble basal conglomerate up to 1.5 feet thick, or (2), up to 3 feet of light-chocolate brown, clayey sand (possibly artificial fill, or "North Park mudstone" unit); perhaps up to 16 feet of San Diego Formation, represented by 1 foot of yellowish-orange, fine-grained sand, 2.5 feet of light gray to tan, fine-grained sand, 1 to 2 feet of rubbly, concretionary fossiliferous sandstone with occasional small rounded pebbles and with numerous cavities representing dissolved shells (SDSNH locs. 5499 & 5500), 5 to 6 feet of light gray, tan, and light brown, fine to very fine-grained silty sand and lightly indurated sandstone (SDSNH locs. 5501 & 5502) with occasional argonitic fossils, 2+ feet (thickness uncertain) of rubbly concretionary fossiliferous sandstone with occasional small well rounded pebbles and numerous cavities representing dissolved shells (SDSNH locs. 5503 & 5504), perhaps 3 feet (+/-) of sandstone with basal cobbles and blocks of bivalve-bored indurated sandstone of underlying Mission Valley Formation, the upper part of which is very well indurated by calcium carbonate and overlying nonindurated "salt and pepper" -appearing, fine to medium-grained, light gray sandstone.

Fossils were collected by hand selection of blocks in spoils piles, hand raking of sediments, and hand screening of spoils piles.

Fossils recovered are mainly internal and external molds in sandstone; bivalves most common of identifiable forms.

The trench has been backfilled and is no longer accessible.

Field Numbers: BEC-SR-2,-3,-4,-5; RBS-SR-01,-02; CEL-SR-01; GLK-SR-1,-2, X(big stock pile)

Dates Collected: March 31, 2005; May 2, 5, 10, 16, 2005; April 4, 5, 2005

Elevation: approximately 439' to 447'

DATE 02/21/07  
TIME 15:23:34

SAÑ DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
FAUNAL LIST FOR LOCALITY 5498  
SDSU Sorority Row

PAGE 1  
PAL270

SPECIMEN NUMBER	NUMBER OF ITEMS	DESCRIPTION	SPECIES
90286	10	steinkerns, whole & partial	<u>Anadara trilineata</u> (Conrad, 1856)
90287	4	steinkerns, partial	<u>Dosinia ponderosa</u> (Gray, 1838)
90288	13	steinkerns, whole & partial	<u>Lucinisca nuttalli</u> (Conrad, 1837)
90289	1	internal mold of valve, partial	Mytilidae
105533	2	internal mold of valve & valve fragment	<u>Mytilus</u> sp.
105534	1	outer mold of valve, partial	Pectinidae
105535	1	borings	Pholadidae
105536	4	steinkerns, with some shell	<u>Acanthinucella emersoni</u> (Hertlein & Allison, 1959)
105537	3	steinkerns of shells	<u>Nassarius</u> sp.
105538	6	internal molds of shells	Naticidae
105539	1	internal mold of shell	cf. <u>Olivella</u> sp.
105540	1	internal mold of shell, whole	<u>Sinum scopulosum</u> (Conrad, 1849)
105541	2	shell fragments in matrix	<u>Tegula funebris</u> (A. Adams, 1855)
105542	2	internal molds of shells, partial	Gastropoda
105543	7	shells, in matrix	<u>Balanus</u> spp.

LOCALITY #- 5499

DATE 02/21/07  
TIME 15:21:51

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARD

LOCALITY # LOCALITY NAME  
5499 SDSU Sorority Row

FIELD NUMBER  
see below

LOCATION

COUNTRY USA  
STATE CA  
COUNTY San Diego  
CITY San Diego

LATITUDE 32°46'12"N VARIANCE  
LONGITUDE 117° 4' 7"W

UTM 11 493569 3625587 VARIANCE

SECT TWNSP DIREC RANGE DIR  
16 S 2 W

MAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1967(1975)

LOCATION IN SECTION

ELEVATION 445 FT

STRATIGRAPHIC POSITION

GROUP  
FORMATION San Diego Formation  
MEMBER  
INFORMAL NAME  
ERA Cenozoic  
SYSTEM Neogene  
SER/EPOCH Pliocene  
AGE/STAGE  
NALMA  
ZONE NAME

LITHOLOGY DEPOSITIONAL ENVIRONMENT  
sdst marine, shallow inner sublittoral  
CITATION  
Kennedy, Stewart & Shiller, 2005, Paleo. Monitoring Report  
DONATED BY  
SDSU Foundation, Facilities Management Dept. 2 Dec 2005

FIELD NOTES

COLLECTOR  
George L. Kennedy 18 May 2005  
COMPILED BY  
G.L. Kennedy 30 Nov 2005

PHOTOS ACCESS NO.

ENTERED BY  
N.K. Soetaert 15 Dec 2005

LOCALITY DESCRIPTION

Fossils were recovered during paleontological monitoring of the SDSU Sorority Row Sewer Improvement Project in the College (SDSU) area of the City of San Diego, San Diego County, California. This locality represents collections of fossils (SDSNH loc. 5499) recovered from spoils piles derived from the upper, 2 foot thick, concretionary sandstone horizon of San Diego Formation present along the northern part of the 5000 block of College Avenue and along the 5000 block of College Place.

Fossils were collected from a rubblely, concretionary, fossiliferous, generally fine-grained, variably very indurated to lightly indurated, tan to light gray sandstone with occasional small very well rounded pebbles; often with rusty brown oxidation of voids where fossil shells had been.

From top to bottom, the stratigraphic section consists of 1 foot of concrete pavement and underlying asphaltic roadbed gravel; up to 0.4 feet of fill material below the pavement, but only present in places; approx. 3 feet of Lindavista Formation, composed of (1), of up to 3 feet of dirty, tan to brown, coarse to very coarse-grained sandstone with a pebble-cobble basal conglomerate up to 1.5 feet thick, or (2), up to 3 feet of light-chocolate brown, clayey sand (possibly artificial fill, or "North Park mudstone" unit); perhaps up to 16 feet of San Diego Formation, represented by 1 foot of yellowish-orange, fine-grained sand, 2.5 feet of light gray to tan, fine-grained sand, 1 to 2 feet of rubbly, concretionary fossiliferous sandstone with occasional small rounded pebbles and with numerous cavities representing dissolved shells (SDSNH locs. 5499 & 5500), 5 to 6 feet of light gray, tan, and light brown, fine to very fine-grained silty sand and lightly indurated sandstone (SDSNH locs. 5501 & 5502) with occasional argonitic fossils, 2+ feet (thickness uncertain) of rubbly concretionary fossiliferous sandstone with occasional small well rounded pebbles and numerous cavities representing dissolved shells (SDSNH locs. 5503 & 5504), perhaps 3 feet (+/-) of sandstone with basal cobbles and blocks of bivalve-bored indurated sandstone of underlying Mission Valley Formation, the upper part of which is very well indurated by calcium carbonate and overlying nonindurated "salt and pepper" -appearing, fine to medium-grained, light gray sandstone.

Fossils were collected by hand selection of blocks in spoils piles, hand raking of sediments, and hand screening of spoils piles.

Fossils recovered are mainly internal and external molds in sandstone; bivalves most common of identifiable forms.

The trench has been backfilled and is no longer accessible.

Field Numbers: GK-SR-X4, -X7, -X8

Dates Collected: May 18, 24, 2005

Elevation: approximately 445' to 447'

LOCALITY 5499

DATE 02/21/07  
TIME 15:23:37

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
FAUNAL LIST FOR LOCALITY 5499  
SDSU Sorority Row

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PAL270

SPECIMEN NUMBER	NUMBER OF ITEMS	DESCRIPTION	SPECIES
105544	2	internal & external molds of valves	<u>Anadara trilineata</u> (Conrad, 1856)
105545	3	internal & external molds of valves	<u>Lucinisca nuttalli</u> (Conrad, 1837)
105546	1	internal mold of valve, whole	<u>Macoma nasuta kelseyi</u> Dall, 1900
105547	2	internal & external molds of valves	Mactridae
105548	1	valves in matrix, partial	Pectinidae
105549	1	outer mold of valve, partial	<u>Yoldia</u> sp. cf. <u>Y. cooperi</u> Gabb, 1865
105550	3	shell fragments	<u>Acanthinucella emersoni</u> (Hertlein & Allison, 1959)
105551	2	internal molds of shells	<u>Nassarius</u> sp.
105552	1	internal mold of shell, partial	Naticidae
105553	1	shell, in matrix	<u>Nucella trancosana</u> (Arnold, 1908)
105554	1	internal mold of shell, in matrix	cf. <u>Olivella</u> sp.
105555	1	internal mold with some shell, in matrix	<u>Tegula funebris</u> (A. Adams, 1855)
105556	3	impression of segment, and fragments	Decapoda

LOCALITY #- 5500

DATE 02/21/07  
TIME 15:21:52

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARD

LOCALITY # LOCALITY NAME  
5500 SDSU Sorority Row

FIELD NUMBER  
see below

LOCATION

COUNTRY USA  
STATE CA  
COUNTY San Diego  
CITY San Diego

LATITUDE 32°46' 6"W VARIANCE  
LONGITUDE 117° 4' 7"W

UTM 11 493582 3625435 VARIANCE

SECT TNSP DIREC RANGE DIR  
16 S 2 W

MAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1967(1975)

LOCATION IN SECTION

ELEVATION 445 FT

STRATIGRAPHIC POSITION

GROUP  
FORMATION San Diego Formation  
MEMBER  
INFORMAL NAME

ERA Cenozoic  
SYSTEM Neogene  
SER/EPOCH Pliocene  
AGE/STAGE  
NALMA  
ZONE NAME

LITHOLOGY	DEPOSITIONAL ENVIRONMENT	FIELD NOTES	PHOTOS	ACCESS NO.
sdst	marine, shallow inner sublittoral	COLLECTOR M.V.Kroot; A.E.Dorrier; G.L.Kennedy; S.Champion 11 Apr 2005		
CITATION	Kennedy, Stewart & Shiller, 2005, Paleo. Monitoring Report.	COMPILED BY G.L. Kennedy 30 Nov 2005	ENTERED BY M.K. Soetaert 15 Dec 2005	
DONATED BY	SDSU Foundation, Facilities Management Dept. 2 Dec 2005			

LOCALITY DESCRIPTION

Fossils were recovered during paleontological monitoring of the SDSU Sorority Row Sewer Improvement Project in the College (SDSU) area of the City of San Diego, San Diego County, California. This locality represents collections of fossils (SDSNH loc. 5500) recovered from spoils piles derived from the upper, 2 foot thick, concretionary sandstone horizon of San Diego Formation present along the northern part of the 5000 block of College Avenue and along the 4900 block of College Place.

Fossils were collected from a rubbly, concretionary, fossiliferous, generally fine-grained, variably very indurated to lightly indurated, tan to light gray sandstone with occasional small very well rounded pebbles; often with rusty brown oxidation of voids where fossil shells had been.

From top to bottom, the stratigraphic section consists of 1 foot of concrete pavement and underlying asphaltic roadbed gravel; up to 0.4 feet of fill material below the pavement, but only present in places; approx. 3 feet of Lindavista Formation, composed of (1), of up to 3 feet of dirty, tan to brown, coarse to very coarse-grained sandstone with a pebble-cobble basal conglomerate up to 1.5 feet thick, or (2), up to 3 feet of light-chocolate brown, clayey sand (possibly artificial fill, or "North Park mudstone" unit); perhaps up to 16 feet of San Diego Formation, represented by 1 foot of yellowish-orange, fine-grained sand, 2.5 feet of light gray to tan, fine-grained sand, 1 to 2 feet of rubbly, concretionary fossiliferous sandstone with occasional small rounded pebbles and with numerous cavities representing dissolved shells (SDSNH locs. 5499 & 5500), 5 to 6 feet of light gray, tan, and light brown, fine to very fine-grained silty sand and lightly indurated sandstone (SDSNH locs. 5501 & 5502) with occasional argonitic fossils, 2+ feet (thickness uncertain) of rubbly concretionary fossiliferous sandstone with occasional small well rounded pebbles and numerous cavities representing dissolved shells (SDSNH locs. 5503 & 5504); perhaps 3 feet (+/-) of sandstone with basal cobbles and blocks of bivalve-bored indurated sandstone of underlying Mission Valley Formation, the upper part of which is very well indurated by calcium carbonate and overlying nonindurated "salt and pepper" -appearing, fine to medium-grained, light gray sandstone.

Fossils were collected by hand selection of blocks in spoils piles, hand raking of sediments, and hand screening of spoils piles.

Fossils recovered are mainly internal and external molds in sandstone; bivalves most common of identifiable forms.

The trench has been backfilled and is no longer accessible.

Field Numbers: MVK-SR-1,-3; AED-SR-1,-2,-3; GK-SR-X1,-X9,-X13; SC-SR-01,-02  
Dates Collected: April 11, 14, 19, 20, 22, 2005; May 16, 25, 26, 2005

Elevation: approximately 445' to 447'

LOCALITY 5500

DATE 02/21/07  
TIME 15:23:42

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
FAUNAL LIST FOR LOCALITY 5500  
SDSU Sorority Row

PAGE 1  
PAL270

SPECIMEN NUMBER	NUMBER OF ITEMS	DESCRIPTION	SPECIES
105557	1	internal mold of valve, in matrix	<u>Acila</u> sp.
105558	33	internal & external molds of valves	<u>Anadara trilineata</u> (Conrad, 1856)
105559	2	internal molds of valves	<u>Dosinia ponderosa</u> (Gray, 1838)
105560	25	internal & external molds of valves	<u>Lucinisca nuttalli</u> (Conrad, 1837)
105561	10	internal molds of valves	<u>Macoma nasuta kelseyi</u> Dall, 1900
105562	1	internal mold of valve, partial	Mactridae
105563	8	internal & external molds of valves	Mactridae
105564	1	partial valves in matrix	Mytilidae
105565	2	partial valves in matrix	cf. <u>Patinopecten healeyi</u> (Arnold, 1906)
105566	1	internal mold of valve	cf. <u>Tivela stultorum</u> (Mawe, 1823)
105567	9	internal & external molds of valves	<u>Yoldia cooperi</u> Gabb, 1865
105568	1	internal mold of valve, whole	Pelecypoda
105569	4	shells, partial, in matrix	<u>Acanthinucella emersoni</u> (Hertlein & Allison, 1959)
105570	32	internal & external molds of shells	<u>Nassarius</u> sp.
105571	21	internal molds of shells	Naticidae
105572	1	partial shell in matrix	<u>Nucella trancosana</u> (Arnold, 1908)
105573	11	internal molds of shells	cf. <u>Olivella</u> sp.
105574	1	internal mold, whole, in matrix	<u>Sinum scopulosum</u> (Conrad, 1849)
105575	5	internal molds & shell fragments	<u>Tegula funebris</u> (A. Adams, 1855)
105576	10	internal molds of shells	Gastropoda
105577	14	casts of borings	Clionidae
105578	1	casts of borings	Polychaeta
105579	4	claw and segment fragments	Decapoda
105580	4	claw & segment fragments	Decapoda
105581	2	bone fragments	Mammalia
105582	1	marine mammal? rib fragment	Mammalia



LOCALITY #- 5501

DATE 02/21/07  
TIME 15:21:53SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARDLOCALITY # LOCALITY NAME  
5501 SDSU Sorority RowFIELD NUMBER  
JDS-SR-01LOCATION  
COUNTRY USA  
STATE CA  
COUNTY San Diego  
CITY San DiegoLATITUDE 32°46'11"N VARIANCE  
LONGITUDE 117° 4' 9"W

UTM 11 493526 3625583 VARIANCE

SECT TWNSP DIREC RANGE DIR  
16 S 2 WMAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1967(1975)

LOCATION IN SECTION

ELEVATION 441 FT

## STRATIGRAPHIC POSITION

GROUP  
FORMATION San Diego Formation  
MEMBER  
INFORMAL NAMEERA Cenozoic  
SYSTEM Neogene  
SER/EPOCH Pliocene  
AGE/STAGE  
NALMA  
ZONE NAME

LITHOLOGY	DEPOSITIONAL ENVIRONMENT	FIELD NOTES	PHOTOS	ACCESS NO.
sdst	marine, shallow inner sublittoral	COLLECTOR J.D. Stewart 23 May 2005 COMPILED BY G.L. Kennedy 30 Nov 2005	ENTERED BY M.K. Soetaert	15 Dec 2005
CITATION Kennedy, Stewart & Shiller, 2005, Paleo. Monitoring Report				
DONATED BY SDSU Foundation, Facilities Management Dept. 2 Dec 2005				

## LOCALITY DESCRIPTION

Fossils were recovered during paleontological monitoring of the SDSU Sorority Row Sewer Improvement Project in the College (SDSU) area of the City of San Diego, San Diego County, California. This locality represents the very fine-grained sandstone and siltstone interval between the two concretionary sandstone units of Localities 2 and 3 and Localities 6 and 7, located in the 5000 block of College Place approximately 140 feet west-southwest of manhole number 19C (located in College Avenue). This is the only locality that yielded any aragonitic fossil shells, as well as the microvertebrate fish fossils (SDSNH Loc. 5501).

Fossils were collected from a light gray, tan and light brown, very fine-grained sand and lightly indurated sandstone, with aragonitic fossils preserved in places.

From top to bottom, the stratigraphic section consists of 1 foot of concrete pavement and underlying asphaltic roadbed gravel; up to 0.4 feet of fill material below the pavement, but only present in places; approx. 3 feet of Lindavista Formation, composed of (1), of up to 3 feet of dirty, tan to brown, coarse to very coarse-grained sandstone with a pebble-cobble basal conglomerate up to 1.5 feet thick, or (2), up to 3 feet of light-chocolate brown, clayey sand (possibly artificial fill, or "North Park mudstone" unit); perhaps up to 16 feet of San Diego Formation, represented by 1 foot of yellowish-orange, fine-grained sand, 2.5 feet of light gray to tan, fine-grained sand, 1 to 2 feet of rubbly, concretionary fossiliferous sandstone with occasional small rounded pebbles and with numerous cavities representing dissolved shells (SDSNH locs. 5499 & 5500), 5 to 6 feet of light gray, tan, and light brown, fine to very fine-grained silty sand and lightly indurated sandstone (SDSNH locs. 5501 & 5502) with occasional argonitic fossils, 2+ feet (thickness uncertain) of rubbly concretionary fossiliferous sandstone with occasional small well rounded pebbles and numerous cavities representing dissolved shells (SDSNH locs. 5503 & 5504), perhaps 3 feet (+/-) of sandstone with basal cobbles and blocks of bivalve-bored indurated sandstone of underlying Mission Valley Formation, the upper part of which is very well indurated by calcium carbonate and overlying nonindurated "salt and pepper" -appearing, fine to medium-grained, light gray sandstone.

Fossils were collected by hand raking of sediments in spoils piles and hand screening of spoils piles (1mm sieve).

Fossils collected are mainly molluscs with aragonitic shells (bivalve molluscs), internal molds of small gastropods, and microvertebrate fish fossils.

The trench has been backfilled and is no longer accessible.

Elevation: approximately 441' to 445'

DATE 02/21/07  
TIME 15:23:45

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
FAUNAL LIST FOR LOCALITY 5501  
SDSU Sorority Row

PAGE 1  
PAL270

SPECIMEN NUMBER	NUMBER OF ITEMS	DESCRIPTION	SPECIES
105583	2	hinge fragments	Arcidae
105584	15	valves, partial, including fragments	<u>Lucinisca nuttalli</u> (Conrad, 1837)
105585	7	valves, partial, including fragments	<u>Macoma nasuta</u> (Conrad, 1837)
105586	3	hinges, partial	Macridae
105587	136	valve fragments	Mytilidae
105588	1	valve fragment	Pectinidae
105589	2	hinges, partial	<u>Protothaca tenerrima</u> (Carpenter, 1857)
105590	15	hinge fragments	<u>Yoldia</u> sp. cf. <u>Y. cooperi</u> Gabb, 1865
105591	4	shells, whole & partial	<u>Acanthinucella emersoni</u> (Hertlein & Allison, 1959)
105592	5	internal molds of shells	cf. <u>Alia</u> sp.
105593	9	internal molds of shells	<u>Nassarius</u> sp.
105594	3	internal molds of shells	cf. <u>Olivella</u> sp.
105595	2	shells, whole & partial	<u>Tegula funebris</u> (A. Adams, 1855)
105596	22	internal molds of shells	Gastropoda
105597	4	shells, whole & partial	<u>Balanus</u> spp.
105598	1	shell	cf. <u>Megabalanus wilsoni</u> (Zullo, 1969)
105599	20	claws, including fragments	Decapoda

LOCALITY #- 5502

DATE 02/21/07  
TIME 15:22:12

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARD

LOCALITY # LOCALITY NAME  
5502 SDSU Sorority Row

FIELD NUMBER  
GK-SR-X11

LOCATION  
COUNTRY USA  
STATE CA  
COUNTY San Diego  
CITY San Diego

LATITUDE 32°46' 8"W VARIANCE  
LONGITUDE 117° 4' 5"W

UTM 11 493621 3625490 VARIANCE

SECT TWPSP DIREC RANGE DIR  
16 S 2 W

MAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1967(1975)

LOCATION IN SECTION

ELEVATION 441 FT

STRATIGRAPHIC POSITION

GROUP  
FORMATION San Diego Formation  
MEMBER  
INFORMAL NAME

ERA Cenozoic  
SYSTEM Neogene  
SER/EPOCH Pliocene  
AGE/STAGE  
NALMA  
ZONE NAME

LITHOLOGY	DEPOSITIONAL ENVIRONMENT	FIELD NOTES	PHOTOS	ACCESS NO.
sdst	marine, shallow inner sublittoral	COLLECTOR G.L. Kennedy 25 May 2005		
CITATION	Kennedy, Stewart & Shiller, 2005, Paleo. Monitoring Report	COMPILED BY G.L. Kennedy 30 Nov 2005	ENTERED BY	M.K. Soetaert 15 Dec 2005
DONATED BY	SDSU Foundation, Facilities Management Dept. 2 Dec 2005			

LOCALITY DESCRIPTION

Fossils were recovered during paleontological monitoring of the SDSU Sorority Row Sewer Improvement Project in the College (SDSU) area of the City of San Diego, San Diego County, California. This locality represents collection of a single sand dollar (*Dendraster* sp.) from a sewer lateral connection from the sewer main in the center of College Avenue and westward to the property line of the private residence at 5020 College Avenue. This locality represents the very fine-grained sand and silt horizon between the two concretionary horizons of the San Diego Formation (SDSNH loc. 5502).

Fossils were collected from a light gray, tan and light brown, very fine-grained sand, generally not indurated, but sporadically lightly indurated. From top to bottom, the stratigraphic section consists of 1 foot of concrete pavement and underlying asphaltic roadbed gravel; up to 0.4 feet of fill material below the pavement, but only present in places; approx. 3 feet of Lindavista Formation, composed of (1), of up to 3 feet of dirty, tan to brown, coarse to very coarse-grained sandstone with a pebble-cobble basal conglomerate up to 1.5 feet thick, or (2), up to 3 feet of light-chocolate brown, clayey sand (possibly artificial fill, or "North Park mudstone" unit); perhaps up to 16 feet of San Diego Formation, represented by 1 foot of yellowish-orange, fine-grained sand, 2.5 feet of light gray to tan, fine-grained sand, 1 to 2 feet of rubbly, concretionary fossiliferous sandstone with occasional small rounded pebbles and with numerous cavities representing dissolved shells (SDSNH locs. 5499 & 5500), 5 to 6 feet of light gray, tan, and light brown, fine to very fine-grained silty sand and lightly indurated sandstone (SDSNH locs. 5501 & 5502) with occasional argonitic fossils, 2+ feet (thickness uncertain) of rubbly concretionary fossiliferous sandstone with occasional small well rounded pebbles and numerous cavities representing dissolved shells (SDSNH locs. 5503 & 5504), perhaps 3 feet (+/-) of sandstone with basal cobbles and blocks of bivalve-bored indurated sandstone of underlying Mission Valley Formation, the upper part of which is very well indurated by calcium carbonate and overlying nonindurated "salt and pepper" -appearing, fine to medium-grained, light gray sandstone.

Fossils were collected by hand raking of sediments in spoils piles and hand screening of spoils piles.

Fossils collected include a single sand dollar (*Dendraster* sp.).

The trench has been backfilled and is no longer accessible.

Elevation: approximately 441' to 445'

LOCALITY 5502

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
FAUNAL LIST FOR LOCALITY 5502  
SDSU Sorority Row

PAGE 1  
PAL270

DATE 02/21/07  
TIME 15:23:48

SPECIMEN NUMBER	NUMBER OF ITEMS	DESCRIPTION
105606	1	test, partial

SPECIES

Dendraster sp.

LOCALITY #- 5503

DATE 02/21/07  
TIME 15:22:26

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARD

LOCALITY # LOCALITY NAME  
5503 SDSU Sorority Row

FIELD NUMBER  
see below

LOCATION  
COUNTRY USA  
STATE CA  
COUNTY San Diego  
CITY San Diego

LATITUDE 32°46'12"W VARIANCE  
LONGITUDE 117° 4' 7"W

UTM 11 493569 3625587 VARIANCE

SECT TWPSP DIREC RANGE DIR  
16 S 2 W

MAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1967(1975)

LOCATION IN SECTION

ELEVATION 439 FT

STRATIGRAPHIC POSITION

GROUP  
FORMATION San Diego Formation  
MEMBER  
INFORMAL NAME

ERA Cenozoic  
SYSTEM Neogene  
SER/EPOCH Pliocene  
AGE/STAGE  
NALMA  
ZONE NAME

LITHOLOGY DEPOSITIONAL ENVIRONMENT  
sdst marine, shallow inner sublittoral  
CITATION  
Kennedy, Stewart & Shiller, 2005, Paleo. Monitoring Report  
DONATED BY  
SDSU Foundation, Facilities Management Dept. 2 Dec 2005

FIELD NOTES

COLLECTOR  
Brad E. Comeau; George L. Kennedy. 4 May 2005  
COMPILED BY  
G.L. Kennedy 30. Nov 2005

PHOTOS ACCESS NO.

ENTERED BY  
M.K. Soetaert 15 Dec 2005

LOCALITY DESCRIPTION

Fossils were recovered during paleontological monitoring of the SDSU Sorority Row Sewer Improvement Project in the College (SDSU) area of the City of San Diego, San Diego County, California. This locality represents collections of fossils (SDSNH loc. 5503) recovered from spoils piles derived from the lower of the two concretionary sandstone horizons of the San Diego Formation present along the northern part of the 5000 block of College Avenue and along the 5000 block of College Place.

Fossils were collected from a rubbly, concretionary, fossiliferous, variably very indurated to lightly indurated, generally fine-grained, tan to light gray sandstone with occasional small very well rounded pebbles, with often rusty brown oxidation of voids where fossil shells had been.

From top to bottom, the stratigraphic section consists of 1 foot of concrete pavement and underlying asphaltic roadbed gravel; up to 0.4 feet of fill material below the pavement, but only present in places; approx. 3 feet of Lindavista Formation, composed of (1), of up to 3 feet of dirty, tan to brown, coarse to very coarse-grained sandstone with a pebble-cobble basal conglomerate up to 1.5 feet thick, or (2), up to 3 feet of light-chocolate brown, clayey sand (possibly artificial fill, or "North Park mudstone" unit); perhaps up to 16 feet of San Diego Formation, represented by 1 foot of yellowish-orange, fine-grained sand, 2.5 feet of light gray to tan, fine-grained sand, 1 to 2 feet of rubbly, concretionary fossiliferous sandstone with occasional small rounded pebbles and with numerous cavities representing dissolved shells (SDSNH locs. 5499 & 5500), 5 to 6 feet of light gray, tan, and light brown, fine to very fine-grained silty sand and lightly indurated sandstone (SDSNH locs. 5501 & 5502) with occasional argonitic fossils, 2+ feet (thickness uncertain) of rubbly concretionary fossiliferous sandstone with occasional small well rounded pebbles and numerous cavities representing dissolved shells (SDSNH locs. 5503 & 5504), perhaps 3 feet (+/-) of sandstone with basal cobbles and blocks of bivalve-bored indurated sandstone of underlying Mission Valley Formation, the upper part of which is very well indurated by calcium carbonate and overlying nonindurated "salt and pepper" -appearing, fine to medium-grained, light gray sandstone.

Fossils were collected by hand selection of blocks in spoils piles, hand raking of sediments, and hand screening of spoils piles.  
Fossils collected include internal and external molds in sandstone with bivalves being the most common of identifiable forms.

The trench has been backfilled and is no longer accessible.

Field Numbers: BEC-SR-01; GK-SR-X3, -X5, -X6, -X14  
Dates Collected: May 4, 17, 18, 19, 26, 2005

Elevation: approximately 439' to 441'  
LOCALITY 5503

DATE 02/21/07  
TIME 15:23:51

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
FAUNAL LIST FOR LOCALITY 5503  
SDSU Sorority Row

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PAL270

SPECIMEN NUMBER	NUMBER OF ITEMS	DESCRIPTION	SPECIES
105607	5	internal & external molds of valves	<u>Anadara trilineata</u> (Conrad, 1856)
105608	21	internal & external molds of valves	<u>Lucinisca nuttalli</u> (Conrad, 1837)
105609	18	internal & external molds of valves	<u>Macoma nasuta</u> (Conrad, 1837)
105610	2	internal molds of valves, whole	Mactridae
105611	1	outer molds of valves, partial	<u>Pododesmus</u> sp.
105612	1	hinge impression, partial	<u>Protothaca tenerrima</u> (Carpenter, 1857)
105613	3	internal & external molds	<u>Yoldia</u> sp. cf. <u>Y. cooperi</u> Gabb, 1865
105614	3	shells, partial, in matrix	<u>Acanthinucella emersoni</u> (Hertlein & Allison, 1959)
105615	5	internal molds of shells	<u>Nasserius</u> sp.
105616	8	internal molds of shells	Naticidae
105617	2	shell in matrix & shell fragment	<u>Nucella trancosana</u> (Arnold, 1908)
105618	2	internal molds	cf. <u>Olivella</u> sp.
105619	1	shell fragment	<u>Tegula funebris</u> (A. Adams, 1855)
105620	5	internal molds of shells, partial	Gastropoda
105621	1	casts of borings	Clionidae
105622	1	casts of borings	Polychaeta
105623	5	segments, partial	Decapoda

DATE 02/21/07  
TIME 15:22:33

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
LOCALITY CARD

LOCALITY #- 5504

LOCALITY # LOCALITY NAME  
5504 SDSU Sorority Row

FIELD NUMBER  
see below

LOCATION  
COUNTRY USA  
STATE CA  
COUNTY San Diego  
CITY San Diego

SECT TWPSP DIREC RANGE DIR  
16 S 2 W

LOCATION IN SECTION  
ELEVATION 439 FT

LATITUDE 32°46' 6"W VARIANCE  
LONGITUDE 117° 4' 7"N

UTM 11 493582 3625435 VARIANCE

MAP NAME La Mesa, CA  
MAP SCALE 1:24000 DATUM NAD1927  
MAP SOURCE USGS 1967(1975)

STRATIGRAPHIC POSITION  
GROUP  
FORMATION San Diego Formation  
MEMBER  
INFORMAL NAME

ERA Cenozoic  
SYSTEM Neogene  
SER/EPOCH Pliocene  
AGE/STAGE  
NALMA  
ZONE NAME

LITHOLOGY DEPOSITIONAL ENVIRONMENT  
sdst marine, shallow inner sublittoral

CITATION  
Kennedy, Stewart & Shiller, 2005, Paleo. Monitoring Report

DONATED BY  
SDSU Foundation, Facilities Management Dept. 2 Dec 2005

FIELD NOTES

COLLECTOR  
MVK; JKH; NB; GLK 11 Apr 2005

COMPILED BY  
G.L. Kennedy 30 Nov 2005

PHOTOS ACCESS NO.

ENTERED BY  
M.K. Soetaert 15 Dec 2005

LOCALITY DESCRIPTION

Fossils were recovered during paleontological monitoring of the SDSU Sorority Row Sewer Improvement Project in the College (SDSU) area of the City of San Diego, San Diego County, California. This locality represents collections of fossils (SDSNH loc. 5504) recovered from spoils piles derived from the lower of the two concretionary sandstone horizons of the San Diego Formation present along the southern part of the 5000 block of College Avenue and the northern part of the 4900 block of Cresita Drive.

Fossils were collected from a rubbly, concretionary, fossiliferous, variably very indurated to lightly indurated, generally fine-grained, tan to light gray sandstone with occasional small very well rounded pebbles, with often rusty brown oxidation of voids where fossil shells had been.

From top to bottom, the stratigraphic section consists of 1 foot of concrete pavement and underlying asphaltic roadbed gravel; up to 0.4 feet of fill material below the pavement, but only present in places; approx. 3 feet of Lindavista Formation, composed of (1), of up to 3 feet of dirty, tan to brown, coarse to very coarse-grained sandstone with a pebble-cobble basal conglomerate up to 1.5 feet thick, or (2), up to 3 feet of light-chocolate brown, clayey sand (possibly artificial fill, or "North Park mudstone" unit); perhaps up to 16 feet of San Diego Formation, represented by 1 foot of yellowish-orange, fine-grained sand, 2.5 feet of light gray to tan, fine-grained sand, 1 to 2 feet of rubbly, concretionary fossiliferous sandstone with occasional small rounded pebbles and with numerous cavities representing dissolved shells (SDSNH locs. 5499 & 5500), 5 to 6 feet of light gray, tan, and light brown, fine to very fine-grained silty sand and lightly indurated sandstone (SDSNH locs. 5501 & 5502) with occasional argonitic fossils, 2+ feet (thickness uncertain) of rubbly concretionary fossiliferous sandstone with occasional small well rounded pebbles and numerous cavities representing dissolved shells (SDSNH locs. 5503 & 5504), perhaps 3 feet (+/-) of sandstone with basal cobbles and blocks of bivalve-bored indurated sandstone of underlying Mission Valley Formation, the upper part of which is very well indurated by calcium carbonate and overlying nonindurated "salt and pepper" -appearing, fine to medium-grained, light gray sandstone.

Fossils were collected by hand selection of blocks in spoils piles, hand raking of sediments, and hand screening of spoils piles.

Fossils collected include internal and external molds in sandstone with bivalves being the most common of identifiable forms.

The trench has been backfilled and is no longer accessible.

Field Numbers: JKH-SR-01; NB-SR-01; MVK-SR-2,-4; GK-SR-X2-X10

Dates Collected: April 11, 14, 30, 2005; May 6, 16, 25, 2005

Elevation: approximately 439' to 441'

LOCALITY 5504

DATE 02/21/07  
TIME 15:23:54

SAN DIEGO NATURAL HISTORY MUSEUM  
DEPARTMENT OF PALEONTOLOGY  
FAUNAL LIST FOR LOCALITY 5504  
SDSU Sorority Row

PAGE 1  
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SPECIMEN NUMBER	NUMBER OF ITEMS	DESCRIPTION	SPECIES
105624	12	internal & external molds of valves	<u>Anadara trilineata</u> (Conrad, 1856)
105625	1	internal mold of valve, partial	<u>Dosinia ponderosa</u> (Gray, 1838)
105626	19	internal & external molds of valves	<u>Lucinisca nuttalli</u> (Conrad, 1837)
105627	5	internal molds of valves, whole	<u>Macoma nasuta</u> (Conrad, 1837)
105628	1	internal mold of valve	Mactridae
105629	3	valve fragments in matrix	Mytilidae
105630	1	outer mold of valve, whole	<u>Nuculana taphria</u> (Dall, 1896)
105631	2	valve fragments in matrix	cf. <u>Patinopecten healeyi</u> (Arnold, 1906)
105632	3	hinge impressions	<u>Yoldia</u> sp. cf. <u>Y. cooperi</u> Gabb, 1865
105633	1	internal mold of valve, whole	Pelecypoda
105634	5	shells, partial	<u>Acanthinucella emersoni</u> (Hertlein & Allison, 1959)
105635	1	internal mold of shell	cf. <u>Alia</u> sp.
105636	5	internal molds of shells, partial	<u>Nassaricus</u> sp.
105637	1	shell, whole, in matrix	<u>Nucella trancosana</u> (Arnold, 1908)
105638	4	shells, partial, including fragments	<u>Tegula funebris</u> (A. Adams, 1855)
105639	1	casts of borings	Clionidae
105640	1	casts of borings	Polychaeta
105641	3	shells, whole & partial	<u>Balanus</u> spp.
105642	1	segment?, partial	Decapoda
105643	1	spine	Cidaridae
105644	1	casts of borings?	Incertae sedis
105645	1	external mold of fish vertebra	Osteichthyes
105646	5	internal molds of shells	Naticidae