



# SAN DIEGO NATURAL HISTORY MUSEUM

BALBOA PARK - SAN DIEGO SOCIETY OF NATURAL HISTORY - ESTABLISHED 1874

10 October 2013

Angela Pham  
ASM Affiliates, Inc.  
2034 Corte Del Nogal  
Carlsbad, CA 92011

RE: Paleontological Record Search for the SX-PQ project (Project Number 21060)

Dear Ms. Pham:

This letter presents the results of a paleontological record search conducted for the SX-PQ project (Project Number 21060). The project alignment begins 1 mile south of Carmel Mountain, 0.8 miles north of Sorrento Valley Boulevard, and 0.7 miles east of Interstate 5. From there the project alignment runs northeast, running north of and parallel to Los Penasquitos Creek for 2.5 miles. The alignment then turns due north for 2 miles, crossing Deer Creek and McGonigle Creek before again angling northeast for another 2.7 miles. Just to the west of Black Mountain, the alignment makes a sharp turn south/southeast for 3.8 miles to Scripps Poway Parkway, and from there trends more gently east/southeast for a final 4 miles. The main project alignment terminates at a substation in the Scripps Ranch Neighborhood of the City of San Diego.

Published geological reports (Kennedy, 1975; Kennedy and Peterson, 1975) that cover the entirety of the project reveal that the proposed project is located in areas underlain by Holocene-age (less than 10,000 years old) undifferentiated alluvium and slopewash, Late Pleistocene-age (0.5 to 1.5 million years old) Lindavista Formation, Late Eocene-age (37 to 42 million years old) Pomerado Conglomerate, Late Eocene-age (approximately 43 million years old) Mission Valley Formation, Middle Eocene-age (44-48 million years old) Stadium Conglomerate, Middle Eocene-age (45 to 46 million years old) Friars Formation, Middle Eocene-age (47 million years old) Scripps Formation, Middle Eocene-age (47 to 48 million years old) Ardath Shale, Late Cretaceous-age (66 to 100 million years old) undifferentiated granitic rocks and gabbro rocks of the southern California batholith, and Late Jurassic/Early Cretaceous-age (120 to 130 million years old) Santiago Peak Volcanics. The rock unit mapped by Kennedy as the Stadium Conglomerate in the Poway and Del Mar quadrangles was later referred by Walsh (1996) and Walsh et al. (1996) to the conglomerate tongue of the Friars Formation.

Site records housed in the Department of Paleontology at the San Diego Natural History Museum document fifty-nine recorded fossil collecting localities (see abbreviated locality descriptions) within a one-quarter-mile buffer zone of the project site (see attached map), with eight of these localities occurring directly within the project alignment boundaries. One locality was discovered in the near-shore marine deposits of the Early Pleistocene-age (approximately 0.5 to 1.5 million years old) Lindavista Formation. This locality produced trace remains of

marine invertebrates (e.g., angelwing bivalve burrow infillings). Three localities were found in the fluvial deposits of the Middle Eocene (approx. 43 million years old) Mission Valley Formation. These localities produced fossilized remains of terrestrial vertebrates (e.g., rodents, marsupials, crocodylians, camels, and primates). Thirty-one localities were discovered in the marine, fluvial, estuarine, and lacustrine deposits of the middle Eocene-age (approximately 45 to 46 million years old) Friars Formation. Recovered fossils include leaf and seed pod impressions of plants (e.g., horsetail, sycamore, sumac, oak, willow, beech, hickory, magnolia, fern, palm, and other flowering plants), impressions and internal molds of freshwater and marine invertebrates (e.g. snails, mussels, oysters, and clams), fossilized remains of marine vertebrates (e.g., sharks, rays, and fish), and fossilized remains of terrestrial vertebrates (e.g., turtles, rodents, lizards, snakes, bats, opossums, insectivores, gliding mammals, artiodactyls, rhinos, crocodylians, brontotheres, and primates). Eleven localities were found in marine deposits of the Eocene-age (approximately 47 million years old) Scripps Formation. These localities produced leaf impressions of flowering plants, trace fossils of marine invertebrates (e.g., bivalve burrows and worm tubes), and the internal and external molds of marine invertebrates (e.g., snails, urchins, slugs, clams, oysters, and tusk shells). Four localities were discovered in the transition zone between the Scripps Formation and the middle Eocene-age (approximately 47-48 million years old) Ardath Shale. These localities produced leaf impressions of plants (e.g., willows), and the shell remains and internal molds of marine invertebrates (e.g., oysters, clams, snails, urchins, and decapods). Seven localities were found in marine deposits of the Ardath Shale. These localities produced leaf impressions of flowering plants, shell remains and internal molds of marine invertebrates (e.g., sponges, bryozoans, corals, urchins, snails, oysters, mussels, clams, shrimp, and tusk shells), and scale impressions of marine vertebrates (e.g., fish). The remaining two localities were found in a pebbly sandstone which belongs to the near-shore marine deposits of the Eocene-age (48 to 49 million years old) Torrey Sandstone. These localities produced shell remains and internal molds of marine invertebrates (e.g., bryozoans, foraminifera, urchins, snails, clams, and oysters), and fossilized teeth of marine vertebrates (e.g., fish and rays).


Deméré and Walsh (1993) have assigned a low paleontological resource sensitivity to the Holocene-age undifferentiated alluvium and slopewash flooring the modern drainages that this project alignment crosses. Additionally, Deméré and Walsh (1993) have assigned a moderate paleontological resource sensitivity to the Lindavista Formation, and high paleontological resource sensitivities to the Pomerado Conglomerate, the Mission Valley Formation, the Friars Formation, the Scripps Formation, and the Ardath Shale. Certain meta-sedimentary layers that interbed with the volcanic rocks of the Santiago Peak Volcanics have been known to produce siliceous microfossils and marine macroinvertebrates (Jones and Miller, 1982), and have therefore been assigned a high paleontological resource sensitivity by Deméré and Walsh (1993). These meta-sedimentary layers are known to crop out within the Santiago Peak Volcanics in the Los Penasquitos Canyon area which this project alignment crosses (Deméré and Walsh, 1993). The remaining bulk of the Santiago Peak Volcanics, and all of the Cretaceous-age granitic and gabbro rocks of the southern California batholith are assigned a zero potential for fossils (Deméré and Walsh, 1993) due to their being formed through the crystallization of magma at significant depth. These assigned paleontological resource sensitivity ratings, combined with the proven fossil occurrences in the immediate project area, suggest that any proposed excavation activities that extend deep enough to encounter previously undisturbed deposits of the Lindavista Formation, the Pomerado Conglomerate, the Mission Valley Formation, the Friars Formation, the Scripps Formation, the Ardath Shale, or the meta-sedimentary layers of the Santiago Peak

Volcanics have the strong potential to cause negative impacts to paleontological resources preserved in these deposits. For the reasons described above, implementation of a complete paleontological resource mitigation program during construction is strongly recommended.

The information contained within this paleontological record search should be considered private and is the sole property of the San Diego Natural History Museum. Any use or reprocessing of information contained within this document beyond the scope of the SX-PQ project (Project Number 21060) is prohibited.

If you have any questions concerning these findings please feel free to contact me at 619-255-0320 or [nanderson@sdnhm.org](mailto:nanderson@sdnhm.org).

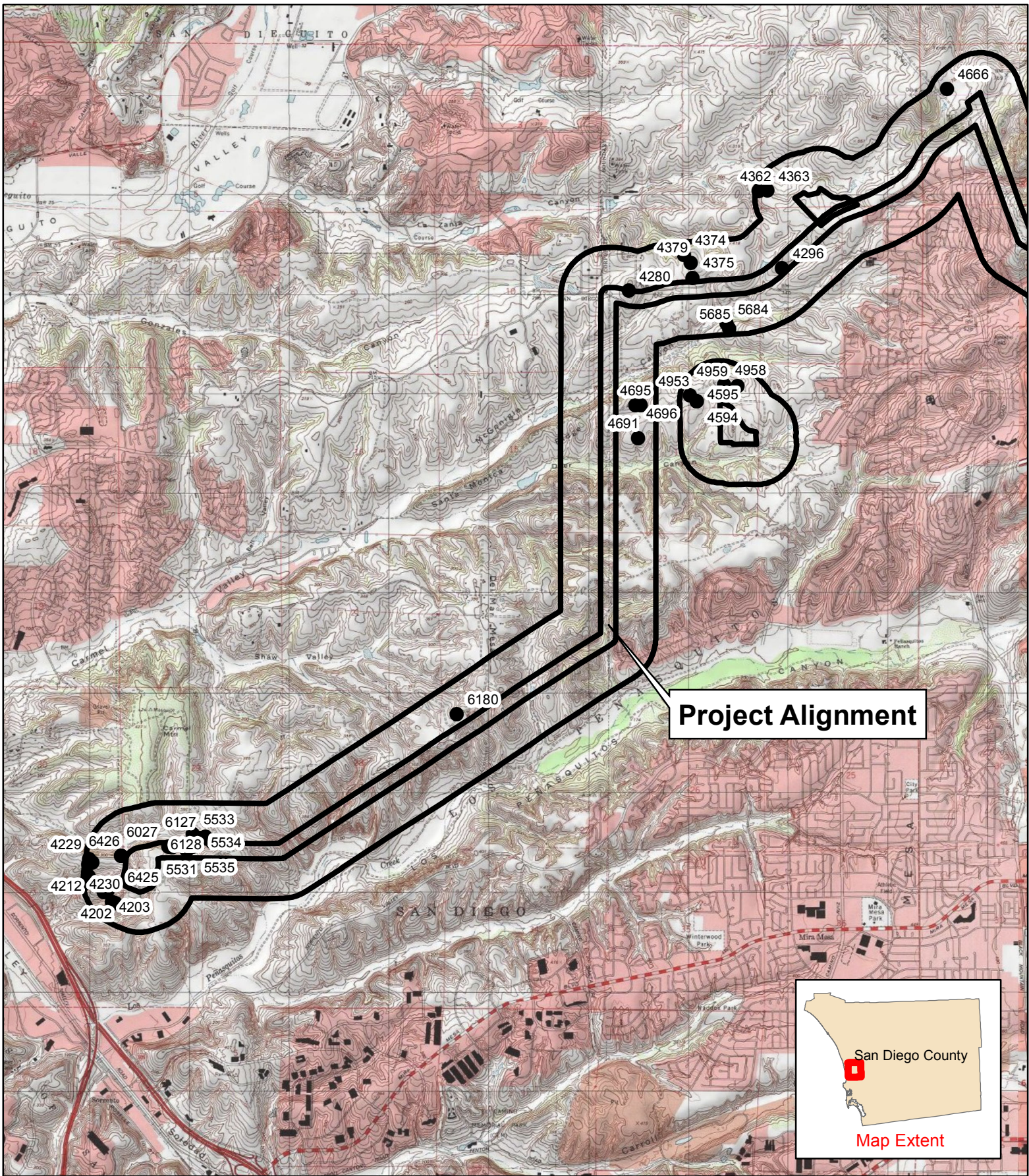
Sincerely,



Nikki Anderson  
Lead Fossil Preparator  
Department of PaleoServices

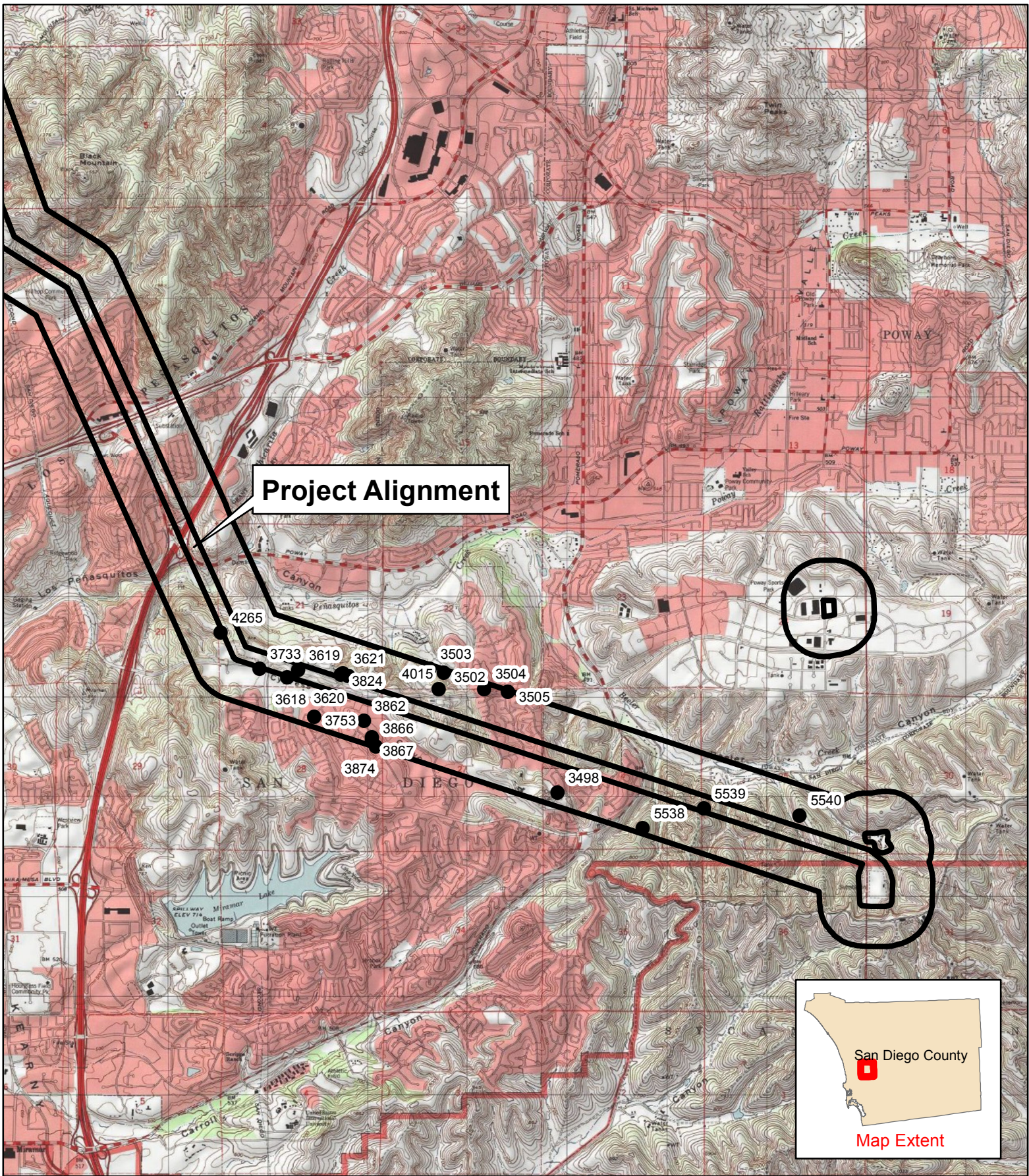
#### **Literature Cited:**

- Deméré, T.A. and Walsh, S.L. 1993. Paleontological Resources, County of San Diego. Prepared for the San Diego Planning Commission: 1-68.
- Jones, D.A., and R.H. Miller. 1982. Jurassic fossils from the Santiago Peak Volcanics, San Diego County, California. In, P.L. Abbott (ed.), Geologic Studies in San Diego. San Diego Association of Geologists, fieldtrip guidebook, pp. 93-103.
- Kennedy, M.P. 1975. Geology of the Western San Diego Metropolitan area, California. California Division Mines and Geology Bulletin 200-A:7-39.
- Kennedy, M.P. and Peterson, G.L. 1975. Geology of the Eastern San Diego Metropolitan area, California. California Division Mines and Geology Bulletin 200-B:43-56.
- Walsh, S.L. 1996. Middle Eocene mammal faunas of San Diego County, California, Pp. 75-119. *In*, D.R. Prothero and R.J. Emry (eds.). The Terrestrial Eocene-Oligocene Transition in North America. Cambridge University Press.
- Walsh, S.L., D.R. Prothero, and D.J. Lundquist. 1996. Stratigraphy and paleomagnetism of the middle Eocene Friars Formation and Poway Group, southwestern San Diego County, California, Pp. 120-154. *In*, D.R. Prothero and R.J. Emry (eds.). The Terrestrial Eocene-Oligocene Transition in North America. Cambridge University Press.



Map 1 of 2: SDNHM fossil localities within one-quarter mile of the SX-PQ project (Project Number 21060) (Base maps USGS Topographic Maps of the Poway and Del Mar 7.5' Quadrangles, California).





Map 2 of 2: SDNHM fossil localities within one-quarter mile of the SX-PQ project (Project Number 21060) (Base map USGS Topographic Map of the Poway 7.5' Quadrangle, California).



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NUMBER	---LOCALITY NAME AND GEOGRAPHIC LOCATION---	-----ROCK AND TIME UNITS-ROCK TYPE-FIELD NOTES-----	-----COLLECTORS-COMPILED BY-ENTERED BY-DONOR-----
6180	Shaw Lorenz San Diego San Diego Co. CA USA 32°55'56"N--117°11' 4"W Del Mar, CA 1:24000 USGS 1976(1975)	Lindavista Formation Cenozoic Quaternary Pleistocene sdst-marine JLPbk3,p.140	J.L. Pfanter 4 Aug 2008 M.M. Carrino 22 Oct 2008 M.M. Carrino 23 Oct 2008 Pardee Homes 4 Aug 2008
3866	Scripps Ranch North site 66 San Diego San Diego Co. CA U.S.A. 32°55'49"N--117° 5' 3"W Poway, CA 1:24000 USGS 1975PR	Poway Group Mission Valley Formation lower gritstone member Cenozoic Paleogene middle Eocene late Uintan gritstone-fluvial S.L. Walsh Notebook #8, p. 89-90; Ntbk #9, p. 20	S.L. Walsh, G. Calvano 1 Nov 1994 S.L. Walsh 20 Apr 1995 S.L. Walsh 20 Apr 1995 McMillin Communities 1 Nov 1994
3867	Scripps Ranch North site 67 San Diego San Diego Co. CA U.S.A. 32°55'48"N--117° 5' 1"W Poway, CA 1:24000 USGS 1975PR	Poway Group Mission Valley Formation lower gritstone member Cenozoic Paleogene middle Eocene late Uintan mdst-fluvial S.L. Walsh Notebook #8, p. 89-90; Ntbk #9, p. 20.	G. Calvano, S.L. Walsh 1 Nov 1995 S.L. Walsh 20 Apr 1995 S.L. Walsh 20 Apr 1995 McMillin Communities 1 Nov 1995
3874	Scripps Ranch North site 74 San Diego San Diego Co. CA U.S.A. 32°55'46"N--117° 5' 1"W Poway, CA 1:24000 USGS 1975PR	Poway Group Mission Valley Formation lower gritstone member Cenozoic Paleogene middle Eocene late Uintan gritstone-fluvial S.L. Walsh Notebook #9, p. 20, 29.	G. Calvano, S.L. Walsh 15 Mar 1995 S.L. Walsh 24 Apr 1995 S.L. Walsh 24 Apr 1995 McMillin Communities 15 Mar 1995
3498	Eastview - Site 8-A San Diego San Diego Co. CA U.S.A. 32°55'32"N--117° 3'51"W Poway, CA 1:24000 USGS 1967	La Jolla Group Friars Formation upper tongue Cenozoic Paleogene middle Eocene early Uintan mdst-fluvial SLW Notebook	S.L. Walsh 21 Aug 1989 S.L. Walsh 13 Jun 1990 H.P. Don Vito 27 Oct 1996 0 0
3502	South Creek Site 2 San Diego San Diego Co. CA U.S.A. 32°56'12"N--117° 4'36"W Poway, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation lower tongue Cenozoic Paleogene middle Eocene early Uintan sltst-fluvial SLW	S.L. Walsh and B.O. Riney 12 Jun 1989 S.L. Walsh 12 Jun 1990 H.P. Don Vito 15 Jul 1994 Pardee Construction Co. 12 Jun 1989
3503	South Creek Site 3 San Diego San Diego Co. CA U.S.A. 32°56'13"N--117° 4'42"W Poway, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation lower tongue Cenozoic Paleogene middle Eocene early Uintan mdst-fluvial SLW	S.L. Walsh and B.O. Riney 12 Jun 1989 S.L. Walsh 12 Jun 1990 H.P. Don Vito 15 Jul 1994 Pardee Construction Co. 12 Jun 1989
3504	South Creek Site 4 San Diego San Diego Co. CA U.S.A. 32°56' 6"N--117° 4'20"W Poway, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation conglomerate tongue Cenozoic Paleogene middle Eocene early Uintan mdst-fluvial	B.O. Riney and S.L. Walsh 12 Jun 1989 S.L. Walsh 12 Jun 1990 H.P. Don Vito 15 Jul 1994 Pardee Construction Co. 12 Jun 1989
3505	South Creek Site 5 San Diego San Diego Co. CA U.S.A. 32°56' 5"N--117° 4'11"W Poway, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation lower tongue Cenozoic Paleogene middle Eocene early Uintan sltst-fluvial	B.O. Riney and S.L. Walsh 12 Jun 1989 S.L. Walsh 12 Jun 1990 H.P. Don Vito 15 Jul 1994 Pardee Construction Co. 12 Jun 1989
3618	Scripps Ranch North San Diego San Diego Co. CA U.S.A. 32°56' 9"N--117° 5'36"W Poway, CA 1:24000 USGS 1967	La Jolla Group Friars Formation conglomerate tongue Cenozoic Paleogene middle Eocene early Uintan mdst-fluvial SLW-1990	S.L. Walsh 13 Dec 1990 S.L. Walsh 9 Mar 1992 0 0 McMillin Communities 13 Dec 1990
3619	Scripps Ranch North San Diego San Diego Co. CA U.S.A. 32°56'13"N--117° 5'32"W Poway, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation conglomerate tongue Cenozoic Paleogene middle Eocene early Uintan pbl congl.-fluvial BOR	B.O. Riney 15 Aug 1991 T.A. Demere 13 Jul 1994 H.P. Don Vito 15 Jul 1994 McMillin Communities 15 Aug 1991
3620	Scripps Ranch North San Diego San Diego Co. CA U.S.A. 32°56'10"N--117° 5'12"W Poway, CA 1:24000 USGS 1967	La Jolla Group Friars Formation conglomerate tongue Cenozoic Paleogene middle Eocene early Uintan sdst-fluvial SLW-1991	S.L. Walsh 2 Jan 1991 S.L. Walsh 10 Mar 1992 0 0 McMillin Communities 2 Jan 1991
3621	Scripps Ranch North Site 20-B San Diego San Diego Co. CA U.S.A. 32°56'11"N--117° 5'15"W Poway, CA 1:24000 USGS 1967	La Jolla Group Friars Formation conglomerate tongue Cenozoic Paleogene middle Eocene early Uintan sdst-fluvial channel S. Walsh Notebook#6, p.6-23; R. Cerutti	B. Riney,R. Cerutti,S. Walsh,M. Colbert,C. Majors 2 Apr 1992 S.L. Walsh 8 Dec 1993 S.L. Walsh 8 Dec 1993 McMillin Communities 2 Apr 1992

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NUMBER	---LOCALITY NAME AND GEOGRAPHIC LOCATION---	-----ROCK AND TIME UNITS-ROCK TYPE-FIELD NOTES-----	-----COLLECTORS-COMPILED BY-ENTERED BY-DONOR-----
3733	Scripps Ranch North San Diego San Diego Co. CA U.S.A. 32°56'12"N--117° 5'47"W Poway, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation conglomerate tongue Cenozoic Paleogene middle Eocene early Uintan sltst-fluvial RAC	R.A. Cerutti, D.R. Swanson, and S.L. Walsh 28 Feb 1992 T.A. Demere 13 Jul 1994 H.P. Don Vito 15 Jul 1994 McMillin Communities 28 Feb 1992
3753	Scripps Ranch North San Diego San Diego Co. CA U.S.A. 32°55'56"N--117° 5'25"W Poway, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation conglomerate tongue Cenozoic Paleogene middle Eocene early Uintan sdst-mdst-fluvial - deltaic RAC	R.A. Cerutti 0 T.A. Demere 13 Jul 1994 H.P. Don Vito 18 Jul 1994 McMillin Communities 3 Jul 1992
3824	Scripps Ranch North Site 20-B San Diego San Diego Co. CA U.S.A. 32°57'16"N--117° 5'16"W Poway, CA 1:24000 USGS 1975PR	La Jolla Group Friars Formation conglomerate tongue Cenozoic Paleogene middle Eocene early Uintan sdst-fluvial S.L. Walsh Notebook # 9, p. 80.	B.O. Riney, S.L. Walsh, R.A. Cerutti 1 Nov 1995 S.L. Walsh 30 Nov 1995 S.L. Walsh 30 Nov 1995 McMillin Communities 1 Nov 1995
3862	Scripps Ranch North site 62 San Diego San Diego Co. CA U.S.A. 32°55'55"N--117° 5' 3"W Poway, CA 1:24000 USGS 1975PR	La Jolla Group Friars Formation upper tongue Cenozoic Paleogene middle Eocene early Uintan siltst-fluvial S. Walsh Notebook #8, p. 78-93; Notebook #9, p. 19	S.L. Walsh, G. Calvano 3 Oct 1994 S.L. Walsh 20 Apr 1995 S.L. Walsh 20 Apr 1995 McMillin Communities 3 Oct 1994
4015	Fieldstone Summit San Diego San Diego Co. CA U.S.A. 32°56' 5"N--117° 4'37"W Poway, CA 1:24000 USGS 1967	La Jolla Group Friars Formation conglomerate tongue Cenozoic Paleogene middle Eocene early Uintan mdst-fluvial BOR	B.O. Riney 30 May 1996 T.A. Demere 12 Sep 1996 H.P. Don Vito 13 Sep 1996 Genstar Land Company Southwest 30 May 1996
4265	Scripps Northridge Business Center Site 3 San Diego San Diego Co. CA U.S.A. 32°56'24"N--117° 6' 2"W Poway, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation conglomerate tongue Cenozoic Paleogene middle Eocene early Uintan cnegl-fluvial D.R. Swanson, H.M. Wagner	D.R. Swanson 28 Dec 1998 D.R. Swanson 16 Apr 1999 H.M. Wagner 16 Apr 1999 Langford and Associates 28 Dec 1998
4362	Camino Ruiz San Diego San Diego Co. CA U.S.A. 32°58'46"N--117° 9' 7"W Del Mar, CA 1:24000 USGS 1975 PR	La Jolla Group Friars Formation lower tongue Cenozoic Paleogene middle Eocene early Uintan siltst-marine RQG	R.Q. Gutzler 8 Jul 1999 R.Q. Gutzler 22 Jul 1999 R.Q. Gutzler 12 Sep 2000 Taylor-Woodrow 8 Jul 1999
4363	Camino Ruiz, Lower Oyster Hash San Diego San Diego Co. CA U.S.A. 32°58'47"N--117° 9' 4"W Del Mar, CA 1:24000 USGS 1975 PR	La Jolla Group Friars Formation lower tongue Cenozoic Paleogene middle Eocene early Uintan sdst-deltaic/lagoonal R.Q. Gutzler #1	R.Q. Gutzler, S.L. Walsh 31 Jul 1999 R.Q. Gutzler 25 Feb 2000 S.L. Walsh 25 Feb 2000 Taylor-Woodrow 31 Jul 1999
4594	Vista Terraza I San Diego San Diego Co. CA USA 32°57'43"N--117° 9'31"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation Cenozoic Paleogene middle Eocene late Uintan sltst-non-marine H. Wagner, J.L. Pfanner	H. Wagner, J.L. Pfanner 16 Mar 2004 H.M. Wagner 24 Feb 2005 M.K. Soetaert 28 Feb 2005 D.R. Horton 16 Mar 2004
4595	Vista Terraza II San Diego San Diego Co. CA USA 32°57'43"N--117° 9'31"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation Cenozoic Paleogene middle Eocene late Uintan sltst-non-marine H. Wagner, J.L. Pfanner	H. Wagner, J.L. Pfanner 16 Mar 2004 H.M. Wagner 24 Feb 2005 M.K. Soetaert 28 Feb 2005 D.R. Horton 16 Mar 2004
4666	Black Mountain Ranch, Micromammal Site San Diego San Diego Co. CA U.S.A. 32°59'21"N--117° 7'54"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation upper tongue Cenozoic Paleogene middle Eocene early Uintan mdst-fluvio-lacustrine SLW Notebook 10	P.J. Sena, J.L. Pfanner, S.L. Walsh 23 May 2001 S.L. Walsh 14 Nov 2001 H.M. Wagner 24 Jan 2002 Taylor Woodrow Homes, Inc. 31 Dec 2001
4691	Torrey Santa Fe Site 1 San Diego San Diego Co. CA U.S.A. 32°57'27"N--117° 9'54"W Del Mar, CA 1:24000 USGS	La Jolla Group Friars Formation Cenozoic Paleogene middle Eocene early Uintan sltst-fluvial J.L. Pfanner, book 1	J.L. Pfanner 22 Feb 2001 J.L. Pfanner 18 Mar 2002 H.M. Wagner 25 Mar 2002 Western Pacific Housing, Inc. 22 Feb 2001
4695	McMillin Torrey Highlands Site 1 San Diego San Diego Co. CA U.S.A. 32°57'36"N--117° 9'53"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation upper tongue Cenozoic Paleogene middle Eocene early Uintan sltst-nonmarine J.L. Pfanner, book-1, pg. 146	J.L. Pfanner 6 Dec 2001 J.L. Pfanner 26 Apr 2002 H.M. Wagner 1 May 2002 McMillin Land Development 6 Dec 2001

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NUMBER	---LOCALITY NAME AND GEOGRAPHIC LOCATION---	-----ROCK AND TIME UNITS-ROCK TYPE-FIELD NOTES-----	-----COLLECTORS-COMPILED BY-ENTERED BY-DONOR-----
4696	McMillin Torrey Highlands Site 2 San Diego San Diego Co. CA U.S.A. 32°57'37"N--117° 9'55"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation upper tongue Cenozoic Paleogene middle Eocene early Uintan sltst-fluvial, nonmarine J.L. Pfanner, book-1, page 146	J.L. Pfanner 15 Nov 2001 J.L. Pfanner 26 Apr 2002 H.M. Wagner 1 May 2002 McMillin Land Development 15 Nov 2001
4953	Shaw Property San Diego San Diego Co. CA USA 32°57'40"N--117° 9'34"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation upper tongue Cenozoic Paleogene middle Eocene early Uintan sltst-fluvial JLP book #2; SLW book 10	J.L. Pfanner 4 Dec 2002 K.A. Randall 13 Aug 2003 K.A. Randall 14 Aug 2003 Western Pacific Housing 4 Dec 2002
4958	LMXU Village Center - Clam and Leaf Site San Diego San Diego Co. CA USA 32°57'43"N--117° 9'21"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation upper tongue Cenozoic Paleogene middle Eocene early Uintan sltst-fluvial JLP book #2	J.L. Pfanner 25 Sep 2002 K.A. Randall 13 Aug 2003 K.A. Randall 14 Aug 2003 Western Pacific Housing 25 Sep 2002
4959	LMXU Village Center - Metarhinus Site San Diego San Diego Co. CA USA 32°57'42"N--117° 9'17"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation upper tongue Cenozoic Paleogene middle Eocene early Uintan sltst-fluvial JLP book #2	J.L. Pfanner 24 Sep 2002 K.A. Randall 6 Aug 2003 K.A. Randall 6 Aug 2003 Western Pacific Homes 24 Sep 2002
5538	McMillin Montecito - Sena's Microsite San Diego San Diego Co. CA USA 32°55'20"N--117° 3'19"W Poway, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation conglomerate tongue Cenozoic Paleogene middle Eocene early Uintan cong-fluvial PJS #3p56 RAC #36p25,26 SLW #10p145,146 BOR#28 p33	P.J. Sena, R.A. Cerutti, S.L. Walsh 2 Jan 2003 K.A. Randall 9 Feb 2005 K.A. Randall 10 Feb 2005 McMillin Land Development 2 Jan 2003
5539	McMillin Montecito - Cerutti's Microsite San Diego San Diego Co. CA USA 32°55'27"N--117° 2'55"W Poway, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation conglomerate tongue Cenozoic Paleogene middle Eocene early Uintan cong-fluvial RAC book #36 pgs 38-39	R.A. Cerutti 29 Jan 2003 K.A. Randall 9 Feb 2005 K.A. Randall 10 Feb 2005 McMillin Land Development 29 Jan 2003
5540	McMillin Montecito - Browne's Microsite San Diego San Diego Co. CA USA 32°55'24"N--117° 2'18"W Poway, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation conglomerate tongue Cenozoic Paleogene middle Eocene early Uintan cong-fluvial IDB book #1 pgs 10-12	I.D. Browne 23 May 2003 K.A. Randall 10 Feb 2005 K.A. Randall 10 Feb 2005 McMillin Land Development 23 May 2003
5684	Torrey Ranch II - Site 6 San Diego San Diego Co. CA USA 32°58' 3"N--117° 9'20"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation Cenozoic Paleogene middle Eocene sdst-marine BOR:Bk29p77,96,100,101,126,127,138,139;Bk:30p1	B.O. Riney; C.S. Plouffe 24 May 2005 B.O. Riney 7 Sep 2005 M.K. Soetaert 23 Feb 2006 Torrey Ranch II, LLC 24 May 2005
5685	Torrey Ranch II - Site 7 San Diego San Diego Co. CA USA 32°58' 1"N--117° 9'19"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Friars Formation Cenozoic Paleogene middle Eocene sdst-marine BOR:Bk29p77,96,100,101,126,127,138,139;Bk:30p1	B.O. Riney 24 May 2005 B.O. Riney 7 Sep 2005 M.K. Soetaert 23 Feb 2006 Torrey Ranch II, LLC 24 May 2005
4229	Torrey Reserve Heights/Hills San Diego San Diego Co. CA U.S.A. 32°55' 8"N--117°13'26"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Scripps Formation Cenozoic Paleogene Eocene sdst-marine RMW	Juanita R. Shinn 29 Feb 1996 R.Q. Gutzler 4 Feb 1998 H.P. Don Vito 2 Jul 1999 American General Land Development, Inc. 0 0
4231	Torrey Reserve Heights/Hills San Diego San Diego Co. CA U.S.A. 32°54'54"N--117°13'17"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Scripps Formation Cenozoic Paleogene Eocene sltst-marine RMW	Juanita R. Shinn 8 Aug 1996 R.Q. Gutzler 4 Feb 1998 H.P. Don Vito 2 Jul 1999 American General Land Development, Inc. 0 0
5531	Torrey Hills Center 1 San Diego San Diego Co. CA U.S.A. 32°55'12"N--117°12'54"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Scripps Formation Cenozoic Paleogene middle Eocene late Uintan sltst-marine H. Wagner	H. Wagner 13 Aug 2004 H. Wagner 2 Feb 2005 H. Wagner 9 Feb 2005 13 Aug 2004
5532	Torrey Hills Center 2 San Diego San Diego Co. CA U.S.A. 32°55'11"N--117°12'48"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Scripps Formation Cenozoic Paleogene middle Eocene late Uintan mdst-marine H. Wagner	H. Wagner 18 Aug 2004 H. Wagner 2 Feb 2005 H. Wagner 9 Feb 2005 18 Aug 2004



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NUMBER	---LOCALITY NAME AND GEOGRAPHIC LOCATION---	-----ROCK AND TIME UNITS-ROCK TYPE-FIELD NOTES-----	-----COLLECTORS-COMPILED BY-ENTERED BY-DONOR-----
5533	Torrey Hills Center 3 San Diego San Diego Co. CA U.S.A. 32°55'16"N--117°12'46"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Scripps Formation Cenozoic Paleogene middle Eocene late Uintan sdst-marine H. Wagner	H. Wagner 20 Aug 2004 H. Wagner 2 Feb 2005 H. Wagner 9 Feb 2005 20 Aug 2004
5534	Torrey Hills Center 4 San Diego San Diego Co. CA U.S.A. 32°55'15"N--117°12'43"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Scripps Formation Cenozoic Paleogene middle Eocene late Uintan sdst-marine H. Wagner	H. Wagner 1 Sep 2004 H. Wagner 3 Feb 2005 H. Wagner 9 Feb 2005 1 Sep 2004
5535	Torrey Hills Center 5 San Diego San Diego Co. CA U.S.A. 32°55'12"N--117°12'46"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Scripps Formation Cenozoic Paleogene middle Eocene late Uintan sltst-marine H. Wagner	H. Wagner 1 Sep 2004 H. Wagner 3 Feb 2005 H. Wagner 9 Feb 2005 1 Sep 2004
6127	Carmel Valley Neighborhood 10, 9 South San Diego San Diego Co. CA U.S.A. 32°55'16"N--117°12'41"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Scripps Formation Cenozoic Paleogene middle Eocene sdst-marine BOR NB# 32, pp. 79-80	B.O. Riney, C.S. Plouffe 28 Jan 2008 B.O. Riney 28 May 2008 N.S. Rugh 23 Jun 2008 Pardee Homes 28 Jan 2008
6128	Carmel Valley Neighborhood 10, 9 South San Diego San Diego Co. CA U.S.A. 32°55'14"N--117°12'38"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Scripps Formation Cenozoic Paleogene middle Eocene sdst-marine CSP NB# 8, p. 29	C.S. Plouffe 20 Feb 2008 B.O. Riney 28 May 2008 N.S. Rugh 23 Jun 2008 Pardee Homes 20 Feb 2008
6425	SDG&E TL 6952 Reconductor San Diego San Diego Co. CA USA 32°55'10"N--117°13'13"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Scripps Formation Cenozoic Paleogene middle Eocene sdst-deep marine GC#1, pgs 88-80	G. Calvano 19 May 2010 K.A. Randall 16 Feb 2011 K.A. Randall 24 Feb 2011 SDG&E 19 May 2010
6426	SDG&E TL 6952 Reconductor San Diego San Diego Co. CA USA 32°55'10"N--117°13'13"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Scripps Formation Cenozoic Paleogene middle Eocene sdst-deep marine GC#1, 88-89	G. Calvano 0 0 K.A. Randall 16 Feb 2011 K.A. Randall 24 Feb 2011 SDG&E 19 May 2010
4202	Torrey Reserve Heights/Hills San Diego San Diego Co. CA U.S.A. 32°54'57"N--117°13'20"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Scripps/Ardath Cenozoic Paleogene Eocene sltst-marine RMW	Juanita R. Shinn 19 Jun 1996 R.Q. Gutzler 7 Jan 1998 H.P. Don Vito 26 Jun 1999 American General Land Development, Inc. 0 0
4212	Torrey Reserve Heights/Hills San Diego San Diego Co. CA U.S.A. 32°55' 6"N--117°13'26"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Scripps/Ardath Cenozoic Paleogene Eocene sltst-marine RMW	Juanita R. Shinn 16 Jul 1996 R.Q. Gutzler 13 Jan 1998 H.P. Don Vito 28 Jun 1999 American General Land Development, Inc. 0 0
4374	Fairbanks Highland San Diego San Diego Co. CA U.S.A. 32°58'25"N--117° 9'36"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Ardath Shale-Scripps Fm Cenozoic Paleogene middle Eocene sdst-marine RMW	Matt L. Phillips 21 Dec 1998 T.A. Demere 23 Mar 2000 H.P. Don Vito 24 Mar 2000 Taylor-Woodrow 0 Oct 1999
4379	Fairbanks Highland San Diego San Diego Co. CA U.S.A. 32°58'23"N--117° 9'34"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Ardath Shale-Scripps Fm Cenozoic Paleogene middle Eocene sltst-marine RMW	David N. Stevens 6 Jan 1999 T.A. Demere 23 Mar 2000 H.P. Don Vito 24 Mar 2000 Taylor Woodrow 0 Oct 1999
4203	Torrey Reserve Heights/Hills San Diego San Diego Co. CA U.S.A. 32°54'58"N--117°13'18"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Ardath Shale Cenozoic Paleogene Eocene sltst-marine RMW	Juanita R. Shinn 27 Jun 1996 R.Q. Gutzler 7 Jan 1998 H.P. Don Vito 26 Jun 1999 American General Land Development, Inc. 0 0
4204	Torrey Reserve Heights/Hills San Diego San Diego Co. CA U.S.A. 32°54'53"N--117°13'16"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Ardath Shale Cenozoic Paleogene Eocene sltst-marine RMW	Juanita R. Shinn 6 Aug 1996 R.Q. Gutzler 7 Jan 1998 H.P. Don Vito 26 Jun 1999 American General Land Development, Inc. 0 0

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 TIME 16:09:19

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NUMBER	---LOCALITY NAME AND GEOGRAPHIC LOCATION---	-----ROCK AND TIME UNITS-ROCK TYPE-FIELD NOTES-----	-----COLLECTORS-COMPILED BY-ENTERED BY-DONOR-----
4227	Torrey Reserve Heights/Hills San Diego San Diego Co. CA U.S.A. 32°55' 2"N--117°13'26"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Ardath Shale Cenozoic Paleogene Eocene sltst-marine RMW	Juanita R. Shinn 20 Feb 1996 R.Q. Gutzler 15 Jan 1998 H.P. Don Vito 2 Jul 1999 American General Land Development, Inc. 0 0
4228	Torrey Reserve Heights/Hills San Diego San Diego Co. CA U.S.A. 32°54'59"N--117°13'27"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Ardath Shale Cenozoic Paleogene Eocene sltst-marine RMW	Juanita R. Shinn 10 May 1996 R.Q. Gutzler 15 Jan 1998 H.P. Don Vito 2 Jul 1999 American General Land Development, Inc. 0 0
4230	Torrey Reserve Heights/Hills San Diego San Diego Co. CA U.S.A. 32°55' 7"N--117°13'24"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Ardath Shale Cenozoic Paleogene Eocene sltst-marine RMW	Juanita R. Shinn, David Stevens, Steve Wakefield 20 Feb 1996 R.Q. Gutzler 4 Feb 1998 H.P. Don Vito 2 Jul 1999 American General Land Development, Inc. 0 0
4296	Carmel Valley Road San Diego Co. CA U.S.A. 32°58'21"N--117° 8'58"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Ardath Shale Cenozoic Paleogene middle Eocene sltst-marine B.O. Riney NB #23: 47	B.O. Riney 18 Jan 1999 T.A. Demere 27 May 1999 N.S. Rugh 7 May 1999 Taylor-Woodrow 18 Jan 1999
6027	Torrey Corner, Sorrento Hills San Diego San Diego Co. CA U.S.A. 32°55'12"N--117°12'55"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group Ardath Shale Cenozoic Paleogene middle Eocene sltst/sh-deep water marine, offshore	George L. Kennedy, Charlene Hoff, Jeffrey Henry 21 Feb 2007 G.L. Kennedy 6 Aug 2007 N.S. Rugh 4 Sep 2007 Sorrento Hills Marketplace II, LLC 21 Feb 2007
4280	Carmel Valley Road San Diego Co. CA U.S.A. 32°58'14"N--117° 9'58"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group pebbly sandstone Cenozoic Paleogene middle Eocene sdst-marginal marine B.O. Riney NB #23: 32-33,43	B.O. Riney and J.L. Pfanner 6 Jan 1999 T.A. Demere 27 May 1999 N.S. Rugh 7 May 1999 Taylor-Woodrow 6 Jan 1999
4375	Fairbanks Highland San Diego San Diego Co. CA U.S.A. 32°58'18"N--117° 9'33"W Del Mar, CA 1:24000 USGS 1967(1975)	La Jolla Group "pebbly sandstone" Cenozoic Paleogene middle Eocene sdst-marine RMW	Matt L. Phillips 4 Mar 1999 T.A. Demere 23 Mar 2000 H.P. Don Vito 24 Mar 2000 Taylor-Woodrow 0 Oct 1999