

APPENDIX 6.8-1
PALEONTOLOGY TECHNICAL REPORT

PALEONTOLOGICAL RESOURCES
ASSESSMENT PROGRAM

Avenal Energy
AVENAL, CALIFORNIA

LSA

October, 2001

**PALEONTOLOGICAL RESOURCES
ASSESSMENT PROGRAM**

Avenal Energy
AVENAL, CALIFORNIA

Submitted to:

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LSA Project No. TTR 130

LSA

October, 2001

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MANAGEMENT SUMMARY

LSA Associates, Inc. (LSA) was retained by TRC to conduct a paleontological resource assessment program for the Avenal Energy site and associated water, gas and transmission line routes being developed in Avenal-Kettleman Hills area, Kings and Fresno Counties, California. Evaluation of the potential occurrence of significant nonrenewable vertebrate fossils is required by the California Energy Commission. Literature and records search results were negative. A field survey of the proposed complex was completed on March 28, 2001. Fossils located on the surface of the parcel and along utility lines during the surface survey of the site were determined to be concentrations of Pliocene marine mollusks reworked from the Kettleman Hills to the west. Since these fossils are not in a stratigraphic context, they are not significant. The literature review determined that the Project is located on Holocene soils overlying Pleistocene basin fill. Conversations with paleontologists CSU Fresno and UCMP indicated that there is a potential for late Pleistocene fossil resources at depths below five feet.

There remains potential that Pleistocene land mammals might be encountered at depth. A paleontologist must be retained to execute the paleontological resource impact monitoring and mitigation program (PRIMMP) developed herein. A PRIMMP is presented at the end of this document under recommendations. Compliance with this recommendation will ensure that if unknown paleontological resources are discovered during excavation, then mitigation in accordance with the PRIMMP will limit the impact to a level that is less than significant.

INTRODUCTION

LSA Associates, Inc. (LSA) was retained by TRC to conduct a paleontological resource impact mitigation program for the Avenal Energy Project in the City of Avenal Kings County, California. The Project involves excavation to develop the facility site and associated transmission lines, gas lines and water lines. The paleontological resource field assessment was developed to comply with guidelines from the California Energy Commission and the Society of Vertebrate Paleontology.

PROJECT DESCRIPTION

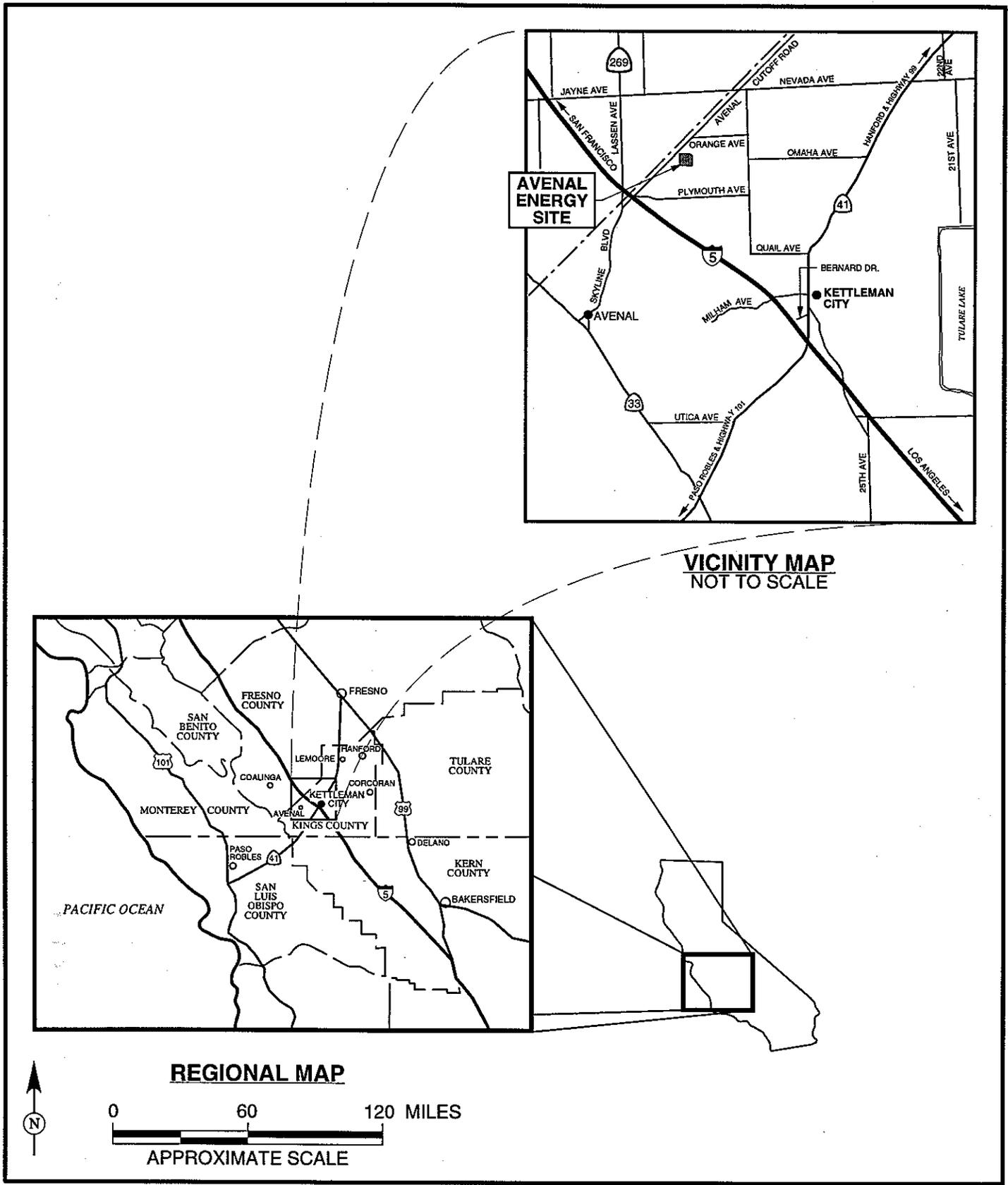
The Avenal Energy project is located east of Interstate Highway 5 and west of the California Aqueduct just south of the Kings - Fresno County line, north of Kettleman City and east of Coalinga (Figure 1). The proposed Avenal Energy complex consists of an electrical generation facility, a transmission line interconnection, a gas line interconnection and two water lines (Figures 2 and 3). The generation site is located in the NE 1/4 of Section 19, T. 21 S, R. 18 E, MDBM as shown on the La Cima (1978) 7.5' USGS quadrangle map. The proposed transmission line runs south and westward toward an existing powerline running north through the SW 1/4 of Section 19. The proposed gas line runs southwesterly to the Kettleman Compressor Station in the SW 1/4 of Sec 25, T. 21 S, R. 17 E, MDBM. Of the proposed water lines, one runs southwest along the Avenal Cutoff Road to the west boundary of Section 19. The other runs northerly from the Site along the west bank of the San Luis Canal, continuing northerly to a well that is marginally within Fresno County.

SETTING

Natural Setting

The Avenal Energy Project is located on the east slope of North Dome of the Kettleman Hills. The alluvial slopes into the San Joaquin Valley are flat, well drained and highly suited for agriculture. The area around the proposed Avenal Energy Site contains orange and almond orchards and row crops seasonally replanted with cotton, onions and other crops.

The Avenal Energy plant site is currently in active agriculture. The associated utility lines will in part be across agricultural fields and often will run in Avenal City rights-of-way for existing roads.



**AVENAL
ENERGY
SITE**

**VICINITY MAP
NOT TO SCALE**

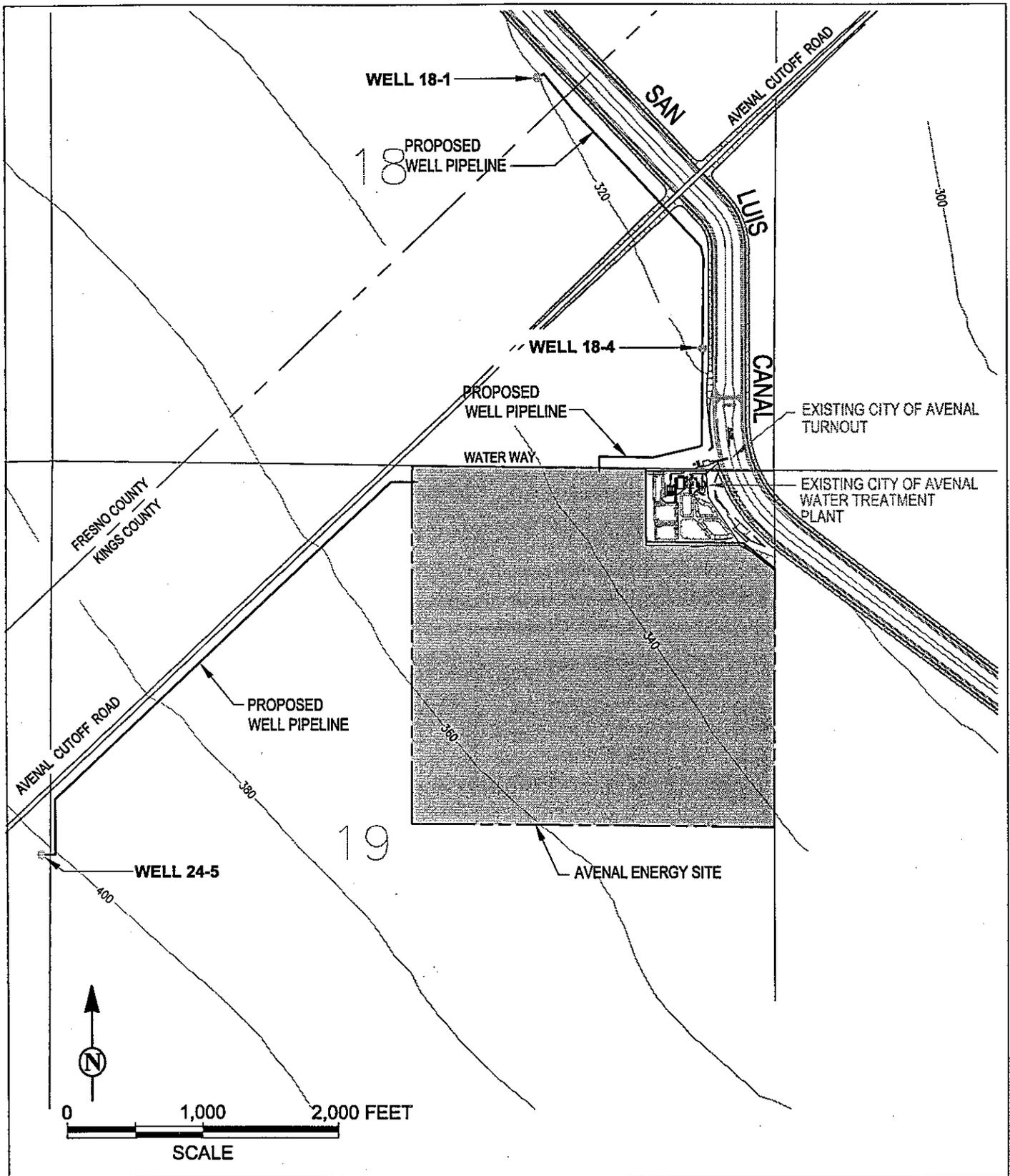
REGIONAL MAP

0 60 120 MILES
APPROXIMATE SCALE

LSA

FIGURE 1

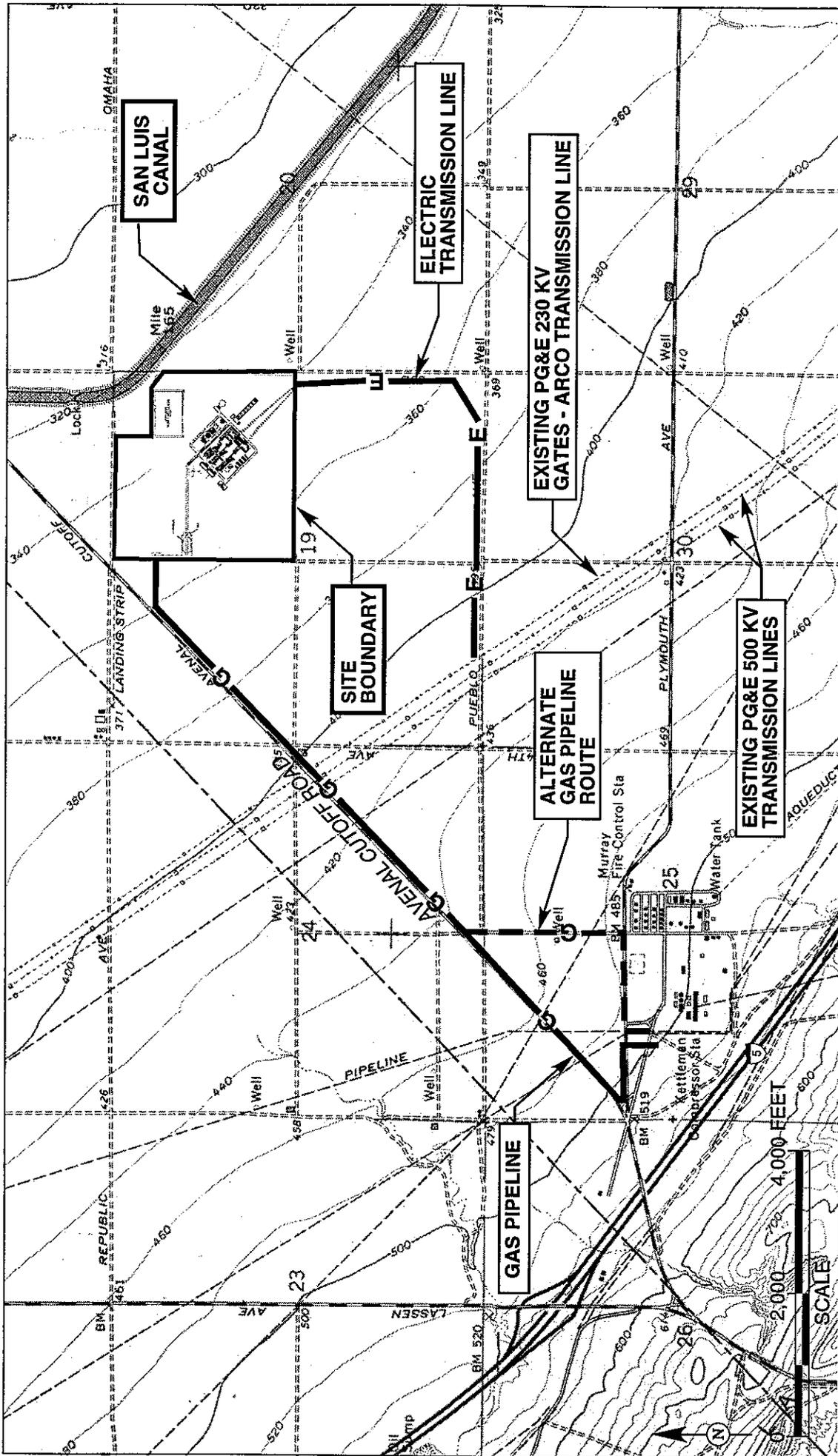
Avenal Energy Center
Region Location Map



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FIGURE 2
 Avenal Energy Project
 WaterWell Pipeline Routes

REFERENCE:
 SUMMERS ENGINEERING, INC.,
 LOCATION MAP, WATER SUPPLY AND
 TREATMENT FACILITIES WITH OPTION B,
 PRELIMINARY, MARCH 7, 2001.



LSA

FIGURE 3

Avenal Energy Center

Natural Gas and Electric
Interconnection Routes

REFERENCE:
U.S.G.S 7.5 MINUTE TOPOGRAPHIC SERIES MAP
OF LA CIMA, CALIFORNIA, DATED 1978.

Geology and Stratigraphy

The Avenal Energy site is located on the southwest side of the San Joaquin Valley, approximately 2 miles east of the North Dome of the Kettleman Hills. The site is situated on the loamy fanglomerate at the top of the San Joaquin Valley sequence and is a mile northeast of the closest Pleistocene deposits of North Dome.

Geologic studies and mapping in the area have been carried out by English (1921), Ferguson (1943), Gester (1917), Goudkoff (1943), Hoots (1930), Nomland (1917a, b), Pack (1920), Page (1983), Porter (1943), Woodring and others (1932, 1941), Young (1943), and in U.S.D.A. Soil Surveys. Mapping has been summarized on the State Geologic Map, Santa Cruz sheet (Jennings and Strand, 1958).

The geology of the region is described in Section 6.3 of the Avenal Energy Application for Certification. The Site and project linear facilities occur entirely within the deep alluvial basin of the western San Joaquin Valley. The only geologic unit exposed on the surface is Holocene (0 to 11,000 year old) alluvium. The closest surface exposure of Pleistocene (11,000 to 2,000,000 years before present) or older sediments is in the Kettleman Hills west of Interstate 5 (Jenkins, 1953). Geologic units that will be disturbed by the Project include Holocene alluvium and, possibly, Pleistocene alluvium in deeper excavations (e.g., for footings, etc.).

Paleontology

Sedimentary rock units known to contain significant paleontologic resources are mapped on the northwest-trending anticlinal ridge of North Dome. These units were mapped by Jennings and Strand (1958) as the Pliocene marine Etchegoin Formation and the overlying marine and nonmarine San Joaquin Formation (Ferguson, 1943; Gester, 1917; Goudkoff, 1943; Hoots and others, 1954; Taylor, 1966; Woodring and others, 1932, 1940), and the early Pleistocene nonmarine Tulare Formation. These formations do not occur near the surface in areas where project activities would occur. Consequently there will be no ground disturbance in or near these sedimentary units.

Quaternary alluvium which occurs throughout the Project vicinity has potential to contain significant fossils either in fluvial sediments or in fossil soil horizons (paleosols). A late Irvingtonian land mammal age fauna with multiple mammalian taxa is known from Pleistocene sediments at the Fairmead landfill near Fresno, fifty miles north of the Project site (Dundas, 1994). Near-surface sediments in Fresno represent a different depositional environment compared to near-surface sediments in the Avenal Energy site vicinity, but the occurrence of important fossils cannot be ruled out on that basis.

PURPOSE OF INVESTIGATION

This paleontological resource assessment program was completed following the guidelines of the California Energy Commission as modified from the guidelines of the Society of Vertebrate Paleontology. This program serves to reduce impacts to nonrenewable paleontological resources to a

level that is less than significant, as required in the California Environmental Quality Act (CEQA) analysis of the Project.

PERSONNEL

The field assessment for the Avenal Energy project was performed by LSA Paleontologists Robert E. Reynolds and Rory Goodwin. Mr. Reynolds (Appendix A) has previous paleontological experience with sediments around the San Joaquin Valley in the Kettleman Hills, the Temblor Range and surrounding Bakersfield. The initial field inspection, literature review, report writing, and overall paleontological supervision were provided by Robert Reynolds. Mr. Reynolds is the paleontological program manager at LSA's Riverside office, a research associate of the Los Angeles County Museum, and former Curator of Earth Sciences at the San Bernardino County Museum. He has 18 years of experience with paleontologic salvage programs and 35 years of research experience in locating biostratigraphic specimens from sediments in southern California and Nevada. Mr Goodwin has conducted paleontological resource salvage programs in Miocene sediments of southern California in areas such as the Chino Hills. Review of the project design and resulting documents was done by Steve Conkling, LSA (Appendix A).

METHODS

The literature review was conducted using available references to identify sedimentary formations with paleontological resources and fossil localities within the Site vicinity. The paleontological resource records search was conducted through the University of Paleontology Museum at Berkeley (UCMP) in an attempt to locate paleontological resource sites within a two mile radius of the site.

A preconstruction field assessment of the Project area was conducted on March 28, 2001. The foot survey included the Avenal Energy Site, two transmission line alternate routes, the gas line route and proposed water lines. The Site was systematically surveyed by north-south foot traverses that were 15 meters apart. The transmission line alternate route A was described as a 550 foot wide corridor and was also surveyed with foot traverses that were 15 meters apart along a southwest-northeast bearing. The remaining transmission line, gas line and water pipeline routes are all narrow corridors along existing roads or disturbed features and were inspected by individual foot traverses parallel to the right of way. The routes for the electric transmission line and the gas lines were subsequently realigned to minimize interference with surrounding farming operations. A subsequent field visit to inspect the realigned interconnection route was determined unnecessary because: (1) it is physically and geologically similar to the Site and other project linear corridors that were inspected with regard to the potential for paleontological resources to occur; and (2) subsurface disturbances for construction of the electrical transmission interconnection will be minimal (e.g., tower footings) as will excavation for the gas line.

RESULTS

Literature and Records Search

The records search through the University of California Museum of Paleontology (UCMP) did not locate any vertebrate fossil localities (Holroyd, p. c. May 10, 2001). Review of literature located lists of vertebrate and invertebrate taxa (see Reynolds, 1990) indicate that fossil localities occur west of Interstate 5 in much older Miocene and Pliocene age sediments. These older sediments will not be encountered during site development. However, excavation at the site will contact the Holocene alluvium and may reach Pleistocene sediments with the potential to contain paleontological resources at depth.

Pleistocene Alluvium

Moderately consolidated and slightly dissected older alluvial fan deposits perched at higher elevations than Quaternary and Recent alluvium are mapped within the Project area (Jennings and Strand, 1958) and undoubtedly occur beneath the Holocene alluvium. These deposits have received little study (Akerston and Jefferson, 1982), but similar sedimentary units in southern California are known to contain significant vertebrate fossils (Miller, 1971; Reynolds and Reynolds, 1991).

Paleontology of the Pleistocene Sediments

Pleistocene sediments and tar seeps in the southern San Joaquin Valley, particularly the seeps at McKittrick and Asphalto, have produced abundant vertebrate taxa including many species of bird and 38 taxa of mammals (Akerston and Jefferson, 1977; Harris, 1985; James, 1982; MacDonald, 1967; Schultz, 1938). Since no similar occurrence is known from the Kettleman Hills, the list is not presented here.

There is a potential for Pleistocene land mammal fossils to occur at depth in the alluvial fan deposits on the east side of the Kettleman Hills. Vertebrate fossils of Irvingtonian land mammal age (deposited prior to 150,000 years ago) from the Fairmead landfill near Fresno, occurred 15 feet below the surface (Dundas, 1994; R. Dundas, CSU Fresno, p. c. May 10, 2001). Therefore, the fossils from latest Pleistocene time might occur at depths as shallow as seven feet below the surface in middle of the San Joaquin Valley.

Field Survey Results

The field survey did not yield evidence of significant paleontological resources. The only evidence of fossils observed was several scatters of marine invertebrate shells observed on the plowed surface of the agricultural field at the Site. The invertebrate macrofossils included gastropods and pelecypods free of sedimentary matrix and cobbles of cemented sandstone which contained remains of marine mollusks. The occurrence of the marine fossils were unusual in that their surface exposure was in discreet mappable ovoid-shaped localities that were approximately 500 feet by

800 feet in diameter. The normal distribution for reworked objects of similar size and specific gravity would be ubiquitous across the surface, not in discrete clusters. The molluscs identified included:

<i>Arca</i> sp.	(ark)	<i>Panope</i> sp?	(clam)
<i>Macoma</i> sp.	(clam)	<i>Ostrea</i> sp.	(oyster)
<i>Mya</i> sp.	(clam)	<i>Littorina</i> sp.	(snail)
<i>Mytilus</i> sp.	(mussel)	<i>Nassa</i> sp?	(snail)
<i>Solen</i> sp.	(razor)	<i>Polinices</i> sp.	(snail)
<i>Pecten</i> sp.	(scallop)	<i>Turritella</i> sp.	(snail)

These fossil marine molluscs are taxa that would be expected to occur in the marine Etchegoin Formation that is mapped as occurring three miles to the southwest in the Kettleman Hills. These shells cannot be considered significant paleontological resources, in part because they are not within their stratigraphic context. It is likely that these shells were either: (1) eroded from Kettleman Hills and then deposited in the Site area; or (2) artificially transported to the site (e.g., as soil amendments for agricultural activities).

There is a potential for Pleistocene land mammal fossils to occur at depth in the alluvial fan deposits in the site vicinity. Pleistocene sediments might be present as shallow as five feet below surface. Pleistocene sediments are old enough (older than 11,000 years) so that vertebrae fossils, if present, could be significant.

RECOMMENDATIONS

The results of the literature review, field survey and conversations with paleontologists at UCMP and CSU Fresno did not yield evidence of significant fossil occurrence in the site vicinity. While there is no known evidence of significant fossils in the Project vicinity, there is potential for excavation to encounter paleontological resources in project excavations that are deeper than five feet. In the event such resources are encountered at depth, LSA has developed a Paleontologic Resource Impact Monitoring and Mitigation Program (PRIMMP) for the excavation phase of the Project. This program should include but not be limited to the following steps:

- The Project paleontologist will provide a trained paleontological monitor to observe excavation for 50% of the time that excavation is occurring below a depth of five feet.
- Procedures for reporting discovery situations and their geologic context will be outlined. Resource identification training procedures for construction staff will be initiated.
- If subsurface paleontological resources are encountered, excavation will halt in the vicinity of the resources and the Project paleontologist will evaluate the resource and its stratigraphic context. The monitor will be empowered to temporarily halt or redirect construction activities to ensure avoidance of adverse impacts to paleontological resources. As necessary,

the qualified vertebrate paleontologist will revise the Paleontologic Resource Impact Monitoring and Mitigation Program (PRIMMP) for the remaining excavation.

- During monitoring, if potentially significant paleontological resources are found, samples will be collected and processed by a qualified Paleontologist to recover micro vertebrate fossils.
- If significant fossils are found and collected during the Project, they will be prepared to a reasonable point of identification. Excess sediment or matrix will be removed from the specimens to reduce the bulk and cost of storage. Itemized catalogs of material collected and identified will be provided to the museum repository with the specimens.
- A report documenting the results of the monitoring and salvage activities, and the significance of the fossils, if any, will be prepared.
- Significant fossils collected during this work, along with the itemized inventory of these specimens, will be deposited in a museum repository for permanent curation and storage.

Compliance with these recommendations would ensure that if unknown paleontological resources are encountered impacts to the paleontological resources will be maintained below a level of significance. Based on the absence of known significant fossils in the Project vicinity and this PRIMMP for the excavation phase of the Project, the Project will have no impact or a less than significant impact on paleontological resources.

REFERENCES CITED

- Akerston, W.A. and G.T. Jefferson, 1977. Potential impact on paleontologic resources by proposed mining activities near McKittrick, southwestern Kern County, California. ms on file, Dames and Moore.
- Bramlette, M. N., 1946. The Monterey Formation of California and the origin of its siliceous rocks. U.S. Geological Survey Professional Paper 212:1-57.
- Dibblee, T. W. Jr., 1955. Geology of the southeastern margin of the San Joaquin Valley, California. California Division of Mines and Geology Bulletin 171.
- _____, 1961. Geologic map of Pentland quadrangle, scale 1:31,680, in Geology and paleontology of the southern border of the San Joaquin Valley, Kern County. Guidebook, Pacific section SEPM-SEGA-AAPG and San Joaquin Geological Society.
- _____, 1962. Geologic map of Maricopa quadrangle, 1:31,680, in Geology of Carrizo Plains and San Andreas fault. Guidebook, San Joaquin Geological Society and Pacific Section, AAPG-SEPM: 52 p.
- Dundas, Robert G., The Fairmead Landfill Locality: A late Irvingtonian fauna from western Madera County, California. Abstracts with program, Geological Society of America Cordilleran Section, March, 1994, San Bernardino, California.
- English, W.A., 1921. Geology and petroleum resources of northwestern Kern County, California. U.S. Geological Survey Bulletin 721:1-48.
- Ferguson, G. C., 1943. Correlation of the oil field formations on East Side San Joaquin Valley. California Division of Mines and Geology Bulletin, 118:239-246.
- Gester, G. C., 1917. Geology of a portion of the McKittrick district, a typical example of the West Side San Joaquin Valley oil fields, and a correlation of the oil sands of the West Side fields. Proceedings, California Academy of Sciences, 4th Series, 7(8):207-227.
- Goudkoff, P.P., 1943. Correlation of the oil field formations on West Side San Joaquin Valley. California Division of Mines and Geology Bulletin, 118:247-252.
- Harris, A.H., 1985. Late Pleistocene vertebrate paleoecology of the west. Austin, University of Texas Press: 293 p.
- Henny, G., 1938. Eocene in the San Emigdio-Sunset area south of San Joaquin Valley, Kern County, California. California Oil World 31(11):17-21.
- Hoots, H. W., 1930. Geology and oil resources along the southern border of San Joaquin Valley. U.S. Geological Society Bulletin 812.
- Hoots, H. W., T.L. Bear, and W.D. Kleinpell, 1954. Geological summary of the San Joaquin Valley, California, in Geology of Southern California, R.H. Jahns, ed. California Division of Mines Bulletin, 170(2):113-129.
- James, B., 1982. Pleistocene fossils of the Maricopa Tar Seep. unpubl. ms, on file Department of Earth Sciences, San Bernardino County Museum: 11 p.
- Jennings, C. W., and Strand, R. G., 1958. Geologic Map of California, Santa Cruz Sheet, scale 1:250,000.
- MacDonald, J. R., 1967. The Maricopa brea. Los Angeles County Museum of Natural History Quarterly 6(2).
- Matthew, W.D., 1930. A Pliocene mastodon skull from California, *Pliomastodon vexillarius* n. sp. University of California Publications, Department of Geology Bulletin, 19:335-348.

- Miller, W. E., 1971. Pleistocene vertebrates of the Los Angeles Basin and vicinity (exclusive of Rancho La Brea). *Bulletin of the Los Angeles County Museum of Natural History, Science Series* 10:1-121.
- Morton, P. K. and B. W. Troxel, 1962. Mines and mineral resources of Kern County, California California Division of Mines and Geology County Report 1: 370 p., plates.
- Munz, P.A., 1974. A flora of southern California. Berkeley, University of California Press: 1086 p.
- Nomland, J.C., 1917a. The Etchegoin Pliocene of middle California. University of California Publications, Department of Geology Bulletin, 10(14):191-254.
- _____, 1917b. Fauna of the Santa Margarita Beds in the North Coalinga Region of California. University of California Publications, Department of Geology Bulletin, 10(18):293-326.
- Pack, R. W., 1920. The Sunset-Midway oil field, California, Part I, geology and oil resources. U.S. Geological Survey Professional Paper 116: 179 p.
- Page, R. W., 1983. Geology of the Tulare Formation and other continental deposits, Kettleman City area, San Joaquin Valley, California. U. S. Geological Survey Water-resources investigations, Report 83-4000, 24p.
- Porter, L. E., 1943. Elk Hills oil field (U.S. Naval Petroleum Reserve No.1). California Division of Mines and Geology Bulletin, 118:512-516.
- Repenning, C.A., 1980. Paleontologic resource evaluation, Naval Petroleum Reserve No.1(Elk Hills). report from U.S. Geological Survey, Branch of Paleontology and Stratigraphy, Menlo Park, for Naval Facilities Engineering Command, San Bruno, California: 7 p.
- Reynolds, R.E., 1985. Paleontologic resources, All American Pipeline, Celeron M.P. 113 to All American Pipeline M.P. 104, 12 Gauge to Emidio, California. Redlands, San Bernardino County Museum: 12 p., map.
- _____, 1986. All-American Pipeline, California section, paleontologic resources assessment-technical report. Redlands, San Bernardino County Museum: 132 p.
- _____, 1987. Paleontologic resource assessment, Midway-Sunset Cogeneration Project, Kern County, California. Redlands, San Bernardino County Museum, for Southern California Edison Company: 26 p. + appendices.
- _____, 1988. Paleontologic monitoring and salvage, federal lands along the All American and Celeron pipeline project, California section. Redlands, San Bernardino County Museum: 1128 p.
- _____, 1989. Paleontologic resource assessment, Avenal pipeline, Kettleman Hills, Kings County, California. Redlands, San Bernardino County Museum, for Atlantis Scientific: 32p.
- _____, 1990. Paleontologic Mitigation Program, Midway-Sunset Cogeneration Project, Kern County, California. Redlands, San Bernardino County Museum, 72 p. and appendices.
- Reynolds, R. E., and R. L. Reynolds, 1991, The Pleistocene Beneath our Feet: Near-surface Pleistocene Fossils from Inland Southern California Basins. San Bernardino County Museum Association Quarterly V. 38(3 & 4), p. 41-43.
- Schultz, J. R., 1938. A late Quaternary mammalian fauna from the tar seeps of McKittrick, California. Carnegie Institute Washington Publication 487:111-215.
- Taylor, D. W., 1966. Summary of North American Blancan nonmarine mollusks. *Malacologia*, 4(1):1-172.
- Wood, P.R. and R.H. Dale, 1964. Geology and ground water features of the Edison-Maricopa area, Kern County, California. U.S. Geological Survey Water-supply paper 1656: 103 p.
- Woodring, W. P. and M. N. Bramlette, 1950. Geology and paleontology of the Santa Maria district, California. U.S. Geological Survey Professional Paper 222:1-142.

- Woodring, W. P., P. V. Roundy, and H.R. Farnworth, 1932. Geology and oil resources of the Elk Hills, California. U.S. Geological Survey Bulletin 835:1-82.
- Woodring, W. P., R. Stewart, and R. W. Richards, 1941. Geology of the Kettleman Hills oil field, California. U.S. Geological Survey Professional Paper, 195: 170 p.
- Woodward, W. T., 1943a. Gibson area of the Midway-Sunset oil field. California Division of Mines Bulletin 118:519-521.
- _____, 1943b. North Midway area of the Midway-Sunset oil field. California Division of Mines Bulletin 118:530-531.
- Young, U., 1943. Republic area of the Midway-Sunset oil field. California Division of Mines Bulletin 118:522-525.

APPENDIX A - RESUME OF KEY STAFF

ROBERT E. REYNOLDS **PALEONTOLOGIST, PROJECT MANAGER**

EXPERTISE

Paleontological Resource Assessment
Paleontological Resource Mitigation
Fossil preparation and identification
Comparative osteology and skeletal identification
Cultural Resource Assessment and Mitigation
Specimen and artifact curation

EDUCATION

University of California, Riverside, B.A., Geology, 1966.
Pasadena City College, A.A., Geology, minor Anthropology.

PERMITS AND LICENSES

Federal Antiquities Permit, Bureau of Land Management, California Desert Region, for paleontological research, assessment, and salvage.

Federal Antiquities Permit, Bureau of Land Management, Nevada, for paleontological research, assessment, and salvage.

National Park Service collecting permits, various.

U.S. Forest Service collecting permits, various.

California State Department of Fish and Wildlife collecting permit.

State of California drivers license.

PROFESSIONAL EXPERIENCE

Paleontologist, Project Manager, LSA Associates, Inc., Riverside, CA, 1999 to present.

Curator of Geology/Earth Sciences, San Bernardino County Museum, Redlands, CA, 1992-1999, 1970-1990, 1969-1978 (Acting Museum Director 1969-70).

Deputy Director of Resource Management, San Bernardino County Museum, 1990-1992.

Consultant, paleontology, geology, 1970-1999, U.S. Geological Survey, U.S. Forest Service, University of California, Riverside, Bureau of Land Management, California and Nevada, San Bernardino County Museum Association, Southern California Edison Company, Federal Aviation Administration, San Bernardino County Planning Department, Santa Fe railroad, Southern Pacific Railroad, Army Corps of Engineers, and private-sector consulting firms.

Archaeologic Technician, U.S. Forest Service, San Bernardino National Forest, 1972-1981.

Driller's Aide, Canon Diamond Drilling Corporation, Compton, CA, 1966.

Geologist Supervisor, Pacific Mining Corporation, Rialto, CA, 1965-1966.

Fossil Quarry Supervisor/Laboratory Technician, Dept. of Geological Sciences, University of California, Riverside, CA, 1964-1965.

Laboratory Technician, Dept. of Geology, Pasadena City College, 1963.

TEACHING EXPERIENCE

Instructor, California State University, San Bernardino, Extended Education, 1986-1990.

Instructor, University of California, Riverside, Extension, 1968-1972.

Instructor, Fossil Preparation and Identification class and volunteer training, San Bernardino County Museum, 1969-1999.

Instructor, Rock and Mineral identification, California Federation of Mineralogical Societies.

PROFESSIONAL AFFILIATIONS AND AWARDS

Research Associate, Los Angeles County Museum of Natural History

Research Associate, George C. Page Museum

American Geological Institute

Geological Society of America

Society of Vertebrate Paleontology (Chair, Committee on Conformable Impact Mitigation, 1989-1998; Member, Outreach committee, 1992-present; Government Liaison Committee, 1992-present)

Western Association of Vertebrate Paleontologists

Southern California Academy of Sciences

American Association for the Advancement of Science

Friends of Mineralogy (President, Southern California chapter, 1987, 1988, 1993, 1994; National Board of Directors 1995 to present)

Inland Geological Society (charter member; President, 1986)

Mojave Desert Quaternary Research Center (Steering Committee and Advisory Board, 1986 to present)

Mineral Museums Advisory Council

Carnegie Review Committee 1988, 1989

Intermountain Paleontological Advisory Committee

Dana Club Alumni, Pasadena City College

Hewett Club Alumni, University of California, Riverside

Orange Belt Mineralogical Society (honorary member)

Mineralogical Society of Southern California (honorary member)

Southern California Micromineralogists (honorary member)

Shoshone Museum Association (Board of Directors, 1987-2001)

San Bernardino County Museum Association

Past member, San Bernardino County Environmental Review Committee

Past member, San Bernardino County Environmental Review Board

Recipient, Van Ameringe Scholarship Award, Pasadena City College

Recipient, American Mineralogical Society Honorary Scholarship

Recipient, San Bernardino County Annual Appreciation Award

Grant reviewer, National Science Foundation

Manuscript reviewer, U.S. Geological Survey, University of California Riverside, University of Pittsburgh, University of Southern California, et al.

PROFESSIONAL RESPONSIBILITIES

Initial assessments of paleontological resources in early planning phases. Evaluation of paleontological resources for Environmental Impact Reports: literature and records review, field surveys, development of impact mitigation programs, directing field monitoring and resource salvage operations. Management of locality data, specimen preparation, and identification and analysis of fossils for curator. Inventories of recovered specimens and reports of findings signaling compliance with agency guidelines for the impact mitigation program.

PEER REVIEWED PUBLICATIONS

Reynolds, R.E., 1967, Exploring the Calico Mining District: Bloomington, San Bernardino County Museum Association Quarterly, vol. XV, no. 2.

Reynolds, R.E., 1984, Miocene faunas in the lower Crowder Formation, Cajon Pass, California--a preliminary discussion, in Guidebook for the San Andreas fault - Cajon Pass to Wrightwood: Pacific Section, American Association of Petroleum Geologists.

Reynolds, R.E., ed., 1985, Geologic investigations along Interstate 15, Cajon Pass to Manix Lake: Redlands, San Bernardino County Museum.

Reynolds, R.E., 1985, Tertiary small mammals in the Cajon Valley, San Bernardino County, California, in Geologic investigations along Interstate 15, Cajon Pass to Manix Lake: Redlands, San Bernardino County Museum, p. 49-58.

Reynolds, R.E., 1985, Pleistocene fossils from SCE Coolwater area: Rosemead, Southern California Edison Company, Advanced Engineering Department Seminar Series, 16 July, abs.

Reynolds, R.E., 1986, California trackways from the lower Jurassic Aztec Sandstone, in Gillette, D.D., ed., First Annual Symposium on Dinosaur tracks and traces. Albuquerque, New Mexico Museum of Natural History: 24 (abs).

Reynolds, R.E., 1987. Biostratigraphic relationships in Cajon Valley, San Bernardino County, California. *Journal of Vertebrate Paleontology* 7(3): 24A.

Reynolds, R.E., 1987. On Daggett Pond: a late Pleistocene fauna suggests activity on the Calico Fault. *San Bernardino County Museum Association Quarterly* XXXIV(3,4):55-56.

Reynolds, R.E., 1987. Shoshone Zoo--Natural traps in Pleistocene Tecopa Lake sediments. *San Bernardino County Museum Association Quarterly* XXXIV(3,4):64-65.

Reynolds, R.E., editor, 1988. Cenozoic Tectonics in the Halloran Hills, in This Extended Land. Cordilleran Section, Geological Society of America, Field Trip Guidebook:201-222.

Reynolds, R.E., 1988, Middle Miocene vertebrates from Daggett Ridge, central Mojave Desert, San Bernardino County, California. Cordilleran Section, Geological Society of America, Abstracts with Programs.

Reynolds, R.E., 1988, Structural evolution of the Shadow Valley Basin. Redlands, San Bernardino County Museum Association Quarterly XXXV(3,4).

Reynolds, R.E., ed., 1989. Sequence of extensional tectonics in the Halloran Hills and Shadow Valley Basin, northeastern San Bernardino County, California: a field guide. Redlands, San Bernardino County Museum, for Inland Geological Society.

Reynolds, R.E., ed., 1989. The west-central Mojave Desert: Quaternary studies between Kramer and Afton Canyon. Redlands, San Bernardino County Museum Association Special Publication.

Reynolds, R.E., 1989. Mid-Pleistocene faunas of the west-central Mojave Desert, in The west-central Mojave Desert: Quaternary studies between Kramer and Afton Canyon. Redlands, San Bernardino County Museum Association Special Publication.

Reynolds, R.E., 1990. Erosion, Deposition, and Detachment: the Halloran Hills Sequence. Redlands, San Bernardino County Museum Association Special Publication, MDQRC Guidebook.

Reynolds, R.E., 1991. Biostratigraphic relationships of Tertiary small vertebrates from Cajon Valley, San Bernardino County, California, in Inland southern California: the last 70 million years, M.O. Woodburne, R.E. Reynolds, and D.P. Whistler, ed. Redlands, San Bernardino County Museum Association Quarterly 38(3,4):54-59.

Reynolds, R.E., 1991. The Cadiz Fauna: Possible Irvingtonian Land Mammal Age sediments in Bristol basin, San Bernardino County, California. San Bernardino County Museum Association Quarterly, 38(2):53-54.

Reynolds, R.E., 1991. Hemingfordian/Barstovian Land Mammal Age faunas in the central Mojave Desert, exclusive of the Barstow Fossil Beds, in Inland Southern California: the last 70 million years, M.O. Woodburne, R.E. Reynolds, and D.P. Whistler, ed. Redlands, San Bernardino County Museum Association Quarterly 38(3,4):88-90.

Reynolds, R.E., 1991. Irvingtonian Land Mammal Age indicators in the west-central Mojave Desert. San Bernardino County Museum Association Quarterly, 38(3&4):106-107.

Reynolds, R.E., 1992. Quaternary movement on the Calico Fault, Mojave Desert, California, in Deformation associated with the Neogene Eastern California Shear Zone, southeastern California and southwestern Arizona, S.M. Richards, ed. Redlands, San Bernardino County Museums Special Publication 92-1:64-65.

- Reynolds, R.E., 1992. The Tertiary Pioneertown sequence, *in* Old routes to the Colorado, J. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication 92-2:31-33.
- Reynolds, R.E., (ed.) 1993. Landers: Earthquakes and aftershocks. San Bernardino County Museum Association Quarterly, 40(1): 72 p.
- Reynolds, R.E., 1993. Road log through the 1992 Landers surface rupture, *in* Landers: Earthquakes and aftershocks, R.E. Reynolds (ed). San Bernardino County Museum Association Quarterly, 40(1): 3-39.
- Reynolds, R.E., 1993. The Devil Peak Sloth, *in* Abstracts of Proceedings, the 1993 Desert Research Symposium, J. Reynolds, compiler. Redlands, San Bernardino County Museum Association Quarterly, 40(2):31.
- Reynolds, R.E., 1993. Erosion, deposition, and detachment: the Halloran Hills area, California, p. 21-24, *in* Extended terranes, California, Arizona, Nevada, D.R. Sherrod and J.E. Nielson, eds. U.S. Geological Survey Bulletin, 2053: 250 p.
- Reynolds, R.E. (ed.), 1994. Off limits in the Mojave Desert. Redlands, San Bernardino County Museum Association Special Publication, 94(1): 100 p.
- Reynolds, R.E., 1995. The long outreach of the Devil Peak Sloth, *in* Abstracts from Proceedings, the 1995 Desert Research Symposium. Redlands, San Bernardino County Museum Association Quarterly, 42(2).
- Reynolds, R.E., 1995. Grandview Gorge: research involving the Mid Hills tectonic block, *in* Ancient surfaces of the East Mojave Desert, Reynolds, R.E. (compiler) and J. Reynolds (ed). San Bernardino County Museum Association Quarterly, 42(3): in prep.
- Reynolds, R.E., 1995. Rhinoceros in Lanfair Valley *in* Ancient surfaces of the East Mojave Desert, Reynolds, R.E. (compiler) and J. Reynolds (ed). San Bernardino County Museum Association Quarterly, 42(3): in prep.
- Reynolds, R.E., 1995. Pack mule trails in the New York Mountains, East Mojave Desert *in* Ancient surfaces of the East Mojave Desert, Reynolds, R.E. (compiler) and J. Reynolds (ed). San Bernardino County Museum Association Quarterly, 42(3): in prep.
- Reynolds, R.E., 1995. New York Mountains Pegmatite *in* Ancient surfaces of the East Mojave Desert, Reynolds, R.E. (compiler) and J. Reynolds (ed). San Bernardino County Museum Association Quarterly, 42(3).
- Reynolds, R.E., 1998. Flamingo egg from the Miocene sediments of the Calico Mountains, San Bernardino County, California, *in* Abstracts of Proceedings, 1998 Desert Research Symposium, J. Reynolds (ed). San Bernardino County Museum Association Quarterly, 45(1,2), p. 106.

Reynolds, R.E., A. V. Buising, and K.K. Beratan, 1992. Old routes to the Colorado: the 1992 Mojave Desert Quaternary Research Center field trip, *in* Old routes to the Colorado, J. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication 92-2:5-27.

Reynolds, R.E., and Fay, L.P., 1989. The Coon Canyon Fault Crevice Local Fauna: Preliminary evidence for recency of faulting in the Mud Hills, San Bernardino County, California, in *The west-central Mojave Desert: Quaternary studies between Kramer and Afton Canyon*. Redlands, San Bernardino County Museum Association Special Publication.

Reynolds, R.E., L.P. Fay and R.L. Reynolds, 1990. California Oaks Road: an early-late Irvingtonian Land Mammal Age fauna from Murrieta, Riverside County, California. Redlands, San Bernardino County Museum Association Quarterly, 37(2).

Reynolds, R.E., Glazner, A.F. and Meek, N., 1989. Field trip road log, in *The west-central Mojave Desert: Quaternary studies between Kramer and Afton Canyon*. Redlands, San Bernardino County Museum Association Special Publication.

Reynolds, R.E. and Jefferson, G.T., 1971, Late Pleistocene vertebrates from Valley Wells, Mojave Desert, California: Geological Society of America, 67th Annual Meeting Cordilleran Section, Abstracts with Programs.

Reynolds, R.E. and Jefferson, G.T., 1988. Timing of deposition and deformation in Pleistocene sediments at Valley Wells, eastern San Bernardino County, California. Cordilleran Section, Geological Society of America, Field Trip Guidebook.

Reynolds, R.E. and Jefferson, G.T., 1988. Timing of deposition and deformation in Pleistocene sediments at Valley Wells, eastern San Bernardino County, California. Cordilleran Section, Geological Society of America, Abstracts with Programs.

Reynolds, R.E., G.T. Jefferson, and R.L. Reynolds, 1991. The sequence of vertebrates from Plio-Pleistocene sediments at Valley Wells, San Bernardino County, California, *in* Crossing the borders: Quaternary studies in eastern California and southwestern Nevada, R.E. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication MDQRC 1991:72-77.

Reynolds, R.E. and Jenkins, J.E., 1986, Secondary mineral assemblage, Copper Consolidated Lode, Copper Basin, San Bernardino County, California, in *Geology around the margins of the eastern San Bernardino Mountains*: Redlands, Publications of the Inland Geological Society, Vol. 1, p. 81-84.

Reynolds, R.E. and Kampf, A.R., 1984, Minerals of the Mohawk mine, San Bernardino County, California: Tucson, Friends of Mineralogy, Annual Meeting, abs.

Reynolds, R.E. and M.A. Knoll, 1992. Miocene vertebrate faunas of the Little Piute Mountains, southeastern Mojave Desert, *in* Old routes to the Colorado, J. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication 92-2:92-94.

Reynolds, R.E. and Kooser, M.A., 1986, Road log, in *Geology around the margins of the eastern San Bernardino Mountains*: Redlands, Publications of the Inland Geological Society, Vol. 1, p. 7-50.

Reynolds, R.E. and Lander, E.B., 1985, Preliminary report on the Miocene Daggett Ridge local fauna, central Mojave Desert, California, in Geological investigations along Interstate 15, Cajon Pass to Manix Lake: Redlands, San Bernardino County Museum, p. 105-110.

Reynolds, R.E., Lemmer, B., and Jordan, F., 1994. The Landers Rupture Zone and other faults in the Central Mojave Desert Province, California, Field Trip 11 in Geological investigations of an active margin, S.F. McGill and T.M. Ross, eds. 27th Annual Meeting, Geological Society of America, Cordilleran Section Guidebook:258-271.

Reynolds, R.E. and E.H. Lindsay, in review. Late Tertiary basins and vertebrate faunas along the Nevada/Utah border.

Reynolds, R.E. and McMackin, M.R., 1988. Field trip roadlog, Cenozoic tectonics in the Halloran Hills and Kingston Range. Cordilleran Section, Geological Society of America, Field Trip Guidebook.

Reynolds, R.E., Miller, D.M. Nielson, J.E., and McCurry, M., 1995. Road log, in Ancient surfaces of the East Mojave Desert, Reynolds, R.E. (compiler) and J. Reynolds (ed). San Bernardino County Museum Association Quarterly, 42(3): in prep.

Reynolds, R.E. and Nance, M.A., 1988. Shadow Valley Basin: late Tertiary deposition and Gravity Slides from the Mescal Range. Cordilleran Section, Geological Society of America, Field Trip Guidebook.

Reynolds, R.E. and Nance, M.A., 1988. Shadow Valley Basin: late Tertiary deposition and Gravity Slides from the Mescal Range. Cordilleran Section, Geological Society of America, Abstracts with Programs.

Reynolds, R.E. and Reeder, W.A., 1986, Age and fossil assemblage of the San Timoteo formation, Riverside County, California, in Geology around the margins of the eastern San Bernardino Mountains: Redlands, Publications of the Inland Geological Society, Vol. 1, p. 51-56.

Reynolds, R.E. and W.A. Reeder, 1991. The San Timoteo Formation, Riverside County, California. San Bernardino County Museum Association Quarterly, 38(3,4):44-48.

Reynolds, R.E. and P. Remeika, 1993. Ashes, faults and basins: the 1993 Mojave Desert Quaternary Research Center field trip, in Ashes, faults and basins. R.E. Reynolds and J. Reynolds, eds.. Redlands, San Bernardino County Museum Association Special Publication MDQRC 93-1: 3-33.

Reynolds, R.E. and J. Reynolds, 1991. Crossing the borders: the 1991 MDQRC field trip, in Crossing the borders: Quaternary studies in eastern California and southwestern Nevada, R.E. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication MDQRC 91:5-35.

Reynolds, R.E. and J. Reynolds (eds), 1993. Ashes, faults and basins. Redlands, San Bernardino County Museum Association Special Publication MDQRC 93-1: 107 p.

- Reynolds, R.E. (compiler) and J. Reynolds (ed), 1992. Old routes to the Colorado, J. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication 92-2:106 p.
- Reynolds, R.E. (compiler) and J. Reynolds (ed), 1995. Ancient surfaces of the Eastern Mojave Desert. San Bernardino County Museum Association Quarterly, 42(3): 160 p.
- Reynolds, R.E. and J. Reynolds (eds), 1996. Punctuated chaos in the northeastern Mojave Desert. San Bernardino County Museum Association Quarterly, 43(1,2): 156 p.
- Reynolds, R.E. and J. Reynolds (eds), 1997. Death Valley: The Amargosa Route. San Bernardino County Museum Association Quarterly, 44(2): 106 p..
- Reynolds, R.E. and Reynolds, R.L., 1985, Late Pleistocene faunas from Daggett and Yermo, San Bernardino County, California, in Geological investigations along Interstate 15, Cajon Pass to Manix Lake: Redlands, San Bernardino County Museum, p. 175-191.
- Reynolds, R.E. and R.L. Reynolds, 1990. A new, late Blancan faunal assemblage from Murrieta, Riverside County, California. Redlands, San Bernardino County Museum Association Quarterly, 37(2).
- Reynolds, R.E. and R.L. Reynolds, 1990. Irvingtonian? faunas from the Pauba Formation, Temecula, Riverside County, California. Redlands, San Bernardino County Museum Association Quarterly, 37(2).
- Reynolds, R.E. and R.L. Reynolds, 1991. Structural implications of late Pleistocene faunas from the Mojave River Valley, California, in Inland southern California: the last 70 million years, M.O. Woodburne, R.E. Reynolds, and D.P. Whistler, ed. Redlands, San Bernardino County Museum Association Quarterly 38(3,4):100-105.
- Reynolds, R.E. and R.L. Reynolds, 1992. Pleistocene Faunas in the Bristol-Danby Trough, in Old routes to the Colorado, J. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication 92-2:83-86.
- Reynolds, R.E. and R.L. Reynolds, 1993. Rodents and rabbits from the Temecula Arkose, in Ashes, faults and basins. Redlands, R.E. Reynolds and J. Reynolds, eds. San Bernardino County Museum Association Special Publication MDQRC 93-1: 98-100.
- Reynolds, R.E. and Reynolds, R.L., 1994. The Victorville Fan and an occurrence of *Sigmodon*, in Off limits in the Mojave Desert, R.E. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication, 94(1): 31-33.
- Reynolds, R.E. and R.L. Reynolds, 1994. The isolation of Harper Lake Basin, in Off limits in the Mojave Desert, R.E. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication, 94(1): 34-37.
- Reynolds, R.E. and R.L. Reynolds, 1994. Depositional history of the Bitter Springs Playa paleontologic site, Tiefert Basin, Fort Irwin National Training Center, California, Off limits in the

Mojave Desert, R.E. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication, 94(1): 56-60.

Reynolds, R.E., R.L. Reynolds, C.J. Bell, N.J. Czaplewski, H.T. Goodwin, J.I. Mead, and B. Roth, 1991. The Kokoweef Cave faunal assemblage, *in* Crossing the borders: Quaternary studies in eastern California and southwestern Nevada, R.E. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication MDQRC 91:97-103.

Reynolds, R.E., R.L. Reynolds, C.J. Bell, and B. Pitzer, 1991. Vertebrate remains from Antelope Cave, Mescal Range, San Bernardino County, California, *in* Crossing the borders: Quaternary studies in eastern California and southwestern Nevada, R.E. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication MDQRC 91:107-109.

Reynolds, R.E., R.L. Reynolds, and A.F. Pajak III, 1991. Blancan, Irvingtonian, and RanchoLabrean(?) Land Mammal Age faunas from western Riverside County, California. 38(3,4):37-40.

Reynolds, R.E. and Turner, W.G., 1971. Petroglyph dating, in Three essays on petrolyphology: Bloomington, San Bernardino County Museum Association Quarterly, vol. XIX, no. 1, p. 28-34.

Reynolds, R.E. and Weldon, R.J., 1988. Vertebrate paleontologic investigation, DOSECC "Deep Hole" project, Cajon Pass, San Bernardino County, California. Geophysical Research Letters 15(9):1073-1076.

Reynolds, R.E., S.G. Wells, and R.H. Brady III, 1990. At the end of the Mojave: Quaternary studies in the eastern Mojave Desert. Redlands, San Bernardino County Museum Association Special Publication: 134 p.

Reynolds, R.E. and D.E. Whistler, 1990. Early Clarendonian Faunas of the Eastern Mojave Desert, San Bernardino County, California. Redlands, San Bernardino County Museum Association Special Publication, MDQRC Guidebook.

Reynolds, R.E., D.P. Whistler, and M.O. Woodburne, 1991. Road log: the 1991 SVP field trip to paleontologic localities in inland southern California. San Bernardino County Museum Association Quarterly, 38(3,4):5-36.

Agenbroad, L.D., J.I. Mead, and R.E. Reynolds, 1992. Mammoths in the Colorado River Corridor, in Old Routes to the Colorado, J. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication 92-2:104-106.

Calzia, J.P. and R.E. Reynolds, 1998. Finding Faults in the Mojave Desert. San Bernardino County Museum Association Quarterly, 45(1,2), 112 p.

Goodwin, H.T. and R.E. Reynolds, 1989. Late Quaternary Sciuridae from Kokoweef Cave, San Bernardino County, California. Bulletin, Southern California Academy of Sciences, 88(1):21-32.

- Goodwin, H.T. and R.E. Reynolds, 1989. Late Quaternary Sciuridae from low elevations in the Mojave Desert, California. *The Southwestern Naturalist*, 34(4):506-512.
- Karnes, Kyle, and Reynolds, R.E., 1995. *Marmota flaviventris* from Devil Peak Cave, southern Nevada, in Abstracts from Proceedings, the 1995 Desert Research Symposium. Redlands, San Bernardino County Museum Association Quarterly, 42(2).
- Kooser, M.A. and Reynolds, R.E., eds, 1986, Geology around the margins of the eastern San Bernardino Mountains: Publications of the Inland Geological Society, Vol. 1, 124 p.
- Korth, W.W. and Reynolds, R.E., 1994. A hypsodont gopher (Rodentia, Geomyidae) from the Clarendonian (Miocene) of California, Off limits in the Mojave Desert, R.E. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication, 94(1): 91-95.
- Roth, B. and Reynolds, R.E., 1988. Late Pleistocene nonmarine Mollusca from Kokoweef Cave, Ivanpah Mountains, California. Redlands, San Bernardino County Museum Association Quarterly XXXV(3,4).
- Roth, B. and Reynolds, R.E., 1990. Late Quaternary nonmarine mollusca from Kokoweef Cave, Ivanpah Mountains, San Bernardino County, California. *Bulletin, Southern California Academy of Sciences*, 89(1):1-9.
- Sarjeant, W.A.S. and R.E. Reynolds, 1999. Camelid and horse footprints from the Miocene of California. *Fossil Footprints*, R. E. Reynolds, ed. The 1999 Desert Research Symposium Proceedings, SBCM Assn. Quarterly, V. 46, (2) p. 3-20.
- Sarjeant, W.A.S. and R.E. Reynolds, 2001. Bird Footprints from the Miocene of California. *The Changing Face of the East Mojave Desert*, R. E. Reynolds, ed. The 2001 Desert Research Symposium Proceedings, Desert Studies Center, California State University, Fullerton, p. 21 - 40.
- Simpson, R.D., Haenszel, A., Reynolds, R.E., and Bowers, D., 1971, *Rock Camp*: Bloomington, San Bernardino County Museum Association Quarterly, vol. XIX, no. 1, p. 28-34.
- Turner, W.G. and Reynolds, R.E., 1977, Dating the Salton Sea petroglyphs: *Science News*, vol. 111, February.
- Wagner, H.M. and Reynolds, R.E., 1983, *Leptarctus ancipidens* (Carnivora: Mustelidae) from the Punchbowl formation, Cajon Pass, California: *Bulletin of the Southern California Academy of Sciences*.
- Wells, S.G. and R.E. Reynolds, 1990. Desert wind, water, and brimstone: Quaternary landscape evolution in the eastern Mojave Desert, *in* At the end of the Mojave, R.E. Reynolds, ed. Redlands, San Bernardino County Museum Association Special Publication:5-16.
- Whistler, D.P. and R.E. Reynolds, 1991. Recent revisions to the Clarendonian faunal assemblage from the Avawatz Formation. *San Bernardino County Museum Association Quarterly*, 38(3,4):91-92.

Wilkerson, Gregg, Reynolds, R.E., Lawlor, D., and Nafus, B., 1995, Fossil resources involving Federal Lands in California, *in* Abstracts from Proceedings, the 1995 Desert Research Symposium. Redlands, San Bernardino County Museum Association Quarterly, 42(2).

Wilkerson, Gregg, Reynolds, R.E., Lawlor, D., and Nafus, B., 1995, Fossil resources and Federal Lands in California. Redlands, San Bernardino County Museum Association Quarterly, 42(2).

PALEONTOLOGIC RESOURCE ASSESSMENT AND MITIGATION PROGRAMS AND REPORTS

LSA Current Projects

PGA Golf course, San Timoteo Canyon, Riverside County
Serrano Heights, Orange County
Richmond American Homes, Chino Hills, S. Bd. Co.
Pac Bell, Kramer, S. Bd. Co
Riverside County General Plan Revisions

Major Previous Projects, Paleontological Assessments and Mitigation, or Paleontological Excavation and Research

California

Imperial County

1987 Imperial Irrigation District

Kern County

1987 Sycamore Cogeneration, Oildale
1987 Midway-Sunset Cogeneration, McKittrick
1989 Midway-Sunset Extension, McKittrick
1988 Edwards Air Force Base, Paleo Overview and Management Plan
1990 Kern River Pipeline, Mesquite, Nev. to Bakersfield
1990 Delta Electric, E. A. F. B.
1992 Horn Toad Hills, Mojave

Kings County

1989 Avenal Pipeline

Los Angeles County

1989 Piute Ponds, E. A. F. B.
1990 Palmdale, City of, Paleo Sensitivity Map

1990 Mobil M-70 Pipeline
1990 Elsmere Canyon Landfill
1990 Marketplace, Palmdale
1991 Mackel Development, Palmdale
1991 Real Homes, Palmdale
1991 Palmdale Airport Corridor
1991 Suverkrup Corp., Palmdale

Riverside County, Eastern

1985 All American Pipeline
1986 Mecca Hills, Indio
1989 Eagle Mountain Land Fill

Riverside County, North Central

1989 Denizen Heights, Hemet
1989 Portrero Ranch, Beaumont
1989 Landmark/ Oak Valley, Beaumont
1991 Shutt Ranch, Calimesa
1991 Olive Dell Ranch, El Casco
1991 De Anza Cycle Park
1990 Badlands Landfill Expansion
1995 Jackrabbit Trail Paleo Salvage

Riverside County, South Central

1987 Richmond American, Los Alamos, Murrieta
1987 Nutmeg, Temecula
1987 California Oaks, Murrieta
1988 Vail Lake Development
1988 Ynez Road, Temecula
1988 Country Walk, Temecula
1988 Woodview, Temecula
1988 Ynez Town Center, Murrieta
1988 Quail Springs, Murrieta
1988 Dane Development, Murrieta
1988 Dix Development, Murrieta
1988 Crowell-David, Murrieta
1988 BCI, Temecula
1988 Antelope Road, Murrieta
1988 Gibbs I, Murrieta
1988 Gibbs II, Murrieta
1989 Olsen, Murrieta

1989 Murrieta Horse Ranch
1989 Pulte Homes, Murrieta
1989 Gibbs III, Murrieta
1989 Murrieta Village Center
1989 S & G Homes, Murrieta
1989 Kraus Project, Murrieta
1989 Dix Development, II, Murrieta
1989 Pulte-Silverhawk, Murrieta
1990 Crowell-David, Murrieta
1990 Paragon Park
1990 Whitten Project, Temecula
1990 Toyota of Temecula
1990 Relco Homes, Temecula
1991 Rolling Ridge Plaza
1991 Bedford, Ynez Road, Murrieta
1991 Ynez Auto Plaza
1991 RanPac, Murrieta
1991 Murrieta Valley High School
1991 Dix Development III, Murrieta
1991 Murrieta Hospital
1991 J W Redwood, Murrieta
1991 Margarita Meadows, Murrieta
1991 Winchester Meadows Business Park
1991 Murrieta Gateway
1991 California Oaks Development, Murrieta
1991 Lakeview Hot Springs
1991 Morrison Homes, Murrieta
1992 Aguanga, Temecula Arkose

Riverside County, Western

1983 Mindeman Ranch, Corona
1987 I-15 Interchange, Caltrans, Corona
1991 Lake Mathews Detention Basin
1991 Saddleback Builders, El Cerrito
1992 West Venture Development, El Cerrito

San Bernardino County, Eastern

1979 Lugo-Mira Loma T/L, SCE
1979 Solar One, SCE, Daggett
1981 Salvage, Barstow Fossil Beds
1981 Tower M7-T3, SCE, Cajon Pass
1981 Coolwater Coal Gassification Plant, SCE, Daggett
1982 Hackberry Mtn Salvage, Goffs

1983 Klein Camel Salvage, Barstow
1983 Solar Ponds, Daggett
1982 Hwy. 138 Alignment, Cajon Pass
1983 Santa Fe Widening, Cajon Pass
1983 Antelope Cave Salvage, Mescal Range
1984 Robbins Quarry, Barstow
1984 LUZ-Wismer & Becker Solar Trough Site, Daggett
1984 Calico Lakes, Yermo
1984 United Energy, Yermo
1984 Coolwater SCE Solid Waste Site, Daggett
1984 Intermountain Power Project, Stateline to Adelanto
1985 All American Pipeline, Blythe to Ventura
1985 IPP South Electrode, Coyote Lake
1985 Luz SEGS II, Daggett
1986 Luz SEGS I, Daggett
1986 Newberry Ballast, SPRR,
1986 MCI Fiber Optics, Cajon Pass
1986 Bitter Spring Playa Salvage, Ft. Irwin
1986 Luz Evaporation Ponds, Daggett
1986 WilTel Fiber Optics, Stateline to Cajon
1988 Ward Valley Low Level Repository
1988 Silurian Valley Low Level Repository
1989 Broadwell Lake Repository
1990 Mojave Pipeline, Blythe to Bakersfield
1990 Kern River Pipeline, Mesquite, Nev. to Bakersfield
1990 Coolwater Texaco Syngas, Daggett
1990 Pacific Agriculture, Cadiz Land
1991 Hidden Valley Repository, Cady Mts.
1991 Railcycle, Amboy
1991 Las Vegas Truck Stop, Yermo
1991 Indian Trails, Oro Grande
1991 Campbell Hill, Twentynine Palms Gravel Pit
1992 Little Piute Mts Bonebed Quarry
1994 Old Woman Sandstone, Lucerne Valley
1995 Hackberry Wash Salvage
1997 Piute Valley Hazen Quarry, Needles
1998 Robbins Quarry, Barstow

San Bernardino County, Northwest

1979 Sullivan's Curve, Cajon Pass
1982 Highway 138 Separation, Caltrans, Cajon Pass
1985 Summit Safety, Caltrans, Cajon Pass
1986 SCE Victor Valley Office
1986 DOSECC Deep Heard, Cajon Pass
1986 American Flat Glass, Victorville

- 1986 Luz SEGS III-VII, Kramer
- 1987 Cajon Truck Escape Ramp, Caltrans
- 1988 Shadow Valley Farms, Silver Lakes
- 1989 Luz SEGS VIII, Harper Lake
- 1989 Faherty South, Victorville
- 1989 Faherty North, Victorville
- 1989 Kramer / Victor T / L, SCE
- 1990 Mojave Pipeline, Blythe to Bakersfield / McKittrick
- 1990 Daly Homes, Victorville
- 1990 CAPA School, Victorville
- 1990 Highway 138 Realignment, Cajon Pass
- 1990 Luz T/L, Harper Lake
- 1990 Cozy Dell Gravel, Cajon Pass
- 1990 Allison Pipeline, Victorville
- 1990 Luz SEGS X, Harper Lake
- 1990 Kramer / Victor 220 T/L, SCE
- 1990 Luz SEGS IX, harper Lake
- 1991 Cutright Property, Oak Hills
- 1991 Portrait Homes, Hesperia
- 1991 Hesperia Road
- 1991 Kramer / Adelanto T/L, SCE
- 1991 Paragon Homes, Victorville

San Bernardino County, Southwest

- 1984 Townsend School, Chino Hills
- 1986 Green Valley, Chino Hills
- 1986 Soquel Canyon Road, Chino Hills
- 1987 Owl Rock Quarry, Chino Hills
- 1988 CBC, Chino Hills
- 1988 New Tradition, Chino Hills
- 1988 West Trend, Chino Hills
- 1989 Brock, Coral Ridge, Chino Hills
- 1990 Promenade Homes, Chino Hills
- 1990 Western Hills, Chino

Arizona

- 1990 Mojave Pipeline, Bermuda City
- 1985 Wolf Ranch Salvage, Bisbee,
- 1985 Wikiup Salvage

Nevada

1987 Willow Grove Salvage, Ely
1988 Willow Grove Salvage, Ely
1990 Kern River Pipeline, Mesquite, Nev. to Bakersfield, Ca.
1990 North Las Vegas Land Exchange
1990 Centennial Parkway, North Las Vegas
1990 Mesquite Land Exchange
1991 Las Vegas Flood Control
1991 Logan Wash Diversion, Clark Co.
1991 Primadonna Market
1991 Devil Peak Cave Excavation, Stateline
1991 Primadonna Sewer Ponds
1992 Moapa / Mesquite T/L
1992 Lake Las Vegas
1996 Toquop Wash Camel Salvage, Mesquite

STEVEN W. CONKLING
DIRECTOR, ARCHAEOLOGY/PALEONTOLOGY DIVISION
PRINCIPAL

EXPERTISE

Cultural Resource Mitigation
Paleontology Resource Assessment/Mitigation
Fossil Identification
Specimen Curation

EDUCATION

North Texas State University, Denton, B.A. in Biological Sciences, 1985

ACCREDITATION

County of Orange, Certified Paleontologist, 1989

PROFESSIONAL EXPERIENCE

Principal, Director of Cultural and Paleontological Resources, LSA Associates, Inc., Environmental Planning Consultants, Irvine, 1993-present.

Clark Interpretive Center, County of Orange, Park Ranger/Paleontologist (Director of Museum), 1986-1993.

Orange County Natural History Museum, Curator, 1991-present.

Los Angeles County Museum of Natural History, Research Associate, 1991-present.

San Bernardino County Museum, Research Associate, 1989-present.

Scientific Resource Surveys, Paleontological Consultant, 1989-1993.

Field Research Support Group, Board of Directors, 1990-present.

Mojave Desert Quaternary Research Society, Steering Committee Member, 1990-present.

Society of Vertebrate Paleontology, Ethics Committee Member, 1991-present.

RMW Paleontological Consultants, Paleontological Consultant, 1993.

Foundation for Field Research, Principle Investigator, Mud Hills Excavations, 1990, 1991.

Western Association of Vertebrate Paleontology, Meeting Host, 1990.

Foundation for Field Research, Co-Principle Investigator, Pleistocene Megafauna Project, 1989.

Fullerton Museum Center, Paleontological Consultant, 1989.

Knott's Berry Farm, Paleontological Consultant, Kingdom of the Dinosaurs Attraction, 1987.

University of Kansas, Mammalogy Department, Curatorial Assistant, 1986.

Snow Entomology Museum, Curatorial Assistant, 1985.

Badlands National Park, Park Ranger/Paleontologist, 1984.

Texas A&M University, Agricultural Extension Center, Plant Taxonomist, 1983.

North Texas State University, Porphyrin Chemistry Laboratory Assistant, 1982.

Southern Methodist University, Shuler Museum of Paleontology, Curatorial Assistant, 1981, 1982.

Southern Methodist University, Shuler Museum of Paleontology, Field Assistant, 1981, 1982.

Southern Methodist University, Radiocarbon Laboratory, Laboratory Assistant, 1981, 1982.

Southern Methodist University, Geophysics Department, Seismograph Technician, 1980 - 1982.

Southern Methodist University, Biology Department, Field Assistant, Big Bend National Park, 1981.

Smithsonian Institution, Field worker, Lewisville Early Man Site, 1981.

PROFESSIONAL RESPONSIBILITIES

Conducting paleontological resource projects with responsibilities that include paleontological resource evaluation for Environmental Impact Reports, covering field surveys, literature reviews, and mitigation measures; directing field monitoring and salvage operations; collecting geologic data; fossil analyses; and report preparation.

Direct Cultural Resource Mitigation Group for LSA including directing archaeological field activities, overseeing budgets, coordinating Section 106 compliance with the U.S. Army Corps of Engineers. Review all cultural resources reports.

TEACHING EXPERIENCE

Began and continued programs at the Clark Interpretive Center. Conducted tours for over 150,000 students, from kindergarten through college level (1986-93).

Lead Seminars for:

- UCLA Environmental Program - Cultural Resource Mitigation
- Saddleback College - Paleontology Classes
- Paleontology (LTU)
- Identification of Bone from Archaeological Sites (CSULA, CSUF)
- Fullerton College, Sciences Seminar
- Teacher Mentor Program, Earth Sciences (CSUF)
- Physical Anthropology, Irvine Valley College
- Paleoecology, California State University, Long Beach
- Geology of Texas (NTSU)
- Evolution (NTSU)
- Vertebrate Paleontology (SMU)
- Mammalian Biology (SMU)

PUBLICATIONS AND REPORTS

Vertebrate Paleontology at Badlands National Park, Monitoring for Construction, Publication and talk for the Millennium Conference on Desert Resource Management, 2001.

Vertebrate Remains from CA-SDI-10156/12599/H, MCAS Camp Pendleton, San Diego County, California, Abstract, Society for California Archaeology, 30th Annual Meeting Program, 1996.

Report on Continuing Investigations of the Sespe Formation (Oligocene/Miocene: Terrestrial) in the San Joaquin Hills of Orange County, California, Abstract, San Bernardino County Museum Association Quarterly, 43(2), 1996.

Use of Global Positioning Systems (GPS) and Global Information Systems (GIS) in Cultural and Paleontological Resource Mitigation, with J. Staight, Abstract, San Bernardino County Museum Association Quarterly, 43(2), 1996.

Vertebrate Remains from CA-ORA-196/H, Michelson Bridge Widening, City of Irvine, Orange County, California, 1996.

Paleontological Resource Impact Mitigation Program - Playa Vista (Phase I) Project, Los Angeles County, California, 1996.

Paleontology Assessment Report for Parcel Number 4687, in the Moorpark Area, Ventura County, California, 1996.

Cultural Resources Assessment for Ritter Ranch, Planning Area 1, Los Angeles, California, with D. McLean, B. Sturm, and I. Strudwick, 1996.

Cultural Resources Assessment for Amargosa Creek Improvement Project, Los Angeles County, California, with D. McLean, B. Sturm, and I. Strudwick, 1996.

Report on Paleontological Monitoring, Fox Studios, Galaxy Way Parking Structure, City of Los Angeles, Los Angeles County, California, 1996.

Results of Archaeological Significance Testing at Sites CA-ORA-478 (Locus C), ORA-1453 and ORA-1454, Hicks and East Hicks Canyons, Orange County, California, with D. McLean, B. Sturm, W. McCawley, and I. Strudwick, 1996.

Cultural Resources Assessment for Newport Coast Drive Extension, Off-Site Mitigation Areas, Orange County, California, with D. McLean, and I. Strudwick, 1996.

Results of Archaeological Significance Testing at Site CA-SDI-10156/12599/H MCAS Camp Pendleton, San Diego County, California, with D. McLean, B. Sturm, W. McCawley, D. Taylor and I. Strudwick, 1996.

Scientific Resources Assessment - Planning Area 12, City of Irvine, Orange County, California, with B. Smith, 1995.

Scientific Resource Assessment - Ryan Oil Properties, Riverside County, California, with B. Smith, 1995.

Scientific Resource Assessment - Sea West Wind Farm, Riverside County, California, with B. Smith, 1995.

Scientific Resource Assessment - Tentative Tract 14232, City of Redlands, San Bernardino County, California, 1995.

Cultural Resources Assessment, Planning Area 22, City of Irvine, Orange County, California, with B. Sturm and D. Taylor, 1995.

Confidential Appendix A, Cultural Resources Assessment, Planning Area 22, City of Irvine, Orange County, California, with B. Sturm and D. Taylor, 1995.

National Register of Historic Places Evaluation for the Proposed Mount San Antonio Historic Mining District, Angeles National Forest, Los Angeles County, California, with B. Sturm, 1995.

Scientific Resources Assessment for the Kohl Ranch Property, Riverside County, California, 1995.

Scientific Resources Assessment for an APE extension of the San Joaquin Hills Transportation Corridor Between Stations 900+00 and 910+00, Orange County, California, 1995.

Scientific Resources Assessment - City of Garden Grove, Orange County California, with B. Smith, 1995.

Archaeological and Historical Investigations of the Cram School Site and Tentative Tracts 13551 and 15554, East Highlands, San Bernardino County, California, with B. Sturm, D. McLean, W. McCawley and M.A. Pritchard-Parker, 1995.

Results of Paleontological Monitoring for the Northwood 5 Development (Tract 14540, Irvine, Orange County, California, with B. Smith, 1995.

Paleontology Assessment Report for Tentative Tract 26193, Corona South Quadrangle, Riverside County, California, 1995.

Paleontology Assessment Report for Tract 13551 and 15554, East Highland Ranch, Redlands Quadrangle, San Bernardino County, California, 1994.

Scientific Resources Assessment - Planning Area 10, City of Irvine, Orange County, California, 1994.

Cultural Resources Assessment - Ryan Oil Exchange Parcel, Riverside County, California, with B. Sturm, 1994.

Cultural Resources Assessment for five vacant lots and 42 Potentially Historic Buildings within the Northeast Anaheim Redevelopment Area, Orange County, California, with D. McLean and B. Sturm, 1994.

Paleontological Resource Assessment for five vacant lots within the Northeast Anaheim Redevelopment Area, Orange County, California, 1994.

Scientific Resources Assessment - Newport Coast Drive Extension, 1994.

Cultural Resources Assessment - Sea West Wind Energy Facility, Riverside County, California, with B. Sturm, 1994.

Paleoecology of Some Lower Pleistocene Habitats (San Pedro Formation) in Orange County, California, with D. Maurer, manuscript in preparation for submission to Journal of Paleontology, 1993.

Synecology and Origin of the Pawpaw Micromorph Fauna (Lower Cretaceous) of North-Central Texas, with D. Maurer, manuscript in preparation for submission to Paleobiology, 1993.

Identification of Fossil Sharks of Orange County, manuscript in preparation, 1993.

A New View of Coastal Southern California's Prehistory, with J. Mikalsky, manuscript in preparation for submission to California Geology, 1993.

New Geological Finds, Interpretations and Events from Orange County, California, Abstracts, Journal of Vertebrate Paleontology 12(3), p. 15A, September, 1992.

The Geology and Paleontology of Orange County, California, Abstract, San Bernardino County Museum Association Quarterly, 39(2), summer, 1992.

A Mechanical Screening System for Wet-Screening Large Quantities of Fossiliferous Matrix, and Its Adaptation for field Work and Archaeological Studies, Abstract, San Bernardino County Museum Association Quarterly, with Forrest Michael Hudson, 39(2), summer, 1992.

Report on a New Hemphillian (Miocene) Fauna from the El Toro Area of Orange County California, and a Comparison of it with Hemphillian Faunas from the Mojave Desert, Abstract, San Bernardino County Museum Association Quarterly, 38(2), summer, 1991.

Geology and Paleontology Section, Interpretive Training, Upper Newport Bay, Prepared for the Environmental Management Agency Docent Training Program, Upper Newport Bay., 1991.

An Interpreter's Guide to the Fossils of Badlands National Park, Prepared and published for Badlands National Park, 1990.

Assessment of Archaeological and Paleontological Grading Monitoring for Tentative Tract 13214 of the Robinson Ranch Development Project, Trabuco Highlands, Orange County, California, Scientific Resources Surveys, 1989.

Assessment on Paleontological Grading Monitoring for Tentative Tract 13213 of the Robinson Ranch Development Project, Trabuco Highlands, Orange County, California, Scientific Resources Surveys, 1989.

Paleontological Resource Investigation of Two Road Alignments to Laguna Canyon Road, Village 34, Orange County, California, Scientific Resources Surveys, 1989.

Paleontological Resource Assessment of the Valley Vista Development, Orange County, California, Scientific Resources Surveys, 1989.

Report of Paleontological Survey of the Aliso and Wood Canyons Regional Park Access Road Improvement, September 15, 1989, Environmental Management Agency, County of Orange, 1989.

A Floral and Fauna Analysis of Clark Regional Park (La Habra Formation: Rancholabrean), Orange County California, Abstract, San Bernardino County Museum Association Quarterly, 36(2), summer, 1989.

A Floral and Fauna Analysis of Clark Regional Park (La Habra Formation: Rancholabrean), Orange County California, Abstract, Journal of Vertebrate Paleontology, 8(3), p. 12A, September, 1988.

The Function of the Mandibular Flange in Saber-tooth Carnivores, Abstract, Journal of Vertebrate Paleontology, 7(3), p. 14A, September, 1987.

An Investigation of the Basicranial Anatomy of Certain Oligocene Sabertooth Cats (Nimravidae) and an Interpretation of their Phylogenetic Relationship to Other Carnivora, Abstract, Ter-Qua '85, fall, 1985.

A Dwarf Fauna from the Pawpaw Formation (Lower Cretaceous) of North-Central Texas: Its probable Origin and Synecology, Abstract, Supplement to the 88th annual Program of the Texas Academy of Science, 1985.

A New Species of Giant Fish, Pachyrhizodus, from the Upper Cretaceous of Texas, Abstract, Supplement to the 85th Annual Program of the Texas Academy of Science fall, 1982.

EXHIBITS PREPARED

Los Angeles County Fair, Featured Exhibit, Gems & Minerals
Irvine Park Nature Center
Fullerton Museum Center
Knott's Berry Farm, Discovery Center
Bircher Building Lobby Display
Orange County Fair, Rock and Mineral Building
Orange County Fair, Orange building
Laguna Niguel Regional Park
Whiting Ranch Regional Park
Orange County Natural History Museum
Ralph B. Clark Interpretive Center
Orange County Courthouse Museum
City of Newport Beach, Council Chambers
Fletcher Jones Motorcars
Bower's Museum of Cultural Art

PROFESSIONAL MEMBERSHIPS/AFFILIATIONS

Society for California Archaeology
Sigma Xi, Scientific Research Society
Society of Vertebrate Paleontology
Society of Economic Paleontology and Mineralogy
Orange County Natural History Association, President 1997-2000
California Cultural Resource Preservation Alliance
Southern California Academy of Science
American Association of Mammalogists
Buena Park Rotary Club, President 1989-90
Newport-Irvine Rotary Club, Vocational Service Director 1999-2002

CURRICULUM VITAE

Riordan L. Goodwin
36272 Corsica Circle
Winchester, CA 92596
Tel: (909) 926-2076
E-mail: rorygood@earthlink.net

EDUCATION:

1987-1993 San Diego State University, Anthropology Graduate Program (completed all but thesis)
1986-1987 San Diego State University, Bachelor of Arts in Anthropology
1983-1986 Palomar Community College, San Marcos, Anthropology Major,
1983-1987 Geology Minor

EMPLOYMENT HISTORY

2001 LSA Associates
3403 10th Street, Suite 520
Riverside, CA 92051-3617
Contact: Bob Reynolds 909 781-9310

2000-2001 Earth Tech
1461 E. Cooley Drive
Colton, CA 92324
Project Archaeologist
Contact: Andrea Urbas (909) 424-1919

1998-2000 Archaeological Resource Management
496 North 1st Street
San Jose, CA 95112
Staff Archaeologist/Historian
Contact: Dr. Robert Cartier (408) 295-1373

1998 Achaeor
232 Corte San Pablo
Mission San Jose, CA 94539
Field Archaeologist
Contact: Richard Thompson (510) 438-0771
or Andrew Galvan/The Ohlone Tribe (510) 656-0787/chocheno@aol.com

1997 Holman & Associates
3615 Folsom Street
San Francisco, CA 94110
Staff Archaeologist
Contact: Miley Holman (650) 726-6269
or Matthew Clark (650) 726-6269/MRC@CRM.com

1994-1996 Computer Sciences Corporation
2650A Popson Avenue,
Edwards Air Force Base, Edwards CA 93524
Staff Archaeologist/Historical Researcher
Contact: Mark Campbell, Archaeologist (661) 277-4900
Or Richard Norwood, Edwards AFB Archaeologist (661) 277-7077

1989-1992 B. F. S. & Associates
12528 Kirkham Court
Poway, CA 92064
Staff Archaeologist
Contact: Brian F. Smith (619) 486-0254

SURVEY EXPERIENCE:

1989-1999 Extensive experience with Phase I (presence/absence) surveys ranging in size from less than one acre to many large surveys, including tracts as large as 20,000+ acres. Large surveys include Ralph's Ranch Master Plan Project in Rancho Bernardo, CA, Crowder Subdivision Project in San Pasqual, CA, North Livermore Project in Livermore, CA, and Precision Impact Bombing Range at Edwards Air Force Base, CA. Survey experience with all site types in California ranging from prehistoric and historic sites in San Diego, Riverside and Kern Counties, to Protohistoric Native American occupations and Mission Period Spanish waterworks (SDI-6660) in San Diego County. Extensive survey experience with WWII-era military sites, including training camps (Camp Elliot near Miramar NAS in San Diego County), shore batteries (Point Loma in San Diego; SDI-11932H & SDI-11936H) and Army Aviation installations (Brown Field in San Diego, Precision Impact Range Area, Hap Arnold's East Camp, SDI-2031H, Muroc Bombing & Gunnery Range, and KER-695 at Edwards Air Force Base, CA). Surveys usually involved site descriptions and/or recordation, and occasionally required limited surface collections.

MONITORING EXPERIENCE:

1989-2000 Extensive full-time and spot-check monitoring experience including large-scale brushing, grading, and earth-moving projects, municipal and construction-related sewer and water line excavations, leach field excavations, caisson borings, and geologic soil tests. Full-time monitoring occasionally involved detailed field notes, site mapping and monitoring reports. Also served as formal contractor/CRM P.I. liaison.

NATIVE AMERICAN REPRESENTATIVE/MONITORING EXPERIENCE

1999 Experience as Native American Representative/ monitor for Andrew Galvin/The Ohlone Tribe at the Barry project (SBN-32) in San Benito County.

EXCAVATION EXPERIENCE:

1989-1999 Extensive experience as field crew member and occasional experience as crew chief in Phase II historic and prehistoric test excavation contracts. Additional experience with many Phase III projects, including the Old Coach Road Golf Estates Project (1990-1991), which involved the removal of a Protohistoric Diegueo cremation from one of a cluster of sites in Poway, CA. (SDi-807, SDi -11521, SDi -11522 and SDi -11523) and the Early Period Scotts Valley Drive site (SCR-249) in the Santa Cruz Mountains (1998-1999). Excavated Ohlone inhumation near Mission San Jose (ALA-509 in 1997), assisted with multiple Ohlone inhumation removals in San Jose at the Buchanan Project in Los Altos Hills (1997) and at SCL-775B, in southern San Jose. Excavated and Supervised removal of multiple Ohlone inhumations near Hollister, CA, (SBN-32 in 1999). Excavated at the Berryessa and Alviso Adobes (SCI-155/H in Santa Clara County) under the direction of historic architect Gil Sanchez. Also acquired experience excavating in and around inert ordnance at Edwards AFB, CA. (1994-1995)

LABORATORY EXPERIENCE:

1987-2000 Extensive experience analyzing and cataloging prehistoric and historic artifact collections for Dr. Gary O. Rollefson at San Diego State University, Brian F. Smith & Associates in San Diego, Computer Sciences Corporation at Edwards Air Force Base, CA, Holman and Associates in San Francisco and Archaeological Resource Management in San Jose.

PALEONTOLOGICAL MONITORING EXPERIENCE:

- 2001 Laband Village project in Chino Hills, California. Long-term (6 months) monitoring of construction grading and excavation, involving marine fossil specimen recovery, preparation, and conservation from the Sycamore Canyon Member of the Puente Hills Formation as well as geologic mapping. Space Center project in Victorville, California. Short-term monitoring involving large mammal fossil specimen recovery and preparation, as well as soil testing for microfauna fossils.

PROJECT LEAD EXPERIENCE:

- 1997 Palmia/Brookfield Homes project in San Jose, CA. Involved extended monitoring of grading and trenching for residential development, as well as occasional supervision of additional crew members, artifact collection processing estimate, laboratory analysis and monitoring report. Also monitored the Buchanan and Tasman projects in San Jose, CA, as well as the Piedmont Road Realignment Project in Milpitas, CA for Holman and Associates. Performed all laboratory analysis and prepared artifact catalogs and reports.
- 1995 Scout Camp Improvement Project at Edwards AFB, CA. Entailed Phase I of Boy Scout Camp and subsequent recordation of three prehistoric Pinto period sites and one severely impacted historic homestead using a GPS unit. GPS data was interpreted into area and site maps. Supervised two crewmembers. Co-authored report.

RECENT RESEARCH:

- 1998-2000 Multiple data-gathering trips for Historic Building Inventories and Integrated Cultural Resource Management Plans to military installations in Texas (Brooks Air Force Base, Camp Mabry, Lone Star Army Ammunition Plant), and Arkansas (Pine Bluff Arsenal) Extensive research (over the course of eight months) for mitigative historic monograph on the history of the fruit industry in the Santa Clara Valley (*The Fruit Industry and the Santa Clara Valley*), and numerous historic architectural evaluations in special collections and museum/historical society archives throughout Santa Clara, Alameda, and Santa Cruz counties. Research occasionally included oral history interviews.
- 1996-1997 Extensive research for web site on aerial campaigns of the Russian Civil War (1917-1922), "Wings of Revolution. Additional research for two (non-work related) articles on World War I aviation published in online magazine Chandelle (*The Albatros G-type* at www.concentric.net/~Rojol and *The Rumpler G-Types* at worldatwar.net/chandelle).

1995

Aviation history research for Cultural Resources Overview. Prepared by Computer Sciences Corporation at Edwards AFB covering military activities from the late 1920's through the Cold War.

Universal Thrust Stand for the South Base Runway (CA-KER-706) Rehabilitation Project. Researched early Cold War experimental aircraft tests, prepared documentation and co-conducted an oral-history interview.

Hap Arnold's East Camp Project. Included evaluation of aerial and historic photographs, investigation of base media archive, consultation with Edwards AFB historians Raymond Puffer, Ph.D., and Fred Johnsen. Personally conducted recovery and seriation of U.S.A.A.C. (U. S. Army Air Corps)/U.S.A.F. ammunition and ordnance (bullets, bombs and rockets) including research of associated aircraft, weapons systems, and small arms.

WRITING/EDITING EXPERIENCE

Extensive experience writing, co-writing, and editing CEQA and NEPA level reports, historic building inventories, cultural resource assessments, management plans, historic architecture evaluations, Department of Parks and Recreation forms, HABS/HAER documentation and report production. Experienced with municipal historical significance evaluations in San Jose, as well as California and National Register eligibility evaluations for prehistoric and historic resources. Additional experience writing 60+ page historic monograph, Historic Buildings Inventory Man-in-Space historic context, and historic backgrounds for various historic architectural evaluations.

PHOTOGRAPHY

Experience photographing test excavations and historic architecture with both 35 mm and digital cameras for CEQA and NEPA historic architectural evaluations and Section 106 historic building evaluations.

MANAGEMENT

Experienced in office management, including client contact, proposal, contract and letter preparation, invoicing, and scheduling. Currently co-managing multiple projects and managing staff members who are themselves managing multiple projects. Also, assisted with development of cost proposals and project budget management

COMPUTER SKILLS

PC/MAC platforms, MSWord, MExcel, Netscape Communicator, IE, Adobe Photoshop, MS Outlook, Eudora, Netscape Messenger, and various in-house office applications.