

## DOCKETED

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# Addendum No. 1 to Cultural Resources Assessment for GWF Tracy Combined Cycle Power Plant (08-AFC-7C); GWF Energy LLC Installation of Temporary Storage Tanks in Support of Petition to Amend

PREPARED FOR: GWF Energy LLC

PREPARED BY: Clint Helton/CH2M  
Michelle Kaye/CH2M

DATE: December 8, 2015

## Introduction

As requested by GWF Energy, LLC (GWF), CH2M conducted an environmental review to specifically address potential impacts to cultural resources for the installation of temporary storage tanks. A field survey was conducted by CH2M archaeologist Michelle Kaye, RPA for the proposed storage tank location on December 2, 2015. The archaeological sensitivity of the location is considered low based on the high degree of ground disturbance and lack of known cultural resources from previous investigations. The summary of findings is presented below. Figure 1 depicts the area surveyed for prehistoric, historic, and architectural cultural resources.

GWF has prepared a Petition to Amend (PTA) for the GWF Tracy Combined Cycle Power Plant regarding alternative water supplies (Carroll 2015). The PTA seeks approval for (1) installation of temporary water storage at the location of the Bogetti well; (2) conveyance of water by truck from the Bogetti well to the project site, and (3) alternative temporary storage on the project site (Carroll 2015:2). Neither trucking the water nor installing temporary storage on the project site would result in impacts to cultural resources. In the case of trucking the water, the PTA does not require roadway modifications, off-road travel, or other ground disturbance.

Installation of temporary storage on the project site would occur on a gravel pad supported by engineered fill (see Carroll 2015: Exhibit C). Records searches of the project site were conducted in 2001 and 2008; the records searches did not identify any cultural resources within the project site (CH2M HILL 2008:5.3-6-5.3-7; URS 2001:8.3-8). Consultation with Native American tribes and organizations in 2001 and 2008 also did not identify cultural resources on the project site (CH2M HILL 2008:5.3-6-5.3-7; URS 2001:8.3-9-8.3-10). The project site has been surveyed in its entirety and no California Register-eligible cultural resources have been identified within the project site (URS 2001:8.3-10-8.3-12, 8.3-22, Figure 8.3-4). Qualified archaeologists monitored construction of the Tracy Combined Cycle Power

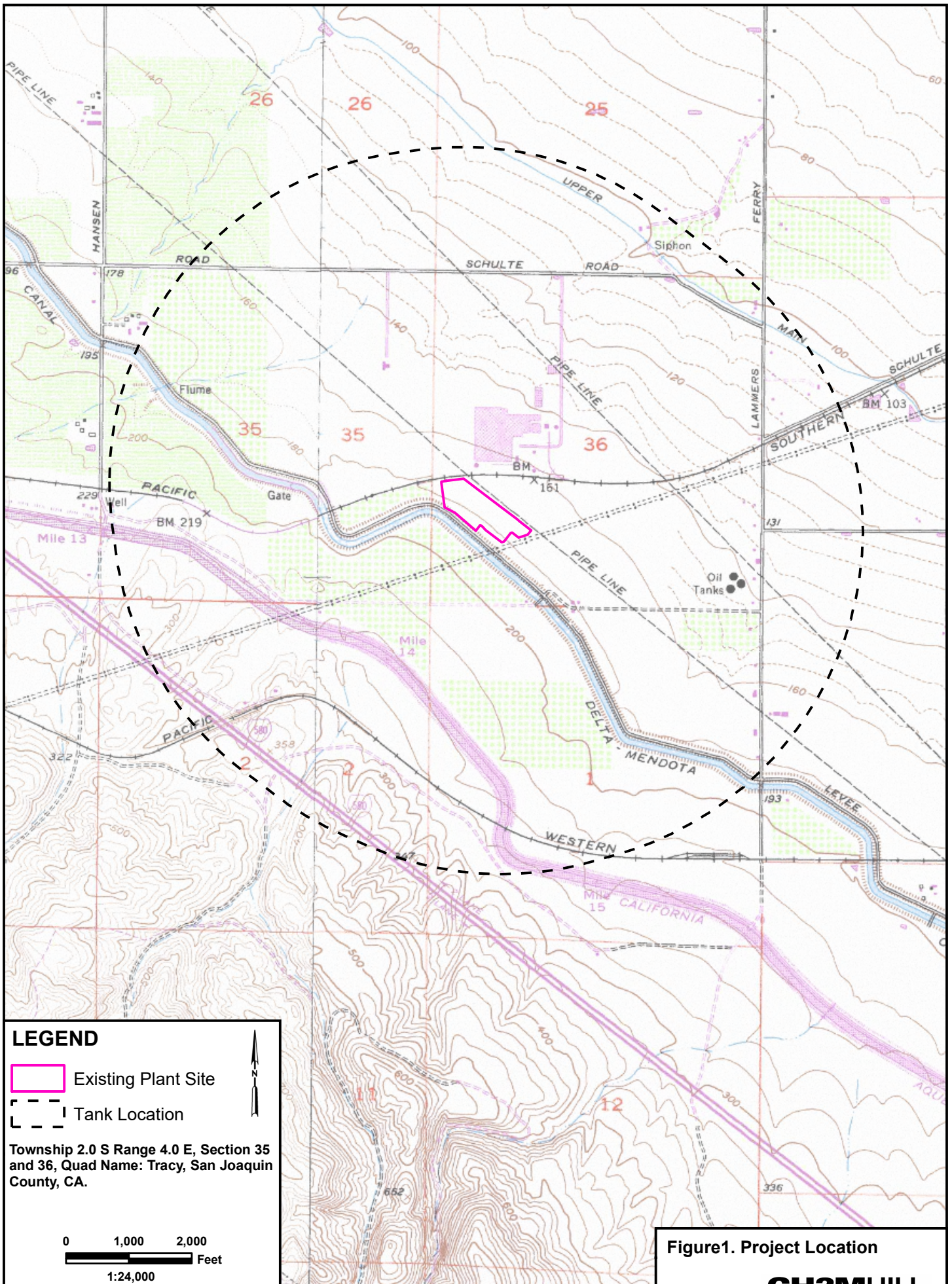


Figure1. Project Location

Plant and did not identify any cultural resources in the project site (Reno and Zeier 2003: Map 1). As such, installation of temporary water storage tanks would not disturb any natural ground surfaces, let alone cultural resources.

The area proposed for installation of eight temporary water storage tanks near the Bogetti well (see Carroll 2015:2, Exhibits A, B) was not analyzed in previous cultural resources assessments for the Tracy Combined Cycle Power Plant (CH2M HILL 2008; Reno and Zeier 2003; URS 2001). Therefore, a new records search and literature review, cultural resources survey, and report of inventory findings, has been prepared to demonstrate that installation of temporary water storage tanks would not affect cultural resources. Following CEC requirements, the pedestrian survey covered the tank storage area and a 200-foot buffer surrounding it in 50-foot or narrower transect intervals.

### **November 2015 Archival Research**

In November 2015 GWF commissioned an updated literature search of the water tank project area from the staff of the California Historical Resources Information System (CHRIS) Central Information Center using a definition of a one-mile buffer zone around the storage tank site. Full results were provided from the CHRIS directly to CEC Cultural Resources Staff (Records Search File No.: 9534L). The November 2015 records search revealed no new studies or resources in or within 200 feet of the tank storage area.

### **December 2015 Survey**

Under the direction of Clint Helton, RPA, Ms. Michelle Kaye Fitzgerald Ph.D., RPA conducted an archaeological survey for the proposed temporary water tank storage site on December 2, 2015 (Appendix A contains resumes). Dr. Kaye meets the qualifications for Principal Investigator stated in the Secretary of the Interior's standards and guidelines for archaeology and historical preservation (USNPS, 1983).

Dr. Fitzgerald walked the entire project area and its surrounding 200-foot buffer surrounding area from roughly east to west in 5 to 10 foot transects. Dr. Fitzgerald surveyed all areas within the project area and its buffer, including the earthen banks surrounding the Delta-Mendota Canal located outside the impact area but within the 200-foot buffer zone. During her survey, Dr. Fitzgerald scraped the unpaved ground surface with trowels in multiple areas to inspect the immediate subsurface for cultural materials or any evidence of previous human occupation. Additionally, she closely examined the soil around rodent holes and depressions for any evidence of color or texture change. Dr. Fitzgerald estimated project visibility at 60 percent. The topography of the project area is primarily flat. The 200-foot buffer contains sloping terrain (2-10 %) on the berms and small mounds for the planting of the trees. Elevations within the project area and buffer zone varied from 30 to 200 feet above mean sea level. The soil within the project area includes light yellow brown and light brown Capay Clay and Stomar Clay Loam. The predominant soil appears to be Stomar Clay Loam (75.7%) (USDA NRCS 2015). The parent material is alluvium derived from sedimentary rock (USDA NRCS 2015). There were numerous fine angular to rounded cobbles within the project area and surrounding buffer zone. They include granite, sandstone, blue-green chert, red/brown chert, quartzite, and black pebbles. Weather conditions during the survey were cool with clear skies. The temperature was approximately 50 degrees F. and humidity was approximately 64 percent.

Dr. Fitzgerald took photographs (Appendix A) and survey notes, and carried a handheld GPS unit (Garmin™ Oregon 600 GPS Personal Navigator) to record location data. She conducted no substantive subsurface testing.

Dr. Fitzgerald identified no visual indicators of surface or immediate subsurface cultural resources (i.e., exposed midden soils, lithics, obsidian, shell fragments, etc.) during the pedestrian survey. There are no known historic properties or unique archaeological resources within the proposed water tank project area.

## Recommendations

The literature search and newly-conducted pedestrian inventory have shown no significant prehistoric or historic sites located within the water tank area of potential effect. Therefore, the project is highly unlikely to have an adverse effect on significant historical or archaeological sites (that are eligible for listing in the NRHP or CRHR). It is highly unlikely that the water tank storage project would encounter buried intact cultural resources that have not previously been disturbed or destroyed in sediments near the ground surface.

All GWF Tracy conditions of certification (COC) including measures in the Cultural Resources Monitoring and Mitigation Plan (CRMMP) are considered appropriate and adequate to mitigate any potential adverse impacts that could occur if there were an inadvertent discovery of buried cultural resources.

The GWF Tracy COCs are sufficient to ensure that use of the temporary storage tank site will not result in a significant adverse impact to cultural resources. No additional COCs are recommended.

If human remains are found during construction, project officials are required by the California Health and Safety Code (Section 7050.5) to contact the Alameda County Coroner. If the Coroner determines that the find is Native American, he or she must contact the NAHC. The NAHC, as required by the Public Resources Code (Section 5097.98) determines and notifies the Most Likely Descendant with a request to inspect the burial and make recommendations for treatment or disposal.

## References

Carroll 2015. Michael J. Carroll. Petition to Amend Regarding Alternative Water Supplies, GWF Tracy Combined Cycle Power Plant, Docket No. 08-AFC-7C. October 19. Latham & Watkins, Costa Mesa, CA. Submitted to State of California Energy Resources Conservation and Development Commission, Sacramento. TN 206391.

CH2M HILL 2008. CH2M Hill. Application for Certification, Tracy Combined Cycle Project. On file, Docket Unit, California Energy Commission, Sacramento. 08-AFC-07.

OHP 1998. California Office of Historic Preservation. Instructions for Recording Historical Resources. Sacramento, California. March 1995.

Reno and Zeier 2003. Ronald L. Reno and Charles D. Zeier. Tracy Peaker Project, Cultural Resources Final Report. August. MACTEC Engineering and Consulting, Carson City, NV.

Prepared for California Energy Commission, Sacramento. 01-AFC-16. On file, Central California Information Center, California Historical Resources Information System, Turlock. Study SJ-005159.

URS 2001 – URS Corporation. Application for Certification for Tracy Peaker Project. On file, Docket Unit, California Energy Commission, Sacramento. 01-AFC-16.

United States Department of Agriculture National Resources Conservation Service  
2015 Web Soil Survey. Electronic document,  
<http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>



**Appendix A**  
**Resumes for Clint Helton, RPA, Ms. Michelle**  
**Kaye Fitzgerald Ph.D., RPA and Representative**  
**Photographs**

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## EDUCATION

MA, Anthropology  
BA, Language and Literature

## REGISTRATIONS

Registered Professional  
Archaeologist (1999, No. 11280)

Principal Investigator and/or  
Permit Administrator, U.S.  
Federal Antiquities Permits in AZ,  
CA, CO, OR, WA, UT, NV

## DISTINGUISHING QUALIFICATIONS

- Strong background in environmental impact evaluations, with particular expertise in conducting cultural resources studies in California, Colorado, Idaho, Nevada, Utah, and Wyoming
- Meets Secretary of Interior Professional Qualification Standards (36 CFR 61)
- Highly experienced managing cultural resources studies for large linear transportation and utility projects to meet federal requirements of National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), California Environmental Quality Act (CEQA) and standards of California Energy Commission (CEC)

## REPRESENTATIVE PROJECTS

**Principal Investigator, SoCalGas Pipeline Safety Enhancement Project, CA.** Currently providing critical cultural resources reviews for SCG including archival research, fieldwork, testing, and Native American consultation for multiple projects throughout SCG's service area within California.

**Senior Technologist/Task Leader, Carlsbad Energy Center Project, San Diego County, CA.** Assisted with preparation of Application For Certification for California Energy Commission in support of this proposed power generation facility in San Diego County, California. Responsible for preparation of cultural resources component of project, including field surveys, report preparation, and conducting Native American consultation.

**Senior Technologist/Task Leader, Chula Vista Energy Upgrade Project, San Diego County, CA.** Task Lead and overall management of cultural resources studies for this 100 MW power plant upgrade project in San Diego County, California. Responsible for preparation of cultural resources component of project, including field surveys, report preparation, and conducting Native American consultation.

**Senior Technologist/Task Leader, LS Power South Bay Energy Facility Project, San Diego County, CA.** Task Lead and overall management of cultural resources studies for this 600 MW combined-cycle power plant project in San Diego County, California. Responsible for preparation of cultural resources component of project, including field surveys, report preparation, and conducting Native American consultation.

**Senior Technologist/Task Leader, BrightSource Energy, Ivanpah Solar Electric Generating System Project, San Bernardino County, CA.** CH2M HILL prepared an Application For Certification on behalf of this energy development client for the California Energy Commission in support of a large proposed solar power generation facility covering over 5,000 acres of land managed by Bureau of Land Management in San Bernardino County, California. Led by Mr. Helton, the cultural resources team conducted extensive analysis over a 3-year period including Native American consultation, geoarchaeological analysis, and helicopter surveys to identify Traditional Cultural Places. The project is currently being deployed in California's Mojave Desert and is currently the *largest solar plant under construction in the world*.

**Principal Investigator, Terra-Gen Power, LLC GE/Windstream Project, Kern County, CA.** Senior consultant for the cultural resources impact assessment of a proposed wind generating system on 3200 acres of private land in southeastern Kern County.

**Senior Technical Advisor/Cultural Resources Specialist, California High Speed Rail, California High Speed Rail Authority, California.** Provided expertise for the Merced-Fresno, San Diego to Los Angeles, and Merced-Sacramento segments of the California High Speed Rail Project led by the Federal Rail Authority, FHWA, and Caltrans. Services included both field inspection and development of permitting and environmental documentation. Currently lead for the San Diego to Los Angeles segment.

**Senior Technologist/Task Leader, Terra-Gen Power, Alta Wind Energy Center (AWEC), Mojave, California.** Located in the heart of one of the most proven wind resources in the United States, CH2M HILL is assisting Terra-Gen Power with permitting of the nation's largest wind energy project, expected to provide electricity to 275,000 homes. CH2M HILL's cultural resources experts have examined thousands of acres and prepared numerous technical reports. With several areas now under construction, our cultural team continues to assist with mitigation, monitoring, and inventory. Also acted as Designated Cultural Resources Specialist and Principal Investigator during construction.

**Senior Cultural Resources Specialist, Turlock Irrigation District Almond 2 Power Plant, Stanislaus County, California.** Task Lead and overall management of cultural resources studies for the construction of a simple-cycle peaking facility rated at a gross generating capacity of 174 megawatts. Responsible for

preparation of cultural resources component of project, including field surveys, report preparation, and conducting Native American consultation. Approved as Designated Cultural Resources Specialist during construction phase of project.

**Senior Cultural Resources Specialist, Russell City Energy Center, Calpine, Alameda County, California.** Cultural Resources Specialist for the AFC license amendment for a 600-MW power plant located in Hayward, CA. Prepared cultural resources analysis including archival research, field survey, and report preparation. Approved as Designated Cultural Resources Specialist during construction phase of project.

**Senior Cultural Resources Specialist, Mariposa Energy Project, Alameda County, California.** Task Lead and overall management of cultural resources studies for the construction of a simple-cycle generating facility with a nominal capacity of 200-megawatts. Responsible for preparation of cultural resources component of project, including field surveys, report preparation, and conducting Native American consultation. Approved as Designated Cultural Resources Specialist during construction phase of project.

**Senior Technologist/Task Leader, Bright Source Energy Hidden Hills Solar Electric Generating System Transmission Line, Clark County, NV.** Senior consultant for the cultural resources impact assessment of a proposed transmission system entailing 54 miles of 500kV line and 28 miles of 230kV line routed through a desert landscape in southwest Nevada.

**Task Leader; AES Southland Development, Huntington Beach Energy Project (HBEP), Orange County, California.** Provided senior technical leadership in preparation of the cultural resources section for an AFC for a natural gas-fired power plant, including field surveys, report preparation, and conducting Native American consultation.

**Task Leader; AES Southland Development, Alamitos Energy Center (AEC), Los Angeles County, California.** Provided senior technical leadership in preparation of the cultural resources section for an AFC for a natural gas-fired power plant, including field surveys, report preparation, and conducting Native American consultation.

**Task Leader; AES Southland Development, Redondo Beach Energy Project (RBEP), Los Angeles County, California.** Provided senior technical leadership in preparation of the cultural resources section for an AFC for a natural gas-fired power plant, including field surveys, report preparation, and conducting Native American consultation.

**Senior Technologist/Task Leader; Hidden Hills Solar Electric Generating System Transmission Line; Bright Source Energy; Clark County, Nevada.** Mr. Helton was the senior consultant for the cultural resources impact assessment of a proposed transmission system entailing 54 miles of 500kV line and 28 miles of 230kV line routed through a desert landscape in southwest Nevada.

**Senior Technologist/Task Leader; Ivanpah Solar Electric Generating System Project; BrightSource Energy; San Bernardino County, California.** CH2M HILL prepared an Application For Certification on behalf of this energy development client for the California Energy Commission in support of a large proposed solar power generation facility covering over 5,000 acres of land managed by Bureau of Land Management in San Bernardino County, California, just south of Las Vegas, Nevada. Our cultural resources team conducted extensive analysis over a 3-year period including Native American consultation, geoarchaeological analysis, and helicopter surveys to identify Traditional Cultural Places. The project is currently being deployed in California's Mojave Desert and is currently the largest solar energy plant under construction in the world.

**Task Manager, Edison Mission Energy, Walnut Creek Energy Park Power Plant, California.** Assisted with preparation of AFC for CEC in support of this proposed 500-MW power generation facility in Los Angeles County, California. Responsible for preparation of cultural resources component of project, including field surveys, report preparation, and conducting Native American consultation.

**Senior Technologist/Task Leader, City of Vernon, Vernon Power Plant, CA.** Assisted with preparation of Application For Certification for California Energy Commission in support of this proposed 800 MW power

generation facility in Los Angeles County, California. Responsible for preparation of cultural resources component of project, including field surveys, report preparation, and conducting Native American consultation.

**Deputy Project Manager, AES Pacific Inc., Highgrove Power Plant, CA.** Preparation of environmental analysis component of Application For Certification for California Energy Commission in support of this proposed natural gas fired 300 MW peaking power generation facility in Riverside County, California. Additionally responsible for preparation of cultural resources component of project, including field surveys, report preparation, and conducting Native American consultation.

**Task Manager, Edison Mission Energy, Sun Valley Energy Center Power Plant, California.** Assisted with preparation of AFC for CEC in support of this proposed 500-MW power generation facility in San Bernardino County, California. Responsible for preparation of cultural resources component of project, including field surveys, report preparation, and conducting Native American consultation.

**Task Manager, Chula Vista Energy Upgrade Project, MMC Energy, San Diego County, California.** Task Lead and overall management of cultural resources studies for this 100-MW power plant upgrade project in San Diego County, California. Responsible for preparation of cultural resources component of project, including field surveys, report preparation, and conducting Native American consultation.

**AFC for Roseville Energy Park, Roseville Electric, Roseville, California.** Provided support for Application for Certification before the California Energy Commission for a 160-MW natural gas-fired power plant in Roseville, California.

**Senior Technologist/Task Leader; Solar Energy Development Cultural Resources Assessments; Iberdrola Renewables; AZ, NM, NV, CA.** Mr. Helton is acting as principal investigator for several fatal flaw analyses of solar projects in Arizona, California, Nevada, and New Mexico. Five study areas of this overall project are located in Arizona: two in Maricopa County, two in La Paz County, and one located partially in La Paz and Yuma counties. Project acreages range from 5,800 acres to 35,000 acres. Three of the study areas are located in California: two in San Bernardino County and one in Imperial County. Project acreages range from 13,000 to 29,000. Three of the study areas are located in Nevada; two in Nye County and one in Clark County. Project acreages range from 7,500 to 12,000. The remaining study area is located in Hidalgo County, New Mexico. Total acreage of this project is 25,000.

**Chevron Richmond Refinery Power Plant Replacement Project, Contra Costa County, California.** Management of cultural resources studies for this major refinery facility reconfiguration and renewal project located in Richmond, California. The approximately 2,900-acre refinery occupies most of the Point San Pablo Peninsula. Responsible for preparation of cultural resources component of project, including field surveys, report preparation, and conducting Native American consultation.

**Project Manager; Sacramento Municipal Utility District (SMUD) Cosumnes Power Plant and Gas Pipeline Project, Environmental Compliance, Sacramento, CA.** Managed interdisciplinary team of over 20 environmental specialists including archaeologists, biologists, and paleontologists during construction of 26-mile gas pipeline and associated power generation plant.

**Senior Cultural Resources Specialist; Lodi Energy Center, NCPA, San Joaquin County, California.** Cultural Resources Task Lead for the licensing of this 255-MW combined cycle power plant. Prepared cultural resources analysis including archival research, field survey, and report preparation. Approved as Designated Cultural Resources Specialist during construction phase of project.

**Senior Cultural Resources Specialist; GWF Energy Tracy Combined Cycle Conversion Project, San Joaquin County, California.** Task Lead and overall management of cultural resources studies for this conversion of an existing peaking plant to a combined-cycle baseload facility in San Joaquin County, California. Responsible for preparation of cultural resources component of project, including field surveys, report preparation, and conducting Native American consultation.

**Designated Cultural Resources Specialist (CRS), Humboldt Bay Repowering Project, Humboldt County, California.** Task Lead and California Energy Commission (CEC) approved Designated Cultural Resources Specialist (CRS) during construction of the Humboldt Bay Repowering Project (HBRP). The project consisted of construction of a load-following power plant consisting of ten natural-gas fired reciprocating engine-generator sets and associated equipment with a combined nominal generating capacity of 163 MW. The project repowers the existing 105 MW Humboldt Bay Power Plant Units 1 and 2. Responsible for ensuring implementation of the cultural resources Conditions of Certification (COCs) and Cultural Resources Monitoring and Mitigation Plan (CRMMP), directly supervising on-site construction monitors, reporting to the CEC's CPM and Cultural Resources Staff, and response to cultural resources discoveries during construction. Prepared Worker Environmental Awareness Program (WEAP) training material and ensured that compliance monitors, contractors, and construction crews met the requirements described in the projects COCs. Prepared daily and monthly reports, and a final monitoring report.

**Deputy Project Manager, Port of Long Beach, Cultural Resources Management Plan and Architectural Survey and Evaluation, Long Beach, Los Angeles County, CA.** Preparation of a major Port-wide long-range management plan for cultural resources including prehistoric and historic cultural resources properties and historic architectural resources located within the operating boundaries of the Port of Long Beach.

**Senior Technologist/Task Leader, US Border Patrol; Customs and Border Protection, Facilities Expansion, Multiple Locations Along United States Southern Border.** Lead preparation of numerous cultural resources studies in support of NEPA Environmental Assessments and Phase I Environmental Site Assessments in support of US Border Patrol facility expansion projects along the US/Mexico border. Included investigations for facilities in New Mexico, Texas, Arizona, and California.

**Senior Cultural Resources Task Lead; State Route 94 PSR/PDS/EIR/EIS; San Diego County, CA.** On behalf of the SANDAG, CH2M HILL is preparing a Project Study Report-Project Development Support for the proposed State Route (SR) 94 Improvements Project (Caltrans). The project proposes to add two high occupancy vehicle (HOV) lanes along SR 94 from the I-805 interchange to downtown, and to direct HOV connectors from I-805 and I-15 to SR 94.

**Sr. Cultural Resources Task Lead; State Route 15 Mid-City Transit Project; Caltrans District 11 and SANDAG; San Diego, CA.** CH2M HILL is preparing the Preliminary Environmental Analysis Report (PEAR) to determine the required environmental technical studies, environmental document type, and permits required for two proposed transit stations on SR-15 at El Cajon Boulevard and at University Avenue. The PEAR is an element of a Project Study Report-Project Development Support and includes various preliminary resource evaluation tasks including biological resources, community impact/land use, noise, and air quality.

**Project Principal, Talega Residential Housing Development, Archaeological and Paleontological Compliance, Data Recovery, and Compliance Monitoring, San Clemente, CA.** Project principal for multidisciplinary team providing environmental compliance services for this 3,700-acre home development in San Clemente. Assisted with frequent agency consultation with U.S. Army Corps of Engineers (USACE).

**Principal Investigator, U.S. Army National Guard Facility Redevelopment, Tustin, CA.** Conducted an environmental review to specifically address potential impacts to historic properties for the Tustin US Army Reserve Center (USARC) Military Construction project. Since the Project has been defined as a federal undertaking, an assessment of potential impacts to historic properties is required, in compliance with Section 106 of the National Historic Preservation Act.

**Principal Investigator, U.S. Army Fort Irwin Solar Project, CA.** Conducted a cultural resources study in support of a NEPA EA for the construction and operation of a solar power generating facility at the United States Army's training center at Fort Irwin, California.

**Team Principal, U.S. Navy Southwest Division Naval Facilities Engineering Command (NAVFACENGCOM), On-Call Cultural Resources Support, OR, WA, CA, AZ, NV, NM.** Valued at over \$15.1 million, Mr. Helton authored the winning proposal, and was the overall team leader for this multi-year

contract to provide cultural resources services at all U.S. Navy facilities in Oregon, Washington, California, Arizona, Nevada, and New Mexico.

**Michelle Kaye, Ph.D.**  
**Cultural Resources Specialist**

Qualifications: Physical Anthropologist/Archaeologist with a strong background in cultural resource management, including producing reports to comply with NEPA, NHPA, CEQA, and NAGPRA. Over 10 years of experience conducting archaeological field and laboratory research, including experience with federal and defense contracts. Specialized training in human and faunal osteological analysis, forensic anthropology, forensic archaeology, DNA analysis, and journalism. Over 11 years of experience as a journalist. Recipient of a Lucas Foundation Research Grant, Forensics Science Foundation (2003) and the Geist Fund Grant (2007) among others.

Education:

- 2008: Ph.D., Biological Anthropology. University of Alaska Fairbanks, P.O.B. 757500, Fairbanks, AK. 99775. Advisor: Dr. Joel Irish.
- 2003: M.A., Biological Anthropology. San Francisco State University, 1600 Holloway Avenue, San Francisco, CA. 94132. Advisors: Drs. Steve Gabow and Mark Griffin.
- 1993: B.A., Anthropology, emphasis in Archaeology. San Francisco State University, 1600 Holloway Avenue, San Francisco, CA. 94132. Advisor: Dr. Steve Gabow
- 1993: B.A., Journalism. San Francisco State University, 1600 Holloway Avenue, San Francisco, CA. 94132. Advisor: Dr. John Burks.

Additional Education:

- Winter 2011: American Academy of Forensic Sciences, 63rd Annual Meeting, Chicago IL. Completed workshops in Geometric Morphometrics and Digitizing, and in Fordisc 3.1.
- Winter 2010: American Academy of Forensic Sciences, 62<sup>nd</sup> Annual Meeting, Seattle, WA. Completed workshop in The Forensic Investigation of Human Remains from Armed Conflicts and Catastrophes.
- Winter 2009: American Academy of Forensic Sciences, 61<sup>st</sup> Annual Meeting, Denver, CO. Completed workshop in Advances in Archaeological Approaches to Crime Scene Investigation.
- Winter 2008: American Academy of Forensic Sciences, 60<sup>th</sup> Annual Meeting, Washington, D.C. Completed workshop in Measurements, Statistics, Terminology, and Quantitative Methods: Uses and Interpretations in Physical/Forensic Anthropology.
- Winter 2007: American Academy of Forensic Sciences, 59<sup>th</sup> Annual Meeting, San Antonio, TX. Completed a workshop in Restorative Dentistry as Evidence, and a workshop in Missing Persons.
- Winter 2006: American Academy of Forensic Sciences, 58<sup>th</sup> Annual Meeting, Seattle, WA. Completed a workshop in Advanced Topics in STR DNA Analysis, and a

workshop in Recovery, Examination, and Evidence of Decomposed and Skeletonized Bodies: an Anthropological and Entomological Approach.

- Winter 2005: American Academy of Forensic Sciences, 57<sup>th</sup> Annual Meeting, New Orleans, LA. Completed workshop in Quality Assurance in Forensic Anthropology.
- Winter 2004: American Academy of Forensic Sciences, 56<sup>th</sup> Annual Meeting, Dallas, TX. Completed workshop in Forensic Human Mitochondrial DNA Analysis.
- Summer 2003: International Association for Identification, 88<sup>th</sup> International Education Conference, Ottawa, Canada. Certificate received in Forensic Entomology and the Crime Scene, Development of Latent Prints with Titanium Dioxide, and certificate received in DNA Unraveled: A Practical Guide to Crime Scene Investigators.
- Winter 2003: American Academy of Forensic Sciences, 55<sup>th</sup> Annual Meeting, Chicago, IL. Certificates received in Extracting DNA from Challenging Sample Materials and in Low Copy Number DNA Analysis.
- Fall 2002: County of Los Angeles Department of the Coroner, Los Angeles County Coroner Seminar, Los Angeles, CA. Certificate Received in Handling Death in a Diverse Society.
- Summer 2002: International Association for Identification, 87<sup>th</sup> International Educational Conference, Las Vegas, NV. Certificates received in Forensic Archaeology, Scattered Human Remains and Forensic Archaeology, Buried Human Remains.
- Summer 2002: Disaster Mortuary Operational Response Teams Regional Training Session, Region 9, Laughlin, Nevada. Attended discussions on the use of Disaster Portable Mortuary Units, site recovery, identification of unattached body parts, and the computerized Victim Identification Program.
- Summer 2000: University of New Orleans, New Orleans, LA. and Southern Institute of Forensic Science. Certificate received in Basic Forensic Pathology for Law Enforcement, Death Investigators, and Health Care Professionals.
- Summer 1999: University of New Orleans, New Orleans, LA. and Southern Institute of Forensic Science. Certificate received in Advances in Forensic Anthropology.
- Summer 1998: University of New Orleans, New Orleans, LA. and Southern Institute of Forensic Science. Certificate received in Basic Forensic Anthropology.
- Summer 1997: University of California at Berkeley, Berkeley, CA. Completed course in Archaeological Field Methods. PI: Dr. Laurie Wilke, U.C. Berkeley Department of Anthropology. Excavation conducted on an 1860's homestead and commercial development located within Annadel State Park in Sonoma County, CA.

Anthropology/Academic Employment:

- June 2011- Present CH2M HILL. Cultural Resources Specialist. (Duties: Perform archaeological survey, construction monitoring, and prepare technical reports for cultural resources compliance projects throughout California.)
- April 2011 – June 2011: Analytical Environmental Services. Senior Archaeologist. 1801 7<sup>th</sup> Street Suite 101, Sacramento, CA. 95811. Supervisor: Miss Ryan Lee. Phone: (916) 447-3479. (Duties: Archaeological field and laboratory work, cultural resource management compliance, including writing reports to comply with CEQA, NEPA, NHPA, and NAGPRA.)
- August 2010 – April 2011: Chambers Group Inc. Senior Cultural Resources Specialist/Lead Archaeologist, U.S. Army National Training Center, Fort Irwin. NTC-DPW-Environmental-Cultural Resources. IMWE-IRW-PWE P.O. Box 105085 – Fort Irwin, CA. 92310-5085. Supervisor: Dr. Bob Yelin. Phone: 818-388-1705. Email: byelin@chambersgroupinc.com. (Duties: Supervise a staff of six archaeologists. Direct experience with all aspects of archaeology, including compliance with archaeological legislation including NEPA documentation, sections 106 and 110 of NHPA, archaeological surveys, site recordation, test excavation, and site evaluation for eligibility to the National Register of Historic Places. Human and faunal osteological analysis. Contact point for multiple agencies and contractors.)
- July 2010 – August 2010: U.S. Department of the Interior. U.S. National Park Service. Aztec Ruins National Monument. Archaeologist. Address: 84 County Road 2900 “Ruins Road” Aztec, New Mexico 87410. Supervisor: Mr. Gary Brown. Phone: 505-334-6174. Email: Gary\_Brown@nps.gov. (Duties: Archaeological excavation, identification, and inventory of archaeological resources, cultural resource management, ruins stabilization, and scientific research and interpretation of archaeological resources.)
- March 2008 – September 2010: University of California Medical Center San Francisco. Department of Orthopaedic Surgery. UCSF/SFGH Orthopaedic Trauma Surgical Training Facility. Research Assistant IV. Address: San Francisco General Hospital, Department of Orthopaedic Surgery, University of San Francisco, 1001 Potrero Ave., Room 3A36, San Francisco, CA 94110. Supervisor: Mr. John Houston III, Division Manager. Phone: 415-206-8812. Email houstonj@orthosurg.ucsf.edu. (Duties: Dissection and prosection of cadavers, suturing cadavers, biomechanical research, assisting surgeons and engineers in the testing and validation of hardware on human cadavers to repair bone fractures, familiarization with orthopaedic surgical instrumentation, operation of robots for the testing of hardware, reading radiographs, operation of Philips X-ray/Fluoroscope, Philips C-Arm, Philips 3-D C-Arm, and Orthoscan Mini C-Arm.)



- February 2010: Paleo Solutions. Archaeologist. Address: 2035 Palcentia Avenue, Suite D, Costa Mesa, CA. 92627. Supervisor: Scott Armstrong, Vice President. 526-818-7713. (Duties: Contract position. Conducted an archaeological survey along Segment 8 of the Tehachapi Renewable Transmission Project in Los Angeles and San Bernardino Counties for Southern California Edison under subcontract to Pacific Legacy. Documented historical artifacts. Project area approx. 35 miles.)
- March 17, 2009-Oct. 31, 2009: Cogstone Resource Management, Inc. Cultural Resource Management. Field Supervisor Tehachapi Renewable Transmission Project, Los Angeles and Kern County, California. Address: 1518 West Taft Avenue, Orange, CA. 92685. Field Director: David Morrill Phone: (714)-743-9206. (Duties: Supervised a team of cross-trained archaeology and paleontology field monitors in several locations in and around the Mojave Desert and Angeles National Forest, conducted as-needed archaeological surveys and field monitoring for Southern California Edison under subcontract to Pacific Legacy. Duties included reporting on site conditions, soil/geologic analysis, human and faunal osteological analysis, site recordation, site mitigation, data recovery, and documentation for environmental and archaeological impact studies. Knowledge of legislation affecting archaeological projects, incl. NEPA, CEQA, and NHPA, esp. sections 106 and 110. Served as a contact point for multiple agencies and contractors. Total project area encompassed more than 75 linear miles. Additional projects: Pixar Construction site, Emeryville, CA.)
- May 2006 – Aug. 2006: Holman and Associates, Archaeological Consultants. Archaeologist. Address: 3615 Folsom Street, San Francisco, CA. 94110. Phone: 415-550-7286. Supervisor: Mr. Randy Wiberg, Principal Investigator. Phone: 650-588-3104. Email: Rwiberg@comcast.net. (Duties: Part of a team that excavated approx. 400 human burials from a Paleo-Indian site. Survey, test pits, excavation of human remains, faunal and osteological analysis, map reading, creation of profile maps, compass reading, collection of samples for floatation, screening, accurate detailed recording of field notes, field interpretation strategies, and knowledge of legislation pertaining to archaeology (NEPA, CEQA, NHPA, and NAGPRA.)
- Aug. 2005 - Dec. 2005: University of Alaska Fairbanks, Department of Anthropology. Graduate Teaching Assistant, Human Osteology. Address: University of Alaska Fairbanks, 310 Eielson Building, P.O.B. 757720, Fairbanks, AK. 99775-7720. Supervisor: Dr. Joel D. Irish, Professor of Biological Anthropology. Phone: 907-474-6755. Email: ffjdi@uaf.edu. (Duties: Assisting with laboratory instruction in human and faunal osteology, giving occasional lectures, grading papers and examinations, holding office hours, answering student questions, organizing study sessions, supervising classroom, and processing faunal remains.)

- Sept. 2004 - May 2005: Center for Alaska Native Health Research. Graduate Research Assistant. Address: Institute of Arctic Biology, Irving 1, rm. 311, Box 757000, University of Alaska Fairbanks, Fairbanks, AK. 99775-7000. Supervisor: Dr. Cécile Lardon, Project PI. Phone: 907-474-5272. Email: cecile@canhr.uaf.edu. Salary \$16.00/hr. Hours: 20/wk. (Duties: Statistical analysis of biological and social support data using SPSS. Helped initiate a community-based support and educational system to address diabetes and obesity in seven Yu'pik villages. Academic journal and internet research, generating memos, reports, PowerPoint presentations, and supervising one employee.)
- Jan. 2003 - May 2004: University of Alaska Fairbanks, Department of Anthropology. Graduate Teaching Assistant, Cultural Anthropology. Address: University of Alaska Fairbanks, 310 Eielson Building, P.O.B. 757720, Fairbanks, AK. 99775-7720. Email: fyanth@uaf.edu. Supervisor: Dr. Patty A. Gray, Affiliate Associate Professor of Cultural Anthropology. Phone: +353-1-708-6084. Email: patty.gray@nuim.ie. (Duties: Instructor for three discussion sections of Cultural Anthropology 100X approx. 35 students each, Teaching Assistant to large seminar on the same topic, giving lectures, grading papers and examinations, holding office hours, answering student questions, organizing study sessions, and supervising classroom.)
- Aug. 2000 – Dec. 2000: San Francisco State University, Department of Anthropology. Graduate Research Assistant, Biological Anthropology. Address: San Francisco State University, Department of Anthropology, 1600 Holloway Avenue, San Francisco, CA. 94132. Supervisor: Dr. Steve Gabow, Professor of Anthropology Emeritus. Phone: 415-338-2046. Email: antho@sfsu.edu. (Duties: Assisting professor with instruction in biological anthropology, giving occasional lectures, grading papers and examinations, holding office hours, answering student questions, organizing study sessions, and supervising large classroom, approx. 200 students.)
- Sept. 1998 – May 2000: San Francisco State University, Department of Anthropology NAGPRA Compliance Project. Graduate Research Assistant. Address: San Francisco State University, Department of Anthropology, 1600 Holloway Avenue, San Francisco, CA. 94132. Supervisor: Dr. Jeffrey B. Fentress, NAGPRA Director. Phone: 415-338-3075. Email: fentress@sfsu.edu. (Duties: Identification and analysis of human remains for NAGPRA compliance. Creation of biological profile. Determination of age, sex, ancestry, stature, and trauma of individuals from human skeletal remains. Cataloguing remains. Writing official NAGPRA reports on results of osteological analysis. Identification of common bone pathologies. Transcription of interviews with Native Americans. Expert on NAGPRA regulations.)

- Jan. 2000 – May 2000: San Francisco State University, Department of Anthropology. Graduate Research Assistant, Biological Anthropology. Address: San Francisco State University, Department of Anthropology, 1600 Holloway Avenue, San Francisco, CA. 94132. Supervisor: Dr. Steve Gabow, Professor of Anthropology Emeritus. Phone: 415-338-2046. Email: antho@sfsu.edu. (Duties: Assisting professor with instruction in biological anthropology, giving occasional lectures, grading papers and examinations, holding office hours, answering student questions, organizing study sessions, and supervising large classroom, approx. 200 students.)
- Sept. 1998– May 2000: San Francisco State University, Department of Biology. Research Assistant, Anatomy Laboratory. Address: San Francisco State University, Department of Biology, Hensill Hall 534, 1600 Holloway Avenue, San Francisco, CA. 94132. Supervisors: Mr. Jett Chin, Laboratory Instructor, Biology. Phone: 415-338-1549. Mr. Lawrence Okumoto. Phone: 408-390-0760. Email: hinagata@hotmail.com. (Duties: Instruction in osteology. Assisting anatomy students with dissection of human cadavers and processing human remains. Macerating human and faunal remains, processing remains by heating to remove all tissue. Identification, organization, and rejoining of isolated bone components. Maintenance of a (dermestid) beetle colony.)
- May 1998 – Aug. 1998: University of California at Berkeley, Department of Anthropology. Research Assistant to Graduate Student in the Department of Anthropology. Archaeologist/Laboratory Assistant. Address: University of California at Berkeley, Department of Anthropology, 232 Kroeber Hall, Berkeley, CA. 94720-3710. Phone: 510-642-3392. Fax: 510-643-8557. (Duties: Supervised undergraduate students in the field. Excavation and test pits conducted at an 1860's homestead, a small historic cabin and at stone quarries, dating from 1887 to 1913, located within Annadel State Park in Sonoma County, CA., Test pits, excavation, faunal and human osteological analysis, map reading, creation of profile maps, compass reading, screening, accurate detailed recording of field notes, field interpretation strategies, and knowledge of legislation pertaining to archaeology.)
- May 1997 – Aug 1997: University of California at Berkeley, Department of Anthropology. Archaeologist/Laboratory Assistant (Field School). Address: University of California at Berkeley, Department of Anthropology, 232 Kroeber Hall, Berkeley, CA. 94720-3710. Supervisor: Dr. Laurie Wilkie. Professor of Archaeology. Phone: 510-643-0677. Email: lawilkie@berkeley.edu. (Duties: Excavation and test pits conducted at an 1860's homestead, a small historic cabin and at stone quarries, dating from 1887 to 1913, located within Annadel State Park in Sonoma County, CA. Site survey, use of transit, test pits, excavation, faunal osteology, map reading, creation of profile maps, compass reading, screening, accurate detailed recording of field notes, cleaning and curation of artifacts, field interpretation strategies, and knowledge of legislation pertaining to archaeology.)

## Journalism Employment:

- Aug. 1994 – May 2000: Contra Costa Times Newspapers/Knight Ridder. Journalist. Address: 1 Harold Court, Walnut Creek, CA. 94597. Editor: Mr. David Weinstein. Phone: 925-933-1717. Email: [davidsweinstein@yahoo.com](mailto:davidsweinstein@yahoo.com). Hours: varied. (Duties: Generating and writing stories on people and places primarily in the San Francisco Bay Area. Writing published in several sections, including Business, Community News, Health/Science, Travel/Outdoors, Features and Special Sections. Stories published in Contra Costa Times, West County Times, Valley Times, Ledger Dispatch, and San Ramon Valley Times. (Dailies). Stories also published in the Contra Costa Times magazine: Discover the Delta.)
- July 1998 - Oct. 1998: USA Hosts Destination Services. Contract Writer. Address: 657 Mission Street, Suite 202, San Francisco CA. 94105. Phone: 415-695-8000. Email: [sales@usahosts.com](mailto:sales@usahosts.com). Hours: varied. (Duties: Responsible for updating and revising USA HOSTS Tours and Activities Tariff, delivering accurate information on tours, museums, sights, restaurants, hotels, convention facilities, and banquet options for corporate clients visiting the Bay Area.)
- Oct. 1997 - April 1998: Fodor's Travel Publications. Travel Writer. 1745 Broadway, 15th floor, New York, NY 10019. Hours: 40/wk. (Duties: Responsible for writing introduction to California and for updating and revising material covering the Sierra Nevada and Eastern Sierra, delivering accurate information on tourist resources, transportation, museums and sights, restaurants, hotels, and outdoor activities. Material published in Fodor's California 1999, as well as in the San Francisco city guide.)
- May 1996 – Aug. 1996: Fodor's Travel Publications. Travel Writer. 1745 Broadway, 15th Floor, New York, NY 10019. Hours: 40/wk. (Duties: Responsible for updating and revising material covering the Sierra Nevada and the San Joaquin Valley, L.A. Environs and Coast, Palm Springs, and the California Desert, delivering accurate information on tourist resources, transportation, museums and sights, restaurants, hotels, and outdoor activities. Material published in The Berkeley Guides to California, as well as the San Francisco and Los Angeles city guides.)
- Aug. 1994 – June 1995: The Inter-City Express/Daily Journal Corporation. Reporter. Address: 1109 Oak Street, Ste. 103, Oakland, CA. 94607-4917. Phone: 510-272-4747. (Duties: Reporting on real estate, legislative issues related to construction, finance, crime/homicides in Oakland, Oakland city government, and human interest.)
- March 1993 – March 1995: The Nose Magazine. Writer/Intern. San Francisco, CA. Editor: Mr. Jack Boulware. (Duties: Writing for various magazine sections. Editing under deadline pressure, research, fact-checking, typing, phones, mailings, filing, and general office support.)
- July 1994 – Nov. 1994: Diabetes Interview. Staff Writer. San Francisco, CA. (Duties: Medical writing on advances in the care and treatment of diabetes, academic research, fact checking, and editing.)

- Sept. 1993 – Oct. 1993: The Polk Street Express. Staff Writer. San Francisco, CA. (Duties: Reporting on the Polk Street area, and interviewing local residents, generating stories for publication, editing, research and fact-checking.)
- Sept. 1993 – Oct. 1993: The New Fillmore. Staff Writer. Address: 2130 Fillmore Street , #202, San Francisco, CA. 94115 415-441-6070. Email: editors@newfillmore.com. (Duties: Reporting from a community perspective, writing feature and news stories for publication, editing, fact checking, and research.)
- Sept. 1993: The Petaluma Argus-Courier. Freelance Writer. Address: P.O.B. 1091, Petaluma, CA., 94953. Phone: 707-776-8453. Email: csamson@arguscourier.com. (Duties: Reporting on bike helmet safety: laws and regulations after the death of two Petaluma youngsters in biking accidents.)
- Jan. 1991 – May 1992: Prism Magazine. Staff Writer. Address: San Francisco State University, Department of Journalism, Humanities 305, 1600 Holloway Avenue, San Francisco, CA, 94132. Email: jour@sfsu.edu. Editor: Dr. John Burks, Professor of Journalism. Phone: 415-338-1689. Email: jburks@sfsu.edu. (Duties: Writing feature stories, a travel column, restaurant reviews, and reporting on San Francisco trends. Editing, fact-checking, research, conducting interviews, laying out the magazine, and photography.)
- Oct. 1989: Golden Gater Newspaper. Freelance Writer. Address: San Francisco State University, Department of Journalism, Humanities 305, 1600 Holloway Avenue, San Francisco, CA, 94132. Email: jour@sfsu.edu. Editor: Dr. John Burks, Professor of Journalism. Phone: 415-338-1689. (Duties: Reporting on the aftermath of the Loma Prieta earthquake, generating stories for publication, fact-checking, editing, and research)

Grants and Awards Received:

Geist Fund Grant. Grant entitled: Molecular Identification and Analysis of Treponematosi in Ancient Mummified Remains from Northern Chile and Southern Peru. 2007 (\$1,000)

University of Alaska Fairbanks, Anthropology Department Fellowship, 2006 (\$6,050)

Graduate Chancellor Assistantship, 2006 (\$2,196)

University of Alaska Fairbanks, Travel Grant, 2005 (\$600)

Lucas Foundation Research Grant, Forensic Sciences Foundation 2003, (\$2,500). Grant entitled DNA Degradation in Progressively Burned Human Bone and Tissue: Recognition of Techniques for Optimal DNA Sequence Analysis. Grant awarded to (PI) Ms. Michelle Kaye, Ms. Elayne Pope, Dr. Frank Cipriano, and Dr. O.C. Smith.

Anthropology Department, San Francisco State University, Research Fund: 2000, (\$700) for Ancient DNA Research.

California State University Grant, 1997 (\$948), 1998 (\$1,584), 1999 (\$1,506), 2000 (\$438).

College of Behavioral and Social Sciences, Grant for Graduate Research, 1999 (\$500)

Journalism Department, San Francisco State University, Award for Article Writing, spring 1993.

California Intercollegiate Press Association, Gold Press Card, Best Magazine Human Interest (Prism), 1992.

America-Israeli Friendship League Young Journalist's Exchange Program in Israel, 1992

Contiki Tours International Travel Writing Contest, Spring 1991.

Medal Winner Santa Rosa Press Democrat Editorial Contest, Spring 1988.

Public Speaking Finalist, Sonoma County, Spring 1988.

#### Reports and Publications:

Molecular Identification and Analysis of Treponematosi (Syphilis, Bejel, Yaws, or Pinta) in Ancient Mummified Remains from Northern Chile and Southern Peru. Ph.D. Dissertation. University of Alaska Fairbanks, Department of Anthropology, Fairbanks, AK. 2008.

Possible Treponematosi in the Nanjemoy Ossuaries, Maryland. Master's Thesis, San Francisco State University, Department of Anthropology, San Francisco, CA. 2003.

Osteological Analysis of Human Remains from Alameda sites (4-Ala-12, 4-Ala-13). Dr. Jeff Fentress, Ms. Julie Lopez, and Ms. Michelle Kaye. A report prepared for the NAGPRA Inventory, Department of Anthropology, San Francisco State University, San Francisco, CA. 1999.

Osteological Analysis of Human Remains from Alameda sites (4-Ala-328, 4-ALA-329). Dr. Jeff Fentress, Ms. Julie Lopez, Ms. Michelle Kaye, and Mr. Nathan Holton. A report prepared for the NAGPRA Inventory, Department of Anthropology, San Francisco State University, San Francisco, CA. 1999.

Chemical Contamination of Repatriated Native Californian NAGPRA Materials. Wrote and designed materials for conference held at San Francisco State University, San Francisco, CA. Sept. 30-Oct. 1, 2000.

Numerous reports produced for the U.S. Army, National Training Center/Fort Irwin for cultural resource management compliance. Reports available upon request.

Archaeology Projects:

- \*Annadel State Park, Sonoma, CA.
- \*Shea Homes, Trilogy Subdivision, Brentwood, CA.
- \*Tehachapi Renewable Transmission Project, multiple locations in Southern California.
- \*Aztec Ruins National Monument, Aztec, NM
- \*Fort Irwin National Training Center, Fort Irwin, CA.
- \*Auburn Indian Rancheria Tribal Project, Auburn, CA.
- \*Coyote Valley Indian Reservation, Redwood Valley, CA.
- \*Pauma Indian Reservation, Pauma Valley, CA.
- \*San Jose Water Company, San Jose, CA.
- \*Half Moon Bay, Vicente Creek Water Diversion, Half Moon Bay, CA.
- \*Wheeler Island, Solano County, CA.
- \*Calaveras Telephone, Calaveras County, CA.
- \*Lake Natoma Bike Trail, Folsom, CA.

Abstracts:

Mercury in Ancient Human Hair from a Chilean Mummy. Ms. Michelle Kaye, Dr. Joel Irish, Dr. Bernardo Arriaza, and Dr. Lawrence Duffy. Results of mercury analysis on a northern Chilean Chinchorro mummy. Results compared to mummies from the Karluck archaeological site in Kodiak, AK. and Barrow, AK. to provide comparative examples of dietary mercury exposure. Arctic Science Conference, Fairbanks, AK. October 2-4, 2006. (Supported in part by NSF-OCE 0525275)

Public Presentations:

Molecular Identification and Analysis of Treponematosi (Syphilis, Bejel, Yaws, or Pinta) in Ancient Mummified Remains from Northern Chile, presented at the annual meeting of the Mountain, Desert, Coastal Forensic Anthropologists, Lake Mead, NV. May 2007.

Molecular Identification and Analysis of Treponematosi (Syphilis, Bejel, Yaws, or Pinta) in Ancient Mummified Remains from Northern Chile and Southern Peru, presented at the University of Alaska Fairbanks, Fairbanks, AK. March 2007.

An Experimental Test of the Accuracy of Human Forensic Identification Techniques for Analysis of Burn-damaged Bone and Tissue, presented at the American Academy of Forensic Sciences annual meeting, New Orleans, LA. February 2005.

The Role of the Forensic Anthropologist, presented at City College of San Francisco, San Francisco, CA. February 2001.

Possible Treponematosi in the Nanjemoy Ossuaries, Maryland, presented at San Francisco State University, San Francisco, CA. Fall 2001.

Introduction to Archaeology, presented at Petaluma Valley Academy, Petaluma, CA. Fall 1999.

Additional Archaeological Experience:

- Oct. 2006: Archaeologist: University of Alaska Fairbanks. Supervisor: Dr. Joel Irish. Excavation of Alaskan Honor Chief Nagita from an unmarked grave in Fairbanks, AK. Work conducted for Alaska Natives from Nenana, AK.

Oct. 2005: Search Crew: University of Alaska Fairbanks. Supervisor: Dr. Joel Irish. Assisted Alaska State Troopers in the search for a clandestine grave in Fairbanks, AK.

Molecular/Anthropological Research/Contract Work:

- 2011: "Elemental Analysis, Mineralogical Analysis, and DNA Recovery from Progressively Burned Human Bone and Tissue." A grant submitted to the National Institute of Justice in response to grants relating to "Research and Development on Instrumental Analysis for Forensic Science Applications." Drs. Greg Hampikian, Mike Davis, Matthew Kohn, Lisa Nelson, Michelle Kaye, and Celina Suarez.
- 2011: "Signatures of Burn History: Elemental Analysis, Mineralogical Analysis, DNA Profile Changes, and Electron Microscopy of Progressively Burned Human Bone and Tissue. A grant submitted to the National Institute of Justice, in response to solicitation for grants relating to "Basic Scientific Research to Support Forensic Science for Criminal Justice Purposes." Drs. Greg Hampikian, Matthew Kohn, Michelle Kaye, Elayne Pope, Paul Olin, Samantha Evans, and Laura Wendell.
- 2008-2010: Variation in femur subtrochanteric shape in Alaska Natives. Research undertaken at the American Museum of Natural History, Department of Physical Anthropology, New York, NY. Results compared to various ancestral groups. Work conducted with Drs. Daniel Westcott and George W. Gill.
- 2006: Molecular analysis of three shrunken heads from Ecuador. Research conducted to determine through mtDNA analysis whether the skin covering the crania is human. Laboratory research conducted at the Conservation Genetics Laboratory at San Francisco State University, San Francisco, CA.
- 2006: Molecular analysis of ancient mummies from northern Chile. Research conducted to recover mtDNA and to test for treponematosi, tuberculosis, and leprosy. Molecular analysis conducted at the Paleo-DNA Laboratory, Northern Ontario Technology Center, Thunder Bay, Ontario (Canada). Bioarchaeological research conducted investigating a possible relationship between treponematosi in the Chinchorro mummies and their mortuary rituals. Osteological analysis conducted at the Museo San Miguel de Azapa in Arica, Chile.
- 2006: Recovery of mtDNA and nuclear DNA from an ancient Egyptian mummy. Analysis conducted at the Paleo-DNA Laboratory, Northern Ontario Technology Center, Thunder Bay, Ontario (Canada).
- 2006: Analysis of mtDNA from a 100-year-old skeleton from Nenana, AK. Analysis undertaken for the family of Chief Nagita. Analysis conducted at the Paleo-DNA Laboratory, Northern Ontario Technology Center, Thunder Bay, Ontario (Canada).
- 2003: Lucas Research Foundation Grant entitled DNA Degradation in Progressively Burned Human Bone and Tissue: Recognition of Techniques for Optimal DNA Sequence Analysis. Research conducted with Ms. Elayne Pope, MA, University of Arkansas and Dr. Frank Cipriano, Director, Conservation Genetics Laboratory, San Francisco State University, San Francisco, CA.



2003: Laboratory research conducted to test the viability of ancient DNA with special concern to past conservation methods. Project conducted with Dr. Steve Gabow and Dr. Niccolo Caldararo from the Anthropology Department, and Dr. Joseph Romeo from the Clinical and Biomedical Laboratory Sciences Department at San Francisco State University, San Francisco, CA.

Special Skills:

- Familiar with mandates, guidelines, and legislation affecting archaeology/cultural resource management, and forensics (esp. ARPA, NEPA, CEQA, NHPA, NAGPRA, California Health and Safety Codes, esp. Divisions 7: Dead Bodies, 8: Cemeteries, and Division 102: Vital Records and Health Statistics).
- Computer skills: Microsoft Word, XP, MS Vista, Corel WordPerfect. Excel, PowerPoint, SPSS, EndNote, Fordisc 3.1, Calib 5.0.1., Sequencher, Paup, BioEdit, BioLign, and ClustalX.
- Administrative skills: data entry, typing, editing, fact-checking, business and scientific writing (generating technical reports, memos, manuscripts, syllabi, summaries, and scientific articles), public relations/journalism, reception, multiple phone lines, public speaking, filing, and excellent written and communication skills.
- Familiar with medical and dental terminology.
- Physical/Forensic Anthropologist. Experience in Osteology, Anatomy, and Dental Anthropology. Supervisory experience.
- Academic and Internet research and evaluation.
- Type 65 wpm.
- Experienced in the preservation and collection of evidence, including chain of custody.
- Proficient in all stages of the analysis of molecular samples (PCR, mtDNA, STRs). Experienced working with a variety of challenging samples, including ancient, degraded, inhibited, burned, and low template DNA. Cloning experience.
- Training completed in Occupational Safety and Health Administration Requirements, including Bloodborne Pathogen Standards, Biosafety Level 2 Training, and Biosafety in Microbiological and Biomedical Laboratories.
- Familiar with the equipment normally used in a morgue, and with orthopaedic surgical instrumentation.
- Proficient in the operation of Philips X-ray/Fluoroscope, Philips Mobile C-Arm, Philips Mobile 3-D C-Arm, and Orthoscan Mini C-Arm. Experience reading X-rays and CT scans.
- Completed FEMA Emergency Management Independent Study courses 100a, 200a, 700a, and 800b.

Professional Memberships:

- American Academy of Forensic Sciences
- Kenyon International Emergency Services, Team Member (under contract)

Languages:

- English (fluent)
- French (reading and basic conversational knowledge)
- Spanish (basic reading knowledge)

Teaching:

- Introduction to Biological Anthropology (Lecture and Laboratory)
- Human Osteology (Lecture and Laboratory)
- Introduction to Cultural Anthropology
- Anatomy Laboratory

References:

Clint Helton, Principal Technologist, CH2M HILL. [chelton@ch2m.com](mailto:chelton@ch2m.com)

Dr. Joel D. Irish, Professor of Biological Anthropology, University of Alaska Fairbanks. Address: University of Alaska Fairbanks, Department of Anthropology, 310 Eielson Building, PO Box 757720, Fairbanks, AK. 99775-7720. Phone: (907) 474-7288 or (907) 474-6755. Email: [ffjdi@uaf.edu](mailto:ffjdi@uaf.edu).

Dr. Jeffrey Boland Fentress, NAGPRA Coordinator, San Francisco State University, Department of Anthropology 1600 Holloway Ave. San Francisco, CA. 94132. Phone: (415)-338-3075 (NAGPRA office), Phone: (415)-338-2046 (Anthropology office), Fax: 415-338-3050. Email: [fentress@sfsu.edu](mailto:fentress@sfsu.edu).

Dr. Steven A. Symes, Assistant Professor and Forensic Anthropologist, Mercyhurst Archaeological Institute, Mercyhurst College, Erie, PA. Address: Department of Applied Forensic Sciences Mercyhurst Archaeological Institute, Mercyhurst College, 119 Zurn Hall, Erie, PA. 16546 Phone: (814) 824-3369. Email: [ssymes@mercyhurst.edu](mailto:ssymes@mercyhurst.edu).

Dr. Frank Cipriano, Director Conservation Genetics Laboratory, Biology Department/Hensill Hall, San Francisco State University, 1600 Holloway Avenue, San Francisco CA. 94132. Phone: (415) 338-3453. Fax: (415)338-6245. Email: [cipriano@sfsu.edu](mailto:cipriano@sfsu.edu).

Ms. Sherri Gust, Principal Investigator/Project Manager Cogstone Resource Management, Inc., 1518 West Taft Avenue, Orange, CA. 92685. Phone: (714) 974-8300. Fax: (714) 974-8303. Email: [sgust@cogstone.com](mailto:sgust@cogstone.com)

Mrs. Angela McArdle, Archaeologist. National Training Center/Fort Irwin. 8726 Anzio St. Fort Irwin, CA. 92310. Phone (910) 638-9777. Email: [angela.bleggi@gmail.com](mailto:angela.bleggi@gmail.com)



Photo 1. Project Area View West



Photo 2. Project Area View North



Photo 3. Project Area View South



Photo 4. Project Area View East