



August 17, 2010

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| DOCKET | |
| 08-AFC-13 | |
| DATE | AUG 17 2010 |
| RECD. | AUG 17 2010 |

Mr. Christopher Meyer
CEC Project Manager
Attn: Docket No. 08-AFC-13
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

RE: Calico Solar (formerly Solar One) Project (08-AFC-13)
Applicant's Submittal of Additional Testimony

Dear Mr. Meyer:

Tessera Solar hereby submits Applicant's Additional Testimony. I certify under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge.

Sincerely,

Felicia L. Bellows
Vice President of Development

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*Applicant's Summary of Cultural Resource Impacts and Response to the
CEC Staff's Supplemental Staff Assessment Part II
August 17, 2010*

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**APPLICANT'S SUMMARY OF CULTURAL RESOURCE IMPACTS AND RESPONSE
TO THE CEC STAFF'S SUPPLEMENTAL STAFF ASSESSMENT PART II
August 17, 2010**

Testimony of:

Rachael Nixon and Jeremy Hollins

The following is the applicant's review and comments on the cultural resource analysis contained in the Supplemental Staff Assessment Part II.

Prehistoric Archaeological Resources

Following its analysis of the Calico project site, the applicant and their consultants have concluded that, the project will have no effect on resources determined to be eligible.

The CEC Staff did not concur with the conclusions of the applicant and concludes that it does not appear that prehistoric archaeological resource data potential has been adequately assessed or exhausted through recordation. Staff recommends that further sampling of the prehistoric archaeological sites within the project area be required in order to mitigate these resources.

- Staff proposes CUL-4 and CUL-5 requiring a post-certification refinement study to complete the applicant's effort to mitigate CRHR – and – NRHP eligible prehistoric sites that could be impacted by the project. The study would provide the applicant with information upon which to base project design changes to avoid impacts to prehistoric archaeological sites, and to verify the potential presence of such deposits and thereby provide more refined mitigation measures, particularly a more refined archaeological monitoring protocol.

The **applicant/URS, and we believe BLM and LSA, disagree** with Staff's analysis for the following reasons:

1. CRHR and NRHP recommendations were provided in the final report and 3 archaeological sites recommended eligible have been avoided through project redesign. Additionally, project redesign not only included the 3 eligible sites (approximately 80 acres), but also includes sites recommended not eligible within the vicinity (approximately 245 acres). Therefore, all eligible sites have been avoided through project redesign and as a result there will be no direct or indirect effect to significant cultural resources as a result of the proposed project. The applicant's eligibility recommendations provided in the final report applied the following rationale to every site identified within the project area.

2. The Geoarchaeological Analysis that was conducted by URS geoarchaeologist Jay Rehor provides data to determine subsurface potential. Mr. Rehor worked closely with geotechnical test crews to conduct his analysis which involved mapping trench profiles. Note the only area with some potential for subsurface deposition is within the Axial channel and in this area the study still found the likelihood for buried materials ranges from extremely low to moderate. Table 1 below summarizes Mr. Rehor’s findings which are provided in exhibit 16 and in the final report provided to CEC in June).

3. Previous subsurface archaeological testing was conducted within the Calico Project Area. Four sites were previously tested using the California Archaeological Resource Identification Program (CARIDAP) for sparse lithic scatters plan. CARIDAP is the only Office of Historic Preservation (OHP) approved programmatic treatment plan for these types of sites commonly found in desert areas. This plan allows for sites that have a certain set of characteristics to be identified, tested/analyzed, and then recommended not eligible if all elements fall within this program (site contains only flaked stone, site has no subsurface component, and site boundary is less than 10,000 m2).

Of the previous subsurface 2 of the 4 contained a single artifact within the first 10 centimeters. All four sites were recommended not eligible (see Table 2 below). Additional sites have been tested in the surrounding area (13) under this program of which 12 were found not eligible and 1 was recommended eligible.

4. The Level of Detail collected to respond to CEC Data Requests exceeds standard practice and provides sufficient data to make eligibility determinations. The data we have submitted to BLM and CEC (report only) provides a detailed inventory of lithics by material type and reduction sequence, temporally diagnostic and/or unique specimens were sketched, photographed, measured, and some were collected by BLM for curation. In addition all temporal and/or unique specimens were mapped with a sub-meter GPS unit (3 meter accuracy).

Table 1

Summary of Geoarchaeological Sensitivity of Landforms within the Project APE

| Project Area | Landform | Age | Depositional Regime ¹ | Sensitivity ² |
|------------------|-----------------------------|-----------------------------|----------------------------------|--------------------------|
| Northern Section | Rock Outcrops | Tertiary or Older | Erosional | None |
| | Upper Alluvial Fan Piedmont | Pleistocene to Mid-Holocene | Erosional | Very Low |
| | Lower Alluvial Fan | Pleistocene to | Variable | Low |

| | | | | |
|-----------------------------|--|----------------------------|----------------------|-------------------------|
| | Apron | Holocene | | |
| Southern Section | Pisgah Lava | Late Pleistocene | Stable | None to Very Low |
| | Erosional Fan Remnant (fanglomerate) | Pleistocene | Erosional | Very Low |
| | Inset Fans | Pleistocene to Holocene | Variable | Very Low to Low |
| | Relict Alluvial Flat | Pleistocene (?) | Erosional (Variable) | Very Low |
| | Axial Channel (and associated minor landforms) | Late Holocene | Variable | Very Low to Moderate |

Note:

¹ Represents the dominant regime since the terminal Pleistocene

² Sensitivity means the potential for subsurface archaeological deposits based on the underlying landforms

Table 2
Summary of Previous Archaeological Sites Tested both in and near the Project Area

| Site | Company | Year | # of STPs | Result of Findings | Eligible |
|-------------|-----------------------------------|------|-----------|--|--------------|
| CA-SBR-5796 | New Mexico University | 1985 | 3 | Negative Findings | Not eligible |
| CA-SBR-6511 | Far Western Anthropological Group | 1989 | 8 | 5 w/negative findings 3 w/positive findings | Not eligible |
| CA-SBR-6521 | Far Western Anthropological Group | 1989 | 4 | Negative Findings | Not eligible |
| CA-SBR-1908 | Far Western Anthropological Group | 1989 | 8 | 6 w/negative findings 2 w/positive findings | Not eligible |

Historical Archaeological Resources

The applicant recommended that data potential at the historical archaeological sites has been exhausted through recordation and, therefore, all of the historical archeological sites/components within the project area are not eligible for the NRHP/CRHR.

Historical Built-Environment Resources

Staff recommends four of the ten historic built resources within the project area of analysis as eligible for listing in the NRHP and CRHR. These resources include U.S. Route 66 (CA-SBR-2910H), the SCE 220-kV North and South Transmission line (CA-SBR-13115H and CA-SBR-13116H), and Pisgah Substation (CA-SBR-13117H).

| Resource Name | Applicant Recommendation | CEC Staff Recommendation |
|------------------------------------|---------------------------------|--|
| National Old Trails Road | Not Eligible | Staff concurs |
| U.S. Route 66 | Not Eligible | Staff does not agree; resource is potentially Eligible; proposes CUL-6 |
| ATSF Railroad | Eligible | Staff does not agree; believes resource is Not Eligible |
| SCE 12-kV Transmission Line | Not Eligible | Staff concurs |
| SCE 220-kV Transmission Line North | Eligible | Staff concurs |
| SCE 220-kV Transmission Line South | Eligible | Staff concurs |
| Pisgah Substation | Eligible | Staff concurs |
| Hector Road | Not Eligible | Staff concurs |
| Pisgah Crater Road | Not Eligible | Staff concurs |
| PG&E/ Mojave Pipeline | Not Eligible | Staff concurs |

National Old Trails Road (CA-SBR-2910H)

The applicant recommends, and staff concurs, that the portion of the road within the project area does not appear to be individually eligible for listing to the NRHP, CRHR or considered a historical resources for the purposes of CEQA, and does not appear to be a contributing element of significant related feature/component to the larger linear Old National Trails Road/US Route 66 system. Further, the addition of a solar plant near the roadway would not create a new adverse effect or significant impact to a portion of the historic-period property within the project area.

U.S. Route 66 (CA-SBR-2910H) - The applicant and their consultants evaluated potential impacts of the project on U.S. Route 66 through review of existing site forms, primary sources, secondary sources, and past research conducted on Route 66 in San Bernardino and Los Angeles Counties, in addition to the completion of fieldwork and recordation analysis through DPR 523 Primary Records; Linear Records; and Building, Structures, Object forms. We concluded that the portion of Route 66 within a half mile of the Project area is not a contributing feature to the larger Route 66 system (if it is ever determined that such a resource exists) and the project will not have a significant direct or indirect impact to the segment of the roadway located within a half-mile from the project area.

The CEC staff disagreed with this conclusion and are of the opinion that the portion of Route 66 within the project area does contribute to the significance of Route 66, and is potentially eligible for the NRHP and CRHR as a contributing resource to the larger Route 66 system under Criterion A/1 for its association as one of the first all-weather highways in the United States. It is, therefore in the staff's opinion, that

Route 66 located within a half-mile of the project area is a historical resource for the purposes of CEQA. Staff proposes condition of certification CUL-6 requiring Historic American Landscape Survey (HALS) documentation, including photodocumentation, of the 9-mile segment of roadway and associated landscapes and viewsheds within the project area of analysis from the roadway.

The applicant does not believe the staff's position is supported. As noted in the July 2009 Technical Report, which the BLM has concurred with the analysis, the portion of Route 66 located within a half-mile of the Project Area is a mundane utilitarian example of the roadway, characterized by widened shoulders, built-up asphalt surfaces, guardrails, crossing improvements, re-surfacing, and re-striping as a result of regular maintenance to preserve the roadway. These improvements, many outside the historic-period, do not make the roadway a pristine roadway, as the CEC identified, and has impacted the property's historic integrity aspects of materials, workmanship, setting, feeling, and association, if it is ever determined to meet one of the NRHP/CRHR criterion or considered a historical resource for purposes of CEQA.

Further, the roadway does not embody the 'physical components of the roadway' (as identified in the Route 66 Management Context [Bishoff]) or would not cause a new significant impact to these components. For example, the proposed project would not affect the 'Feel of Open Road,' 'Sense of Adventure,' or 'Ability to Travel Long Distances'. As noted in the CEC analysis, during the 1930s, the Needles-Los Angeles segment was the most heavily traveled section of the roadway (which the portion of the roadway within a half-mile of the project area is located in), and the project would not diminish the feeling of open road, ability to drive long distances, and sense of adventure between Needles and Los Angeles.

In addition, the roadway within a half-mile of the project area has already lost the 'Sense of Travel Before Interstate' since the non-historic period Interstate 40 blocks and impedes views towards the desert landscape. The presence of the Interstate prevents Route 66 in this area from expressing a sense of travel before the Interstate. Lastly, there are no 'Independently Owned Businesses' near the project area – the nearest ones are located nearly 12 miles away in Ludlow and Newberry Springs. The open desert landscapes on the way to and from these locations would embody the independent businesses, sense of adventure, and feeling of open roadway, as opposed to the isolated 9-mile segment near the Project Area.

Besides the presence of the Interstate, there are also other major existing visual intrusions which diminish the historic setting, feeling, and visual narrative of the project area environment. For example, there are two tall lattice tower transmission lines and substations affecting the viewshed. The visual analysis, as seen in the Visual Resources, shows a worst-case scenario for the SunCatchers. While the desert floor would be obstructed by the SunCatchers – this not a new effect – Interstate 40 already blocks the view towards the floor. The desert vista and panorama would not experience a new effect – they have been impacted by the

Interstate and other non-historic period infrastructure. Route 66 has historically been associated with engineering and technological advances, such as power transmission and roadway construction, and the addition of the SunCatchers would not diminish the historic character of the area or the resource as a whole and reflects another evolution of engineering and technological improvements that have always been part of the roadway. Overall, the SunCatchers are a new compatible use that matches the historic character and uses of the area and is an alteration that facilitates an efficient contemporary use. The project would not irretrievably damage the historic character of the area – there are already existing intrusions and the area is not a ‘frozen in time’ pristine roadway.

Since the Applicant and BLM feel there is no significant direct or indirect impact to the roadway, CUL-6 should be revised since this type of documentation would not be necessary to reduce a significant impact. If the Commission identifies a significant indirect effect to Route 66 within a half-mile of the project area, then CUL-6 should be revised, in order for the documentation to match the intent, spirit and requirements of the HALS Level 3 program with a focus on the materials to be placed with local repositories and not the NPS or LOC.

Atlantic & Pacific/Atchison Topeka & Santa Fe Railroad (CA-SBR-6693H)

The applicant concluded that the BNSF Railway (ATSF) and five bridge structures within the project buffer are eligible under NRHP Criterion A and CRHR Criterion 1 for its association with the history of transportation in California, due to the replacement of historic materials with modern materials and resulting loss of integrity. CEC Staff disagreed with this conclusion and recommends that the BNSF Railway is not a historic resource pursuant to CEQA. Though the applicant and BLM disagreed with the CEC Staff determination, both the Applicant and BLM and CEC recognize that the project will not have a significant direct or indirect impact to the ATSF railroad in the project area.

Southern California Edison 12-Kilovolt Transmission Line (CA-SBR-13114H)

The applicant’s consultants, based on site investigation and historic research, concluded that the SCE 12-kilovolt transmission line is recommended not eligible for the NRHP or CRHR under any of the criterion for eligibility, and therefore is not a historic resource pursuant to CEQA. The technical report concluded that the 12-kV transmission line is not associated with a distinctive or significant event, person design or construction, and all data potential has been accounted for during the recordation process. The 12-kV transmission line is a modest example of a pine T-post utility pole transmission line of typical construction, which has been well-documented in California and the west.

SCE 220-Kv North and South Transmission Lines (CA-SBR-13115H and CA-SBR-13116H)

The applicant’s evaluation of the SCE 220-kV North and South Lines concluded that they are eligible for the NRHP and CRHR under Criterion A/1. The transmission lines were constructed using the same design and technology SCE had been using

for its existing high-voltage transmission lines in Southern California. SCE and other southern California utility companies were known as innovators in high-voltage systems. Further study would need to be conducted to determine the significance of the design to southern California utilities and how many examples of this type remain extant to deeming if the SCE North and south transmission lines are eligible under Criterion C/Criterion 3. The applicant's research did not reveal associations with any important persons (Criterion B/Criterion 2) and the transmission line does not have the potential to yield important information (Criterion D/Criterion 4).

Pisgah Substation (CA-SBR-13117H)

The Pisgah Substation is not associated within distinctive or significant person, and the substation is of a typical design for its era and is not a rare surviving example. However, this switching station is associated within the SCE 220-kV North and south Lines, which are recommended eligible for the NRHP and CRHR under Criteria A/1. Because the Pisgah Substation is a component of the transmission line, the applicant concluded that is also eligible for the NRHP and CRHR under Criterion A/1, and as a historic resource pursuant to CEQA.

Hector Road (CA-SBR-13118H)

The applicant concluded that based on site investigation and historic research, Hector Road is not eligible for listing in the NRHP and CRHR, and would not be considered a historic resource pursuant to CEQA. Hector Road is a modest example of a typical one-lane dirt graded rural road. It is not associated with a distinctive or significant events, persons, design/construction, or has the potential to yield important information about the past. The road is representative of typical construction, which has been well-documented in California in the West.

Pisgah Crater Road (CA-SBR-13119H)

The applicant concluded that Pisgah Crater Road is not eligible for listing in the NRHP of the CRHR and is not a historical resource pursuant to CEQA. The Pisgah Crater Road is not associated with a distinctive or significant event, person, design or construction, and data potential has been accounted for during the recordation process. The majority of the road is located on private land and much of the crater has been destroying by mining. No records were found to indicate that the Pisgah Crater was ever a well-known tourist destination for U.S. route 66 travelers. The road is representative of typical construction and design, which has been well-documented in California and the west, and further study, is unlikely to yield important information about the past.

Pacific Gas & Electric & Mojave Pipeline

The PG&E Pipeline and the Mojave Pipeline are natural gas pipelines that run through the Phase 2 portion of the project area. Both of these pipelines were constructed prior to 1955; however, there are no visible features of either pipeline in the project area. In addition, the Advisory Council on Historic Preservation has exempted federal agencies from taking into account the effects if their undertakings on historic natural gas pipelines. The applicant concluded that the two pipelines

would not be affected by the proposed Project are as not eligible for the NRHP or CRHR under any criteria.

Historic Districts and Landscape Considerations

The applicant also looked at groups of sites/resources to see if they have unifying elements that qualify as an NRHP/CRHR eligible district/landscape. Our conclusions are:

Southern California Edison District – The applicant concluded there is no SCE district within the APE.

A&P (AT&SF) RR District – Staff Concur (pg. 119) that there is not district. However, staff did state in their analysis that sites be individually eligible and that these sites should be tested (contradictory statement). The Applicant/URS that there is no railroad district and that no historic archaeological sites within the Project area are eligible for the National or California Register, therefore there is no effect to historic resources.

National Old Trails Road/US Route 66 District – Staff Concur (pg. 120) with our findings that the original historic segments of the road that occur within the Project area are not eligible and there is no effect, therefore no mitigation measures are required.

Early 20th Century Gravel Mining Landscape – Staff Concur (pg. 121-122) with the Applicants/URS findings that there is no gravel mining district within the Project area.

Archaeological Landscape

The applicant evaluated the site and surrounding area to determine if it constitutes an archaeological landscape. Our analysis, provided in response to Data Request 106 concluded that there is no archaeological landscape because:

1. We cannot identify a boundary to the project that would not be based only the extent of the Project. Because these same types of sites are found throughout the Mojave Desert – ex. Dagget Ridge, Afton Canyon, Cronese Basin, Pisgah Crater, Yermo, Calico, etc as well as the other deserts for example Yuha desert – these are the same types of sites and lithic reduction activities.
2. There is no period of significance (no date). The temporal artifacts that were found occur on the surface and cannot conclusively be linked to a particular time period nor can these surface finds be directly affiliated with one another (ex. this activity could have been happening over thousands of years, multiple episodes, therefore the surface artifacts cannot directly be linked in

types recorded. That is a span of at least 2500 years which is too broad time span to represent a single period of significance.

3. Lack of Data Potential. There is no additional data that these sites can provide beyond what we have already collected. Note that we cannot say without a doubt that there is no subsurface component but we can say based on the geoarch study, previous excavations done in the project area and surrounding areas, detailed review of exposed surfaces within the Project area, resulted in negative findings, therefore it is highly unlikely that subsurface components exists, and measure/conditions that will resolve any inadvertent discoveries.

In the SSA, the CEC staff disagreed with this conclusion. The CEC staff's rationale behind this proposed landscape appears to result in CUL-4 and apply selective/subjective rationale. The key problems with the Staff's analysis are:

- Boundary – they are using landforms (Cady Mountains, Pisgah Lava Flow and 2 pluvial lakes). Districts/landscape cannot be defined by project limits or by arbitrarily delineations of landforms or geological features without evidence.
- They call out 2 Pleistocene lakes and state that the project area was a travel corridor between these two lakes (Broadwell lake and Troy lake). We agree that the area may have been one of many possible corridors. However, their analysis fails to take into account the other lakes and waterways present during the time period. Staff fails to take into account numerous other lakes/waterways; Lavic Lake, Soda Lake, Cronese basin, all of which were dry by the late Pleistocene/early Holocene. Additionally, the Mojave River would have still been a significant waterway for much longer than the Pluvial lakes and was present during contact.
- Period of Significance – Staff is claiming that the few (~15) projectile points/arrowhead provide enough data to date the landscape. However there is lack of context as described above to conclusively assign a temporal period to this site. Although the Applicant/URS concur with the date range of the projectile point types, the Applicant URS does not agree that this data is an accurate (scientifically proven) date range to use in making an eligibility determination.
- Staff also states that the sites have integrity. These sites do not have fit the aspects of integrity outlined below.

The criteria for determining the presence of an archaeological landscape is established by the National Parks Service. The NPS says that districts/landscapes cannot be defined by arbitrary project areas or other management boundaries and must be “a geographic area that historically has been used b people, or shaped or modified by human activity, linkage, or continuity of areas of land use, vegetation, buildings and structures, roads and waterways, and natural features” According to

the National Register Bulletin Section VIII. How to Evaluate the Integrity of a Property:

- “The evaluation of integrity is sometimes a *subjective judgment*, but it must always be grounded in an understanding of a property's physical features and how they relate to its significance”
- “The National Register criteria recognizes seven aspects or qualities that, in various combinations, define integrity. To retain historic integrity a property will always possess several, and usually most, of the aspects.” (Emphasis added)

The seven aspects of integrity are:

- Location – relationship to place and where event occurred, related to setting.
- Design – design in construction or landscape (the form, plan, space, style)
- Setting – Setting often reflects the basic physical conditions under which a property was built and the functions it was intended to serve. Takes into consideration topography, vegetation, manmade feat, relationship with space/place. *These features and their relationships should be examined not only within the exact boundaries of the property, but also between the property and its surroundings.*
- Materials - property whose historic features and materials have been lost is not eligible (ex. Looting and illegal collection of artifacts and rock hounding, as well as projects have removed much of the materials on the surface)
- Workmanship – Example: Paleo-Indian clovis projectile points; Archaic period beveled adzes; Hopewellian birdstone pipes; copper earspools and worked bone pendants; and Iroquoian effigy pipes. APE contains no unique representations of workmanship, projectile points, a few ceramic sherds, and groundstone are not examples of unique and/or significant workmanship in prehistoric period because these are well documented and reported throughout this region and beyond.
- Feeling – Example: a grouping of prehistoric petroglyphs, unmarred by graffiti and intrusions and located on its original isolated bluff, can evoke a sense of tribal spiritual life.
- Association - Because feeling and association depend on individual perceptions, their retention *alone* is never sufficient to support eligibility of a property for the National Register

Using these criteria, the applicant still believes the project site is not an archeological landscape.

Resumé

Jeremy Hollins

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Jeremy Hollins, MA

Architectural Historian

Areas of Expertise

Vernacular Architecture
19th – 20th century California
Architecture
Historic Preservation Treatments
and Law
Secretary of Interior Professional
Qualification *Architectural History*
(36 CFR Part 61)

Years of Experience

With URS: 3 years
With Other Firms: 6 years

Education

M.A./2005/University of San
Diego/Public History
B.A./2003/University of Rhode
Island/ History [Environmental]

Continuing Education

SRIF “Section 106: Principles and
Practice,” 2006
FEMA Institute Independent
Study Course IS-00253
“Coordinating Environmental &
Historic Preservation
Compliance,” 2006
FEMA Institute Independent
Study Course IS-00650 “Building
Partnerships in Tribal
Communities,” 2006
Certificate Program, Urban
Planning, UC San Diego
Extension; In Completion
Association of Environmental
Professionals “Introductory and
Advanced CEQA Workshop
Series,” 2005
California Preservation
Foundation Annual Conference,
2005

Overview

Jeremy Hollins is a Secretary of Interior Professional Qualified Architectural Historian for URS’ San Diego office. Since 2003, Mr. Hollins has performed numerous historic evaluations, context studies, and determinations of eligibility and effect for a range of resources based on local, state, and National Register criteria and through technical reports, DPR 523 series forms, HABS reports, cultural landscape reports, historic structures reports, and resolution documents. He has a detailed knowledge of the laws and ordinances which affect historic properties, such as Section 106 of the NHPA, CEQA, NEPA, Section 4(f), California Public Resources Code, State Historic Building Code, and the Secretary of Interior Standards for the Treatment of Historic Properties. Additionally, two academic journals have published Mr. Hollins’ work, and he was an adjunct instructor in ‘World Architectural History’ at the New School of Architecture before coming to URS in 2006.

Project Experience

Renewable Energy Projects

Spinnaker Energy, INC. 100MW Solar/Bio-Waste Power Plant, CEC, Fresno County, CA

Cultural Resources Task Manager (URS Corporation)

Served as Task Manager for cultural resources assessment. Performed fieldwork and co-authored Cultural Resources AFC section and technical report for a proposed hybrid solar and bio-fuel power plant in Fresno County. Deliverables were submitted to the CEC in support of a CEQA-level assessment. Duties included coordination of field survey, CHRIS records search, Native American consultation, primary and secondary research, development of historic context, recordation and evaluation of historic-period properties through DPR 523 series forms, analysis of effects, and development of mitigation measures. Prepared for Spinnaker Energy, Inc. (2008)

Carrizo Energy Solar Farm AFC Data Requests, CEC, San Luis Obispo County, CA.

Architectural Historian (URS Corporation)

Performed additional historic research and field surveys for CEC AFC Data Requests to determine the presence of a potential cultural landscape within the northern Carrizo Plains near the vicinity of the Project Area. Research efforts included a review of primary and secondary sources, development of an evaluative context, and recordation and evaluation of 8 potential contributing resources through DPR 523 series forms. Recordation and evaluation followed National Register Bulletin 30: Guidelines for Evaluating and Documenting Rural Historic Landscapes. Prepared for Ausra, Inc. (2008)



Carrizo Energy Solar Farm AFC Supplemental Filing, CEC, San Luis Obispo County, CA.

Cultural Resources Task Manager (URS Corporation)

Served as Task Manager for cultural resources assessment. Performed CHRIS records search and authored Cultural Resources AFC section for a 150-mile transmission line corridor intended for use as part of the 177 MW solar power project located in San Luis Obispo County, California. Prepared for Ausra, Inc. (2008)

Carrizo Energy Solar Farm 177 MW Solar Plant, CEC, San Luis Obispo County, CA.

Cultural Resources Task Manager (URS Corporation)

Served as Task Manager for cultural resources assessment. Performed fieldwork and authored Cultural Resources AFC section and technical report for a 177 MW solar power project located in San Luis Obispo County, California (640 acre solar farm; 380 acre construction laydown). Deliverables were submitted to the CEC in support of a CEQA-level assessment. Duties included coordination of field survey, CHRIS records search, Native American consultation, primary and secondary research, development of historic context, recordation and evaluation of historic-period properties, analysis of effects, and development of mitigation measures. Prepared for Ausra, Inc. (2007-2008)

Stirling Energy Systems – Solar 2 Project and Data Request 125, CEC, Imperial County, CA

Architectural Historian (URS Corporation)

Performed primary and secondary source research to develop a historic and evaluative context for the project area. Context focused on Imperial County transportation/circulation networks (Highway 80), local military activities, irrigation agriculture, and the San Diego-Arizona Railroad. Also, recorded and performed determination of eligibility, analysis of integrity, and identification of effect for six historic-period properties. Prepared for Stirling Energy Systems. (2007-2009)

Bethel Energy Solar Hybrid Power Plant Cultural Resources Assessment, Imperial County, CA.

Architectural Historian (URS Corporation)

Performed CEQA-level cultural resource assessment of two early 20th century earthen and concrete-lined canals in Imperial Valley area. Performed CHRIS Center Record Search, developed historic context on Imperial Valley's irrigated commercial agriculture industry, performed built environment survey, recorded and evaluated resources through DPR 523 series forms, and produced a technical report. Prepared for Bethel Energy. (2007)

Energy Projects

Kinder Morgan Calnev Expansion Project, San Bernardino County, CA.



Architectural Historian (URS Corporation)

Served as Architectural Historian for cultural resources assessment for NEPA and CEQA project. Performed fieldwork and authored technical report for a 190-mile portion of a proposed 245-mile pipeline expansion project from Colton, CA to Primm, NV. Deliverables were submitted to the BLM as the lead agency for NEPA and the County of San Bernardino as the lead agency for CEQA. Duties included coordination of field survey, CHRIS records search, primary and secondary research, development of historic context, recordation and evaluation of historic-period properties through DPR 523 series forms, analysis of effects, and development of mitigation measures. In total, recorded and evaluated 39 unrecorded historic-period properties and 17 previously recorded historic-period properties. Prepared for Kinder Morgan, Inc. (2008)

Carson Cogeneration Plan Expansion, CEC, Los Angeles CA

Cultural Resources Task Manager (URS Corporation)

Served as Task Manager for cultural resources assessment for a cogeneration plant expansion. Performed fieldwork and co-authored Cultural Resources AFC section and technical reports. Deliverables were submitted to the CEC in support of a CEQA-level assessment. Duties included coordination of field survey, CHRIS records search, Native American consultation, primary and secondary research, development of historic context, recordation and evaluation of historic-period properties through DPR 523 series forms, analysis of effects, and development of mitigation measures. Prepared for BP, Inc. (2008)

1507 Mt. Vernon Avenue Historic Property Assessment, City of Pomona, Los Angeles County, CA

Project Manager/ Architectural Historian (URS Corporation)

Project Manager/ Architectural historian for the evaluation of a 1927 paper mill located within a cogeneration power facility. Developed historic context, construction chronology, and performed determination of eligibility, analysis of integrity, and identification of effect. Prepared letter report for City of Pomona review. Prepared for Patch Services Engineering. (2008)

Starwood-Midway Power Plant AFC Data Requests – Fresno County, CA. Architectural Historian (URS Corporation)

Performed additional historic research and field surveys for CEC AFC Data Requests to determine the location of a historic farm in relation to the Project Area. Research efforts included a review of historic maps, aerial photographs, real estate and county records, and newspaper articles. The Data Requests, and associated figures and maps, were submitted to CEC via a Letter Report. (2007)

Imperial Irrigation District Cultural Resource Survey and Assessment – Niland and El Centro, CA.

Staff architectural historian for the evaluation of built environment resources and effect caused by alterations to power plant facilities. Evaluated resources per California Register criteria and developed recommended mitigation measures for



project. Co-authored the Technical Reports, DPR 523 series forms, and Application for Certification. Identified an historic bank, eligible for the California Register of Historic Resources, related to the early development of Niland and a historic powerplant building, associated with the early development of the Imperial Irrigation District and eligible for the California Register. Prepared for IID. (2006)

FEMA/ Emergency Management and Planning

Franklin Reservoir Improvement Section 106 Compliance Project, FEMA, Los Angeles County, CA. *Architectural Historian (URS Corporation)*

Performed Section 106 Compliance Study for LADWP for the replacement of five catch basins for a 1940s dam within the City of Beverly Hills. Prepared DPR 523 series forms and technical report for SHPO. Developed historic context, recordation and evaluation of historic-period properties through DPR 523 series forms, analysis of effects, and development of mitigation measures. (2008-2009)

Santa Monica City Hall MOA Seismic Retrofit., Jail-Area Adaptive Use, and ADA Improvements, FEMA, Los Angeles County, CA.

Architectural Historian (URS Corporation)

Performed Section 106 Review on behalf of FEMA for the seismic retrofit, jail-area adaptive use, and ADA improvements of the National Register-eligible City Hall. Reviewed consultant and City prepared studies and drawings, performed integrity analysis and identification of character defining features, analyzed effects, and developed a resolution of effects plan. Coordinated with ACHP, SHPO, OES, FEMA, and City, and authored Notification Letter and Draft MOA to resolve effects. Prepared for FEMA (2008-2009)

Harada House Section 106 Review, FEMA, Riverside County, CA.

Architectural Historian (URS Corporation)

Performed Section 106 Compliance Review on behalf of FEMA for emergency repairs to a National Historic Landmark (Harada House) within the City of Riverside. Reviewed project through NEMIS database, and responsible for SHPO consultation, applying Section 106 Programmatic Agreement Allowances, integrity analysis, and identification of effects. Drafted Notification Letter for ACHP, SHPO, OES, FEMA, and City. (2008)

Ross School Flood Mitigation Assistance, Sonoma County, CA.

Architectural Historian (URS Corporation)

Performed Section 106 Compliance Review for FEMA for a flood elevation assistance project. Performed CHRIS Center Record Search and determination of eligibility, analysis of integrity, and identification of effect. Compliance study submitted via letter report to FEMA. (2008)

FEMA Sonoma County Flood Mitigation Assistance, Sonoma County, CA. *Architectural Historian (URS Corporation)*



Performed Section 106 Compliance Study for FEMA for flood mitigation assistance project. Performed CHRIS Center Record Search and determination of eligibility, analysis of integrity, and identification of effect. Compliance study submitted via letter report to SHPO. Prepared for Sonoma County. (2008)

FEMA Napa County Flood Mitigation Assistance, Napa County, CA. *Architectural Historian (URS Corporation)*

Performed Section 106 Compliance Study for FEMA for flood mitigation assistance project. Performed CHRIS Center Record Search and performed determination of eligibility, analysis of integrity, and identification of effect. Compliance study data transmitted via letter report to SHPO. Prepared for Sonoma County. (2008)

Municipal Water District - Upper Feeder Line – Riverside County, CA. *Architectural Historian (URS Corporation)*

Staff architectural historian for the evaluation of built environment resources for FEMA disaster recovery project. Evaluated resources (“Pratt” truss bridge and gaging station) per National Register criteria and requirements of Section 106 of the NHPA. Performed determination of eligibility, identification of effect, analysis of integrity, and recommended mitigation measures for project. Prepared for Riverside County. (2006)

FEMA – San Diego Vegetative Management, San Diego County, CA. Performed CHRIS Center Records Search and wrote historic contexts for communities of Bay Terrace, Del Cerro, Encanto, Lake Murray, Marion Bear Park, Serra Mesa, Black Mountain, Carmel Valley, Los Penasquitos, Tecolote Canyon, Scripps Ranch, and Tierrasanta. Part of technical reports submitted to FEMA for Section 106 Compliance. Prepared for City of San Diego. (2006)

FEMA Hurricane Katrina Public Assistance, DR-1604-MS, Biloxi, MS. Historic Preservation Specialist for NEPA review of over 100 public assistance projects. Reviewed projects through NEMIS database. Responsible for SHPO consultation, applying Section 106 Programmatic Allowances, determinations of eligibility, integrity analysis, and identification of effects. Drafted MOAs, developed mitigation measures, ensured projects met Secretary of Interior Standards for the Treatment of Historic Properties, and coordinated and led meetings between applicants, FEMA, and Mississippi SHPO. Projects included over 10 National Register Properties, 1 National Historic Landmark, and 15 Mississippi Landmarks. (2006)

Military Planning

MCB Camp Pendleton Bachelor Enlisted Quarters Siting Study, San Diego County. *Architectural Historian (URS Corporation)*

Reviewed MCB Camp Pendleton GIS layers and cultural resources records and data to identify potential direct impacts to previously recorded cultural resources located within a 500-foot radius of proposed



Bachelor Enlisted Quarters at MCB Camp Pendleton. Provided cultural resources analysis as part of a preliminary NEPA constraints and siting study to support the preparation of the Project's design-build RFP for FY2008, FY2009, and FY2010. In total, 25 potential BEQ sites were analyzed for potential direct impacts to cultural resources. Prepared for MCB Camp Pendleton. (2008)

Desert Installation Appearance Plan and Airfield Security Study for NAF El Centro, NAS Fallon, NWS Seal Beach, NAS Lemoore, and NAWA China Lake. *Architectural Historian (URS Corporation)*

Architectural Historian responsible for developing cultural resources considerations, base-wide historic contexts, design guidelines for historic structures and districts, and base-wide visual themes. Prepared for NAVFAC. (2008)

Environmental

2701 North Harbor Drive Demolition Project EIR, City of San Diego, CA

Cultural Resources Task Manager/Architectural Historian (URS Corporation)

Served as Task Manager for CEQA-level cultural resources assessment. Performed fieldwork and authored Cultural Resources EIR section and technical report for the demolition of 50 structures at San Diego International Airport. Project considered potential effects to a National Register-eligible historic district (comprised of 17 properties). Duties included coordination of field survey, CHRIS records search, Native American consultation, primary and secondary research, development of historic context, recordation and evaluation of historic-period properties through DPR 523 series forms, and development of mitigation measures. Prepared for San Diego Unified Port District and San Diego County Regional Airport Authority. (2008-2009)

Grand Avenue Widening Section 106 Compliance, City of Santa Ana, Orange County, CA. *Architectural Historian (URS Corporation)*

Performed Section 106 Compliance Study for the widening of Grand Avenue in the City of Santa Ana. Prepared HPSR, HRER and DPR 523 series forms for project per Caltrans guidelines. Developed historic context and performed determination of eligibility, analysis of integrity, and identification of effect. (2008)

BNSF Tehachapi Cultural Resources Assessment, Kern County, CA. *Architectural Historian (URS Corporation)*

Architectural historian for the evaluation of built environment resources and features located within APE. Developed historic context for railways in Tehachapi region and performed determination of eligibility, analysis of integrity, and identification of effect. Prepared DPR 523 series forms and co-authored Technical Reports. Prepared for BNSF. (2008)

Phase I Archaeological Assessment of Nuevo Business Park II, Riverside, CA. *Architectural Historian (URS Corporation)*



Performed CEQA-level cultural resource assessment of 5 rural historic-period landscapes associated with agricultural/subsistence activities in Riverside County. Developed historic context on Riverside County's commercial agriculture industry, performed built environment survey, recorded and evaluated resources through DPR 523 series forms, and produced a technical report per County of Riverside Planning Department regulations. Prepared for Private Client. (2008)

Alosta Avenue Bridge Section 106 Compliance, LADPW, Los Angeles County, CA. *Architectural Historian (URS Corporation)*

Performed Section 106 Compliance Study for LADPW for the seismic retrofit of a 1929 Plate-Girder bridge and the California Central Railroad. Prepared HPSR and DPR 523 series forms for project per Caltrans guidelines. Developed historic context and performed determination of eligibility, analysis of integrity, and identification of effect. (2008)

Long Beach Blvd. Bridge Section 106 Compliance, LADPW, Los Angeles County, CA. *Architectural Historian (URS Corporation)*

Performed Section 106 Compliance Study for LADPW for the seismic retrofit of a 1932 Warren truss Bridge and the Union Pacific Railroad. Prepared HPSR and DPR 523 series forms for project per Caltrans guidelines. Developed historic context and performed determination of eligibility, analysis of integrity, and identification of effect. (2008)

Anaheim Historic Resource Evaluation, Orange County, CA.

Architectural Historian (URS Corporation)

Performed CEQA-level cultural resource assessment for three historic-period residences (Tudor Revival, modern ranch, contemporary style) within the City of Anaheim. Performed background research, wrote historic context on northeast Anaheim's transformation from agricultural to industry in the mid-20th century, performed built environment survey, recorded and evaluated resources through DPR 523 series forms, and produced a technical report. Prepared for City of Anaheim. (2007)

NASA Space Shuttle Program NEPA, Section 106, and 110 Compliance Third Party Peer Review of Technical Reports.

Architectural Historian (URS Corporation)

Performed third party NEPA, Section 106 and Section 110 review of technical reports for NASA for the decommissioning of its Space Shuttle Program properties. Reviewed properties per Criterion Considerations B (Moved Properties) and G (Properties less than 50 years), federal government definition of personal properties, and as geographic historic districts. Space Shuttle Program properties were located at Dryden Flight Research Center (Edwards, CA), White Sands Space Harbor, and White Sands Test Facility (Las Cruces, NM). Review prepared for NASA. (2007)

Willow Street Bridge Section 106 Compliance, LADPW, Los Angeles County, CA. *Architectural Historian (URS Corporation)*



Performed Section 106 Compliance Study for LADPW for the seismic retrofit of a 1932 Warren truss Bridge and the Union Pacific Railroad. Prepared HPSR and DPR 523 series forms for project per Caltrans guidelines. Developed historic context and performed determination of eligibility, analysis of integrity, and identification of effect. (2007)

Palomar Road Widening Cultural Resource Survey, Riverside County, CA. *Architectural Historian (URS Corporation)*

Performed historic research and CRHR and NRHP determination of eligibility for a 19th century rural (garden) cemetery (historic designed landscape) in Wildomar. NRHP evaluation required application of Criterion Consideration D: Cemeteries. Information was incorporated into DPR 523 series forms and final technical report. Prepared for County of Riverside. (2007)

California High-Speed Train Project EIR/EIS Methodology and Detailed Work Plan, Statewide. *Architectural Historian (URS Corporation)*

Prepared Architectural History Methodologies for the completion of the state-wide Section 106, NEPA, and CEQA compliance of the High Speed Train Project EIR/EIS. Developed research, survey, identification, evaluation, and consultation methodologies for completion of the project, as well as identified possible constraints. Also prepared the Detailed Work Plan for the LA-Palmdale Segment Project EIR/EIS. Prepared for Federal Rail Authority and High-Speed Train Authority. (2007)

US-101/McCoy Lane Interchange Project ASR and HPSR, Santa Barbara County, CA. *Architectural Historian (URS Corporation)*

Prepared the Historic Context for a Section 106, NEPA, and CEQA compliance study for improvements to the US-101/McCoy Lane interchange. Performed primary and secondary sections. The historic context examined the development of oil prospecting in the Santa Maria Valley and the development and operation of the Battles Plant Facility, which was adjacent to the APE. Prepared for Caltrans. (2007)

La Posada Hotel Engineering Contingency Plan – Winslow, AZ.

Architectural Historian (URS Corporation)

Planned and wrote an Engineering Contingency Plan for the La Posada Hotel (within the La Posada National Register District) for the removal of oil seepage from a raised concrete foundation. Plan provided scope, costs, and recommended Rehabilitation and Restoration treatments (per Secretary of Interior Standards for the Treatment of Historic Properties). Project required informal consultation with AZ SHPO and Materials Contractors. Prepared for Private Client. (2006)

US 101/SR 46W Interchange Improvement, Paso Robles, CA.

Performed Section 106 Study for proposed undertaking. Survey discovered 5 previously unrecorded historic properties and evaluated the resources within 2 historic contexts. Performed determination of eligibility, identification of effect, analysis of integrity, and recommended



mitigation measures for project. Completed DPR 523 series forms, HRER, and HPSR for Caltrans. Prepared for City of Paso Robles. (2006)

University of California - Irvine IERF Building Historic and Architectural Documentation (HABS), Irvine, CA. Performed equivalent of HABS Level 2 survey of a 1986 Frank Gehry-designed academic complex at the University of California – Irvine. Responsible for architectural investigation, physical history, historic context, and coordination with HABS photographer. Prepared for the University of California – Irvine. (2006)

Uptown San Diego Historic Reconnaissance Survey, San Diego, CA. Lead historian for the identification and evaluation of 20,000 resources in San Diego. Responsible for jointly preparing survey's first volume, which included "Data Analysis, Phase Implementation, Methodology, Styles Guide/Context, and Proposed Districts/Conservation Overlays." Evaluated and grouped resources based on association to historic context, and drafted district and overlay records, contributing elements, boundaries, and integrity. Prepared for City of San Diego for CLG status (2005-2006)

Telecommunications

Verizon Wireless Communications Tower Section 106 Compliance, CA. *Architectural Historian (URS Corporation)*

Performed over a dozen Section 106 Compliance Studies for FCC on behalf of Verizon Wireless for new tower support structures and collocated towers throughout California and Nevada. Performed CHRIS Center Record Search and determination of eligibility, analysis of integrity, and identification of effect. Projects completed within Humboldt County (CA), Santa Barbara County (CA), Sonoma County (CA), Elko County (NV), and Storey County (CA). Prepared FCC Form 620 or 621, DPR 523 series forms, and letter report. (On-Going)

Verizon Wireless Communications Tower Viewshed Analysis, Wendover, NV. *Architectural Historian (URS Corporation)*

Performed specialized historic viewshed analysis for FCC on behalf of Verizon Wireless for a new tower support structure in Wendover, NV. Viewshed analysis considered the project's effect within a half-mile radius. Results of the viewshed analysis were submitted via letter report to SHPO. (2008)

Community Involvement

City of Del Mar Traffic and Parking Commission, July 2005-July 2009. Appointed by Del Mar City Council to serve four-year term as member of five person committee. Meet monthly and make recommendations to City Council based on public input and participation. Responsible for resolving traffic and parking issues; such as speeding, reoccurring regulatory violations, traffic congestion, parking problems, and application of new technologies. Work and meet regularly with the



public, City Council, Parking Enforcement, the Fire Department, the San Diego Sheriff's officers, City Manager's office, Public Works and Planning Departments, and the City's Traffic Engineer.

Publications

“Until Kingdom Come: The Design and Construction of La Jolla’s Children’s Pool,” *Journal of San Diego History*. Spring 2006; **Winner Marc Tarasuck Prize in Architecture**, San Diego, Institute of History.

“Cotton and Rice: The Agricultural Redevelopment and Planning of the New South,” University of Rhode Island. 2003; BA Thesis; **Winner Robert Gutchen Prize in Writing**.

Declaration of Dr. Frederick W. Lange

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Declaration of Dr. Frederick W. Lange
August 17, 2010

My name is Frederick W. Lange and I am employed by LSA Associates, Inc. LSA is performing third-party review and Section 106 compliance support for the Bureau of Land Management (BLM). LSA takes its direction from the BLM. LSA provides its observations to the BLM and the BLM makes all the final decisions. In support of the BLM, I initiated third-party review on the Calico Solar project in October, 2008 and have been active with the project since that date. Although there have been other LSA personnel involved in this effort, my involvement has been as the LSA task leader and has been continuous. My involvement included review of the Applicant's field work protocols, coordinating side-by-side fieldwork of LSA archaeologists with archaeologist of the Applicant's consultant, URS Corporation, as well as review of the results of the project's extensive field work and provided guidance for the preparation of report drafts and the State of California DPR forms. At the BLM's request, I coordinated with the Applicant's consultant to ensure their compliance with all protocols and methodologies. At the BLM's request, I discussed site eligibility and testing recommendations with the BLM Barstow Field Office archaeologist, and reviewed the Final Class III Cultural Resources Technical Report (URS, July 2010) and the BLM's Final Environmental Impact Statement (FEIS, August 2010). In addition, since 2008, I have spent time assisting the BLM with site testing and site evaluation and have visited the majority of the recorded resources. I am equally familiar with the Imperial Valley Solar project, the Superstition I Solar Project, the California Valley Ranch Solar Project, and the Chuckwalla Valley Solar Project.

Additionally, at the request of the BLM I have reviewed the Applicant's cultural testimony and the CEC's Supplemental Staff Assessment. The BLM Barstow field office archaeologist has received my suggestions and observations. BLM has made all the final decisions.

I have provided twenty-five copies of my resume and a brief summary of involvement with the Calico Solar Project.

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Resumé

Dr. Frederick W. Lange

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FREDERICK WILLIAM LANGE, PH.D.

SENIOR CULTURAL RESOURCE MANAGER

EXPERTISE

Ceramic Analysis
Settlement Pattern Studies
Environmental Archaeology
INAA Applications to Archaeology
Ethnohistory
Museum Studies
Cultural Heritage Tourism
Cultural Resources and Alternative Energy Development

EDUCATION

Beloit College, B.A., Anthropology/cum laude, April 1967.

University of Wisconsin–Madison, M.A., Anthropology, January 1969.

University of Wisconsin–Madison, Ph.D., Anthropology, June 1971. “Culture History of the Sapoa River Valley, Costa Rica.” Minor Subject: Geography.

PRINCIPAL PROFESSIONAL RESPONSIBILITIES

Project Manager, Proposal Preparation, and Project Coordination with Clients and with Native Americans. Dr. Lange has directed and prepared the reports for numerous CEQA-level projects in the Counties of San Bernardino, Riverside, and Los Angeles and for the Cities of Riverside, Idylwild, Victorville, Hemet, Redlands, Banning, Murrieta, Temecula, Indio, Desert Hot Springs, and Palm Springs, among others.

PROFESSIONAL EXPERIENCE

Senior Cultural Resources Manager, LSA Associates, Inc., Environmental Planning Consultants, Riverside, California, 2004 to present.

Senior Project Director, Statistical Research, Inc., Redlands, California, 2003 to 2004.

Cultural Heritage Advisor to the National Legislative Assembly of Costa Rica, 2003 to 2007.

Cultural Heritage Consultant, National Assembly of Costa Rica and Peninsula de Papagayo Ecotourism Project, Costa Rica, 2003 to 2007.

Advisor and Professor of Anthropology and Archaeology, Universidad Tecnológica de El Salvador, 2003 to June 2004.

Consultant for project development for community participation in protection of the cultural heritage, CONCULTURA (El Salvador), 2000 to 2003.

Managing Associate for anthropology and archaeology projects, Asesores y Consultores, S.A. (El Salvador), 2000 to 2003.

Fulbright Scholar (Award 9605), El Salvador and Guatemala. Public Education for the Protection of the Cultural Heritage as an Essential Component of Sustainable Development, 2000 to 2003.

Advisor, Nicaraguan Institute of Culture, Museum and Archaeology projects, 2000 to 2002.

Advisor, Nicaraguan Institute of Tourism, cultural heritage tourism, 2000 to 2002.

Advisor ad honorem to the Congreso General of the Comarca Ngobe-Bugle Indigenous Group. Via the Committee on Mining and Environment, advised the Congreso on cultural heritage issues concerning the development of the comarca, 1999.

Consultant, Cultural Heritage Management Plan, San Lorenzo Protected Area (CEASPA-USAID), Panama. Studied and made recommendations concerning the relationship of the surrounding communities to the issues of cultural heritage preservation in the protected area, 1999.

Consultant. Cultural Resources Management Plan. San Lorenzo Site. (USAID, ARI-Urbio, S.A.), Panama. Made field studies to increase the inventory of cultural heritage resources in the protected area, and developed recommendations and future project profiles for developing the cultural resources as elements of the eco-tourism focus of regional development, summer 1999.

Academic Specialist (United States Information Agency), National Museum of Nicaragua. Advised National Museum of Nicaragua on development of a vision statement, thematic guidelines for eight exhibit halls, and the conceptual plan for a Children's Museum, summer 1999.

Academic Specialist (United States Information Agency), Patronato de Panama Viejo, Panama City, Republic of Panama. Advised Patronato on how to improve site management, education, and preservation in order to comply with UNESCO requirements to be considered as a World Heritage Site. Consulted with archaeology section of Patronato concerning research designs for future investigation, fall 1999.

Adjunct Professor, Universidad Nacional Autónoma de Nicaragua, summer 1997.

Member, International Board, Cultura de Paz (Instituto de Investigaciones y Acción Social "Martin Luther King"), Managua: UPOLI, 1995 to present.

Research Professor, Colorado School of Mines, Division of Liberal Arts and International Studies, 1995 to 1999.

Coordinator and Participating Professor, Primer Curso Regional de Actualización Para Arqueólogos en Servicio, Organization of American States, Managua, June to August 1994.

Coordinator and Participating Professor, Primer Curso de Actualización Para Arqueólogos en Servicio, Organization of American States, Managua, February to June 1993.

Director, Center for Latin American Art and Archaeology, Denver Art Museum, spring 1991 to 1993.

Member, Cultural Property Advisory Committee, United States Information Agency (Presidential Appointment), spring 1990 to 1996.

Editorial Board, Latin American Antiquity, fall 1989 to 1996.

Research Associate, National Museum of Costa Rica, spring 1989 to 1994.

Research Associate, Conservation Analytical Laboratory, Smithsonian Institution, spring 1989 to present.

Collaborating Investigator, University of Costa Rica, fall 1988 to fall 1992.

Current Research Editor, Central America; American Antiquity, fall 1988 to 1993.

Director, Center for Central American Art and Archaeology, University of Colorado-Boulder, spring 1988 to fall 1991.

Curator of Anthropology, University of Colorado Museum; Associate Professor of Natural History, University of Colorado, 1984 to 1999.

Acting Curator of Anthropology, University of Colorado Museum, May 1984 to January 1986.

Research Associate, National Museum of Nicaragua, fall 1983 to 2001.

Part-time Associate Professor, Department of Sociology, Anthropology, and Social Work, Illinois State University, January 1983 to May 1983.

Visiting Assistant Professor of Anthropology, University of Colorado-Boulder, August 1983 to May 1984.

Advisor, Nicaraguan Institute of Culture, November 1982 to 2001.

Adjunct Associate Professor, Department of Sociology, Anthropology, and Social Work, Illinois State University, July 1982 to January 1983.

Director, Historic Sites Division and Associate Professor, Department of Sociology, Anthropology, and Social Work, Illinois State University, August 1979 to July 1982.

Director Logan Museum of Anthropology (Beloit College), Archaeological Field School, Costa Rica, January 1976 to May 1976.

Faculty Member in Anthropology, Associated Colleges of the Midwest, Central Field Program, Costa Rica, January 1976 to June 1979.

Field Archaeologist and Associate Curator of Archaeology, National Museum of Costa Rica, June 1976 to June 1979.

Visiting Professor in Anthropology, University of Toronto, January 1974 to June 1974.

Director, Logan Museum of Anthropology (Beloit College) Archaeological Field School, Turtle Creek, Wisconsin, May 1974 to August 1974.

Director, Logan Museum of Anthropology (Beloit College) Archaeological Field School, Costa Rica, May 1973 to August 1973.

Faculty Member in Anthropology, Associated Colleges of the Midwest Central American Field Program, Costa Rica, January 1973 to May 1973.

Assistant Professor in Anthropology, Beloit College and Curator of Latin American Archaeology and Ethnology (Logan Museum of Anthropology), September 1972 to August 1976.

Research Associate, Department of Anthropology, Southern Illinois University-Carbondale, Barbados Ethnohistory Project, 1972.

Research Associate, Department of Anthropology, University of Toronto; and Assistant Project Director, Algonquin Park Archaeological Project; W.M. Hurley, Director, summer 1971.

Instructor in Anthropology, Beloit College, and Curator of Latin American Archaeology and Ethnology (Logan Museum of Anthropology), 1971 to 1972.

Project Director in Anthropology, Associated Colleges of the Midwest Central American Field Program, Costa Rica, spring 1970.

Project Director in Anthropology, Associated Colleges of the Midwest Central American Field Program, Costa Rica, spring 1969.

Reader, Anthropology 100, Department of Anthropology, University of Wisconsin-Madison, summer 1969.

Teaching Assistant, Anthropology 100, Department of Anthropology, University of Wisconsin-Madison, fall 1968.

Director, Hutchison Site Mound Excavations, Logan Museum of Anthropology (Beloit College), summer 1967.

Archaeological Field Survey of Costa Rica; visitor to the Associated Colleges of the Midwest Central American Field Program, spring 1966.

Field Assistant, Kickapoo Reservoir Project, State Historical Society of Wisconsin; W.M. Hurley, Field Director, summer 1964.

Field Assistant, Tohatchi School Salvage Project, Museum of New Mexico; B.L. Benham, Field Director, summer 1963.

Crew Member, Mormon Temple Excavation, Nauvoo, Illinois; Southern Illinois University Museum; D.F. Green, Field Director, summer 1962.

Archaeological Survey and Testing, Bandelier National Monument, New Mexico; C.H. Lange, Director, 1959.

SELECTED PROJECT EXPERIENCE

Alternate Energy Projects

Dr. Lange has worked on numerous photovoltaic projects in southern California, including Chuckwalla Solar I (eastern Riverside County), Superstition Solar I (Imperial County), California Valley Solar Ranch (San Luis Obispo County), Campos-Fisher Project (Imperial County), Imperial Valley Photovoltaic (Imperial County), and at the request of the Bureau of Land Management has served as a Third Party Reviewer for cultural resources reports for the Solar One (Barstow area, San Bernardino County) and Solar Two (El Centro area, Imperial County) projects.

Mid County Parkway, Riverside County, California

LSA is currently completing a project-level, joint EIS/EIR for the proposed Mid County Parkway project involving the adoption of an alignment and construction of a major, limited access, transportation facility for a 32-mile corridor in western Riverside County. The study area is located on either side of the existing roadway known as Cajalco Road between Interstate 15 (I-15) and Interstate 215 (I-215) and as Ramona Expressway east of I-215. The intent of the project is to develop

a facility along portions of the existing alignment to meet current and projected travel demand for 2030. LSA is preparing the environmental documentation in close collaboration with both transportation agencies (including the Riverside County Transportation Commission, the County of Riverside, Federal Highway Administration, and Caltrans) and cultural resources agencies (including the U.S. Army Corps of Engineers, the Environmental Protection Agency, the California Department of Fish and Game, and the U.S. Fish and Wildlife Service). Dr. Lange was Co-Principal Investigator for Archaeology and Historical Archaeology for this project.

Superstition Solar I Project, Salton Sea, Imperial County (2008–present)

Under contract to SunPeak Solar, LLC, LSA is conducting a Class III Cultural Resources Assessment for the proposed Superstition Solar I Project. The 5,600-acre project is located on public lands managed by the Bureau of Land Management (BLM). Native American scoping and preliminary survey fieldwork were carried out in July 2008. Field surveys are being accomplished pursuant to Section 106 of the National Historic Preservation Act (NHPA). This project is being carried out by the Cultural Resources Group in LSA's Riverside office. Dr. Lange is the Project Director for this project.

Chuckwalla Solar I Project, Desert Center, Riverside County (2007–present)

Under contract to SunPeak Solar, LLC, LSA conducted a Class III Cultural Resources Assessment for the proposed Chuckwalla Solar I Project. The 4,000-acre project is located on public lands managed by the BLM. Native American scoping, survey fieldwork, the preliminary preparation of the appropriate Department of Parks and Recreation (DPR) 523 forms, and the draft report writing were accomplished from October 2007 to July 2008. Field surveys were accomplished pursuant to Section 106 of the NHPA. This project was carried out by the Cultural Resources Group in LSA's Riverside office. Dr. Lange is the Project Director for this project.

UNAVCO, San Bernardino and Riverside Counties, California (2007–present)

LSA was retained by HDR Engineering, Inc. (HDR) to conduct a cultural resources assessment of the six proposed Plate Boundary Observatory (PBO) Global Positioning Systems (GPS) stations (P-582, P-590, P-604, P-608, P-619, and P-620) located on lands in San Bernardino and Riverside Counties administered by the Barstow Field Office of the Desert District of the BLM. The goal of the project is to monitor tectonic and magmatic processes using GPS. PBO will operate as a program under UNAVCO, Inc., a non-profit membership-governed organization that supports research applications of high precision geodetic and strain techniques such as the GPS. The cultural resources assessment was completed pursuant to the NHPA under the authority of a Fieldwork Authorization issued by the BLM on January 5, 2007 (FA-680-07-03 under LSA's Permit CA-05-20 issued September 26, 2005). Dr. Lange was the Project Director for this project.

Redlands Promenade (2005)

LSA was contracted by the City of Redlands to conduct an extended Phase I archaeological reconnaissance for the Redlands Promenade project in downtown Redlands. The project included documentary research, pedestrian survey, and backhoe trenching for subsurface deposits. The archaeological tasks for the project were brought in on time and under budget by the Cultural Resources Group in LSA's Riverside office. Dr. Lange was archaeological task manager for this project. LSA Project No.: CRX530.

McSweeney Farms, City of Hemet, California (2004–2008)

LSA provided an archaeological Phase I survey and Phase II testing for several prehistoric sites, one of which is a large, regional prehistoric village site. LSA worked with the developer, the City, and Tribes to balance the needs of each party. In addition, LSA provided archaeological and paleontological monitoring for the project. LSA staff worked with Tribal monitors to document important archaeological sites, while maintaining the overall project schedule. Dr. Lange was Project Director of this project from 2005–2008, when the client (SunCal) suspended development because of the economic downturn in southern California.

SWAPA, Riverside California

A recent project by the U.S. Army Corps of Engineers has raised the height of the Prado Dam by 28 feet and raised the spillway elevation by 20 feet. Over the next 30 years, the sediment deposition behind the dam is expected to rise 20 feet. This will result in inundation of greater lengths of pipeline for longer periods of time, which will restrict access to the pipeline for all or most of the year. LSA was contracted to conduct a cultural resources assessment of the manhole locations, materials stockpiles and access roads that would be necessary to upgrade the pipeline prior to long-term inundation. Dr. Lange directed the field studies and report preparation for this project.

Mesquite Regional Landfill, Imperial County, California (2004–2006)

LSA was contracted by the Sanitation Districts of Los Angeles County (Districts) to perform biological and cultural resource monitoring related to the development of the Mesquite Regional Landfill (MRL), near Glamis, in Imperial County. LSA's Cultural Resources Group carried out data recovery on a network of Native American trails and one historic wagon trail inside the MRL boundaries. The project included consultation with interested Native American groups and was brought in on time and under budget by the Cultural Resources Group in LSA's Riverside office. Dr. Lange directed the field investigations and preparation of the project report.

Playa Vista (2004)

Dr. Lange was previously employed by SRI, Inc. SRI was contracted by Playa Vista Capital to carry out a data recovery project for Playa Vista Capital, LLC in Marina del Rey on lands being developed for domestic occupation and for a riparian corridor in collaboration with the City of Los Angeles. Tasks included Native American consultation, testing and evaluation, and data recovery excavations. This project has been completed. Dr. Lange was the Project Director for Locus C of this project.

Tomato Springs (2003)

Dr. Lange was previously employed by SRI, Inc. SRI was contracted by the Irvine Company and TKC to carry out a testing and evaluation project for the Tomato Springs development. Tasks included Native American consultation and testing and evaluation. This project has been completed. Dr. Lange was the Project Director for this project.

OTHER PROJECT/FIELD EXPERIENCE

Advisor and Professor of Anthropology and Archaeology, Universidad Tecnológica de El Salvador, 2002 to 2003.

Fulbright Scholar (Award 9605), El Salvador and Guatemala, 1999 to 2001.

Director, Managua Metropolitan Area Archaeological Project, Survey and Excavation (Nicaragua), Government of Nicaragua and City of Managua funded, 1995 to 1997.

Director, Greater Nicoya Ceramic Project (Central America), in cooperation with the Center for Materials Research and Education, Smithsonian Institution, JFM Foundation (Denver), Brookhaven National Laboratory, and Smithsonian Institution funded, 1982 to 1990

Assistant Director 1984–1986, Director 1987–1988, Yellow Jacket Excavation and Survey Project (southwestern Colorado), University of Colorado funded, spearheaded development and founding of a University of Colorado outreach center.

Director, Bay of Culebra Research Project, Survey and Excavations (Costa Rica), Organization for Tropical Studies, government of Costa Rica, Associated Colleges of the Midwest, National Geographic Research Committee funded, 1975 to 1979.

Co-director, Barbados Ethnohistory Project, Survey and Excavation, National Science Foundation funded, 1972 to 1973.

Assistant Director, Algonquin Provincial Park Survey and Cultural Resource Inventory (Canada), Planning, Field Administration, Report Writing, Canada Council and University of Toronto funded, 1971.

Director, Bay of Salinas Research Project, Survey and Excavation (Costa Rica), Organization for Tropical Studies, Associated Colleges of the Midwest, and government of Costa Rica funded, 1969 to 1971.

Assistant Director, Woodland Cultures Project, Survey and Excavation (Wisconsin), National Science Foundation funded, 1966.

PROFESSIONAL AFFILIATIONS

- Society for American Archaeology
- Red Centroamericana de Antropología
- Society for California Archaeology
- Registry of Professional Archaeologists

AWARDS AND HONORS

2004–2007 Senior Academic Specialist award 1337, Fulbright Commission.

1997 Recognition by the Instituto Nicaragüense de Cultura, 26 August. For dedication and contributions to the development of Nicaraguan archaeology and the protection of Nicaragua's cultural patrimony.

- 1990 Appointed to Cultural Property Advisory Committee (United States Information Agency) by President George H.W. Bush. Reappointed 1992.
- 1988 Made Honorary Citizen of Cortez, Colorado, in recognition of outreach/educational contributions.
- 1977 Special award to F. W. Lange and M. J. Snarskis by the President of Costa Rica for a study of Pre-Columbian relationships between the Atlantic and Pacific coasts of Costa Rica, \$70,000.
- 1970–1971 Ford Foundation, Dissertation Year Fellowship.
- 1969 Ford Foundation Graduate Fellowship.
- 1968 Ford Foundation stipend for intensive Spanish language program, Ibero-American Studies Program, University of Wisconsin, Madison.

PUBLICATIONS

Publications accepted in lieu of thesis: “Excavation of the State Line Mound Group (Ro-39)” and “The Bigelow Site (47-Pt-29): An Ethnohistoric Analysis of the Historic Artifacts.” *Wisconsin Archeologist*.

Refereed Books and Monographs

- 1996 *Paths to Central American Prehistory*, edited by Frederick W. Lange. Niwot: University Press of Colorado.
- 1995 (Edited by Mario Molina C. and Frederick W. Lange). *Cultura y Naturaleza Sin Fronteras*. Managua: Instituto Nicaragüense de Cultura/Organización de Estados Americanos (1995); pp. 165.
- 1993 (Editor). *Precolumbian Jade: New Cultural and Geological Interpretations*. Salt Lake City: University of Utah Press.
- 1992 (Editor). *Wealth and Hierarchy in the Intermediate Area*. Washington, D.C.: Dumbarton Oaks.
- 1992 Lange, F.W., P. Sheets, A. Martinez, and S. Abel-Vidor. *The Archaeology of Pacific Nicaragua*. Albuquerque: University of New Mexico Press.
- 1991 Bishop, R.L. and F.W. Lange (eds). *The Ceramic Legacy of Anna O. Shepard*. Boulder: University Press of Colorado, pp. 473.
- 1990 (1987)
- Lange, F.W., L. Bonilla V., M. Calvo M., J.V. Guerrero M., and S. Salgado G. (co-editors). *Tipos Cerámicos y Variedades de la Gran Nicoya*. Vínculos Volumen 13 (Números 1–2). San Jose, Costa Rica, Imprenta Varitec, S.A., pp. 327. Volume date in series is 1987, although it was published in 1990.

- 1986 Lange, F.W. and L.C. Norr (eds.). *Archaeological Settlement Patterns in Costa Rica*. Journal of the Steward Anthropological Society, Vol. 14 nos. 1–2. Urbana: University of Illinois. 439 pp.
- 1984 (Editor) *Recent Developments in Isthmian Archaeology: Advances in the Prehistory of Lower Central America*. British Archaeological Reports International Series 212. Oxford: British Archaeological Reports. 315 pp.
- 1984 Lange, F.W. and D.Z. Stone (eds). *The Archaeology of Lower Central America*. Albuquerque: University of New Mexico Press (School of American Research Advanced Seminar volume). 476 pp.
- 1980 Lange, F.W. and S. Abel-Vidor (eds). *Investigaciones Arqueológicas en la Zona de Bahía Culebra, Costa Rica (1973–1979)*. Vinculos, Volume 6. San Jose, Costa Rica: National Museum of Costa Rica. 186 pp.
- 1978 Handler, J.S. and F.W. Lange. *Plantation Slavery in Barbados: An Archaeological and Historical Investigation*. Cambridge: Harvard University Press. 368 pp.
- 1971 *Culture History of the Sapoa River Valley, Costa Rica*. Occasional Anthropological Papers No. 4, Logan Museum of Anthropology, Beloit College. 266 pp.

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- 2006 (with Charles R. Rydberg) Abandonment and Post-abandonment Behavior at a Rural Central American House-site. In *Formation Theory in Archaeology: Readings from American Antiquity and Latin American Antiquity*, Michael Shott, compiler, (1972, volume 37, pp. 419–432. Washington, D.C.: Society for American Archaeology, The SAA Press.
- (with Jerome S. Handler). On Interpreting Slave Status from Archaeological Remains. The African Diaspora Archaeology Network, June 2006 Newsletter. <http://www.diaspora.uiuc.edu/news0606/news0606.html>.
- 2004 Gordon R. Willey y el Area intermedia: conceptos, contribuciones, y perspectivas. *Revista de Arqueología del Area Intermedia* No. 6:27–50. Bogota, Colombia: Instituto Colombiano de Antropología e Historia & Sociedad Colombiana de Antropología.
- 2003 (with Erin Sears, Ronald L. Bishop, and Silvia Salgado Gonzalez) Local Production, Non-Local Production, and Distribution: Usulután and Usulután-Like Negative Painted Ceramics in Costa Rica. In *Patterns and Process: A Festschrift in Honor of Edward V. Sayre*, edited by Lambertus van Zelst, pp. 157–172. Suitland, Maryland: Smithsonian Center for Materials Research and Education.
- 2003 Push-Pull Archaeological Abandonment Behaviors in Lower Central America. In *The Archaeology of Settlement Abandonment in Middle America*, edited by T. Inomata and R. Webb, pp. 137–144. Salt Lake City, University of Utah Press.
- 2001 La Arqueología ante el nuevo milenio: la enseñanza para la protección del Patrimonio Cultural y la participación comunitaria. In *Encuentro de la Red Centroamericana de Antropología*, edited by Ramon Rivas and Gloria Mejia de Gutierrez, pp. 229–240. San Salvador: Universidad Tecnológica de El Salvador.

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- 1997 Guerra y paz en la Nicaragua pre-hispanica. In *Historia y Violencia en Nicaragua*, edited by Denis Torres P., Managua: Instituto Martin Luther King, UPOLI. pp. 127–142.
- 1997 The Managua Metropolitan Area Archaeological Project. US/ICOMOS Newsletter No. 1 (Special Issue). pp. 7–9.
- 1997 (with Mario Molina) A Regional Approach to Cultural Preservation: A Central American Example. *Nonrenewable Resources* 6:137–149. Special Issue: The Loss of Cultural Heritage—An International Perspective.
- 1996 Gaps in Our Databases and Blanks in Our Syntheses: The Potential for Central American Archaeology in the Twenty-First Century. In *Paths Through Central American Prehistory*. University Press of Colorado, pp. 305–326.
- 1996 The Bay of Salinas: Coastal Crossroads of Greater Nicoya. In *Paths Through Central American Prehistory*. University Press of Colorado, pp. 119–142.
- 1996 Preface. In *Paths Through Central American Prehistory*. University Press of Colorado, pp. xvi–xvii.
- 1995 Abstraction and Jade Exchange in Precolumbian Southern Mesoamerica and Lower Central America: Costa Rican Considerations (co-authored with R.L. Bishop). *The Bulletin of the Friends of Jade* (VIII:105–124). California: San Diego.
- 1995 La Paz Precolombina in Cultura de Paz (Instituto de Investigaciones y Acción Social “Martin Luther King,” pp. 3–7. Managua: UPOLI.
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- 1990 Sheets, P., K. Hirth, F. Lange, F. Stross, F. Asaro, and H. Michel "Obsidian Sources and Elemental Analyses of Artifacts in Southern Mesoamerica and the Northern Intermediate Area." *American Antiquity* 55(1): 144–158.
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- 1986 Lange, F.W., P.D. Sheets and A. Martinez. "Prospección Preliminar en la Costa Pacifica de Nicaragua—1983" in *Archaeological Settlement Patterns in Costa Rica*, Journal of the Steward Anthropological Society, Vol. 14 nos. 1–2. F.W. Lange and L.C. Norr (eds.). Urbana: University of Illinois, pp. 361–368.
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- 1986 Lange, F.W. and R.L. Bishop. "A Search for Jade Sources and Prehistoric Settlement on the Santa Elena Peninsula" in *Archaeological Settlement Patterns in Costa Rica*, Journal of the

- Steward Anthropological Society, Vol. 14 nos. 1–2. F.W. Lange and L.C. Norr (eds.). Urbana: University of Illinois, pp. 221–226.
- 1986 “The Bay of Salinas/Rio Sapoa Survey” in *Archaeological Settlement Patterns in Costa Rica*, Journal of the Steward Anthropological Society, Vol. 14 nos. 1–2. F.W. Lange and L.C. Norr (eds.). Urbana: University of Illinois, pp. 15–24.
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- 1984 Lange, F.W., S. Abel-Vidor, C. Baudez, R. Bishop, W. Creamer, J. Day, J.V. Guerrero, P. Healy, S. Salgado, R. Stroessner, and A. Tillett. “New Approaches to Greater Nicoya Ceramics” in *Recent Developments in Isthmian Archaeology*. F. W. Lange (ed.). British Archaeological Reports International Series 212. Oxford: British Archaeological Reports, pp. 199–214.
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- 1984 “Cultural Geography of Pre-Columbian Lower Central America” in *The Archaeology of Lower Central America*. F.W. Lange and D. Stone (eds.). Albuquerque: University of New Mexico Press, pp. 33–62.
- 1983 “La participación de personas de alto rango social en el traspaso de cerámica precolombina en Costa Rica.” Boletín Asociación Costarricense de Arqueólogos, Año 2 (1983). San Jose, Costa Rica, pp. 22–44.
- 1983 Review Comments on “The Manatee in Pre-Columbian Mesoamerica,” *Papers in Anthropology*, No. 24. University of Oklahoma: Department of Anthropology, pp. 61–65.

- 1983 Barnhardt, M.L., D.C. Dycus, E.B. Jelks, F.R. Mansberger, J.S. Phillippe, F.S. Thomas, and F.W. Lange. "Preliminary Cultural Resource Survey and Geomorphological Assessment of Selected Areas in Navigation Pool 16, Mississippi River," *Wisconsin Archeologist* 64:9–110.
- 1982 Corruccini, R., J. Handler, R. Mutaw, and F.W. Lange. "A Slave Skeletal Population from Barbados, West Indies: Implication for the Biological History of American Blacks," *American Journal of Physical Anthropology* (12):443–459.
- 1981 Lange, F.W. and C.R. Smith. "A State-Wide Plan for the Study of Historic Sites: A Basis for Determination of Individual Site Significance," in *A Guide for Historical Archaeology in Illinois* (C.E. Orser, Jr., ed.). Chicago: Mid-American Research Center, Loyola University, pp. 128–138.
- 1980 "Prehistory and Hunter/Gatherers: The Role of Analogs," *Mid-Continental Journal of Archaeology* 5:133–147.
- 1980 "Una Ocupación del Policromo Tardío en sitio Ruiz, cerca de Bahía Culebra," in *Investigaciones Arqueológicas en la Zona de Bahía Culebra, Costa Rica (1973–1979)*, Vinculos, Volume 6. F.W. Lange and S. Abel-Vidor (eds.). San Jose, Costa Rica: National Museum of Costa Rica, pp. 81–96.
- 1980 "The Formative Zoned Bichrome Period in Northwestern Costa Rica (800 B.C. to A.D. 500)," in *Investigaciones Arqueológicas en la Zona de Bahía Culebra, Costa Rica (1973–1979)*, Vinculos, Volume 6. F.W. Lange and S. Abel-Vidor (eds.). San Jose, Costa Rica: National Museum of Costa Rica, pp. 33–42.
- 1980 Lange, F.W., R.M. Accola and P.R. Ryder. "La administración de los recursos culturales en Bahía Culebra," in *Investigaciones Arqueológicas en la Zona de Bahía Culebra, Costa Rica (1973–1979)*, Vinculos, Volume 6. F.W. Lange and S. Abel-Vidor (eds.). San Jose, Costa Rica: National Museum of Costa Rica, pp. 9–32.
- 1980 "La presencia de metales pre-colombinos en Guanacaste," in *Memoria del Congreso Sobre el Mundo Centroamericano de Su Tiempo (Vo Centenario de Gonzalo Fernandez de Oviedo)*. San Jose, Costa Rica: Editorial Texto Ltda., pp. 149–156.
- 1980 Lange, F.W. and J.S. Handler. "The Archaeology of Mapps Cave: a Contribution to the Prehistory of Barbados," *Journal of the Virgin Islands Archaeological Society* 9:3–17.
- 1980 "The Impact of Tourism on Cultural Patrimony: a Costa Rican Example," in *Tourism and Development* (V.L. Smith, ed.). Special issue of *Annals of Tourism Research* 7(1): 56–68.
- 1979 Handler, J.S., C.E. Orser, Jr., and F.W. Lange. "Two Necklaces and Carnelian Beads from a Slave Cemetery in Barbados, West Indies," *Ornament* 4:15–18.
- 1979 Lange, F.W. and R.M. Accola. "Pre-Columbian Metallurgy in Northwestern Costa Rica," *Archaeology* 33:26–33.
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- 1978 "Coastal Settlement in Northwestern Costa Rica," in *Prehistoric Coastal Adaptations* (B. Stark and B. Voorhies, eds.). Academic Press, pp. 101–116.

- 1977 "Estudios arqueológicos en el valle de Nosara, Guanacaste, Costa Rica," *Vinculos* 3(1):27–36.
- 1976 Lange, F.W., D.J. Bernstein, M. Siegel and D. Tase. "Preliminary Archaeological Research in the Nosara Valley, Costa Rica," *Folk* 18:47–60.
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- 1976 "Costa Rica and Subsistence Archaeology," *Current Anthropology* 17:305–307.
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Other Articles and Chapters

- 1996 (with Edgar Espinoza P. and Ramario Garica Vazquez) La Autogestión cultural: hacia una tercera etapa del Proyecto "Arqueología de la Zona Metropolitana de Managua." In Abundancia de Cooperación Vecinal: El Proyecto "Arqueología de la Zona Metropolitana de Managua," Segunda Temporada, edited by Frederick W. Lange. Managua: Alcaldía de Managua; pp. 173–176.

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- 1996 Los antecedentes y los resultados de la Segunda Temporada del Proyecto “Arqueología de la Zona Metropolitana de Managua.” In *Abundancia de Cooperación Vecinal: El Proyecto “Arqueología de la Zona Metropolitana de Managua,”* Segunda Temporada, edited by Frederick W. Lange. Managua: Alcaldía de Managua; pp. 1–8.
- 1995 (co-authored with Edgar Espinoza P.): *Los Recursos Arqueológicos Urbanos de Nicaragua y Su Preservación. Descubriendo Las Huellas de Nuestros Antepasados: El Proyecto “Arqueología de la Zona Metropolitana de Managua,”* edited by Frederick W. Lange, pp; 129–134. Managua: Alcaldía de Managua.
- 1995 *La Presencia de la Cerámica de la Gran Nicoya en los sitios Arqueológicos Investigados en el Proyecto Metropolitano. Descubriendo Las Huellas de Nuestros Antepasados: El Proyecto “Arqueología de la Zona Metropolitana de Managua,”* edited by Frederick W. Lange, pp. 103–118. Managua: Alcaldía de Managua.
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- 1995 *Descubriendo Las Huellas de Nuestros Antepasados: El Proyecto “Arqueología de la Zona Metropolitana de Managua,”* edited by Frederick W. Lange. Managua: Alcaldía de Managua (1995).
- 1994 Samuel K. Lothrop y la Arqueología de la America Central. In *Dejando Huellas, Un Simposio Honrando a don Carlos Balser S., Ricardo Vazquez L. (ed.). Vinculos 14: San Jose: National Museum of Costa Rica.*
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- 1990 (Invited) Lange, F.W. and D. Leonard) “The University of Colorado Museum’s Anthropology Collections: A Legacy from Joe Ben Wheat.” In *Why Museums Collect: Papers in Honor of Joe Ben Wheat. M. Duran and D. Kirkpatrick (eds.). Papers of the Archaeological Society of New Mexico 19:137–151. Albuquerque: The Archaeological Society of New Mexico.*
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- 1981 (Invited) Lange, F.W., R.L. Bishop and L. van Zelst. “Perspectives on Costa Rican Jade: Compositional Analyses and Cultural Implications,” in *Between Continents/ Between Seas: Pre-Columbian Art of Costa Rica* (E. Benson, ed.). New York: H.N. Abrams, pp. 167–175.
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Other Publications

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- 1996 (Editor) Abundancia de Cooperación Vecinal: El Proyecto “Arqueología de la Zona Metropolitana de Managua,” Segunda Temporada. Managua: Alcaldía de Managua; pp. 185.
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- 1989 (Editor) *Ancient Treasure of Costa Rica: Art and Archaeology of the Rich Coast*. Boulder: Johnson Books, 40 pp.
- 1989 *Colorado Crossroads: A Guide to the Anasazi Heritage and Scenic Beauty of the Four Corners Region*. Boulder: Johnson Books. 90 pp.
- 1988 F.W. Lange and R. L. Bishop. "Abstraction and Jade Exchange in Precolumbian Southern Mesoamerica and Lower Central America" in *Costa Rican Art and Archaeology: Essays in Honor of Frederick R. Mayer*. F.W. Lange (ed.). Boulder: Johnson Books, pp. 65–88.
- 1988 R. L. Bishop, F.W. Lange, and P.C. Lange. "Ceramic Paste Compositional Patterns in Greater Nicoya Pottery" in *Costa Rican Art and Archaeology: Essays in Honor of Frederick R. Mayer*. F.W. Lange (ed.). Boulder: Johnson Books, pp. 11–44.
- 1988 "Geographical and Chronological Setting" in *Costa Rican Art and Archaeology: Essays in Honor of Frederick R. Mayer*. F.W. Lange (ed.). Boulder: Johnson Books, pp. 1–10.
- 1988 (Editor) *Costa Rican Art and Archaeology: Essays in Honor of Frederick R. Mayer*. Boulder: Johnson Books. 336 pp.
- 1986 Lange, F.W., N. Mahaney, J.B. Wheat, and M. Chenault. *Yellow Jacket: An Anasazi Ceremonial Center of the Four Corners Area*. Boulder: Johnson Books. 76 pp. rev. edition published in 1988, with J. Cater as 5th author.
- 1985 Lange, F.W., and D. Leonard (eds.). *Among Ancient Ruins: The Legacy of Earl H. Morris*. Boulder: Johnson Books. 96 pp.
- 1982 Lange, F.W., and D.E. Shea. *Pre-Columbian Art: Perspectives in Culture*. Peoria: Lakeview Museum of Arts and Sciences, 52 pp.
- 1980 *Los Recursos Arqueológicos de Costa Rica y Su Preservación*. Departamento de Antropología; Dirección General Cultural, Ministerio de Cultura, Juventud, y Deportes. San Jose, Costa Rica: Museo Nacional de Costa Rica, 53 pp.
- 1972 Hurley, W.M., I.T. Kenyon, F.W. Lange, B.M. Mitchell, (eds.) *Algonquin Park Archaeology—1971*. Department of Anthropology, University of Toronto, Anthropological Series No. 10. 219 pp.

Reviews

- 1992 *Archaeology, Volcanism, and Remote Sensing in the Arenal Region, Costa Rica*, edited by P.D. Sheets and B.R. McKee (University of Texas Press, 1994; and, *Mountains of Fire and Lands that Shake: Earthquakes and Volcanic Eruptions in the Historic Past of Central America (1505–1899)*, by L.H. Feldman. Lancaster, California: Lanyrinthos Books (1993).
- 1992 *The Slaves' Economy: Independent Production by Slaves in the Americas* (edited by Berlin and Morgan) for *William and Mary Quarterly*. October, 1992. pp. 712–715.
- 1988 Report of the Galena–U.S. Route 20 Bridge Replacement Archaeological Study, Jo Daviess County, Illinois. *Historical Archaeology* 22(1):127–128.

- 1988 Arrowheads & Stone Artifacts: A Practical for the Surface Collector and Amateur Archaeologist. *Southwestern Lore* 54:36.
- 1987 Contributions to the Archaeology and Ethnohistory of Greater Mesoamerica: Essays in Honor of Carroll L. Riley. *Southwestern Lore* 53:42–43.
- 1986 (F.W. Lange and H. R. Lange) Lister R. and F. Those Who Came Before. *Southwestern Lore*.
- 1985 Chapman, C. and E. Indians and Archaeology of Missouri. *Southwestern Lore* 51:37.
- 1985 LeBlanc, Steven A. The Mimbres People: Ancient Pueblo Potters of the American Southwest. *Southwestern Lore* 51:29–30.
- 1985 Ichon, A., Archeologie du Sud de la Peninsula d’Azuerro, Panama. *American Antiquity* 47:682.
- 1982 Healy P., Archaeology of the Rivas Region, Nicaragua. *American Antiquity* 47:470–471.
- 1981 Linares, O. and A. Ranere (Eds.), Adaptive Radiations in Ancient Panama. *Science* 211:1412–1413.
- 1972 Rouse, I., Introduction to Prehistory: A Systematic Approach. *American Anthropologist* 75:1098–1099.
- 1972 Katz, F., The Ancient American Civilizations. *Library Journal*, July.
- 1972 Brunhouse, R.L., Sylvanus G. Morley and the World of the Ancient Mayas. *Library Journal*, 1 February.

Technical Reports

- 2001 A Phase I (Class III) Archaeological Survey of 1.32 Linear Miles (7.004 acres) Along Dirt Easement Route, Congress, Yavapai County, Arizona. Cultural Resource Division Clearance Report No. 245. Cultural Resource Division, The Louis Berger Group, Phoenix, Arizona.
- 2000 (with David H. Greenwald). Data Recovery Plan for Archaeological Investigations in the Fairway Peak Development, Flagstaff, Coconino County, Arizona. Four Corners Research Report Number 00-10-1. Four Corners Research, Tularosa, New Mexico.
- 1970 (Editor) Archaeological Research in the Sapoa River Valley Area: Report on a second season of archaeological research in northwestern Guanacaste Province, the Republic of Costa Rica. Chicago: Associated Colleges of the Midwest, 138 pp., mimeo.
- 1969 (Editor) An Archaeological Survey of the Sapoa River Valley: Report on a preliminary season of archaeological research in northwestern Guanacaste Province, the Republic of Costa Rica. Chicago: Associated Colleges of the Midwest, 429 pp., mimeo.

Papers Given at Professional Meetings and Invited Workshops

- 2009 Interpretations of Millingstone from Riverside County, California and Elsewhere (Nearby). The Prehistoric Milling Sites working Conference. Riverside County Planning Department and Open Space District, Riverside County Nature Center, Riverside County, California (November 7–8).

- Enigmatic Stone Mounds in the Pisgah Region, Southern California Desert. 3rd Biennial Three Corners Conference, University of Nevada, Las Vegas (October 17, 2009).
- 2008 The Southern Mesoamerican Wedge and Greater Nicoya. Prepared for the Symposium: Archaeology without Borders: Re-Evaluating the Mesoamerican/Chibchan Interface. 73rd Annual Meeting, Society for American Archaeology Vancouver, B.C. CANADA March 26–30, 2008.
- (with Robert E. Reynolds and Antonina Delu) An Archaeological and Geological View of Cupule Production, Western Riverside County. 22nd Annual Desert Studies Symposium. Desert Studies Center, Zzyzx, California.
- 2007 (Invited) SAA Board Sponsored Symposium “Central American Archaeology: Current Situation and Future Perspectives.” Expanding the Playing Field for Archaeologists in Costa Rica and Nicaragua. 72nd Annual Meeting, Society for American Archaeology, Austin, Texas.
- A Cultural-Geological Analysis of Quartz Shatters from the Glamis Dunes Region, Imperial County, California (with Robert E. Reynolds and Daniel Ewers). 21st Annual Desert Studies Symposium, Desert Studies Center, Zzyzx, California.
- 2006 Ethnographic Analogy and the Mesquite Regional Landfill Project. 20th Annual Desert Studies Symposium, Desert Studies Center, Zzyzx, California.
- McSweeny Farms Project, City of Hemet, Riverside County, California. Southern Data Sharing Conference. Ensenada, Baja California.
- 2004 (with Gavin Archer, Richard Ciolek-Torello, Donn R. Grenda, and Jeffrey a. Homburg) Archaeological Evaluation of the Tomato Spring Site (CA-ORA-244), Loci A, B, C, and E, Planning Area 6, Irvine, California. 38th annual meeting, Society for California Archaeology, Riverside, California. 17–20 March 2004.
- 2003 (Invited) Population Trends and Cultural Heritage Preservation in Central America: Is Cultural Triage Now Necessary. World Archaeological Congress 5. Catholic University. Washington, D.C.
- 2003 (Invited) Cultural Heritage Preservation in Post-War Settings in Central America. World Archaeological Congress 5. Catholic University. Washington, D.C.
- 2003 (Invited) (“Time, Space, Labels, and the Intermediate Area: Some Recent Data and Thoughts Based on the Contributions of Gordon R. Willey.” In Symposium “Breaking Down Boundaries in the Intermediate Area: Toward a New Macro-Chibchan Synthesis.” 68th Annual meeting, Society for American Archaeology, Milwaukee.
- 2003 (Invited) Importancia de la Información en el Proceso de la Investigación. Primer Seminario-Taller Centroamericano “Retos y Oportunidades Antes la Globalización de la Información.” Asociación de Bibliotecarios de El Salvador (ABES). Centro Cultural Salvadoreño, San Salvador, 21–23 May.
- 2003 Panelist (invited), Round Table “U.S. Implementation of the UNESCO Cultural Property Convention: An Assessment of the First Twenty Years,” 104th Annual Meeting, Archaeological Institute of America, New Orleans, Louisiana.
- 2002 Discussant (invited), Symposium “Recentralizing Central American Archaeology,” 67th Annual Meeting, Society for American Archaeology, Denver.

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- 2002 Borrador de una “Guía para la Investigación de Delitos Culturales,” Foro-Taller Legal sobre la Ley Especial de Patrimonio Cultural (San Salvador and San Miguel, El Salvador). Office of Public Affairs, U. S. Embassy, El Salvador and CONCULTURA (Consejo Nacional para el Arte y Cultura), República de El Salvador.
- 2002 Estudios Americanos: Perspectivas Emicas y Eticas, October. Universidad Francisco Gavidia, Office of Public Affairs, U.S. Embassy, El Salvador.
- 2002 Harry Potter y La Consideración de la Introducción del Tema de Estudios Americanos (American Studies, October. Universidad Don Bosco. Office of Public Affairs, U.S. Embassy, El Salvador.
- 2002 (Invited) La Urgencia de la Conservación del Patrimonio Bibliográfico y Documental Salvadoreño. Asociación de Bibliotecarios de El Salvador (ABES), Semana Cultural del Bibliotecario Salvadoreño pro Fortalecimiento del Patrimonio Cultural, Año 2002—Año de las Naciones Unidas del Patrimonio Cultural. San Salvador, May.
- 1991 Society for American Archaeology, 58th annual meeting, St. Louis. Identifying Seasonal Occupations on the Pacific Coast of Prehistoric Central America. Invited paper for symposium, organized and chaired by Lynette C. Norr.
- 1991 Colorado-Wyoming Association of Museums annual meetings, Cortez, Colorado. Program chair and panel member in plenary session on repatriation and human remains.
- 1991 Society for American Archaeology, 56th annual meeting, New Orleans. (with V. Canouts and S. Salgado) “The Greater Nicoya Ceramic Database: Development and Application.” Invited paper for symposium “Chemical Characterization of Ceramic Pastes in Archaeology,” organized and chaired by H. Neff.
- 1989 Organizer and moderator of session “CU-Cortez Center: A Unique Museum Partnership” and presented discussion “History and Development of the Partnership.”
- 1989 Colorado-Wyoming Association of Museums, 17th annual meeting, Greeley. Moderator of session “Discovery Kits: Taking Your Museum to the Schools.”
- 1989 Society for American Archaeology, 54th annual meeting, Atlanta. Co-organized and co-chaired symposium on “Current Research in Central America” and presented paper “The Bay of Salinas: Crossroads of Greater Nicoya.”
- 1988 (with Eduardo Faith) “The Current Status of Anthropology in Costa Rican Museums” Invited paper for symposium “Is Boas Dead?” 87th annual meeting, American Anthropological Association, Phoenix.
- 1988 CWAM (Colorado-Wyoming Association of Museums) annual meeting, Cody, Wyoming. “The Interactive Potential of the Earl H. Morris and Anna O. Shepard Collections, University of Colorado Museum.”
- 1988 Society for American Archaeology annual meeting, Phoenix, AZ (April). “Current Research in the Yellow Jacket area, Colorado.”
- 1987 Dumbarton Oaks (Washington, D.C.) Organized and Chaired symposium “Wealth and Hierarchy in the Intermediate Area” and also presented paper “In Search of Wealth and Hierarchy in Greater Nicoya.”

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- 1987 60th Annual Pecos Conference, Pecos Monument, N.M. “Report on 1987 Field Research at Yellow Jacket.”
- 1986 Chacmool Conference, University of Calgary (11 November). “Formative Period Subsistence in the Intermediate Area: an Overview.”
- 1986 Organized and Chaired symposium on “Art and Archaeology of Pre-Columbian Costa Rica” at CU Planetarium, 11 October. Also presented paper “A Preliminary Classification of Costa Rican Jade.”
- 1986 Colorado Archaeological Society, annual meeting (Colorado Springs), 3 October. “Current Research at Yellow Jacket.”
- 1985 Duke University Museum: lecture on Costa Rican archaeology in conjunction with opening of Arthur M. Sackler collection exhibition of Costa Rica ceramics (21–25 November).
- 1985 Current Research at Yellow Jacket. 58th Pecos Conference, Mountainair, N.M.
- 1985 University of Kentucky: lectures on Costa Rican archaeology, and round table/symposium participation in conjunction with visiting lectureship by Daniel Oduber Q., ex-president of Costa Rica (10–14 February).
- 1984 “Un breve resumen de los congresos sobre la cerámica de Gran Nicoya,” paper presented for the Tercer Congreso de la Cerámica de Gran Nicoya y Panorama Arqueológico de Costa Rica, San Jose (Costa Rica).
- 1984 Organizer and Chair, Tercer Congreso de la Cerámica de Gran Nicoya, San Jose (Costa Rica).
- 1983 (with P.D. Sheets) “Preliminary Results of Recent Survey on the Pacific Coast of Nicaragua,” 82nd annual meeting, American Anthropological Association, Chicago.
- 1983 Organizer and Chair, Second Denver Conference on Greater Nicoya Ceramics.
- 1983 “Recent Survey on the Pacific Coast of Nicaragua,” 48th annual meeting, Society for American Archaeology, Pittsburgh.
- 1983 Discussant, Carnegie Museum (Pittsburgh) Conference on “Inter-regional Ties in Costa Rican Prehistory;” also presented paper titled “Recent Survey on the Pacific Coast of Nicaragua.”
- 1982 Organizer and chair, symposium on Isthmian Archaeology, 44th International Congress of Americanists, Manchester. Also presented paper summarizing First Denver Ceramic Conference as part of the symposium.
- 1982 Co-organizer and chair, First Denver Conference on Greater Nicoya Ceramics, Denver.
- 1982 (with C.R. Smith) “Historic Sites: Managing a Dynamic Resource,” 47th annual meeting, Society for American Archaeology, Minneapolis.
- 1982 Organizer and chair, session on Current Research on Historical Problems in the 19th Century Midwest; also presented paper (co-authored with H. Moy and T. Karlowicz) “Rock Island Arsenal: A Military-Industrial Complex on the Mississippi” as part of the session; 15th annual meeting, Society for Historical Archaeology, Philadelphia.
- 1981 (with M.B. Whiteford) “So You Want to be an Anthropologist: An Assessment of Undergraduate Field Schools as Teaching Devices and Educational Tools,” in session,

- Teaching Anthropology: Innovative Approaches in the Classroom and Field, 80th annual meeting, American Anthropological Association, Los Angeles.
- 1981 Discussant for symposium New Models for the Political Economy of Pre-Columbian Polities: 80th annual meeting, American Anthropological Association, Los Angeles.
- 1981 Organizer and chair, symposium on Historical Archeology, Midwestern Archaeological Conference, Madison; paper on Research on Arsenal Island, Illinois (co-authored with H. Moy and T. Karlowicz) presented as part of the symposium.
- 1981 Discussant for symposium The French Colonization in the United States: Interdisciplinary Research. 14th annual meeting, Society for Historical Archaeology, New Orleans.
- 1980 Co-organizer and chair, symposium on Archaeology and Art History: Interdisciplinary Approaches for the 1980's, 79th annual meeting, American Anthropological Association, Washington, D.C.
- 1980 Organizer and chair, symposium on Recent Developments in Mesoamerican and Central American Jade Research, Dumbarton Oaks, Washington, D.C.; paper on Costa Rican jade research presented as part of symposium.
- 1980 Organizer and chair, symposium on Historic Sites Research in Illinois, Midwestern Archaeological Conference, Chicago.
- 1980 "Pacific Coastal Ceramics in Highland Costa Rica Mortuary Contexts: Commerce or Ritual?" 45th annual meeting, Society for American Archaeology, Philadelphia.
- 1980 Co-organizer, Advanced Seminar on Lower Central American Archaeology, School of American Research, Santa Fe.
- 1980 (with J.S. Handler) "The Newton (Barbados) Slave Cemetery: Patterns, People, When and Where the Twain do Meet," in symposium, "Every Man's Proper House and Home: Archaeological Perspectives on the Mentalite of Earlier Generations," 13th annual meeting, Society for Historical Archaeology, Albuquerque.
- 1980 (with J.S. Handler) "Application of the South Ceramic Formula on Barbados, West Indies," 13th annual meeting, Society for Historical Archaeology, Albuquerque.
- 1979 "Shells, Spoons, Maces, and Stools: A Look at Social Organization in Pre-Columbian Costa Rica," 78th annual meeting, American Anthropological Association, Cincinnati.
- 1979 "Illinois State University's Historic Sites Research Program—An Overview," Midwestern Archaeological Conference, Milwaukee.
- 1979 Co-chaired symposium "Current Research in Costa Rican Archaeology," 44th annual meeting, Society for American Archeology, Vancouver.
- 1979 "Dammed Tourists in Costa Rica: Cultural Resource Management in a Developing Nation," 44th annual meeting, Society for American Archaeology, Vancouver.
- 1978 "Pre-Columbian Inter-Coastal Systems, Northern Costa Rica," 77th annual meeting, American Anthropological Association, Los Angeles.
- 1978 Co-chaired archaeological symposium and presented a paper titled "La Presencia de Metales Precolombinos en Guanacaste," Congreso Vo Centenario Nacimiento Gonzalo Fernandez de Oviedo, Nicoya, Costa Rica.

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- 1978 “The Ruiz Site: A Late Polychrome Occupation Near the Bay of Culebra, Costa Rica,” in symposium, *The Paleoecology of Lower Central America*, 43rd annual meeting, Society for American Archaeology, Tucson.
- 1978 “Tourism’s Impact on Cultural Patrimony: A Costa Rican Example,” annual meeting of the Society for Applied Anthropology, Merida.
- 1977 (with R. Vazquez L.) “El futuro de los estudios interdisciplinarios entre geología y arqueología en Costa Rica,” 1st National Congress of Geology, San Jose, Costa Rica.
- 1977 Co-chaired symposium on Present Archaeological Research in Lower Central America, and presented paper “Excavations at the Vidor Site, Guanacaste, Costa Rica,” 42nd annual meeting, Society for American Archaeology, New Orleans.
- 1977 (with J.S. Handler) “Mortuary Patterns of Plantation Slaves in Barbados,” 9^h Conference of the Association of Caribbean Historians, Cave Hill, Barbados.
- 1976 “Prehistoric Adaptations, Coastal Guanacaste, Costa Rica,” in symposium on Middle American Coastal Ecosystems, 41st annual meeting, Society for American Archaeology, St. Louis.
- 1975 “Beaches, Bays, and Valleys in Northwestern Costa Rica,” in symposium on *The Southern Frontiers of Mesoamerica*, 74th annual meeting, American Anthropological Association, San Francisco.
- 1975 “Bahias y valles de la costa pacifica de Costa Rica,” in symposium on *Secuencias cerámicas en la America Central*, Primer Congreso de Antropología y de la Defensa del Patrimonio Cultural, San Jose, Costa Rica.
- 1975 *Estudios científicos y el patrimonio cultural en Costa Rica y en American Central, una vista extranjera*,” Primer Congreso de Antropología y de la Defensa del Patrimonio Cultural, San Jose, Costa Rica.
- 1975 “Preliminary Research in the Nosara Valley, Costa Rica,” 40th annual meeting, Society for American Archaeology, Dallas.
- 1974 Organized and chaired symposium, “Population Shifts in Culture Change,” held at Logan Museum, Beloit College.
- 1974 “Coastal Research in Northwestern Pacific Costa Rica,” 73rd annual meeting, American Anthropological Association, Mexico.
- 1974 “Slave Mortuary Practices, Barbados, West Indies,” 41st International Congress of Americanists, Mexico.
- 1972 “An Archaeological Investigation of the Domestic Life of Plantation Slaves in Barbados, West Indies,” 37th annual meeting, Society for American Archaeology, Miami.
- 1972 (with W.M. Hurley and I.T. Kenyon) “Algonquin Park Archaeology—1971,” 5th annual meeting, Canadian Archaeological Association, St. John’s, Newfoundland.
- 1971 “Ceramic and Subsistence Patterns of the Late Polychrome Period, Costa Rica,” 36th annual meeting, Society for American Archaeology, Norman.
- 1970 “Culture History of the Sapoa River Valley, Costa Rica,” 35th annual meeting, Society for American Archaeology, Mexico City.

Other Invited Papers and Symposia

- 1993 Organized National Science Foundation sponsored symposium “The Future of Research in Greater Nicoya” and presented paper titled “El Concepto de la Gran Nicoya: Una Perspectiva Histórica.” Cuajiniquil, Costa Rica, 23–29 May.
- 1993 Organized symposium honoring Carlos Balser, San Jose, Costa Rica, 14 August 14, 1993 and presented paper titled “Samuel K. Lothrop y la Arqueología de la America Central.”
- 1995 (Invited) “La Co-Administración de la Herencia Natural y Cultural, Un Plan Piloto para América Central,” 20 March 1995. Instituto Nicaragüense de Cultural y Universidad Nacional de Ingeniería.
- 1995 (Invited) “La Paz Precolombina: 2000 años de la prehistoria de Nicaragua.” Martin Luther King Institute, UPOLI (Universidad Polytecnic-Managua), March 21 1995.
- 1995 Seminario-Taller Museos y Desarrollo Humano Sostenible, Centroamérica y el Caribe Hispano. (Invited) “El Proyecto Hypermedia” San Jose, 22 March 1995.
- 1995 Seminario-Taller Museos y Desarrollo Humano Sostenible, Centroamérica y el Caribe Hispano. (Invited) “La Co-administración de Recursos Culturales y Naturales.” San Jose, 23 March 1995.
- 1995 Analytical Approaches to Central American Prehistory: Tracing Jade, Gold, Ceramic, and Obsidian Production (Invited). Artist-Scholar Series, Colorado School of Mines (19 April).
- 1996 The Importance of Nicaraguan Archaeology (invited). University of Mobile Latin American campus, San Marcos, Nicaragua.
- 1997 Co-organized and coordinated seminar on the use of Hypermedia in museums and for education, Palace of Culture, Managua, Nicaragua (30 June–4 July).
- 1997 Co-organized and coordinated seminar on the use of Hypermedia in museums and for education, Instituto Latinoamericano de Museología (National University of Costa Rica, Heredia (7–11 July).
- 1997 Co-organized round table on the politics of the future of archaeology in Nicaragua, and presented draft national plan for archaeology, Palace of Culture, Managua, Nicaragua (27 August).
- 1998 “Politics and Research in Nicaragua.” Longmont Rotary Club, 25 September.
- 1998 Brown bag presentation, University of Colorado Museum, “Current Archaeological Research in Nicaragua.” 15 October.
- 2002 Oklahoma and Nicaragua: The Hernan DeSoto Connection. Museum of the Red River, Oklahoma.
- 2003 The Globalization of Central America, 4,000 Years Ago, and More. Dumbarton Oaks, 10 December.
- 2004 Planteamientos Iniciales Sobre El Impacto Indirecto de Las Enfermedades de los españoles, y la Falta de Identificación de Sitios Protohistóricos e Históricos en Nicaragua y Centroamérica. Ponencia preparada para el Ciclo de Conferencias “Leyendo el Pasado”

organizado para celebrar el 107 aniversario del Museo Nacional de Nicaragua, y Rendir Homenaje a Doña Leonor Martínez de Rocha al Cumplirse 5 años de su Fallecimiento. Palacio Nacional de la Cultura, Museo Nacional de Nicaragua, Instituto Nicaragüense de Cultura, 26 Agosto.

GRANTS AND CONTRACTS

1997

- Municipalidad de Managua, Proyecto Metropolitano: \$15,000

1996

- Municipalidad de Managua, Proyecto Metropolitano: \$10,000
- Committee on Research and Creative Work, University of Colorado—Boulder, \$2,400 (Metropolitan Area Project).

1995

- Municipalidad de Managua, Proyecto Metropolitano: \$15,000

1992

- Bay of Culebra, National Endowment for the Humanities, \$92,822
- Cuajiniquil Conference, National Science Foundation, \$21,025
- CU-Cortez Center, CU Outreach Council, \$7,500
- CU-Cortez Center, Building Acquisition Fund, from JFM Foundation, Denver; \$10,000
- Center for Latin American Art and Archaeology, from JFM Foundation, Denver, \$36,000

1991

- Center for Central American Art and Archaeology and Anthropology Section of the University of Colorado Museum, from JFM Foundation, Denver. \$44,000

1990

- Center for Central American Art and Archaeology, and Anthropology Section of the University of Colorado Museum, from JFM Foundation, Denver. \$35,225

1989

- President's Fund for the Humanities, to aid development of the traveling exhibition "Beyond the Looms: Keys to Understanding Early Southwestern Weaving." \$3,750
- JFM Foundation, Denver support of Costa Rican Research and Anthropology Section of the University of Colorado Museum. \$32,000.

- Boulder Campus Outreach Council, to aid development of the traveling exhibition “Beyond the Looms: Keys to Understanding Early Southwestern Weaving.” \$3,750

1988

- JFM Foundation, Denver support of Costa Rican Research and Anthropology Section of the University of Colorado Museum. \$32,000
- President’s Fund for the Humanities, to aid development of the traveling exhibition “The First Coloradans: Paleo Indian Hunters of the Plains” \$1,450
- National Science Foundation: Jade Research (with Brian Curtiss—CIRES/CSES) \$86,591
- National Endowment for the Humanities Planning Grant: Before Columbus. \$14,288

1987

- University of Colorado Outreach Council (CU–Cortez Center Lectures) \$4,148
- University of Colorado Outreach Council (CU–Cortez Center Exhibit Development) \$7,846
- JFM Foundation of Denver, support for Costa Rican research and sponsorship of First International Conference on Geological and Archaeological Aspects of Mesoamerican and Central American Jade. \$32,000
- Colorado Endowment for the Humanities (CU–Cortez Center Lecture Series “As Broad As the Mesas.” \$2,500
- Council on Teaching (Yellow Jacket Teaching Films) ca. \$3,400
- Private support for publication of Costa Rican Art and Archaeology: Essays in Honor of Frederick R. Mayer. \$30,000

1986

- President’s Fund for the Humanities, \$3,985 for development of a traveling exhibit “Anasazi Ceremonialism and Habitation at Yellow Jacket, Southwestern Colorado.”
- Committee on Research and Creative Writing, University of Colorado, \$4,920 for support of research at Yellow Jacket, Colorado
- Continued Support, \$13,400 for Costa Rican research, work study subsidy, and graduate research support, JFM Foundation, Denver

1985

- Continued Support, \$19,700 for Costa Rican research, work study subsidy, and graduate research support, JFM Foundation, Denver

1984

- Grant from JFM Foundation, Denver, Colorado for Costa Rican research: museum cooperation, conferences, travel, graduate student support, publications costs
- Support for Third Greater Nicoya Ceramic Conference. \$27,250

1983

- Additional support grants for further development of Greater Nicoya research including field research and museum collection research in Nicaragua; JFM Foundation, Denver. ca. \$14,000
- Support for Second Greater Nicoya Ceramic Conference; JFM Foundation, Denver. \$12,000
- Support for research on Costa Rican Jade; Captiva Corporation, Denver. \$10,000
- Arranged for \$700 donation from JFM Foundation, Denver to the National Museum of Costa Rica to aid in restoration of ceramic research specimens damaged by an earthquake.

1982

- Conference grant for First Conference on Greater Nicoya Ceramics, JFM Foundation, Denver. \$14,000.
- Grant to support neutron-activation analyses of Greater Nicoya ceramics at the Brookhaven National Laboratory; JFM Foundation, Denver. \$28,000
- Travel grant to International Congress of Americanists, Manchester and museum research in Hamburg and Paris; JFM Foundation, Denver. \$2,500
- Travel grant to consult with the governments of Costa Rica and Nicaragua about future research, JFM Foundation, Denver. \$1,500

1979–1982

- As Director of the Historic Sites Division of the Midwestern Archeological Research Center (Illinois State University) funds totaling more than \$400,000 were obtained from federal, state and private agencies.

1975–1979

- Travel grants from Frederick R. Mayer, Exeter Drilling Co., Denver, totaling ca. \$15,000.

1977

- National Geographic Society grant (#1680) in support of archaeological investigations, Bay of Culebra, Costa Rica. ca. \$6,000

1972

- (with J.S. Handler) National Science Foundation Grant GS-30993, “Acculturative Processes in New World African Cultures.” ca. \$28,000

1969

- Organization for Tropical Studies, Inc., Grant #68-22 for “An Archaeological Survey of the Rio Sapoa Valley, Guanacaste Province, Costa Rica.” ca. \$3,000
- University of Wisconsin Graduate School travel grant to study Central American prehistory collections in museums in New York City and at the Peabody Museum, Harvard. ca. \$750

COURSES TAUGHT

As part of the Associated Colleges of the Midwest Costa Rican Studies and Central American Field Program:

- Mesoamerican Archaeology
- Archaeological Field Methods
- Archaeological Laboratory Methods
- Field Seminar in Archaeology
- Geography and Ecology of Costa Rica
- Contemporary Costa Rican Society

At Beloit College:

- Origins of Western Civilization
- Introduction to Physical Anthropology
- Technique and theory in Archaeology
- Archaeology of South America
- Archaeology of Mesoamerica
- Archaeological Fieldwork I
- Archaeological Fieldwork II
- Field Seminar in Anthropology
- The Nature of Cultural Diffusion
- At the University of Toronto:
- Archaeology of North America
- Archaeology of Eastern North America
- Archaeology of Middle America

At the University of Costa Rica:

- Introduction to Laboratory Techniques
- At Illinois State University:
- Introduction to Archaeology
- Regional and Areal Studies (Archaeological Field School)
- Key Concepts in Anthropology

- Prehistory of North America

At the University of Colorado—Boulder:

- Introduction to Archaeology and Physical Anthropology
- Archaeology of Mexico and Central America
- Archaeology of the Intermediate Area
- Archaeological Method and Theory
- Archaeological Field School
- Introduction to Museum Studies
- Museum Independent Study
- Museum Internships
- The Development and Use of Anthropological Museum Collections

For the Organization of American States:

- February–June 1993: Coordinator and Participating Professor, Primer Curso de Actualizacion Para Arqueologos en Servicio, Organization of American States, Managua.
- June–July 1994: Academic Coordinator, Primer Curso Regional de Actualizacion Para Arqueologos en Servicio, Organization of American States (San Salvador, Managua, San Jose).

At the Universidad Nacional Autónoma de Nicaragua (Managua) La Arqueología del Hemisferio Occidental:

- At the Universidad Tecnológica de El Salvador
- General Anthropology
- Method and Theory in Archaeology, I and II
- Seminar in the Archaeology of Central America

EXHIBITS DEVELOPED

1997

- Consultant to Instituto Nicaraguense de Cultura and the National Museum of Nicaragua for installation of archaeology exhibits (4 halls) in the Convento de San Francisco Museum, Granada, Nicaragua.
- Consultant to Instituto Nicaraguense de Cultura and the National Museum of Nicaragua for installation of the new archaeology exhibits (2 halls) in the National Palace of Culture, Managua.

1993

- Sabbatical Activities: Completed reinstallation of Central American section of precolumbian gallery, Denver Art Museum. Participated in design, collection management, installation, and development of related educational package.

1991

- Third Rotation of Beyond the Loom Denver Art Museum Third Floor Renovation

1989

- Traveling version of “Beyond the Loom” exhibit completed.

1988

- Arranged for “The Legacy of Earl H. Morris” to show in House and Senate exhibition areas (Washington, D.C.), under sponsorship of Congressman Campbell, Senator Wirth, President Gee, and the Alumni office.
- Arranged for Costa Rican Art and Archaeology exhibit to go to Mesa State College (Grand Junction)
- Received partial funding from the President’s Fund for the Humanities to develop a traveling exhibit on the Paleo-Indian period in Colorado, and the peopling of the New World.

1987

- Worked with Exhibits Department to develop smaller traveling version of “The Legacy of Earl H. Morris”
- Worked with Exhibits Department to begin development of major Southwestern textile exhibition “Beyond the Loom”
- Worked with Exhibits Department to develop traveling exhibition “Yellow Jacket: the Anasazi Site that Continues to Grow”
- Arranged for Costa Rican Art and Archaeology exhibit to be sent to Phillips Exeter Academy (New Hampshire)
- Arranged for Costa Rican Art and Archaeology exhibit to be sent to the Lory Student Center (CSU, Ft. Collins)
- Worked with Exhibits Department to design Southwestern archaeology exhibits for the McKenna Room
- Worked with Exhibits Department and Colorado Archaeological Society committee to make University of Colorado exhibits (Earl Morris, Yellow Jacket, Navaho Weaving, Remote Sensing, and Obsidian Blades for Eye Surgery) available for archaeology pavilion at the Colorado State Fair (Pueblo)
- Worked with Exhibits Department to design and develop the Southwestern archaeology and ethnology exhibits for the CU Center in Cortez (installed in spring, 1988).

1986

- University of Colorado: Toh-Atin Gallery (Durango) (1) Mimbres Pottery, (2) Kachinas, as part of University of Colorado: “Best of Boulder” series Southwestern Textiles and Ceramics.

- President's brunch at Koenig Alumni Center prior to CU-Arizona football game.
- University of Colorado: "Pre-Columbian Costa Rica."S One-day exhibit of Costa Rican artifacts in conjunction with symposium at CU Planetarium.

1985–1986

- University of Colorado Museum: Time and Technology: Scientific Approaches to Costa Rican Prehistory.

1982

- Lakeview Museum (Peoria, Illinois) "Precolumbian Art: Perspectives in Culture" (with Henry Moy and Dan Shea)

1977

- National Museum of Nicaragua: assistance with restoration of archaeology halls with re-opening of museum after 1972 earthquake

1975–1979

- National Museum of Costa Rica: renovation of archaeology halls

1971–1975

- Beloit College: various exhibits on Latin American archaeology in conjunction with undergraduate teaching

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**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV**

APPLICATION FOR CERTIFICATION

For the CALICO SOLAR (Formerly SES Solar One)

Docket No. 08-AFC-13

**PROOF OF SERVICE
(Revised 8/9/10)**

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DECLARATION OF SERVICE

I, Darin Neufeld, declare that on August 17, 2010, I served and filed copies of the attached Applicant's Submittal of Additional Testimony. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [www.energy.ca.gov/sitingcases/solarone].

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

FOR SERVICE TO ALL OTHER PARTIES:

- sent electronically to all email addresses on the Proof of Service list;
 by personal delivery;
 by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

- sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (*preferred method*);

OR

- depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 08-AFC-13
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

Original Signed By
Darin Neufeld