Photo Set 25: Locus B of RIV-11775

Overview, Tall Standpipe Facing SW

Feature 2: Abandoned Valve Box

Two Views Inside of Feature 3: Water Pressure Regulator

Photo Set 26: Locus C of RIV-11775

Locus B (right) and Locus C (left) near Reservoir (fenced area), Facing South

Feature 2: Covered Well

Feature 3: Padlocked Flow Gauge

Feature 4 with Moving Water Inside

Locus D: This locus measures 18 ft. (NS) by 8 ft. (EW); it has five features (see Photo Set 27).

1) large standpipe for a gravity flow pipeline: it is estimated to be 13' 4" tall and is 3' in external diameter.
2) old, damaged valve box: This feature is 2.5" south of #1. It measures 18" in diameter and is 17" in height. The structure is made of cement with a wire mesh interior. At the bottom, there appears to be remnants of a metal valve with no valve handle. The upper part of the cylindrical cement structure appears damaged. It is no longer in use.
3) water pressure regulator: It is 5.5" south of #2. It measures 42" in diameter, 50.5" (4'2.5") in height, and is 7' deep as measured to its cement base. Inside is the metal water pressure regulator (see #3 for Locus B above). In this instance, the regulator extends above the top of the cement structure due to a pressure gauge extending upwards. Given there is water in the bottom and algae-like material covering part of it, it is still in use.
4) broken cylindrical feature of unknown function: It is directly adjacent to the west side of #5. It is a cement pipe broken off at the top. It is 15" in diameter and 29" in height. It is not currently in use.
5) probable valve box possibly made from a former well: it is 39.5" south of #3. It is 42.5" in diameter, 41.5" in height and about 7' in depth. The valve is clearly present at the base of the structure and a metal rod is serving as a valve handle. The presence of water in the bottom that appears to move somewhat indicates it is still in use.

Locus E: This locus measures 4 x 4 ft. in size; it consists of the remnants of what was probably a cement standpipe that is no longer functional. It is upper portion has probably been removed. It measures 42.5" in external diameter and is 74" in height. It is about 15' in depth (see Photo Set 285).

Locus F: This locus consists of five elements (see Photo Set 29).

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1) cement water pressure regulator device inside: it is 85.5" (7'1.5") tall and 41.25" (3'5¼") in diameter. It is 42" north of element #2 and 5" away from element #3, both described below. It is still in use.
2) cement-encased, locked water flow gauge: it is 13.5" in diameter and 8" high. It is still in use.
3) possibly a pressure-release device activated by a pull lever: it is 10¼" in diameter, 9" in height and 5½" in depth on the inside where the pull level is visible. It appears to still be in use.
4) well, built with three cement-fused buses: it is 43" (3'7") in diameter, 32" in height, and 78" (6'6") deep. A disconnected pump is used to pump water from the well into the adjacent water storage tank (see #5). The well is located 31.5" north of the standpipe (#1) and 15" south of element #5. It is still in use.
5) 600-gallon fiber-glass water storage tank that is still in use.

Photo Set 27: Locus D of RIV-11775

Overview of Locus D Facing East

Partial Overview of Locus D Facing Northeast

Photo Set 27 continued: Locus D of RIV-11775

Feature 2: Abandoned Valve Box

Feature 4 of Unknown Function

Inside Feature 3: Water Pressure Regulator (top and bottom)

Feature 5: Probable Valve Box showing part of Valve and Valve Handle

Photo Set 28: Locus E of RIV-11775

Locus E Overview Facing Roughly South

Closer View of Abandoned Standpipe (note recent dumping)

Photo Set 29: Locus F of RIV-11775

Locus F Overview facing Southwest, *left to right*: water storage tank (#5), well (#4), water pressure regulator with adjacent pressure relief valve (#1 & #3); and water flow gauge (#2)

water flow gauge (#2)

pressure relief valve (#3)

Photo Set 29 continued: Locus F of RIV-11775

Locus F Well (#4)

Locus F Water Pressure Regulator (#1)

Locus G: a large standpipe and accompanying water flow gauge (Photo Set 30):

1) tall rectangular cement standpipe with a large valve handle on top: it measures 89¼" (7'5¼") in length (EW) by 56.5" (4'8.5") in width (NS) and 134.5" (11'2.5") in height. The constant flow of running water can be heard inside this probable standpipe. It is 5.5" directly east of element #2 (see below). It is still in use.
2) water flow gauge (and valve?): it is 12.5" in diameter and is 31.5" in height.

4.2.5 RIV-11817: Water Control Features along Avenue 48

The survey of Avenue 48 resulted in the recordation of another series of water control features located mostly on the southern side of the road (Loci A, C-E) with Locus B situated on the north side (see Figure 40A & B). The loci vary from a single element (Locus B) to five elements (Locus A). All of the loci have elements that are still in use and all were built after World War II. Loci A, D and E contain older structures later replaced or abandoned. A reservoir just to the southeast of Locus C was built after 1956 as it only shows up on the 1972 photorevision of the 1956 USGS 7.5' *Indio* quad. Locus C, itself, contains modern elements but it also contains an old well feature. The no-longer-used elements of Loci A, D and E, as well as the old well in Locus C, may date as early as the early 1950s and thus could be as old as 65 years.

Locus A: This locus is at the corner of Avenue 48 and Tyler Street, on the east side of Tyler and the south side of Avenue 48. It consists of five elements (see Photo Set 31):

1) large standpipe for a gravity flow pipeline: it is about 15' in height and is 3'in diameter. It is still in use.
2) probable pipe water flow gauge: it is 18.5" high and 14" in diameter and it is still in use.
3) water pressure regulator: it is 70.5" (5'10.5") in height and 42" (3'6") in diameter. It is 20.5" east of the standpipe described above. It is still in use.
4) cement pipe of unknown function filled with sand rocks and broken concrete: it is 33" high and 17.5" in diameter and it is no longer in use. It is directly adjacent to item #3 described above and 4.5" from the flow gauge.
5) electrical control panel and Imperial Irrigation District meter measuring electrical use in kW hours; these are currently in use. The panel is just west of the other elements.

Locus B: This locus consists of a large standpipe/water pressure regulator tower with ladder that is still in use (see Photo 31). It is on the east side of Tyler Street and the north side of Avenue 48 and is thus north of Locus A. It is 118" (9'2") high and 3.5' in diameter. It is unclear what the relationship of Locus B is to Locus A and this is the only water control feature found along the north side of Avenue 48.

Locus C: This consists of five elements (see Photo Set 33) and some or all may be associated with the water reservoir directly to the southeast, which was built after 1956 as it does not show up on the 1972 photorevision of the 1956 USGS 7.5 *Indio* quad. All of the elements of this feature are enclosed by a chain-link fence with barbed wire on top that is trapezoidal in shape with the north side as the base

Photo Set 30: Locus G of RIV-11775

Rectangular Standpipe(#1) and Water Flow Gauge (#2) (valve?), Facing NE

Standpipe showing Ladder and Large Valve Handle at Top, Facing SW

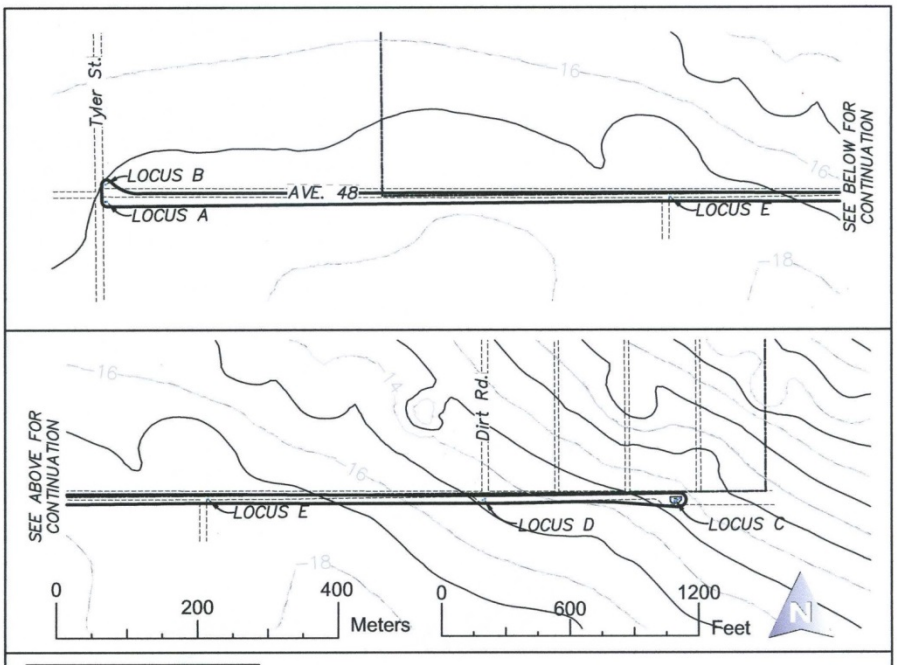

Figure 40A: RIV-11817, Loci A-E along Avenue 48

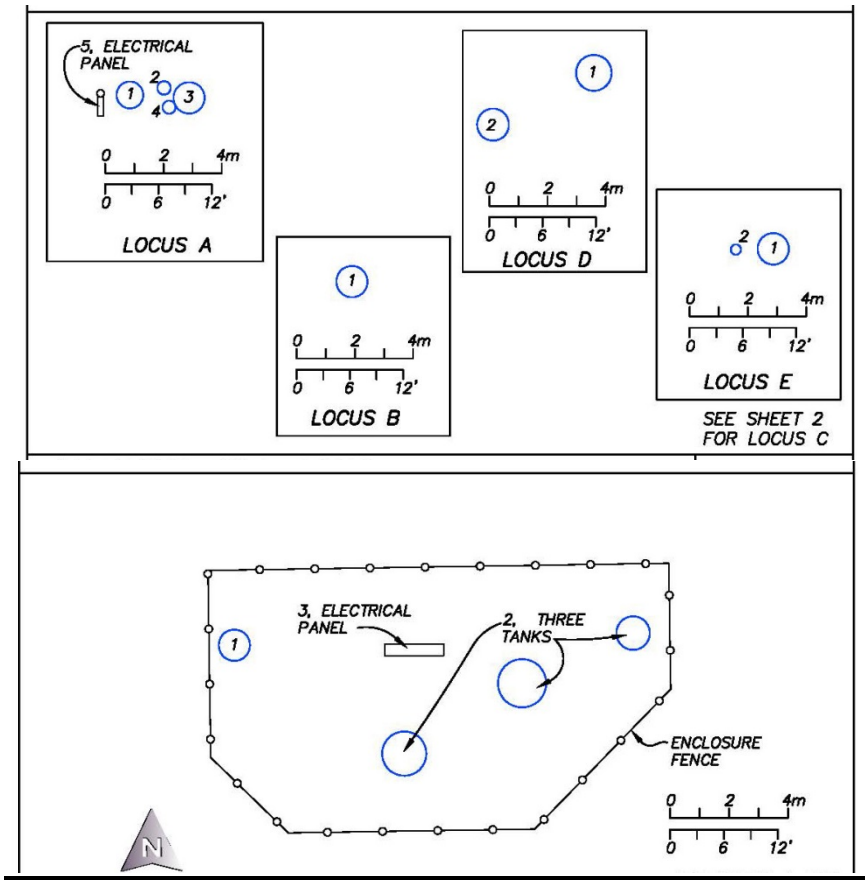

Figure 40B: Element Spatial Arrangement of Loci A-E

Photo Set 31: Locus A of RIV-11817

Locus A (far right) and Locus B (far left) along Avenue 48 at Tyler Street Facing East

Locus A facing SSW (left to right): #3 (water pressure regulator); #2 & #4 (water flow gauge with abandoned feature in background); #1 (standpipe); and #5 (electrical panel with kW meter)

Photo Set 31 continued: Locus A of RIV-11817

Locus A: water flow gauge (#2) and

abandoned cement pipe (#4)

Photo 32: Locus B of RIV-11817 – Standpipe with Ladder and Water Pressure Regulator, facing roughly to the southeast

Photo Set 33: Locus C of RIV-11817

Locus C enclosed with Chain Link Fence and Barbed Wire Facing North: note old well with pump at left, linked to irrigation pipe with 3 water holding tanks at right and electrical panel in back

Locus C: Two Views of Old Well with Pump, facing North and East

of the trapezoid. The dimensions of this enclosure are: north side = 51.3'; west side = 20.8'; SW angled-side = 11.7'; south side = 27.4'; SE angled side = 21.6'; and east side = 14'. The enclosure is 108" (9') tall, including the barbed wire. The following elements are in the enclosure to which there was no access:

1) probable old, modified cement well with an electric pump on top: the well is about 43.5" (3'7.5") high and about 42" (3'6") in diameter and the pump is about 54" in height and sits above the well on a platform. It is currently in use. A very large irrigation pipe extends from the well feature to the east and then it goes underground.
2) three 500 to 600 gallon water fiberglass tanks for water storage that are currently in use.
3) electrical control panels and meters: these are located on the north side of the enclosure. They are currently in use.

Locus D: This locus consists of two elements (see Photo 34).

1) small standpipe for a gravity flow pipeline: It is 95" (8'11") tall and is 4' in external diameter. It is located 108" (9') northeast of element #2 described below. It is still in use as one can hear strong water movement inside.
2) abandoned cement structure of unknown function made of 3 cement buses cemented together; it was perhaps an old standpipe? It is 51" (4'3") tall and 43" in diameter and is 91" (7'7") deep. It is no longer in use.

Locus E: This locus consists of two elements (Photo Set 35):

1) old standpipe, or cement well acting as a standpipe, that is hooked up to a large irrigation pipe. It has no cover and it is largely filled with water in motion. It is still in use. It is 46.5" (3'10.5") tall, 42.25" in diameter and is about 90" (7'6") deep.
2) small cement pipe broken off near the surface of the ground that may have originally contained a water flow gauge. It is 22" west of element #1 and is 15" in diameter.

Photo 34: **Locus D of RIV-11817: Standpipe (right) and Abandoned Cemented Buse Structure (left) with Avenue 48 in background, facing Northwest**

Photo Set 35: Locus E of RIV-11817

Locus E: old Well/Former Standpipe(?) linked to Irrigation System (#1), facing West, at left; view facing east showing possible remnants of former flow gauge structure (#2), at right.

SECTION 5 – SITE SIGNIFICANCE AND MANAGEMENT RECOMMENDATIONS

5.1 SITE SIGNIFICANCE EVALUATION – APPLICABLE LEGISLATION

Cultural resources must be evaluated under the California Environmental Quality Act (CEQA). The creation of the California Register of Historical Resources and recent revisions to the CEQA Guidelines has resulted in new criteria for the evaluation of historical resources (including archaeological resources). Appendix K, which contained a different set of criteria, was replaced. According to Section 15064.5(a)(3) of the revised CEQA Guidelines, "a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, Section 4852) including the following:

A. Is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage;

B. Is associated with the lives of persons important in our past;

C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

D. Has yielded, or may be likely to yield, information important in prehistory or history.

If an archaeological site does not meet one of the criteria defined above, "but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of Section 21083.2 [Section 15064(c)(3) of the CEQA Guidelines]."

If an archaeological resource is neither a unique archaeological resource nor an historical resource, both the resource and the effect on it shall be noted in the Initial Study EIR but need not be considered further in the CEQA process [Section 15064.5(c)(4)].

Given that only archaeological sites were discovered on the subject property, Criterion D is the most applicable one to be used for the evaluation of these sites.

5.2 SITE SIGNIFICANCE AND MANAGEMENT RECOMMENDATIONS

Prehistoric sites RIV-7834, -7835, and -7836 are discussed first. They are followed by the historic sites: the water control sites RIV-11775 and -11817 and the historic house foundation and reservoir site RIV-11776.

5.2.1 CA-RIV-7834 (P-33-14403)

The Phase I report (de Barros 2014) recommended that test excavations be conducted at this site. As discussed in Section 4.2 above, the test excavations revealed considerably more about the site in terms of the depth and presence of subsurface deposits, the nature of its ceramics, and the presence and nature of three charcoal-rich hearth features. It also determined that are no human remains at RIV-7834 and that only one small burnt animal bone and no flaked or ground stone tools or waste flakes are present. While an analysis of the charcoals revealed the nature of the types of wood fuel used, no food remains were recovered. In short, the site consists almost entirely of ceramics and hearths with charcoal and FAR. The ceramics represent bowls and jars that were dropped and broken during the procurement of plant food resources at all four loci (A-D), probably during the 17th or 18th century after the last infilling of Lake Cahuilla. The hearths represent either daytime camp fires for warmth on cold winter days and/or ceramic firing pits used to produce pottery during the 14th and/or very early 15th centuries. In addition, there is a non-cultural oxidized zone in Locus C that appears to represent the reworking of a burn area by unknown natural processes during the first half of the 15th century.

Given that RIV-7834 is a prehistoric site, its potential significance lies in its potential to satisfy Criterion D under CEQA, i.e., does it have the potential to provide information important in prehistory. Given the earlier Phase II excavations by Dice and Messick (2005) at Locus D and the extensive Phase II investigations undertaken for the present report involving 30 test units that excavated 25 cubic meters of soil, it is the opinion of the author that the significance of RIV-7834 has been largely exhausted with site recordation and the test excavations. In short, it is not viewed as a significant historical resource under CEQA.

5.2.2 CA-RIV-7835 (P-33-14404)

After Phase II testing, Dice and Messick (2005:27-32; see also Dice 2005) determined this site was not a significant historical resource under Criteria A-D but was significant under CEQA's uniqueness criterion. However, this assessment was based on the assumption that the presence of mostly direct ceramic vessel rims equated with a Patayan I (A.D. 750-1050) occupation; however, Hildebrand (2003) has shown direct rims may also date to later periods. Nonetheless, given the presence of a subsurface deposit that also contained lithic tools and debitage as well as ceramics and a possible hearth feature, it can

be argued that this site is a significant historical resource under CEQA based on Criterion D because of its potential to provide information important in prehistory, especially because its deeper occupation levels are likely to date from an earlier infilling and subsequent recession of prehistoric Lake Cahuilla prior to the last one in the 17th century.

In conclusion, RIV-7835 should either be avoided or subject to data recovery excavations to mitigate potential impacts from project development.

5.2.3 CA-RIV-7836 (P-33-14405)

After Phase II testing, Dice and Messick (2005:32-36) determined that this site is not a significant historical resource under Criteria A-D nor under the uniqueness criterion under CEQA. This determination was made on the basis of the lack of a substantial surface or subsurface deposit and the lack of artifact diversity as only 14 sherds were encountered. Their assessment is viewed as correct; RIV-7836 is not viewed as a significant historical resource under CEQA. No further work is required.

5.2.4 CA-RIV-11775 (P-33-23969)

This site consists of seven loci of agricultural irrigation water control features just south of Avenue 47 that are linked to water provided by the Coachella Canal after its completion in 1948-49. The site is not linked to any significant historical event, such as one might argue for the construction of the Coachella Canal, and it is not associated with any significant individual at the local or regional level. The water control features are similar to other sets of such water control features in the general area. They also do not contain any unusual or unique architectural features. Thus, this site is not viewed as a significant historical resource under Criteria A-C or under the CEQA's uniqueness criterion. As for Criterion D, it is felt that this site's research potential has been exhausted with its detailed recordation, and therefore, it is not a significant historical resource under this criterion either. In short, RIV-11775 is not viewed as a significant historical resource under CEQA. No further work is required.

5.2.5 CA-RIV-11817 (P-33-24051)

This site consists of five loci of agricultural irrigation water control features along Avenue 48 that are linked to water provided by the Coachella Canal after its completion in 1948-49. The site is not linked to any significant historical event, such as one might argue for the construction of the Coachella Canal, and it is not associated with any significant individual at the local or regional level. The water control features are similar to other sets of such water control features in the general area. hey also do not contain any unusual or unique architectural features. Thus, this site is not viewed as a significant historical resource under Criteria A-C or under the CEQA's uniqueness criterion. As for Criterion D, it is

felt that this site's research potential has been exhausted with its detailed site recordation, and therefore, it is not a significant historical resource under this criterion either. In short, RIV-11817 is not viewed as a significant historical resource under CEQA. No further work is required.

5.2.6 CA-RIV-11776 (P-33-23970)

RIV-11776 consists of a damaged cement foundation of a former farm residence that was initially thought to have been built in the early 1950s and associated propane tank cement slab, two trash scatters, and an abandoned reservoir built after 1972. The house itself burned down in 2011. The Phase I report (de Barros 2014) recommended additional archival research to determine when the house was built and whether an important person significant in local history might have lived there. It is also recommended that limited Phase II test excavations be undertaken in Trash Scatter B to ascertain the depth, nature, and age of the trash scatter deposits and whether they have the potential to contribute significantly to our understanding of local history.

The results of the archival research discovered that the house was not built until after 1978 and historic aerial photos do not suggest a house is present until 2002 and possibly as late as 2008. In short, the house is at most 37 years old and probably no more than 13 years old. In fact, it turns out that the structure shown on the 1956 USGS 7.5 *Indio* quad was in the same place as the current abandoned reservoir, such that whatever structure was first there was destroyed prior to building the reservoir built in its place. The reservoir does not show up on the 1972 photorevision of the 1956 *Indio* quad indicating it was built after 1972. It is thus a maximum of 43 years old. There is also nothing unusual about the structure or architecture of the reservoir.

In short, the historic house foundation is no older than 37 years old and the reservoir is at most 43 years old. In short, neither need to be evaluated under CEQA because the site is less than 45 years old. Even if one considered evaluating the reservoir, there is nothing distinctive about its structure or architecture. In short, RIV-11776 is not viewed as a significant historical resource under CEQA. No further work is required.

5.2.7 Summary of Recommendations

Prehistoric Sites

- **RIV-7834** is not a significance historical resource under CEQA as its information potential has been largely exhausted with the test excavations; no further work is required.

- **RIV-7835** is a significant historical resource under CEQA; the site should be avoided or undergo data recovery excavations prior to construction.

- **RIV-7836** is not a significant historical resource under CEQA as its information potential was exhausted with the test excavations; no further work is required.

Historic Sites

- **RIV-11775 & RIV-11817** are not significant historical resources under CEQA as their information potential was exhausted through site recordation; no further work is required.

- **RIV-11776** is not a significant historical resource under CEQA as its components are all less than 45 years old; no further work is required.

5.3 PHASE II NATIVE AMERICAN CONSULTATION

Prior to conducting the test excavations, local Indian tribes at Cabazon, St. Augustine, and Torres-Martinez Indian reservations will be contacted to see if they desire to monitor the test excavations.

5.4 GRADING MONITORING

Given that portions of the property have relatively dense brush or existing vineyards, and given the potential for buried prehistoric sites resulting from past infillings and recessions of prehistoric Lake Cahuilla, there is the potential for the discovery of buried cultural deposits and potentially human burials. Therefore, construction monitoring shall be required that would include a county-certified professional archaeologist and a Native American Observer.

In addition, controlled grading (excavating at a slow pace a few inches of depth at a time) should be employed and monitored in Locus C or RIV-7834 in the vicinity of the Unit 24 complex and Unit 25 in case additional hearths are encountered that could be sampled for charcoal and radiocarbon dated.

SECTION 6 – CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this archaeological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

DATE:_____ SIGNED:_____

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APPENDIX A

RESUME OF PRINCIPAL INVESTIGATOR

Philip de Barros, Ph.D., R.P.A.
President, Professional Archaeological Services

PROFESSIONAL ARCHAEOLOGICAL SERVICES

PHILIP DE BARROS, Ph.D, SOPA/RPA

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Education

M.A., Ph.D.	Anthropology (Archaeology), UCLA, 1979, 1985
M.A.	Education, Stanford University, 1966
B.A.	History, Stanford University, 1965 (cum laude)

Certifications and Secretary of the Interior Standards

- SOPA Certified in Field Research, Collections Research, and Teaching. Certifiable in Historic Archaeology and Archaeological Research Management since 1987.
- Meet Secretary of the Interior Standards for both Prehistoric and Historic Archaeology.
- Member of the Register of Professional Archaeologists (RPA) since inception.
- Certified to work in San Diego, Imperial, Orange, Riverside, San Bernardino, Santa Barbara, Kern, Inyo, and Los Angeles Counties.

Recent and Current Positions

- Professor, Anthropology, Palomar College, San Marcos, 1994-present
- Coord. A.A. Archaeology Degree Program, Palomar College, 1996-present
- Fellow, Cotsen Institute of Archaeology at UCLA, 1986-present
- Director of Cultural Resources/Sr. P.I., Chambers Group, Irvine, 1985-1994
- Adjunct Instructor, Golden West College, Huntington Beach, 1985-1994
- Instructor, Ceramic Analysis, UCLA, 1987-1991, 1999
- Chairperson, Native American Programs Committee, Society for California Archaeology, 1992-1999
- Chairperson, Multicultural Committee, Palomar College, 1995-2001
- Member, San Diego Archaeological Center Board of Trustees, 1996-1999
- Member, Poway U.S.D. and Mt. Carmel High School Human Relations Committees, 1998-2000
- Ombudsman, Poway Unified School District, 2001
- Principal, then President, Professional Archaeological Services, 1996-present

Cultural Resources Seminars

- Sensitivity Training and Legal Update Workshop, Palm Desert Planning Office, Riverside County, 1/15/11
- Sensitivity Training Workshop, Morongo IR, Riverside County 3/30/07
- As Chair of the Native American Programs Committee of the Society for California Archaeology: taught workshop on CRM laws and archaeology for Salinan Nation, May 1996 (3-days); Pomo Indian groups, March 1998 (3 days; Southern California Indian groups, April 1998 (1 day workshop). Put together CRM and Cultural Heritage Sourcebook for California Native American Communities.
- Preparing Agreement Documents (Tom King), 1991 - 2 days.
- Introduction to Federal Projects and Historic Preservation Law (Tom King and Rob Jackson, instructors, 1989 - 3 days.
- Conservation in Field Archaeology (Getty Institute), 1988 - 5 days.

Experience with GPS and GIS (Geographic Information Systems)

- Teach Introductory GPS and differential correction at Palomar College
- Use GPS in archaeological fieldwork, including setting up own base station
- Introduced GIS to Palomar's Archaeology Program Curriculum
- 160 hours of Training in ArcView GIS through ESRI and other institutions:
- Field experience in California and Africa using integrated total station, GPS-GIS technologies, first with Trimble, Ashtech ProMark2 and Magellan ProMark3 and ArcGIS 9.1 and 10.1

Experience in Cultural Resource Management

- Over 30 years experience in the field of archaeology and cultural resource management in California and the Western U.S.
- Principal, now President, Professional Archaeological Services, 1996-present
- Director of Cultural Resources/Senior Principal Investigator at Chambers Group in Irvine, California, from 1985-1994.
- Served as Principal Investigator and/or Project Manager on over 200 cultural resources projects since 1985, involving archival research, reconnaissance and intensive surveys, research designs, test excavations, data recovery excavations, cultural resource management plans, HABS/HAER documentation, the preparation of agreement documents (MOAs, PAs, Effects documents), Native American concerns, and Section 106 coordination.
- Experience in Southwestern archaeology under Professor James N. Hill of UCLA (ceramic typology, seriation, and M.A. thesis) and African archaeology (ethnoarchaeology, ethnography, Ph.D. on archaeology of traditional iron smelting in Togo, West Africa).

Section 106 (Federal) Experience

Section 106 experience as P.I. and/or Project Manager in inventory, evaluation, data recovery, historical archaeology, HABS/HAER documentation, the development of historic preservation plans, and agreement documents.

Major Inventory Work Includes:

- Picacho Mine Water Pipeline Survey for the BLM, 2011-2012
- BLM Access Road Survey to the Kathleen Culiver Property, 2011
- Evaluation plan for cultural resources in Villages 6 and 7 of the Rancho Las Flores Project, Hesperia, San Bernardino County, California, Including the results of a 995-acre resurvey of Villages 6 and 7, 2007-2008
- Small surveys for the San Diego City Water Department Associated with Barrett Lake and El Capitan Reservoir, 2004-2006
- Over 40 surveys of cellular telephone tower locations in southern California, 2000-2001
- 3,250-acre survey for the Trust for Public Lands, Rancho Jamul, San Diego County in Spring of 1998.
- 24 mile linear survey for the Lucerne Valley to Big Bear 115 kV Transmission Line Project In California for S.C.E. in 1992.
- 1500-acre survey for the BLM Ridgecrest Resource Area, 1989.
- Literature search for 3,000 miles of proposed gas pipelines in the Western U.S. for the Mojave/Kern River Gas Pipeline Project for the Federal Energy Regulatory Commission and California State Lands Commission, 1986-1987.
- Extended Phase I inventory and shovel test pit program for prehistoric sites, evaluation of historic structures, and determination of Native American concerns for ARCO's proposed Coal Oil Point Project in Santa Barbara County which ran from Goleta to Gaviota, 1985-1987.

Evaluation Experience Includes:

- Test excavation analyses and report on Guapiabit (SBR-93, -1675/H, -1913) and Archaic site SBR-1886, Rancho Las Flores Project, 2008-09 (ongoing).
- Testing of prehistoric archaeological site, INY-5887, 2001.
- Testing of historical archaeological site in Desert Center, RIV-6513H, 2000.
- Testing of two sites in the Imperial Valley, IMP-7804 and –7813H, near Westmorland and Coyote Wells, 2000.
- Testing and evaluation of RIV-4707/H in Temecula, Riverside County, for Caltrans District 8, 1996-1997.
- Testing and evaluation of nine sites in the Crowder Canyon Archaeological District, San Bernardino County, for Caltrans District 12, 1990-1997.
- Testing & evaluation of prehistoric/historic sites associated with the Lucerne Valley to Big Bear 115 kV Transmission Line Project for S.C.E. in 1992.

- Testing and evaluation of the Purisima Point sites, the Honda Beach Site, the Barka Slough Site, the Olivera Adobe Site, as well as 7 rock art sites at Vandenberg AFB for the National Park Service, 1992-1996.
- Inventory and evaluation of historic archaeological sites and structures along the San Joaquin Hills Transportation Corridor in Orange County, 1993, for Caltrans District 12.
- Testing and evaluation of SBR-5096,Hwy 71,Caltrans District 8, 1991-1992.
- Testing and evaluation of 23 prehistoric sites along the San Joaquin Hills Transportation Corridor in Orange County, Caltrans District 12, 1988-1990.

Data Recovery Experience Includes:

- Data recovery excavations at SBR-3803H in Crowder Canyon Archaeological District, 2005; report out 2007 by Applied Earthworks.
- Data recovery excavations at ORA-1357 in the Aliso Creek drainage, 1993-1994, San Joaquin Hills Transportation Corridor, for Caltrans District 12.
- Data recovery excavations at 5 sites for the San Joaquin Hills Transportation in Orange County for Caltrans District 12, 1993-1994.
- Data recovery excavations at FRE-64, -632, -633, -1154, and -1155, for Caltrans District 6 and the U.S. Army Corps of Engineers, Sacramento District, 1987-1989.

Historical Archaeology Experience Includes:

- Teach course in Historical Archaeology at Palomar College since 2004
- Testing of historical archaeological site in Desert Center, RIV-6513H, 2000.
- Testing historical archaeological site, IMP-7928H, near Westmorland, 2001
- Inventory and evaluation of Brown's Toll Road and a residence/way station associated with Crowder Canyon, for Caltrans District 8, 1997.
- Testing and evaluation of RIV-4707/H in Temecula, a late 19th century trash deposit with a domestic residence, Pala Bridge Improvement Project, Riverside County Transportation Department with Caltrans District 12 review.
- Inventory and evaluation/testing of historic homestead sites and historic transmission lines associated with the Rancho Las Flores Project, San Bernardino County for U.S. Army Corps of Engineers, 1990, 1994-1995.
- Inventory and evaluation/testing of historic sites associated with the San Joaquin Hills Transportation Corridor for Caltrans District 12, 1992-1993.
- Evaluation and testing of mid-to-late 19th century winery and homestead, lime and brick kilns, roads, and early 20th century cement and cobble building in Fontana, for U.S. Army Corps of Engineers, 1991-1992.
- Evaluation (archival research and testing), data recovery, and preservation/interpretive efforts associated with the Franciscan Plaza Project, Phases I and II, San Juan Capistrano, 1988-1990 (2 volumes reprinted by Coyote Press, Salinas).

Selected Projects Completed under CEQA:

- Survey of 277-Acre Site in the City of Coachella, March 2013
- Archaeo/Paleo Monitoring, Hotel Village South site, Dana Point, 2013
- Test Excavations at 11 Sites near Winchester, Riverside County, 2013, including 1890-1910 historic trash site
- 40-Acre Forensic Cultural Resources Survey, Jewell Valley-Boundary Creek, near Boulevard, 2013, ongoing.
- 160-Acre Forensic Cultural Resources Survey, McCain Valley-Tule Creek, near Boulevard, 2011-2012
- 90-Acre Survey, Moosa Creek Farms Project, Bonsall, 2012
- 206-Acre Survey, Brisa del Mar Residential Project, Bonsall, 2012
- Survey of 160 acres in McCain Valley along Tule Creek, July 2011
- Text Excavations at SDI-19502H in Bonsall, 2010
- Analysis of Stone Tools and Debitage from RIV-4042 (2010)
- Data Recovery Plan for data recovery at SDI-9537/H, Pauma Valley (2009)
- Excavations at Sikes Adobe, Rancho Bernardo, as Part of Restoration Efforts, 2008-2009
- Evaluation of historic trash scatter and architectural evaluation 1939 historic building, Bonsall, with Ken Swift (2009)
- Surveys in Borrego Springs (3), Fallbrook (7), Valley Center, Rosamond, Wildomar, Escondido, Oceanside, and North Palm Springs (2006-09)
- Testing/evaluation of SDI-9537/H in Pauma Valley, 2005
- Data recovery ORA-1582H (now 1654H) in Huntington Beach, 2004-05
- Testing/evaluation of ORA-1582H, an historic dump (1900-1930), 2001-2006
- Testing of 7943/H near Perris, Riverside County, California.
- Architectural evaluations in Vista and Fallbrook (with Ken Swift)(2006-07)
- Burial excavations at ORA-149 in 2006
- Data recovery ORA-149 & -1582H (now 1654H), Huntington Beach, 2004-06
- Surveys at Cuyamaca Rancho State Park by Palomar College for California State Parks, 1996 (Arroyo Seco); 1998, 2000 & 2002 (Green Valley; 2004 (Horse Camp and Green Valley Campgrounds); 2006 (Arroyo Seco Primitive Camp and vicinity).
- Testing/evaluation of SDI-9537/H (prehistoric and historic components, 2005
- Mitigation monitoring, Gevanthor Residence, City of San Diego, 2004
- Data recovery at ORA-149 and ORA-1582/H, June-July 2004
- Mitigation monitoring (SDI-15,093), City of San Diego, 2003
- Survey of 1,416 acres west of Julian, County of San Diego, 2003
- Testing at SDI-297 in Valley Center, County of San Diego, 2003
- Testing at SDI-16951 in Valley Center, County of San Diego, 2003
- Two 300 acre surveys in Menifee area of Riverside County, 2002-2003
- Data recovery at SDI-5581, Palomar College, 2000-2002
- Testing at prehistoric shell midden site, ORA-149, 2001
- Testing of historical archaeological site, ORA-1582H, 2001
- Evaluation DiAmbrogio Winery, Cucamonga, San Bernardino County, 2001
- Evaluation (testing) of SDI-15,093, Del Mar Terrace, City of San Diego, 1999

- Evaluation (testing) of SDI-5745 and SDI-15,120 in Pine Valley, County of San Diego, 1999
- Evaluation of historic structures in Pt. Loma and Del Mar, City of San Diego, 1998-1999, including designation of historic Portuguese fishing family residence the Historic Sites Board
- Evaluation (testing) of SDI-47, Ocean Beach, City of San Diego, 1996
- Evaluation (archival research and testing) of historic kiln site near Mission San Juan Capistrano, 1988-89 (project manager).
- Evaluation (archival research and testing) and data recovery excavations of the foundations of the wall around the Mission gardens in San Juan Capistrano (Sizzler and Plaza del Obispo Projects), 1988-1989.
- Evaluation (testing/archival research), data recovery, & interpretive efforts for the late-19th century Mile Square Park Site, Fountain Valley,1987-89.

HABS/HAER Experience Includes:

- Served as P.I. for a HABS documentation of late 19th century-early 20th century structures in Fontana, San Bernardino County, 1990.
- Served as Project Manager for a major HAER documentation of a Ford Motor Assembly Plant at the Port of Long Beach, 1990-1991.

Cultural Resource Management Plans/Historic Preservation Plans:

- Historic Property Management Plan, Ocotillo Wind Farm Project, 2012
- Historic Property Management Plan for the Lake Elsinore Advanced Storage Project (LEAPS) and associated 30 miles of transmission lines and substations. For Federal Energy Regulatory Commission (FERC) and Chambers Group, Inc. Submitted to SHPO, FERC, Cleveland National Forest (CNF), interested Indian Tribes (Federal and unrecognized). February 2005
- Cultural Resources Overview and Management Plan – for 120 sites within the Rancho Las Flores Project, San Bernardino County, 2004. Major revision and expansion of 1990 document. 400 pages.
- Cultural Resource Overview and Management Plan -- cultural resources overview, research design, and long-term cultural resource management plan for the 10,000-acre Rancho Las Flores Project, San Bernardino County. Covers 120 sites (lithic scatters, roasting pits, prehistoric camp sites, historic ranch and homestead sites, and large prehistoric/ethnohistoric housepit village sites). Several sites will be preserved in Serrano Heritage Preserve. 1990, revised 2004.
- Work on Historic Preservation Plan for Vandenberg AFB, National Park Service, 1994.

Experience in Preparing Agreement Documents Includes:

- Programmatic Agreement (PA) for the 10,000-acre Rancho Las Flores Project, San Bernardino County, 1994-97, approved by SHPO & ACHP.

- PA for the Playa Vista Project near Marina del Rey, approved, 1991.
- Memorandum of Agreement (MOA), Hunter's Ridge Project, Fontana, 1993.
- All but historic building section of MOA for New Ford Road Project linked to San Joaquin Hills Transportation Corridor Project, Orange County, 1993-94.
- Contributions to the development of an MOA for ARCO's proposed Coal Oil Point Project in Santa Barbara County, 1986-1987.
- Finding of Effect (FOE) for the San Joaquin Hills Transportation Corridor Project, 1992; also, for Phase I, Rancho Las Flores Project, 1994.

Experience in Assessing Damage to Archaeological Sites:

- Provided independent assessment of damage to archaeological sites within the Cleveland National Forest under the Archaeological Resource Protection Act (ARPA). This data was for a court case involving the looters.

Experience Working with Native Americans

- Chairperson of the SCA's Native American Programs Committee (NAPC) from 1992-1999:
  - ✓ symposia at Asilomar, 1993; Eureka, 1995; Rohnert Park 1997.
  - ✓ workshops for Salinan Nation, 1996; Pomo groups, 1998.
  - ✓ development of MiniSourcebook on CRM for California Indian groups, 1998; revised Sourcebook 1999
  - ✓ CRM workshop at annual SCA meeting, San Diego, 1998
  - ✓ Nov. 2004 – NAPC won the Governor's Heritage Conservation Award.
- Featured archaeologist at conference sponsored by the Governor's Office on Community Relations and the California Native American Heritage Commission, July 1992; plus additional conferences.
- Articles on Indian issues for Society for California Archaeology (SCA) Newsletter, Society for American Archaeology (SAA) Newsletter, Native American Heritage Commission Newsletter, News from Native California.
- Worked with the Juaneño and Gabrielino of Los Angeles, Orange, and San Bernardino Counties; the Serrano and Cahuilla of Riverside and San Bernardino Counties; the Chumash of Santa Barbara and Ventura Counties, the Luiseño of Riverside and San Diego Counties, the Northfork Mono and Choinumne Yokuts of Fresno County, the Kumeyaay of San Diego County, 1985-1997, and the Salinans of Monterey County, 1985-1997.
- Worked with Fort Mojave Indian Reservation, the Moapa Reservation of Nevada, and other Native American groups in Arizona, New Mexico, Wyoming, and Colorado, working on the Mojave/Kern River EIR/EIS, Cultural Resources Technical Report, 1986.
- Work closely with Native American representatives from southern California on all phases of archaeological research, including research design, and have negotiated several complex burial agreements.

Summary of Work Under CEQA

In addition to above, served as PM and/or PI on over 150 projects since 1985, including inventory, evaluation, and mitigation phases for both prehistoric and historic archaeological sites as well as historic buildings. Wrote guide booklet for cultural resources under CEQA entitled, ***A Guide to Cultural Resource Management for Planners, Developers, Contractors, and Property Owners*** (with Carmen Weber), March 1993, revised 1999. Chambers Group, Irvine.

Selected Refereed Publications

de Barros, Philip

2013a A comparison of Early and Later Iron Age societies in the Bassar region of Togo. In ***World of Iron,*** Humphris, J. and Ruhren Thilo (eds), pp. 34-55. Proceedings of the World of Iron conference, February 16-20, 2009, Natural History Museum, London. Archetype Press, London..

2013b Prehistoric and historic brownware pottery from the Pala Road Bridge Site. In Dillon, B. and Boxt, M. (eds), *California Ceramic Traditions.* ***Pacific Coast Archaeological Society Quarterly*** 48:1-23.

2013c Rapport sur les Fouilles de l'Abri d'Agaradé, aussi appelé Tchounbowou, entre Sokode et Bafilo dans la Région centrale du Togo. [Late Stone Age rockshelter study to be sent to ***Journal of African Archaeology*** for peer view, Aug 2011.]

2012a The rise of the Bassar chiefdom in the context of Africa's internal frontier. In ***Power and Landscape in Atlantic West Africa,*** Monroe, J.C. and Ogundiran, A (eds), pp. 255-277. Cambridge University Press.

2012b The Bassar chiefdom in the context of theories of political economy. In ***Métallurgie du fer et sociétés africaines: Bilans et nouveaux paradigms dans la recherché anthropologique et archéologique***, Robion-Brunner, C and Martinelli, B. (eds), pp. 73-95. Proceedings of Aix-en-Provence conference, April 23-24, 2010. Cambridge Monographs in African Archaeology 81. BAR International Series 2395, Archaeopress, Oxford.

2011a Review of *Forgerons et sidérurgie en pays dogon: vers une histoire de la production du fer sur le plateau de Bandiagara (Mali) durant les empires précoloniaux*, by Caroline Robion-Brunner, Journal of African Archaeology Monograph 3. ***Azania: Archaeological Research in Africa*** **46**(1):110-113.

2006 ***Final Report on the Huntington Beach Dump Site, CA-ORA-1654H (formerly – 1582H), Including the Results of Excavations at Newly Discovered Loci B and C, Pacific City Project, Huntington Beach, Orange County, California.*** Professional Archaeological Services, San Diego. For Makar Properties, Newport Beach, CA. (with S. Crull, Co-P.I. & S. Walter).

2005 Surprising Results at the Early Iron Site of Dekpassanware, Togo, West Africa. ***Backdirt.*** Spring/Summer. Cotsen Institute of Archaeology at UCLA .

2004a ***Cultural Resources Overview and Management Plan, RanchoLas Flores Project, Hesperia, San Bernardino, California.*** For Rancho Las Flores, LLC. Ms on file at the San Bernardino County Museum Archaeological Information Center, Redlands, California.

2004b ***Cultural Resources Survey and Assessment of 1,415.6 Acres of the Hoskings Ranch South of State Highway 78/79 Near Julian San Diego County, California.*** Manuscript on file at the South Coastal Information Center.

2003 Recent Early Iron Age Research in Bassar, Togo. ***Nyame Akuma*** 59:76-78.

2001 The Effect of the Slave Trade on the Bassar Ironworking Society, Togo In ***West Africa During the Atlantic Slave Trade: Archaeological Perspectives***, edited by C. De Corse, pp. 59-80. Leicester University Press, London.

2000 Iron Metallurgy: Sociocultural Context. In ***Ancient African Metallurgy: The Socio-Cultural Context***, edited by J.O. Vogel, pp. 147-198. AltaMira Press, Walnut Creek, California

1999 ***A Sourcebook on Cultural Resource Management, Archaeology, and Cultural Heritage Values for the Native American Communities of California.*** Society for California Archaeology[author & compiler]

1998 ***A MiniSourcebook on Cultural Resource Management, Archaeology, and Cultural Heritage Values for the Native American Communities of California.*** Society for California Archaeology. [author and compiler]

1997a The Cultural Context of Ironworking. In ***Encyclopedia of Precolonial Africa***, edited by J. Vogel, pp. 135-149. AltaMira Press, Walnut Creek, California.

1997b ***Archaeological Investigations at Franciscan Plaza, San JuanCapistrano,*** 2 vols. Chambers Group, Santa Ana, CA. Prepared for Redevelopment Agency City of San Juan Capistrano & Franciscan Plaza Investment Group. Reprinted by Coyote Press, Salinas.

1993 ***A Guide to Cultural Resource Management for Planners, Developers, Contractors, and Property Owners.*** ChambersGroup, Irvine, California (with Carmen Weber).

1990 A History of Changing Paradigms, Goals, and Methods in the Archaeology of Francophone West Africa. In ***The History of African Archaeology***, edited by P. Robertshaw, pp. 155-172. James Currey, London.

1988 Societal Repercussions of the Rise of Large-Scale Traditional Iron Production: a West African Example. ***The AfricanArchaeological Review*** 6:91-113.

1986 Bassar: A Quantified, Chronologically Controlled, Regional Study of a Traditional Ironworking Centre. ***Africa*** 56(2):148-174.

1982 The Effects of Variable Site Occupation Span on the Results of Frequency Seriation. ***American Antiquity*** 47:291-315.

1980 Archaeological Investigations in 1979 on the Santa Fe National Forest by the Pajarito Archaeological Research Project, USDA Forest Service, Southwestern Region.

Conference Papers and Symposia

- delivered well over three dozen conference papers for various meetings of the AAA, SAA, SCA, ASA, SAfA, CMSA, and other societies, 1980-2011.

Recent Conference Papers

de Barros, Philip

2012 Using ArcGIS Online for Communicating Research Results to the Public. Society for Africanist Archaeologists, Toronto, Canada, June 20-23, 2012.

2011a The Cultural Context of African Ironworking. African Archaeology Work Group, University of Cape Town, South Africa, Sept 12-13.

2011b Assessing the nature of ironworking activities at the Early Iron Age site of Dekpassanware in the Bassar region of Northern Togo. Artistry of African/Diaspora Blacksmiths, 15th Triennial Symposium on African Art, UCLA, Los Angeles, March 25, 2011.

2010 A comparison of Early and Later Iron Age societies of the Bassar region of Northern Togo. 13th Congress of the Panafrican Archaeological Association for Prehistory and Related Studies and 20th Meeting of the Society for Africanist Archaeologists, Dakar, Senegal, November 1-6, 2010.

2009 How far inland did the arm of the slave trade reach? evidence from the Bassar region of Northern Togo. "Excavating the past: archaeological perspectives on Black Atlantic regional networks." Sponsored by the Cotsen Institute of Archaeology, a Mellon Transforming the Humanities Grant, and the James S. Coleman African Studies Center, UCLA, Los Angeles, April 3-4, 2009.

2008 Dekpassanware: Early Iron Age site in the Bassar region of Northern Togo: 2002 season summary; 2008 season update. Paper presented at conference "Cultural developments and technological innovations in first millennium BC/AD West Africa," March 13-14, 2008, Ouagadougou, Burkina Faso.

2006a The origin of the Bassar chiefdom: ironing out a solution without being a slave to traditional models. Paper given at the 71st annual meeting of the Society for American Archaeology, Symposium on complex societies in transition. San Juan, Puerto Rico, April 26-30, 2006.

2006b Dekpassanware: early Iron Age site in the Bassar region of Northern Togo. Paper presented at the 18th Biannual Meeting of the Society for Africanist Archaeologists, Calgary. Annotated version available through SAfA web page.

- organized/chaired symposia on CRM research, Communication Between Native Americans and Archaeologists, and Research at Vandenberg AFB, at various forums, including the SCA and SAA, 1992-1998.
- organized workshop on CRM law for Salinan Nation, Monterey County, 1996.

Professional Affiliations

Society for Professional Archaeologists (SOPA), 1987-1998
Register of Professional Archaeologists (RPA), 1998-2014
Society for American Archaeology (SAA), 1977-1985, 1988-2012
American Anthropological Association (AAA), 1981-1994, 2014
Society for California Archaeology (SCA), 1987-2010

Pacific Coast Archaeological Society (PCAS), 1977-1980, 1988-2009, 2013
California Mission Studies Association (CMSA), 1989-1990
Society for Historical Archaeology (SHA), 1990-1992
Society for Africanist Archaeologists (SAfA), 1992, 2003-2014

Selected Honors and Awards

Partner in French ANR-CRNS research grant directed out of Toulouse, France. Research on the Environmental Effects of Ancient Ironworking, Bassar Region of Togo, West Africa, 2014-2016
Professorial Fulbright Scholar Award, African Regional Research Program, 2012-2013 – research in Togo West Africa, Jan-July 2013
Palomar College Research Award, 2010
International Center for Scientific Research Listing (CIRS – Centre International pour la Recherche Scientifique), for Palomar College Archaeology Program Web Pages, 2007
Study Sphere Learning Resource Award of Excellence, Palomar College Archaeology Program Web Pages, 2006
Governor's Heritage Award, 2004, for Native American Programs Committee, committee that I founded and led from 1992-1999.
Palomar College Research Award,2001
Professorial Fulbright Scholar Award, African Regional Research Program, 2001-2002 – research in Togo West Africa, Jan-July 2002
Commendation Award from Society for California Archaeology for Work as Native American Programs Committee Chair, 1992-1999
Ahmanson Research Grant, UCLA, 1999
NISOD Teaching Excellence Award, 1998
Palomar College Research Award, 1997
Computer Equipment Grant for Palomar Archaeology Program, 1995
Wenner-Gren Foundation Grant, Togo, West Africa, 1988-1989.
Fulbright Grant - Doctoral Dissertation Research Abroad, 1982.
Teaching Assistant, UCLA, Anthropology Department, 1979-1980.
Research Assistant, UCLA, Pajarito Archaeological Research Project, 1978-80.

Areas of Expertise

- Cultural Resource Management/Section 106
- Prehistoric Hunter-Gatherers of Southern California
- Southern California Historic Archaeology
- Puebloan Cultures of the American Southwest
- Iron Age Cultures of SubSaharan Africa
- Ceramic Typology, Seriation, and Analysis
- Steatite Sourcing in California
- Windows XP; MS Office 2007: Word, Excel, Access, SharePoint Designer
- GPS ProMark3
- Geographic Information Systems (GIS), ArcGIS 9.3. and ArcGIS Server.

References

CRM/Section 106/CEQA

Barbara Tejada
Caltrans District 8
909-383-5950
barbara_tejada@dot.ca.gov

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Riverside County Trans. Dept.
909-275-2016

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TRS Consultants
7867 Convoy Court, Ste 312
San Diego, 92111
858-496-2525

Glenn Russell
San Diego County Archaeologist
858-694-2981
glenn.russell@sdcounty.ca.gov

Margaret Hangan
U.S. Forest Service, Cleveland National Forest
858-674-2973
mhangan@fs.fed.us

Gail Wright
Dept. of Planning & Land Use
858-694-3003
gail.wright@sdcounty.ca.gov

Martin Rosen, Caltrans
District 11
619-688-6751

Larry Spanne, BHPO, retired
Vandenberg AFB
805-732-8232 x50748

Steve Dibble, COE
Los Angeles District
213-452-3849

Laura Eisenberg
Transportation Corridor Agencies
949-513-3482, -3481

Stephen Bouscaren, Ph.D.
San Diego City College
619-271-9139; 230-2609

Mary Beth Broeren, City Planner
City of Huntington Beach
714-536-5550
broerenm@surfcity-hb.org

Experience with Native Americans

Larry Myers, Executive Secretary
Native American Heritage Commission
Sacramento 916-653-4082

Katherine Saubel (deceased)
NAHC 909-849-8304

Joyce Perry, David Belardes
Juaneño Band of Mission Indians
714-493-4933

Gregg Castro
Salinan Nation
408-218-4459

Carmen Lucas
Kwaaymii Band of Kumeyaay Indians
619-709-4207

Dave Singleton,
Native American Heritage Comm.
916-373-3715

Academic

Dr. Merrick Posnansky, Prof. Emeritus
Professor of History and Archaeology, Emeritus
UCLA 818-986-1381

Professor Jim Eighmey
Palomar College
760-744-1150 x 2330

APPENDIX B

NATIVE AMERICAN CONSULTATION

Professional Archaeological Services

Philip de Barros, Ph.D.
13730 Via Cima Bella
San Diego, CA 92129
760-807-9489 (cell)
760-761-3516 (FAX)

March 25, 2014

Dave Singleton
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

RE: Sacred Lands Check for a 277-acre property situated along near Interstate 10 in the City of Coachella in Riverside County. The project area is in Section 28 of Township 5 South, Range 8 East, San Bernardino Base Meridian on the ***Indio*** 7.5' quad.

Dear Dave,

I am requesting a sacred lands check for the property referenced above. I have attached a portion of the 1956 (photorevised 1972) 7.5' USGS ***Indio*** quad showing the location of the area to be surveyed.

Please fax the results of the search to Professional Archaeological Services at 760-761-3516. Or mail it to Philip de Barros, 13730 Via Cima Bella, San Diego, CA 92129. If you need to call me for any reason, please call at 760-807-9489.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D.

STATE OF CALIFORNIA — Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916) 373-3715
Fax (916) 373-5471
Web Site www.nahc.ca.gov
Ds_nahc@pacbell.net

March 26 2014

Dr. Phillip de Barros, Ph.D., RPA
Professional Archaeological Services
13730 Via Cima Bella
San Diego, CA 92129

Sent by FAX to: 760-781-3516
No. of Pages: 4

RE: Sacred Lands File Search and Native American Contacts list for the **"Residential Development Project;"** located on 277-acres near the Cabazon Indian Reservation and the City of Indio; Coachella Valley; Riverside County California

Dear Dr. de Barros

A record search of the NAHC Sacred Lands Inventory **failed to indicate** the presence of Native American traditional cultural places in the Project site(s) or 'areas of Potential effect' (APE), submitted to this office. Note also that the absence of archaeological resources does not preclude their existence at the subsurface level.

In the 1985 Appellate Court decision (170 Cal App 3rd 604), the Court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources impacted by proposed projects, including archaeological places of religious significance to Native Americans, and to Native American burial sites.

When the project becomes public, please inform the Native American contacts as to the nature of the project (e.g. residential, renewable energy, infrastructure or other appropriate type). Attached is a list of Native American tribes, Native American individuals or organizations that may have knowledge of cultural resources in or near the proposed project area (APE). As part of the consultation process, the NAHC recommends that local government and project developers contact the tribal governments and native American individuals on the list in order to determine if the proposed action might impact any cultural places or sacred sites. If a response from those listed on the attachment is not received in two weeks of notification, the NAHC request that a follow-up telephone call be made to ensure the project information has been received.

California Government Code Sections 65040.12(e) defines 'environmental justice' to provide "fair treatment of people...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies." Also, Executive Order B-10-11 requires that state agencies "consult with Native American

tribes, their elected officials and other representatives of tribal governments in order to provide meaningful input into...the development of legislation, regulations, rules and policies on matter that may affect tribal communities."

If you have any questions or need additional information, please contact me at (916) 373-3715.

Sincerely,

Dave Singleton
Program Analyst

Attachments

Native American Contacts
Riverside County California
March 26, 2014

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs Cahuilla
Indio , CA 92203-3499
(760) 342-2593
(760) 347-7880 Fax

Santa Rosa Band of Mission Indians
John Marcus, Chairman
P.O. Box 391820 Cahuilla
Anza , CA 92539
(951) 659-2700
(951) 659-2228 Fax

Los Coyotes Band of Mission Indians
Shane Chapparosa, Chairman
P.O. Box 189 Cahuilla
Warner , CA 92086
(760) 782-0711
(760) 782-2701 - FAX

Augustine Band of Cahuilla Mission Indians
Mary Ann Green, Chairperson
P.O. Box 846 Cahuilla
Coachella , CA 92236
(760) 398-4722
760-369-7161 - FAX

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

Morongo Band of Mission Indians
William Madrigal, Jr.,Cultural Resources Manager
12700 Pumarra Road Cahuilla
Banning , CA 92220 Serrano
(951) 201-1866 - cell
wmadrigal@morongo-nsn.gov
(951) 572-6004 Fax

Torres-Martinez Desert Cahuilla Indians
Mary Resvaloso, Chairperson
PO Box 1160 Cahuilla
Thermal , CA 92274
mresvaloso@torresmartinez.
(760) 397-0300
(760) 397-8146 Fax

Torres-Martinez Desert Cahuilla Indians
Matthew Krystal, Cultural Resources Manager
P.O. Boxt 1160 Cahuilla
Thermal , CA 92274
mkrystall@tmdci-nsn.gov
760) 397-0300,
(760) 409-2987- cell
(760) 397-8146 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list s only applicable for contacting locative Americans with regard to cultural resources for the proposed 277-acre Development Project; located in the Indio area; Riverside County, California for which a Sacred Lands file search and Native American Contacts list were requested.

Native American Contacts
Riverside County California
March 26, 2014

Cabazon Band of Mission Indians
Judy Stapp, Director of Cultural Affairs
84-245 Indio Springs Cahuilla
Indio , CA 92203-3499
(760) 342-2593
jstapp@cabazonindians-nsn.gov
(760) 347-7880 Fax

Agua Caliente Band of Cahuilla Indians THPO
Patricia Garcia, Tribal Historic Perservation Officer
5401 Dinah Shore Drive Cahuilla
Palm Springs, CA 92264
ptuck@augacaliente-nsn.gov
(760) 699-6907

(760) 699-6924- Fax

Augustine Band of Cahuilla Mission Indians
Karen Kupcha
P.O. Box 849 Cahuilla
Coachella , CA 92236
(760) 398-4722
916-369-7161 - FAX

Cahuilla Band of Indians
Luther Salgado, Chairperson
PO Box 391760 Cahuilla
Anza , CA 92539
Chairman@cahuilla.net
760-763-5549
760-763-2631 - Tribal EPA

Ernest H. Siva
Morongo Band of Mission Indians Tribal Elder
9570 Mias Canyon Road Serrano
Banning , CA 92220 Cahuilla
siva@dishmail.net
(951) 849-4676

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list s only applicable for contacting locative Americans with regard to cultural resources for the proposed 277-acre Development Project; located in the Indio area; Riverside County, California for which a Sacred Lands file search and Native American Contacts list were requested.

Philip de Barros, Ph.D.
13730 Via Cima Bella
San Diego, CA 92129
760-807-9489 (cell)
858-484-3478 (phone/FAX)
760-761-3516 (FAX)

Professional
Archaeological
Services

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs
Indio, CA 92203-3499

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairperson Welmas,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

Professional Archaeological Services (PAS) conducted an updated records search on March 24th and requested a Sacred Lands check from the Native American Heritage Commission (NAHC) on March 25th. The March 26th response was negative. Prior to the survey, both Judy Stapp of the Cabazon Band of Mission Indians and the tribal office of the Torres-Martinez Indian Reservation were contacted. Both declined to provide a monitor at this stage of the investigation, but wanted to be kept informed when potential impacts to cultural resources were determined. PAS re-examined the property on March 26-28. Two of the prehistoric sites were re-mapped using GPS, but despite an intensive search, the small (26 x 15 m) RIV-7836 site could not be relocated. Recent vegetation clearing has apparently obliterated its surface remains. Several historic water system standpipes as well as an historic foundation with associated artifacts dating to the1940s or 1950s onwards were also recorded.

If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodio@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/14

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Philip de Barros, Ph.D.
13730 Via Cima Bella
San Diego, CA 92129
760-807-9489 (cell)
858-484-3478 (phone/FAX)
760-761-3516 (FAX)

Professional
Archaeological
Services

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670
Anza, CA 92539

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairman Hamilton,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodio@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/08

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760-807-9489 (cell)
858-484-3478 (phone/FAX)
760-761-3516 (FAX)

Professional
Archaeological
Services

Torres-Martinez Desert Cahuilla Indians
Mary Resvaloso, Chairperson
P.O. Box 1160
Thermal, CA 92274

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairperson Resvaloso,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodio@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/14

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Philip de Barros, Ph.D.
13730 Via Cima Bella
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760-761-3516 (FAX)

Professional
Archaeological
Services

Santa Rosa Band of Mission Indians
John Marcus, Chairman
P.O. Box 391820
Anza, CA 92539

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairman Marcus,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodio@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/14

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Professional
Archaeological
Services

Augustine Band of Cahuilla Mission Indians
Mary Ann Green, Chairperson
P.O. Box 846
Coachella, CA 92236

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairperson Green,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodio@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/14

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Philip de Barros, Ph.D.
13730 Via Cima Bella
San Diego, CA 92129
760-807-9489 (cell)
858-484-3478 (phone/FAX)
760-761-3516 (FAX)

Professional
Archaeological
Services

Morongo Band of Mission Indians
William Madrigal, Jr., Cultural Resources Manager
12700 Pumarra Road
Banning, CA 92220

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Mr. Madrigal,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodjo@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

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760-761-3516 (FAX)

Professional
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Services

Torres-Martinez Desert Cahuilla Indians
Matthew Krystal, Cultural Resources Manager
P. O. Box 1160
Thermal, CA 92274

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Mr. Krystal,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodjo@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

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Professional
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Cabazon Band of Mission Indians
Judy Stapp, Director of Cultural Affairs
82-245 Indio Springs
Indio, CA 92203-3499

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Ms. Stapp,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodjo@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/24/14

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760-761-3516 (FAX)

Professional
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Services

Agua Caliente Band of Cahuilla Indians THPO
Patricia Garcia, Tribal Historic Preservation Officer
5401 Dinah Shore Drive
Palm Springs, CA 92264

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Ms. Garcia,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodjo@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/14

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760-761-3516 (FAX)

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Services

Augustine Band of Cahuilla Mission Indians
Karen Kupcha
P.O. Box 849
Coachella, CA 92236

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Ms. Kupcha,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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If you have concerns regarding this project and the sites described above, please contact me at 760-807-9489 or at atavikodjo@hotmail.com.

Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.
4/29/14

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760-761-3516 (FAX)

Professional Archaeological Services

Los Coyotes Band of Mission Indians
Shane Chapparosa, Chairman
P.O. Box 189
Warner, CA 92086

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairman Chapparosa,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/14

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760-761-3516 (FAX)

Professional
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Services

Ernest H. Siva
Morongo Band of Mission Indians Tribal Elder
9570 Mias Canyon Road
Banning, CA 92220

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Mr. Siva,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.
4/29/14

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760-761-3516 (FAX)

Professional
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Services

Cahuilla Band of Indians
Luther Salgado, Chairperson
P.O. Box 391760
Anza, CA 92539

RE: Proposed 277-acre Development in the City of Coachella just south of Interstate-10.

Dear Chairperson Salgado,

A 277-acre mixed development is proposed in the City of Coachella just south of Interstate-10 (see attached map). The property was first surveyed in 2005 by Michael Brandman Associates (MBA). Three prehistoric sites were recorded: RIV-7834, -7835, and -7836. Phase II test excavations were conducted and MBA determined that all three sites were ineligible for the National Register of Historic Places (NRHP). While RIV-7834 and -7836 were determined not to be significant historical resources under CEQA and the California Register of Historical Resources (CRHR), RIV-7835 was "considered potentially significant and unique at the State level of analysis." The site is 170 m in diameter. Testing produced 210 pottery sherds, some debitage, and a few other artifacts. Charcoal staining suggested a possible hearth and a possible adobe brick. The pottery suggests the site dates to 500-1000 AD.

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Sincerely,

Philip de Barros

Philip de Barros, Ph.D., R.P.A.

4/29/14

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April 30, 2014

Philip de Barros, Ph.D., R.P.A.
13730 Via Cima Bella
San Diego, CA 92129

Re.: Proposed 277-acre Development in the City of Coachella just south of Interstate-10 Riverside County, California

Dear de Barros:

Thank you for contacting the Cabazon Band of Mission Indians concerning cultural resource information relative to the above referenced project.

The project is located outside of the Tribe's current reservation boundaries. The Tribe has no specific archival information on the site indicating that it may be a sacred/religious site or other site of Native American traditional cultural value. The Cabazon Band will defer to the Torres Martinez Band of Desert Cahuilla Indians for further consultation.

We look forward to continued collaboration in the preservation of cultural resources or areas of traditional cultural importance.

Best regards,

Judy Stapp

Judy Stapp
Director of Cultural Affairs

84-245 INDIO SPRINGS PARKWAY • INDIO, CALIFORNIA 92203-3499 • (760) 342-2593 FAX (760) 347-7880

AUGUSTINE BAND OF CAHUILLA INDIANS

P.O. Box 846 • Coachella, CA 92236 • (760) 398-4722 • Fax (760) 398-4252

Tribal Chairperson: MaryAnn Green

May 23, 2014

Philip de Barros
13730 Via Cima Bella
San Diego, CA 92129

RE: Vista Del Agua 277-Acre Development Project (Coachella, CA)

Dear Mr. de Barros:

Thank you for the opportunity to offer input concerning the development of the above-identified project. We appreciate your sensitivity to the cultural resources that may be impacted by your project, and the importance of these cultural resources to the Native American peoples that have occupied the land surrounding the area of your project for thousands of years. Unfortunately, increased development and lack of sensitivity to cultural resources has resulted in many significant cultural resources being destroyed or substantially altered and impacted. Your invitation to consult on this project is greatly appreciated.

At this time we are unaware of specific cultural resources that may be affected by the proposed project. We encourage you to contact other Native American Tribes and individuals within the immediate vicinity of the project site that may have specific information concerning cultural resources that may be located in the area. We also encourage you to contract with a monitor who is qualified in Native American cultural resources identification and who is able to be present on-site full-time during the pre-construction and construction phase of the project. Please notify us immediately should you discover any cultural resources during the development of this project.

Very truly yours,

Augustine Band of Cahuilla Indians

Mary Ann Green
Tribal Chairperson

Debarros, Philip

From: Debarros, Philip
Sent: Monday, November 24, 2014 9:42 AM
To: 'Roland Ferrer'
Subject: RE: 3 prehistoric sites
Attachments: CompleteReportwithAppendicesA&B.pdf

Hello Roland,

It was nice talking to you. I have attached a pdf file of the report that was submitted to the City. It is being revised to include a survey of water and sewer routes (done; no prehistoric sites found). The key sites are RIV-7834, -7835, and -7836. The latter consisted of just a few sherds at shallow depth and was determined not to be significant by a previous investigator. RIV-7835 was determined to be significant. RIV-7834 was found not to be significant but 3/4ths of the site was missed (see map in report). They recorded only what I call Locus D. These sites are discussed in Section 4.2 beginning on p. 37. They are also summarized in the Management Summary.

We excavated 10 test units in Locus A on Friday and Sunday. Found only sherds with most in the upper 10-15 cm, mostly in upper 5 cm. One part of a bowl was found at ca. 30 cm. No other cultural material was found. No cremains were found. We will continue work at Loci B and C on December 6-7th when a monitor from Torres-Martinez can be present. I am sorry we could not get together on this sooner.

I have to go to Northern California tomorrow and won't be back until Sunday. If you see this today, and have questions, you can email me today.

Thanks, Philip de Barros

Professional Archaeological Services
Dr. Philip de Barros, President
13730 Via Cima Bella
San Diego, CA 92129
760-807-9489
atavikodjo@hotmail.com

From: Roland Ferrer [mailto:RFerrer@tmdci-nsn.gov]
Sent: Friday, November 21, 2014 8:44 AM
To: Debarros, Philip
Cc: Lisa Milward
Subject: 3 prehistoric sites

Phillip,
Thank you for taking my call this morning about the three prehistoric sites. In order for the Tribe to send monitors out to the sites we need to prepare the necessary documents. Monitor rates are $50.00 an hour and an 25%

administrative fee is charged for every invoice. Please email any documents you have regarding these projects including letters and cultural studies.

Roland G. Ferrer
Planning Director
Torres Martinez Desert Cahuilla Indians
66725 Martinez Road
P.O. Box 1160
Thermal, CA 92274
(760) 397-0300, x 1209 office
(760) 275-6851 cell
Please note my new email address change to rferrer@tmdci-nsn.gov

---

Debarros, Philip

From: Debarros, Philip
Sent: Wednesday, December 03, 2014 3:13 PM
To: Roland Ferrer (RFerrer@tmdci-nsn.gov)
Subject: Test Excavations at RIV-7834

Hello Roland,

I sent you the materials you requested but have not heard from you. We will be going out to finish the test excavations at RIV-7834 this weekend, December 6-7, as I had indicated. It will be a six person crew plus myself. Given the paperwork issue you mentioned, I am not sure whether you are sending someone out or not. Please advise. We are meeting at 6:30 A.M. at the Motel 6 in Indio and then going out to the site which is about 100 yard south of Avenue 47 on the west side of the large vineyards on the property.

Philip de Barros

Debarros, Philip

From: Roland Ferrer <RFerrer@tmdci-nsn.gov>
Sent: Wednesday, December 17, 2014 10:02 AM
To: Debarros, Philip
Cc: Alesia Reed; Gary Resvaloso
Subject: RE: Vista Del Agua Project RIV-7834 testing; charcoal-filled hearth

Phillip,
Thank you for your email. Unfortunately, I never received the cultural documents, reports with conditions which would have prompted me to coordinate a monitor for your project. At this point the financial arrangements will be between you and the monitor. We can still send a monitor out there but we need the information on the project beforehand. At this Can you email the information to me today?

Roland

From: Debarros, Philip [mailto:PDebarros@palomar.edu]
Sent: Wednesday, December 17, 2014 9:05 AM
To: Roland Ferrer
Subject: Vista Del Agua Project RIV-7834 testing; charcoal-filled hearth

Hello Roland,

I expect to be given the go-ahead to do additional testing at RIV-7834 for 2 days between Dec 27-30.

On December 6-7, we encountered pottery sherds in the upper 20 cm in Loci A and B, and also at Locus C with a few between 20-40 cm.

Near the end of the day on December 7th, we discovered part of charcoal-filled hearth pit in the NW corner of Unit 24. No bone or stone artifacts have been recovered thus far at RIV-7834, including at Locus C. The hearth appears to contain only charcoal (fuel and possibly food remains). We plan on fully exposing the hearth and using the charcoal to date the site and analyze what kinds of fuel and food remains are present.

I am not sure why I did not hear back from you for having a monitor for December 6-7, but you are welcome to have a monitor for the fieldwork in late December at your normal rates that you discussed over the phone with me earlier in December. Please advise. The work will probably be conducted on Dec 27-28, but might be Dec 29-30. I will be firming up the date later today or tomorrow.

Philip de Barros, Ph.D.
President, Professional Archaeological Services
Professor of Anthropology and Coordinator of the Palomar College A.A. Degree and Certificate Program in Archaeology
San Diego 760-807-9489; atavikodjo@hotmail.com

Debarros, Philip

From: Roland Ferrer <RFerrer@tmdci-nsn.gov>
Sent: Wednesday, December 17, 2014 1:22 PM
To: Debarros, Philip
Subject: RE: Vista Del Agua Project RIV-7834 testing; charcoal-filled hearth Response to Phone Call Today

Dr. de Barros,
I received your email. Do you have the staff reports from the City of Coachella? If so please forward them to me.

Roland

From: Debarros, Philip [mailto:PDebarros@palomar.edu]
Sent: Wednesday, December 17, 2014 12:57 PM
To: Roland Ferrer
Subject: RE: Vista Del Agua Project RIV-7834 testing; charcoal-filled hearth Response to Phone Call Today
Importance: High

Hi Roland,

I am sorry you did not get my email of November 24th. Hopefully when I just resent it you will get it soon.

I have attached the updated TOC and Management Summary from the updated Phase I report which included surveys of offsite sewer, water and road alignments. No new prehistoric sites were found. The updated Phase I report (you were sent the first Phase I report, which you did not receive) has an updated Management Summary which I have attached.

Phil

From: Roland Ferrer [mailto:RFerrer@tmdci-nsn.gov]
Sent: Wednesday, December 17, 2014 10:02 AM
To: Debarros, Philip
Cc: Alesia Reed; Gary Resvaloso
Subject: RE: Vista Del Agua Project RIV-7834 testing; charcoal-filled hearth

Phillip,
Thank you for your email. Unfortunately, I never received the cultural documents, reports with conditions which would have prompted me to coordinate a monitor for your project. At this point the financial arrangements will be between you and the monitor. We can still send a monitor out there but we need the information on the project beforehand. At this Can you email the information to me today?

Roland

From: Debarros, Philip [mailto:PDebarros@palomar.edu]
Sent: Wednesday, December 17, 2014 9:05 AM

Debarros, Philip

From: Debarros, Philip
Sent: Thursday, December 18, 2014 2:41 PM
To: Roland Ferrer (RFerrer@tmdci-nsn.gov)
Subject: Coachella Vista Del Agua Project RIV-7834 hearth feature

Importance: High

Hello Roland,

I have had to reschedule my test excavations to December 29-30 (Monday-Tuesday) due to family issues.

You mentioned in one email that I would have to deal with the monitor one-on-one. Is this still true? Who is it? Contact information?

You also mentioned about meeting with a tribal representative to show where the site is located. When would this might be?

Phil

Debarros, Philip

From: Roland Ferrer <RFerrer@tmdci-nsn.gov>
Sent: Friday, December 19, 2014 10:08 AM
To: Debarros, Philip
Cc: Lisa Milward
Subject: RE: Coachella Vista Del Agua Project RIV-7834 hearth feature

Phillip,
The name of the monitor is Robin Lawson. Our offices are closed today. We will get the contact information to you on Monday.

Roland

From: Debarros, Philip [mailto:PDebarros@palomar.edu]
Sent: Thursday, December 18, 2014 2:41 PM
To: Roland Ferrer
Subject: Coachella Vista Del Agua Project RIV-7834 hearth feature
Importance: High

Hello Roland,

I have had to reschedule my test excavations to December 29-30 (Monday-Tuesday) due to family issues.

You mentioned in one email that I would have to deal with the monitor one-on-one. Is this still true? Who is it? Contact information?

You also mentioned about meeting with a tribal representative to show where the site is located. When would this might be?

Phil

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Debarros, Philip

From: Roland Ferrer <RFerrer@tmdci-nsn.gov>
Sent: Wednesday, January 07, 2015 8:22 AM
To: Debarros, Philip
Cc: Lisa Milward
Subject: RE: Robin Lawson and RIV-7834 excavations

Lisa, can you provide Robin's phone number to Philip?

From: Debarros, Philip [mailto:PDebarros@palomar.edu]
Sent: Tuesday, January 06, 2015 7:07 AM
To: Roland Ferrer
Subject: Robin Lawson and RIV-7834 excavations

Hello Roland,

As Robin Lawson may have told you, we found one main hearth with charcoal and charcoal-stained soil and possible remnants of 1 or 2 others (fire-altered rock). We also found a large area of oxidized gravel with charcoal bits that may be an historic burning pit or a ceramic firing pit. It is not clear. However, no bones or cremains were found of any kind and no stone tools or stone tool debris were found. Only pottery sherds, and of course charcoal in the hearth and oxidized area. I plan on radiocarbon dating both features (hearth and oxidized layer) to help us understand what was found. It may very well be a place where date palm fronds were burned in historic times as no prehistoric or historic artifacts were found other than a few scattered pottery sherds. The oxidized layer is sealed from the surface by 10-15 cm of windblown silty sand.

Also, could you please provide an email or phone number for Robin Lawson. I seem to have misplaced the number. We worked an extra day with a half-crew to finish on December 31st and I wanted to let him know what the results were.

Thanks,

Philip de Barros
Professional Archaeological Services

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Debarros, Philip

From: Debarros, Philip
Sent: Thursday, January 08, 2015 2:53 PM
To: Roland Ferrer
Subject: Re: Robin Lawson and RIV-7834 excavations

Thanks. Robin and I discussed the matter over the phone. Phil

Sent from my iPhone

On Jan 7, 2015, at 8:24 AM, "Roland Ferrer" <RFerrer@tmdci-nsn.gov> wrote:

> Lisa, can you provide Robin's phone number to Philip?

From: Debarros, Philip [mailto:PDebarros@palomar.edu]
Sent: Tuesday, January 06, 2015 7:07 AM
To: Roland Ferrer
Subject: Robin Lawson and RIV-7834 excavations

Hello Roland,

As Robin Lawson may have told you, we found one main hearth with charcoal and charcoal-stained soil and possible remnants of 1 or 2 others (fire-altered rock). We also found a large area of oxidized gravel with charcoal bits that may be an historic burning pit or a ceramic firing pit. It is not clear. However, no bones or cremains were found of any kind and no stone tools or stone tool debris were found. Only pottery sherds, and of course charcoal in the hearth and oxidized area. I plan on radiocarbon dating both features (hearth and oxidized layer) to help us understand what was found. It may very well be a place where date palm fronds were burned in historic times as no prehistoric or historic artifacts were found other than a few scattered pottery sherds. The oxidized layer is sealed from the surface by 10-15 cm of windblown silty sand.

Also, could you please provide an email or phone number for Robin Lawson. I seem to have misplaced the number. We worked an extra day with a half-crew to finish on December 31st and I wanted to let him know what the results were.

Thanks,

Philip de Barros
Professional Archaeological Services

Debarros, Philip

From: Debarros, Philip
Sent: Monday, May 04, 2015 1:18 PM
To: 'Roland Ferrer'
Subject: Results of Test Excavations at RIV-7834

Hello Roland,

I am currently writing up a Phase II report on the results of the test excavations at RIV-7834. Robin Lawson served as monitor for part of these excavations in late December 2014. I am providing here a quick preliminary summary to keep you briefed on the situation. I hope to complete the report by May 15th.

RIV-7834 has four ceramic scatter loci: A-D. Locus D was tested in 2005 by Dice and Messick of MBA now NewCarbon Solutions, Inc.). They recorded and tested RIV-7834, -7835, and-7836 and determined the small site RIV-7836 to be not significant but determined RIV-7835 is a significant site with a subsurface component. RIV-7834 was determined to not be significant, but they only recorded and tested Locus D which had no subsurface component, just pottery in the upper 0-10 cm.

My firm mapped, recorded and tested Loci A-C. Loci A and B are similar to Locus D with mostly surface ceramics and no other type of artifact. Locus C was initially like this but on December 7th we discovered a hearth feature with charcoal. This led to more intensive testing and the excavation of a 3 x 3 m block which resulted in the discovery of two major hearth features (and a third 5 m to the west) and a mysterious oxidized layer with scattered small charcoal pockets. These excavations took place on December 29-31 and Robin Lawson monitored. No flakes, flaked stone tools or groundstone was encountered. A very small piece of bone was recovered in the oxidized layer. Aside from a single fish vertebrae in Locus A, no other bone or bone tools or human remains were encountered in Loci A-C and none were found in Locus D in the earlier excavations. In short, this site consists primarily of charcoal, ceramics and fire-altered rock with two dispersed pieces of bone (one in Locus A, one in Locus C) and no human remains. No lithics of any kind were encountered.

Beta Analytic, Inc., dated two of the hearths to 1290-1405/10 A.D. and the oxidized layer to 1400-1440 A.D. The hearth charcoal was analyzed and found to contain no charred food remains but did contain numerous fuel fragments split roughly evenly between creosote, saltbush, mesquite and sage with four pieces of oak (surprising) and one ironwood and one Smoke Tree fragment. The oxidized layer yielded a very different assemblage consisting of 2-3 pieces each of prickly poppy, saltbush scrub, buckwheat, blue paloverde, and mesquite.

The pottery was analyzed by Jeffrey Schaefer of AMS and Associates and yielded mostly Salton Brown, Tumco Buff, and Topoc Buff and one indeterminate based on the 20 thin sections and a few others identified with a microscope earlier by Schaefer. No Tizon Brownware was detected. The ceramics indicate local production with some contact with the desert areas to the south in Imperial County.

Most of the pottery probably does not date to the same time period as the hearths. Most of it is surface or 0-10 cm and probably dates to after the last infilling of Lake Cahuilla in the 17th century. Some Salton Brown was found in the hearth zone that may be contemporaneous with the essentially 14-15th century occupation represented by hearths. The unconsolidated gravel in which the hearths are found suggest either a stream coming from the hills to the east or possibly a beach along a land spit in the past. The gravel does not appear in Locus A (and probably not in D), but does exist in the southern portion of Locus B.

The hearths are difficult to interpret. They contain NO FOOD REMAINS, which is strange unless they were only used for warmth. If so, it seems strange to build a camp fire in the day time, and if they were used at night, why were they not

used for cooking. It is also possible that the hearths were actually used to fire ceramics as an open-pit firing area. However, the mix of wood species used were nearly all locally available and there appears to be no specialization associated specifically with firing pottery, e.g., the Kumeyaay preferred oak bark, the Kamia saltbush roots.

Additional excavations were done about 5-6 m north of the original hearth area. No hearths there but the oxidized later continues and the charcoal is quite different than in the hearths. It is hypothesized that the oxidized layer with charcoal spot represents a reworked deposit, perhaps in a former marsh area that burned that was later reworked by an unknown natural action. This layer does not appear to be directly linked to the hearths, but overlaps with them spatially.

It is my determination that important information from this locus has been retrieved via the test excavations and our final report. In short, the research potential of RIV-7834, Locus C, has been exhausted with the test excavations and analyses (C14 dates; charcoal analyses, pottery analyses) and is not a significant historical resource. Loci A, B and D have only ceramics and all of the recovered pottery has been analyzed. In short, RIV-7834 (Loci A-D) is not a significant resource. However, all of the ceramics, the two bits of bone, and the recovered charcoal will be curated an appropriate facility, but not the fire-altered rock.

In addition, RIV-7835 remains significant and will either have to be avoided or mitigated through data recovery excavations. The other sites on the property (historic foundation and the water control features are also not significant historical resources. RIV-7836 is also not significant as I concur with the 2005 evaluation by Dice and Messick.

I reserve the right to modify any of these conclusions if the writing of my report leads to some changes in interpretation, but I don't see the significance evaluations changing.

Philip de Barros, Ph.D., R.P.A., Principal Investigator; President of Professional Archaeological Services

Please email me or call me (760-807-9489) if you have any questions. A copy of my report will be sent to you soon after it is completed.

From: **Michael Coyne** mcoyne@coachella.org
Subject: FW: Vista Del Agua
Date: March 11, 2015 at 10:27 AM
To: Matthew Fagan matthewfagan@roadrunner.com, Angie Douvres angie.douvres@yahoo.com

From: Cultural [mailto:Cultural@pauma-nsn.gov]
Sent: Tuesday, December 30, 2014 2:16 PM
To: Michael Coyne
Cc: Dixon, Patti; Jeremy Zagarella
Subject: Vista Del Agua

Mr. Coyne,

The Pauma Band of Luiseno Indians has received your December 24 notice on the Vista Del Agua project. It appears that the project is on the west side of the All American Canal from the map you provided. At this time, Pauma will defer any knowledge of culturally related sites or resources to our sister Bands of Cahuilla.

Thank you for providing us with a notice of the project.

Chris Devers
Cultural Clerk
Pauma Band of Luiseno Indians

AGUA CALIENTE BAND OF CAHUILLA INDIANS

03-017-2014-002

March 04, 2015

[VIA EMAIL TO:llopez@coachella.org]
City of Coachella
Mr. Luis Lopez
1515 Sixth Street
Coachella, CA 92236

Re: Vista Del Agua

Dear Mr. Luis Lopez,

The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the Vista Del Agua project. The project area is not located within the boundaries of the ACBCI Reservation. However. it is within the Tribe's Traditional Use Area (TUA). For this reason, the ACBCI THPO requests the folllowing:

* Upon completion please send us a copy of the cultural resources study mentioned in the cultural resources mitigation measure section.

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760)699-6829. You may also email me at keskew@aguacaliente.net.

Cordially,

Katie Eskew

Katie Eskew
Archaeologist
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

From: **Michael Coyne** mcoyne@coachella.org
Subject: VDA Tribal E-mail from 29 Palms
Date: March 11, 2015 at 10:24 AM
To: Matthew Fagan matthewfagan@roadrunner.com, Angie Douvres angie.douvres@verizon.net
Cc: Luis Lopez llopez@coachella.org, mevens@pmcworld.com

-----Original Message-----
From: Shawn Muir [mailto:smuir@spotlight29.com]
Sent: Tuesday, February 17, 2015 3:18 PM
To: Michael Coyne
Subject: Vista Del Agua Specific Plan

Good afternoon Mr. Coyne,

I was forwarded your letter from our Tribal Office in regard to Tribal Consultation for the Vista Del Agua project. I would like to request a copy of the Environmental Assessment and Environmental Impact Report for this project. Please let me know if you can make this information available, or the correct person to contact.

Thank you,

Shawn Muir
Environmental Specialist

Twenty-Nine Palms Band of Mission Indians Tribal EPA
47-250 Dillon Road
Coachella, CA 92236
Office (760) 398-6767 Fax (760) 398-0046 Mobile (760) 574-4588
smuir@29palmsbomi-nsn.gov

APPENDIX C

CHARCOAL ANALYSES FOR CA-RIV-7834C

By

Allison Jaqua, M.A.

Integrative Subsistence Laboratory
University of California, Santa Barbara

Wood Charcoal Analysis of Samples from RIV-7834, Coachella, California

by

Allison L. Jaqua
Integrative Subsistence Laboratory
University of California, Santa Barbara

Prepared for

Professional Archaeological Services
13730 Via Cima Bella
San Diego, CA 92129

April 5, 2015

Introduction

Site CA-RIV-7834 is a prehistoric site located on the lakebed of ancient Lake Cahuilla in Coachella within the Colorado Desert ecosystem and the northern portion of the Sonora Desert. The site consists of ceramic scatters and lacks habitation debris. Charcoal samples from nine units were submitted to the Integrative Subsistence Laboratory at the University of California, Santa Barbara as part of a testing program conducted by Professional Archaeological Services of San Diego, with Dr. Philip de Barros serving as Principal Investigator. The primary objectives of this analysis were to document the type of wood remains from the samples.

Methods

Wood charcoal specimens received from the Unit 24 hearth complex for analysis were sorted and all charcoal pieces >2.0 mm were pulled. From this, a random subsample of thirty-six pieces representing five of the units was analyzed. Charcoal pieces were fractured to give a clean transverse section and then examined under an incident light binocular microscope at 40x -100x. The selected plant remains were identified through the use of comparative wood collections and manuals located in the Integrative Subsistence Laboratory at UCSB and the Paleoethnobotany Laboratory in the Cotsen Institute of Archaeology at UCLA.

In addition, the charcoal from two units (29 and 30), located 5 m and 1 m distant from the original investigation respectively, were added for a comparison of taxa. The entire charcoal assemblage from these two units was scanned in cross section under an incident

light binocular microscope at 40x. No other identification to was attempted for these two proveniences.

Results

Thirty-six samples were identified. Table 1 presents the charcoal identification for these handpicked samples. The following seven wood types were identified: *Atriplex* sp. (saltbush), *Larrea tridentata* (creosote bush), *Olneya tesota* (iron wood), *Prosopis* sp. (mesquite), *Psorothamnus spinosus* (smoke tree), *Quercus* sp. (oak) and *Salvia* sp. (sage). The scan of charcoal from units 29 and 30 reveal a general dissimilarity to taxa identified in the Unit 24 hearth complex. With the exception of a single piece of *Atriplex* sp. (saltbush) from unit 29 and two pieces of *Prosopis* sp. (mesquite) from unit 30, the charcoal is morphologically distinct.

Taxa Identified

Atriplex sp. (saltbush) grows in alkaline or saline soils, shrubland in open sites, flats and slopes. The Cahuilla ate the seeds and leaves of this plant as well as used it as a popular source of fuel (Lightfoot and Parrish 2009).

Larrea tridenta (creosote bush) is a drought tolerant shrub that is common in the well-drained soil of the desert shrubland. It was used by California native groups for its medicinal properties. Because it ignites easily and burns hot, so it was also a popular fuel source (Barbour et al. 2007; Lightfoot and Parrish 2009).

Quercus (oak) grows in the mountain and transition zones in the southern desert province of Cahuilla territory. Acorns were one of the most important terrestrial foods and the Cahuilla would travel some distance for this resource (Lightfoot and Parrish 2009:353). Oak was also an important source of fuel and was preferred by the neighboring Kumeyaay when firing pottery (Van Camp 1979).

Prosopis sp. (mesquite) is a common desert plant found on the washes and the Coachella dunes (Barbour et al. 2007). Mesquite was an important resource for the Cahuilla. They harvested the seeds, ate the blossoms and used the sap to treat wounds. The wood was also used to make mortars and for house construction. Mesquite wood was used for dye and as a source of fuel. They used is wood for house construction and for tools (Strike 1994). The wood was also a preferred source of fuel for firing pottery (Lightfoot and Parrish 2009:351).

Salvia sp. (sage) Drought-deciduous sages are found on the desert slopes and in dry open spaces. Sage was an important plant to native California groups. It seeds were used medicinally and for food and had ritual significance. Sage also has ritual significance among many native groups in North America (Timbrook 2009).

Psorothamnus spinosus (smoke tree) is an almost leafless plant that is restricted primarily to the Colorado Desert. It grows in the gravelly arroyo margins and channels in the desert scrub environment. Ethnographic information on this tree is limited but it may have been used as a fuel source in this region.

Olneya tesota (desert ironwood) is a winter-spring deciduous plant that grows in desert washes. Its wood is hard and heavy making it a popular material for tool handles and knives. Some southern California native groups used the bark as a dye (Timbrook 2007; Barbour et al. 2007).

Additional Taxa Identified in Units 29 and 30

Argemone sp. is gypsum tolerant perennial that grows in the loose, powdery silt in hilly areas of the Colorado Desert. Several species of this prickly poppy are native to this region. The seeds from this plant were used as a poultice and were applied to burns as a pain reliever (Zigmond 1981).

Eriogonum sp. is a small shrub that grows in the desert sand dunes. This sample likely represents *Eriogonum* deserticola, a species of wild buckwheat with the common name Colorado Desert buckwheat. The Cahuillla ate the seeds and shoots from this plant. It was also used to make eyewashes and drunk as a tea to relieve stomach pain and headaches (Barrow 1900:78; Bean and Saubel 1972:72).

Parkinsonia florida grows in creosote desert scrub habitat and in desert washes. The Cahuilla used the dried beans from this tree to make flour for cakes and porridge (Bean and Saubel 1972).

Discussion

All but one of the identified wood specimens (*Quercus)* are species locally available and common members of the Creosote Scrub plant community in the Colorado Desert where the site is located. *Atriplex* sp. (saltbush), *Larrea tridenta* (creosote bush), *Prosopis* sp. (mesquite) and *Salvia* sp. (sage) were almost equal in distribution at this site. Saltbush, creosote and mesquite were a commonly used fuel so it is not surprising that they are found within the hearth features at this site. The amount of *Salvia* sp. (sage) charcoal in these samples suggests that sage was also used as a source of fuel. *Quercus (*oak) is not currently found within close distance to RIV-7834. The wood charcoal samples identified in units 29 and 30, with minimal exception, are not present in the Unit 24 complex and may reflect a different pattern of intra-site plant use.

The charcoal samples from CA-RIV-7834 provide information primarily on wood and fuel use. Five of the six recovered taxa from the Unit 24 complex, and all taxa from units 29 and 30 are common members of the local vegetation. The presence of *Quercus* (oak) may indicate that different habitats were exploited for firewood or conversely that scrub or chaparral vegetation was present near this site in prehistory.

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Table 1

36 IDENTIFIED CHARCOAL SAMPLES FROM RIV-7834

Unit	24	24A	24A	24B	24B	24B	24B	24G	24G	24G	24G	24G	24G	24G	24D	24D
Cat. No.	156	166	167	189	190	192	193	263	267	268	269	270	271	272	216	217
Depth	10-15 cm	32 cm	26.5 cm	29 cm	31 cm	19 cm	16 cm	29 cm	35 cm	37 cm	37 cm	38 cm	37 cm	32 cm	27 cm	37 cm
CS#	1	19	4	6	7	12	13	5	9	10	11	12	13	14	8	9

Scientific Name	**Common name**																	Total by taxa
Atriplex sp.	Saltbush scrub					2		2			1					2		7
Larrea tridenta	Creosote bush	2		1	1					1					2			7
Olneya tesota	Iron wood						1											1
Prosopis sp.	Mesquite			1							1	1	1	4				8
Psorothamnus spinosus	Smoke tree (shrub)														1			1
Quercus sp.	Oak	1	1	1								1						4
Salvia sp.	Sage	1			1	1			1			1				1	2	8
	Total i.d. per unit	4	1	3	2	3	1	2	1	1	2	3	1	4	3	3	2	**36**

Table 2 **IDENTIFIED CHARCOAL SAMPLES FROM RIV-7834 Units 29 and 30**

Unit		29	30	30	
Cat. No.					
Depth		32-40 cm	30 cm	32-45 cm	
CS#					
Scientific Name	**Common name**				Total by taxa
Argemone sp.	Prickly Poppy		1	1	2
Atriplex sp.	Saltbush scrub	1		1	2
Eriogonum sp.	California Buckw	3			3
Parkinsonia florid	Blue Paloverde	1		1	2
Prosopi s sp.	Mesquite		1	2	3
	Total i.d. per un	5	2	5	**12**

APPENDIX D1

CERAMIC DESCRIPTIONS FOR RIV-7834A-C

by

Philip de Barros, Ph.D.

RIV-7834A CERAMICS (shaded items were thin-sectioned)

Cat #	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Surface Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (w/ microscope)	Rim/Lip Types	Hardness /Fracture	Form Attributes & Orifice Diameter
1 2CR	Unit 1 Surface	3.5-4.5 / 3 x 2	Buff (I); buff to slightly grayish buff (E); muscovite flakes	SS-S (I&E) undulating interior	Buff to slightly grayish buff	sand or crushed rock?	Abundant but less rounded than usual quartz; muscovite	Pinched direct rim; interior lip thickening upper 4 mm	Soft with uneven facture	BOWL with large orifice diameter; hard to measure size **TOPOC BUFF**
2 2CB	"	5.5.6.5 / 3 x 2	Slightly grayish buff (I); grayish buff to buff (E); muscovite flakes	SS-S (I&E) undulating interior	"	"	"	NA	Soft/very uneven & lateral splitting	BOWL with thinning toward rim **TOPOC BUFF** with more minerals than is usual
3 (3) & 4 (9)	"	NA / NA	**FROM SAME VESSEL AS Nos. 1 & 2. 3 (sherds with one surface); 4 (sherds with no original surfaces) Cat. Nos. 1-7 are very likely from the same vessel.**							
5A	Unit 1 0-5 cm	4.5-5.5 / 3 x 2.5	Grayish buff (I); buff (E); brown stain at edge (E), 1mm into paste; many muscovite flakes	S (I) SS-S (E)	Grayish-buff to buff to tan buff	"	"	NA	Soft/very uneven	BOWL
5B	"	4.5-5.0 / 1.75 x 1.5	Buff to grayish buff (I&E); some muscovite flakes	SS-S (I&E)	Buff to grayish buff	"	"	NA	"	"
6 (7) & 7(43)	"	NA	**Cat. Nos. 1-7 are very likely from the same vessel.**							
8A	Unit 2 Surface	Min. 4-5 / 3 x 2	One original surface: gray to buff (E)	SS-S (E)	Pale gray to gray buff	Sand?	Somewhat rounded quartz; muscovite; biotite; poorly sorted	NA	Med-hard/ somewhat uneven	BOWL? Same vessel as 8B **TOPOC BUFF**
8B	"	Min. 4-5 / 2.5 x 1.5	"	"	Gray buff	"	"	NA	Med-hard/ somewhat uneven	BOWL? Same vessel as 8A **TOPOC BUFF**

*CR = conjoined rim sherds; CB = conjoined body sherds

RIV-7834A CERAMICS (shaded items were thin-sectioned)

Cat #	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Surface Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (at 40x)	Rim/Lip Types	Hardness/Fracture	Form Attributes & Orifice Diameter
9	**Unit 3** Surface	3.5-4.5 / 3.5 x 2.5	Brown to gray with fire cloud (E); buff (I) Undulating (I)	SS-S (E) US-SS (I); surface erosion	Light brown (E) to buff (I)	Crushed rock?	Angular quartz; muscovite; voids, often linear	NA	Soft-med./ fairly even	JAR **TOPOC BUFF**
10	**Unit 3** 0-20 cm	Min. 3-4 / 2.5 x 2	One surface: pale buff (E)	S(E)	Pale buff (E) to buff (I)	Crushed rock?	Similar to No. 9 but little muscovite	NA	Soft/ fairly even	JAR? Cat. Nos. 9 & 10 probably same vessel
13	sherd 1 surface GPS C000D	3.5-4.5 / 2 x 1.5	Grayish-brown (E); gray (I)	SS-S (E); US-SS (I)	Tan brown (E) to gray brown (I)	Sand	Quartz; some muscovite; biotite; amphibole? poorly sorted	NA	Medium/ fairly even	JAR Partially fired in reducing atmosphere
14 2CR	**Unit 4** Surface	4-5 / 2.5 x 2.3; 1.8 x 1.5	Light to darker gray (I); grayish brown to grayish buff (E); possible fire cloud (I)	SS-S (I); US-SS(E)	Tan brown (E) but mostly dark gray; 2/3rds side core (I)	Sand and grog?	Some quartz; Biotite; muscovite; grog?	Direct rim w/ thickened interior lip (upper 3-4 mm); flat lip 4.5-5 mm wide	Soft/ Very uneven; lateral cracks	BOWL not highly fired
15 5CB	**Unit 4** 0-1 cm	3.5-5 / 3 x 2; 2.8 x 2	Pale grayish buff (E); grayish light brown (I) with gray spots; tiny muscovite bits	WWS (E); SS (I) undulating interior;	Gray buff to gray-black to gray to gray brown (E to I); sandwich core	Sand? None?	Small amounts of quartz, muscovite and possibly biotite	NA	Soft/ very uneven; 1 cracked	BOWL not highly fired large orifice diameter
16	"	4-5 / 4 x 2	Grayish buff (E); gray (I)	SS-S (E); SS-S (I); a bit dirty	Gray-black 95% I to E; rest gray-buff (E); nearly full core	Sand? None? No grog	Muscovite; Biotite? bit of quartz; vugs	NA	Soft-med/ uneven; slightly cracked	BOWL not highly fired
18 2CB	**Unit 4** 0-20 cm	3.2-6 / 9 x 7.5	Gray (I&E); fire cloud (E); root degradation of paste interior	S w/ scrape marks (E); US-SS/S(I); undulating interior with a bit on exterior?	Gray to dark gray to gray (E to I); sandwich core	Sand	Abundant minerals: mostly muscovite; quartz rare; feldspar? lumpy texture; vugs	NA	Soft/ somewhat uneven	JAR base? Fired in reduced atmosphere; fits w/ # 20 **SALTON BROWN**

RIV-7834A CERAMICS (shaded items were thin-sectioned)

Cat #	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Surface Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (at 40x)	Rim/Lip Types	Hardness/Fracture	Form Attributes & Orifice Diameter
19	**Unit 4** 0-20 cm	4-5 / 2 x 1.5	Pale gray (E); gray (I); muscovite flecks	S(E); US (I)	Gray to dark gray to gray; Sandwich core	Sand?	Quartz; muscovite; Biotite; voids	NA	Soft/ uneven with voids	JAR Separate vessel from Cat. No. 18 and 20??
20	**Unit 4** 31-34 cm	3-6.5 / 11 x 6	FITS WITH BASE AND LOWER BODY FOUND IN #18							JAR; fits with Cat. # 18
22	**Unit 7** 14 cm	3.5-4.5 / 3 x 2.5	Grayish buff (E); buff (I)	SS (I); SS-S (E)	buff	Sand?	quartz	NA	Soft/ somewhat uneven	JAR?
26	**Unit 8 Surface**	3-3.5 / 3 x 2.5	Mottled light to dark gray with fire cloud (E); dark gray (I)	US-SS (E); SS-S (I) Undulating (I & E)	gray	grog	Small minerals; crushed sherds; some muscovite; a rock? Voids/vugs	NA	Medium/ uneven; Voids/ vugs	? reduction fired **TUMCO BUFF** (based on surface characteristics)

RIV-7834B CERAMICS (shaded items were thin-sectioned)

Cat #	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Surface Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (at 40x)	Rim/Lip Types	Hardness /Fracture	Form Attributes & Orifice Diameter
47	**Unit 17 Surface Pot - sherd 51**	4.0 / 4 x 2.5	Pale buff w/ whitish scum; reddish brown slip/stain (E); buff & reddish brown slip/stain (I)	US-SS (E) US-SS (I); protruding grains thru surface	Pale buff to light gray (from I to E)	Sand	Quartz; muscovite bits; biotite? feldspar? not well sorted	direct rim or worn edge	Soft/ fairly even	BOWL **TOPOC BUFF**
48	**Unit 18 Surface**	5-7.5 / 3.5 x 3.5	Brown (E) Reddish brown (I)	US-SS-S (E) w/ scrape marks; US-SS (I); protruding grains thru surface	Brown grades into reddish or tan brown (I to E)	beach sand	Abundant quartz often rounded; muscovite; biotite; amphibole; some voids	NA	Soft-med/ fairly uneven	SMALL BOWL BASE **SALTON BROWN**
55 & 56 2CB	**Unit 19 Surface & 0-5 cm**	4-4.5 (both) / 2.9 x 1 larger	Dark gray (side 1); Reddish brown (side 2)	SS (side 1) US (side 2)	Light brown to buff (1 to 2)	sand	Abundant quartz; biotite; some muscovite; other?	NA	Soft/ somewhat uneven	Flat container?
66	**Surface Sherd 11 GPS F00G**	4-4.5 / 2 x 2	Very light brown or pale buff with intersecting scrape marks & scum (E); light brown (buff?) to reddish brown (I)	SS-S (E) US-SS (I)	gray core	Sand?	Some quartz and biotite; a bit of muscovite	NA	Soft to medium/ uneven fracture	JAR? Fired in reducing atmosphere
67	**Unit 21 Surface**	3-3.5 / 5 x 3	Gray w/ fire cloud spots (E); gray (I); stucco bits	SS (E) & stucco? US-SS (I); protruding grains	Gray all the way through	Grog and sand?	Quartz; grog; feldspar?	NA	Soft/ uneven	JAR? Fired in reducing atmosphere **TUMCO BUFF**
68	**Unit 22 Surface**	4-4.5 / 5.5 x 3.5	Brown with whitish scum (E); light reddish tan brown to reddish buff (I) with slightly whitish stains	SS-S (E) US-SS (I)	Tan brown to grayish brown w/ thin scum layer (I to E)	grog	Virtually no quartz; traces of muscovite and plagioclase feldspar; crushed clay or sherds	NA	Medium/ fairly even	JAR? **TOPOC BUFF**
69	**Unit 23 Surface**	4-6 rim 5-6 / 5 x 3.5	White to grayish-white scum & stucco bits; reddish brown below (E); brownish red (eroded) & scum on rim with tick-like marks?	US-SS (E) SS (rim lip) US (I) with SS (scum below rim)	Orange buff to reddish brown to grayish white (scum) (I to E)	grog	Some quartz; crushed sherds or clay; voids	Everted rim with uneven mostly flat lip; very straight rim – JAR??	Medium/ Uneven with voids	**JAR TUMCO BUFF** Nos. 47, 66, & 67 have white alkaline stain on surface (scum)

RIV-7834B CERAMICS (shaded items were thin-sectioned)

Cat #	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Surface Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (at 40x)	Rim/Lip Types	Hardness /Fracture	Form Attributes & Orifice Diameter
118	Surface sherd 12 GPB F00K	3-3.5 / 2.5 x 1.5	Light gray to grayish brown (E) with bloom pattern Grayish brown (I)	S (E) SS (I)	brown	sand	Quartz, biotite, some muscovite, feldspar, not well sorted	NA	Soft/ uneven	JAR?

RIV-7834C CERAMICS

Cat #	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Surface Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (at 40x)	Rim/Lip Types	Hardness /Fracture	Form Attributes & Orifice Diameter
71	Unit 11 Surface	4.5-6 / 5x4 3.5x 3.5	Gray w/ fire could (I) Gray (E)	SS-S (I) SS-S (E) with surface ripple	Black core throughout	Sand Grog? Tiny shell	Some quartz; some muscovite; grog? tiny coiled gastropod shell	Direct rim; slightly rounded by flat lip; 4.5-5 mm	Soft/ fairly even	SMALL BOWL, 8 cm high; 7-8 cm interior diameter ; fired in reduced atmosphere; like #87A **UNKNOWN TYPE**
72	Unit 11 20 cm	3-3.5 / 4 x 2	Gray to light gray or gray-buff (E) + scum? Interior similar but more mottled in color	S (E) w/with scrape mark; US-SS (I)	Reddish-brown	sand	Abundant quartz; biotite; muscovite; feldspar? no so well sorted	NA	Medium/ relatively even	JAR?
73	Unit 11 26 cm	5-6 / 2 x 1.5	SIMILAR TO Cat No. 71 but 1 side is eroded					NA	Crumbly/ uneven	**UNKNOWN TYPE**
87 A1 & A2	Unit 12A 0-11 cm rims @ 8 cm & surface	4-6 5-6 / 4 x 3.5 3 x 2.5	Rim 1: similar to #71 bowl: gray (I); gray to darker gray (E) Rim 2: fire-blackened (E and especially I)	R1: SS-S (E) scrape mark; SS-S (I) R2: SS-S (E); SS-S (I)	Black core throughout "	Sand? Sand? None?	Some quartz; some muscovite; well sorted Similar	R1: pinched direct rim R2: direct rim, pinched a bit more	Soft to medium/ Uneven Similar	R1: BOWL, 18 cm interior diameter **SALTON BROWN** R2: BOWL
87 A3 & A4	Unit 12A 0-11 cm 2 body sherds	5.5-6 5-6 / 4 x 3.5 4 x 2	Body1: Gray to fire-blackened (I & E) Body2: gray (E) & gray and fire blackened (I)	B1: SS-S (I); SS-S (E) w/ protruding grains B2:SS-S (I&E)	Black core throughout "	Sand? None? Sand? None?	Similar Similar but more quartz	NA	Medium/ Relatively even "	Small bowl Small bowl
87 B1	Unit 12A 0-11 cm	3.4-4.5 / 2.5 x 2	fire-blackened mineral paint? With fire cloud + whitish wash on buff? (E); whitish wash on buff? (all of I)	Burnt mineral paint or scum (E); scum (I)	Reddish brown w/ whitish cream layer at interior edge	Sand?	Quartz abundant; some biotite? and muscovite	NA	Medium to hard/ relatively even	BOWL **TOPOC BUFF?**
87 B2	Unit 12A 0-11 cm	3.5-4 / 2 x 1	Pale buff to cream (I & E); mottled with light or pale brown (I)	S (E) S (I) with deposit?	Light brown sandwiched by reddish brown; slightly less oxidized Interior	Sand?	Quartz; biotite; muscovite	NA	Soft-med./ Relatively even but pitted	BOWL?

RIV-7834C CERAMICS

Cat #	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Surface Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (at 40x)	Rim/Lip Types	Hardness /Fracture	Form Attributes & Orifice Diameter
88	Unit 12A 15 cm	5-7 / 2.5 x 2	Gray (E & I)	SS-S (E) SS-S (I), scraping marks esp. in interior	Black core throughout	Sand?	Quartz, biotite, bits of muscovite	NA	Medium/ Uneven, rounded	BOWL?
89	Unit 12B 0-8 cm sidewall collapse	3-4 / 3.5 x 3	Gray-buff (I) Gray-buff (E) with wear or grayer areas; mica flecks (I)	WS-SS (I) with pits; SS-S (E)	Black core throughout	Sand?	Abundant quartz; some muscovite bits; feldspar	NA	Soft/ uneven	BOWL
90	Unit 12B 15-25 cm sidewall collapse	5.5-6.5 / 3 x 3	Gray (I) Gray with fire-blackened areas (E)	WWS-SS (I) S (E) Mica flecks	Black core throughout	Sand?	Quartz; some biotite and muscovite	Direct rim with rounded lip with striations	Soft-med./ even	BOWL
92A	Unit 13 Surface 3B	4.0 / 1.5 x 1	Slightly grayish buff or pale brown? (E & I)	S & US (S1); US (side 2)	Pale buff to buff	sand	Abundant quartz; biotite; muscovite; grog?	NA	Soft/ uneven	JAR??
92B	Unit 13 Surface	3-6.5 / 2.5 x 1.5	Brownish-buff with whitish scum (E); brownish-gray (I)	SS-S (E) US (I)	brown	sand	Quartz, biotite, muscovite, feldspar?	Probable pinched direct rim; no lip	Med-hard/ (pliers slipped off); rounded	BOWL
93	Unit 13 7 cm	3.5-4 / 2 x 1	Gray (I & E)	SS-S (I & E) With tiny pits	gray	Sand? None?	Some quartz; biotite, some muscovite; other?	NA	Medium+/ very uneven	BOWL
95	Unit 14 Surface	3-5 / 4 x 2.5	Gray (E); gray to grayish buff (I); undulations (I)	S (E); US-SS-S (I)	Buff with gray edge (E)	sand	Quartz, biotite, muscovite, feldspar?	NA	Soft-med/ very uneven	JAR

RIV-7834C CERAMICS

Cat #	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Surface Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (at 40x)	Rim/Lip Types	Hardness /Fracture	Form Attributes & Orifice Diameter
96A	Unit 14 0-10 cm	2.5-4 / 3.5 x 3	Gray (E); Grayish pale buff or light brown (I)	S (E) US-SS (I)	Exterior 1/4 gray; rest light brown to buff toward interior	Sand	Abundant quartz somewhat rounded; biotite; muscovite bits; buff grog bits	NA	Soft/ somewhat even	JAR? **SALTON BROWN**
96B	Unit 14 0-10 cm	4.0 / 2 x 2	Gray (E) Light brown (I) with whitish and brown stains; protruding grains	S (E) SS-S (I)	Exterior third gray; rest light brown toward interior	sand	Quartz, biotite, muscovite	NA	Soft-med/ Very uneven	JAR?
97 4CB	Unit 14 25 cm	3-4 / 5 x 4	Slightly grayish buff (E) Buff (I) Mica flecks (I)	WS-S (E) US-SS-S (I) due to undulations	Thin exterior grayish buff layer; rest buff	sand	Abundant quartz; feldspar? muscovite bits	NA	Soft/ uneven	JAR with variable intersecting WWS or scraper marks on exterior **TOPOC BUFF**
98 2CB	Unit 15 Surface	3+-4 / 2 x 1	Gray (E) Brownish gray (I)	LB-SS (E) lustrous with pits; S-WS (I)	Gray, gray-black core, then gray	sand	Quartz (large to small); muscovite; biotite; not well sorted	NA	Med-hard/ Rock/ uneven	JAR? fired in reduced atmosphere
106	Unit 16 Surface	5-8 (lip) / 2.5 x 2.5	Grayish-white (scum?) on Interior and rim lip onto exterior Whitish brown (E) below rim lip	US-SS (I) SS (E)	I to E: thin grayish white; light brown to tan brown past; then brownish layer	sand	Abundant quartz; some biotite and muscovite bits; feldspar??	Olla rim; relatively flat and thickened interior lip; slightly everted rim	Med-hard/ uneven	JAR OLLA 7 cm orifice interior diameter **SALTON BROWN**
107	Unit 16 0-23 cm	3.0 / 1 x 0.7	Gray (side 1) Brownish gray (side 2)	Smoothed?	gray	Sand?	Quartz; some biotite; muscovite bits	NA	Soft-med./ even	??
109	Surface Pot-sherd #1 GPS C008	min. 3-4.5 / 3.5 x 3	Gray (E) Grayish buff (I) (surface gone)	SS-S (E) NA (I)	Thin gray exterior layer; then buff	Sand	Abundant quartz; some biotite & muscovite; feldspar?	NA	Soft/ Very uneven	JAR

RIV-7834C CERAMICS

Cat #	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Surface Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (at 40x)	Rim/Lip Types	Hardness /Fracture	Form Attributes & Orifice Diameter
110	Surface Pot-sherd #2 GPS C009	4.0 3 x 1.5	Gray (E) Brown (I)	SS (E) S (I)	brown	sand	Abundant quartz; biotite; muscovite bites; yellow rock bit	NA	Soft/ Uneven; large void	BOWL?
111 A	Surface Sherd 1 GPS F004	4.5-5 3 x 2	Grayish brown (E) Gray-brown (I)	WS-S (E) SS (I)	Grayish brown	sand	Abundant quartz; biotite; muscovite bits	NA	Medium/ even	JAR
111 B	Surface Sherd 2 GPS F004	6-8 3.5 x 2	Grayish brown (E) Dark gray (I)	SS-S (E) SS (I)	From I to E: dark gray, gray brown, buff	Crushed rock?	Quartz; feldspar? Biotite; muscovite bits	NA	Medium/ somewhat even	JAR
112	Surface Sherd 3 GPS F005	4.0 4 x 2+	Light brown or buff with whitish scum (E) Mica flecks (E) Gray (I)	S-WS (E) US-SS (I) Undulations (Interior)	I to E: lt. Brown; tan brown to buff; light brown	sand	Quartz; biotite; muscovite	NA	Medium/ Somewhat uneven; large void	JAR
113	Surface Sherd 4 GPS F006	4. 0 3 x 2	grayish light brown (E) with fire cloud pale brownish gray (I)	S-WS (E) SS-S (I) Undulations (Interior)	E to I: thin darker layer with gray side core	sand	Lots of quartz; biotite; muscovite bits; other?	NA	Soft-med./ uneven	JAR
114	Surface Sherd 5 GPS F007	3.5-4 2 x 1.5	Gray-brown (E) Light brown (I)	WWS-S (E) S (I) Mica flecks	Light brown	Crushed rock?	Abundant quartz; biotite; feldspar? Muscovite bits	NA	Soft/ uneven	BOWL
115 2CB	Surface sherds 6 & 7 GPS F00A	6.0 4 x 2 2.5 x 2 larger	Gray-brown with gray orange areas (E); surface voids; gray-brown (I); 2nd sherd has 50% light orange (E)	S (E) with voids; SS (I) with undulations	Gray brown	sand	Quartz (most small); biotite; muscovite; other?	NA	Soft+/ Somewhat even	JAR? **SALTON BROWN** gray orange color?

RIV-7834C CERAMICS

Cat #	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Surface Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (at 40x)	Rim/Lip Types	Hardness /Fracture	Form Attributes & Orifice Diameter
116	Surface sherd 8 GPS F00B	4.5-5 / 2.5 x 2	Gray (E) w/ 2 white spots; Gray-buff (I)	S (E) S (I)	Light brown	sand	Quartz, biotite, muscovite bits, feldspar; not well sorted	NA	Soft-med/ fairly even	BOWL
117 2CB	Surface sherds 9-10 GPS F00D	4.5 / 2.5 x 2.5 / 2.5 x 1.5	Grayish-brown (E) Pale buff (I) Mica flecks (E)	SS-S (E) S (I) Undulations (interior)	brown	sand	Quartz, some biotite, muscovite bits, feldspar? voids	NA	Soft/ uneven	BOWL? **SALTON BROWN**
119 2CB	Unit 25 surface	5.5-7 to 6-7 / 2.5 x 2.0	Light tan brown with fire cloud (E); Slightly orange buff (I)	S-WS (E) SS-S (I) with scrape marks	E to I: 1/3rd tan brown, then brown	sand	Quartz, biotite, some muscovite, feldspar?	NA	Medium/ even	BOWL BASE? Linear plant part vug **SALTON BROWN**
120	Unit 25 10-20 cm	NA / 2 x 1.5	Buff or beige?; only one surface	US (I & E)	buff	sand	Quartz, feldspar, biotite, muscovite bits	NA	Soft- med/ very uneven	JAR?
121 2CB	Unit 25 50-55 cm	4.0 / 3.5 x 2	Yellowish gray brown (E); brown (I)	S (E) and pitted; SS (I) mica flecks	Brown; lumpy	None?	Some quartz and muscovite; some biotite; voids	NA	Soft/ uneven	JAR - splitting due to rootlets **SALTON BROWN**
126	Unit 26 Surface	4.0 / 1.5 x 1.3	Dark gray (E); grayish buff (I)	Dark gray (E) Grayish buff (I)	brown	sand	Abundant quartz; feldspar; some muscovite; bit of biotite	NA	Soft/ very uneven	BOWL? Not well fired

RIV-7834C CERAMICS

Cat#	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Surface Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (at 40x)	Rim/Lip Types	Hardness /Fracture	Form Attributes & Orifice Diameter
131A 4CR &B	Unit 27 Surface	3.5-5 3.5-4 (rim) 2 x 2	Brown with whitish scum (E) Grayish brown (I) Mica flecks	SS-S (E) SS (I)	Tan brown core with brown I and E edges	sand	Quartz, feldspar, biotite, some muscovite	Olla rim; thickened exterior; slightly everted	Soft-med/ fairly even	JAR **SALTON BROWN**
131B	Unit 27 Surface	3.0 <1.0	Gray (E & I)	S (E & I)	Light gray	sand	Quartz, biotite, some muscovite	NA	Soft-med/ Uneven?	??
132 (2)	Unit 27 13 cm	4-5 2 x 2	Gray (E) Pale buff or cream (I) Undulations (I)	S (E) US-SS (I)	Dark brown to brown	Sand Grog?	Fine quartz; some muscovite and biotite; grog?	NA	Soft/ uneven	JAR?
133A	Unit 27 25 cm	4.0 1.75 x 1	Grayish pale buff or cream (E) Grayish buff (I) with WWS marks	S (E?) SS-S (I?)	Buff (I) to light gray (E)	Sand?	Quartz; feldspar? Biotite; muscovite	NA	Soft/ uneven	BOWL?
133B	Unit 27 25 cm	3.0 <1.0	Probably bit of same pot as above	Same as above	Buff (I) to light gray (E)	Sand?	Quartz; feldspar? Biotite; muscovite	NA	Soft/ uneven	BOWL?
136	Unit 28 Surface	3-4 2 x 1.5	Gray (E&I)	SS (E) SS (I) with scrape marks	Grayish brown	Sand	Quartz, feldspar, muscovite, biotite	Direct rim with thickened lip exterior	Soft-med./ rounded	JAR RIM at least 10 cm interior orifice diameter
137 3-4 CB	Unit 28 0-50 cm	4-5 7.5 x 4 & less	Light brown to brown with fire cloud (E) Pale grayish buff (I)	S (E) US-SS (I) w/ undulations Many mica flecks	Light brown to brown to grayish brown from I to E	Sand	Quartz, feldspar, biotite, traces of amphibole, muscovite, poorly sorted quartz	Body with flared opening?	Soft/ Fairly uneven	JAR – body to edge of neck; both reduction fired **SALTON BROWN**
138	Unit 28 0-20 cm Wall collapse	5-6 3.5 x 3.5	Gray with fire cloud (E) Pale grayish buff (I)	S (E) US-SS (I)	E to I: dark gray to buff-tan to brown; grains protrude	Sand	Some quartz, biotite, muscovite, small rock bit	Direct bowl rim; flat lip	Soft/ Fairly uneven	BOWL RIM 18-20 cm interior diameter

RIV-7834C CERAMICS

Cat#	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Sur+ F9ace Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (at 40x)	Rim/Lip Types	Hardness /Fracture	Form Attributes & Orifice Diameter
155	Unit 24 5 cm unit frame datum	Min. 4.0 / 2.5 x 1.7	Grayish buff (E) One surface only	SS-S (E)	buff	Sand?	Quartz, feldspar (large), muscovite, some biotite; not well sorted?	NA	Soft-med/ Very uneven	JAR?
168	Unit 24A 14 cm sherd 2	q 3.-4 / 3 x 2.5	Grayish brown (E) Buff? (I) Dirty surface	S (E) SS-S (I) Undulations (Interior)	Gray brown (E) to mostly buff	Sand?	Quartz, feldspar? Muscovite, biotite?	NA	Soft-med/ even	JAR? Embedded dirt on sherd
169	Unit 24A Sherd 5 (screen)	3.5-4.5 / 3.4 x 3	Grayish buff (E) with white spots; Light brown (I)	S(E) w/ pits; SS-S (I) with undulations	Yellowish brown?	Sand?	Quartz, feldspar? Muscovite, biotite; black rock bit; not well sorted	NA	Soft/ very uneven	JAR? (from screen) **SALTON BROWN**
170	Unit 24A Sherd 6 33 cm	3.5-4 / 3 x 2	Grayish brown (E) Yellowish brown to buff (I)	SS-S (E) S (I) Pits esp E	Yellowish brown?	Sand	Quartz, feldspar? Muscovite, biotite	NA	Soft/ Very uneven	BOWL? **SALTON BROWN**
171	Unit 24A Sherd 7 36 cm	3-3.5 / 2.5 x 2	Yellowish brown (E) Brown to gray with fire cloud (I)	S-LB (E) SS (I)	Gray (I) to mostly yellowish brown	sand	Quartz, feldspar? Muscovite, biotite?	NA	Soft/ Mostly even	JAR **SALTON BROWN**
172	Unit 24A Sherd 8 31 cm	3.5-4 / 1.5 x 1.5	Grayish brown (E) Light brown (I)	SS (E) US-SS (I) undulations?	Gray brown (E) to light brown (I)	Sand; not well sorted	Abundant quartz, feldspar, muscovite, biotite?	NA	Crumbly/ uneven	JAR **SALTON BROWN**
173	Unit 24A Sherd 9 41 cm	4-4.5 / 2+ x 2	Yellowish brown (E & I)	WS-LB (E) US-SS (I)	Yellowish brown	Sand	Quartz, feldspar? Muscovite, biotite	NA	Soft/ uneven	JAR **SALTON BROWN**
185	Unit 24B Sherd 1 13 cm	4-4.5 / 2 x 2	Gray (E) with fine scrape marks; grayish pale buff (I)	S (E) US-SS (I) Protruding grains	Light brown	Sand?	Quartz, feldspar? Muscovite, biotite? not well sorted	NA	Soft-med./ Fairly even	JAR **SALTON BROWN**

RIV-7834C CERAMICS

Cat#	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Surface Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (at 40x)	Rim/Lip Types	Hardness /Fracture	Form Attributes & Orifice Diameter
186	Unit 24B Sherd 3 30 cm	4.0 / 2.5 x 2.5	Grayish yellowish brown (E); yellowish brown (I)	SS-S (E) with pits; SS (I)	Yellowish brown	Sand?	Much quartz; abundant muscovite; biotite? feldspar? Not well sorted	NA	Very crumbly and soft; uneven	JAR? **SALTON BROWN**
187	Unit 24B Sherd 4 36 cm	5. 0 / 2 x 1.5	Yellowish brown (I?) Undulations (I?) Grayish-brown with white spots (E)	SS-S (I?) SS (E)	Yellowish brown to yellowish-gray brown	sand	Quartz; abundant muscovite; biotite? Feldspar?	NA	Soft/ Somewhat uneven	JAR? **SALTON BROWN**
229	Unit 24E 10-20 cm (screen)	3-4 / 2.5 x 2	Grayish-brown (E) Light reddish brown or buff (I)	SS-LB (E) US-SS (I)	Reddish brown to yellowish brown or buff	None?	None?; rare tiny flecks of muscovite; no quartz, feldspar or biotite	NA	Soft-med/ uneven	JAR thin-walled **SALTON BROWN**
230	Unit 24E 20-40 cm (screen)	5.5-7.5 / 4 x 2.5	Grayish-brown (E) Yellowish brown (I)	SS-S E) with pits & white spots; US-SS (I) with undulations	E to I: thin Gray brown layer, thick yellowish to tan brown; yellowish brown	Sand?	Some quartz; feldspar? Much muscovite; biotite; not well sorted	NA	Soft to somewhat crumbly/ Somewhat even	JAR **SALTON BROWN**
278	Unit 29 27.5 cm Sherd 1	4-5 / 6.5 x 4	Pale yellowish beige or buff (E) w/ scum/bloom; Pale grayish buff (I)	S (E); US-SS-S (I) with undulations	I to E: thin tan reddish brown; gray sandwich core; thin yellowish beige	Sand?	Some sub rounded to subangular quartz, not well sorted; muscovite; biotite? black minerals?	NA	Hard/ relatively even	JAR BASE Pitted interior surface
279	Unit 29 29 cm Sherd 2	3.5-4 / 2.4 x 2	Pale yellowish buff w/ faint fire cloud (E); Grayish buff w/ faint fire cloud (I)	SS-S (E); US-SS (I) w/ some undulations	I to E: thin grayish tan brown; brownish gray core; thin pale yellowish buff	Sand?	Similar to Cat. No. 278 but less biotite and/or black minerals	NA	Med-hard/ fairly even	JAR
287	Unit 30 31 cm Sherd 1	4.5 / 3.5 x 1	Pale yellowish gray-brown? (Side 1); buff w/ protruding grains (eroded Side 2)	SS-S (S1) US (S2)	Light brown (Side 1); buff (Side 2)	Sand?	Subrounded to subangular quartz; muscovite; voids	NA	Soft- med/ uneven	JAR?

RIV-7834C CERAMICS

Cat#	Provenience	Thick (mm) / Size (cm)	Surface Color; Other Attributes	Surface Treatment & Decoration	Paste and Core Color (if present)	Temper	Paste Minerals (at 40x)	Rim/Lip Types	Hardness /Fracture	Form Attributes & Orifice Diameter
288	Unit 30 32 cm Sherd 2	7-8 (lip); 5.5-6 (body) 4.5 x 2	Gray-brown (E) w/ faint fire cloud; yellowish brown (I)	SS-S (E) SS-S (I)	Each half similar to surface colors	Sand?	Abundant quartz, not well sorted; rich in muscovite; biotite? Feldspar?	Direct thickened rim with flat lip with rounded corners	Soft/ Uneven; disaggre-gating	BOWL 12 cm interior diameter Fragile; flaking apart

APPENDIX D2

PETROGRAPHIC ANALYSIS OF 20 CERAMIC THIN SECTIONS FROM CA-RIV-7834A-C

by

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Petrographic Analysis of Ceramic Thin Sections from CA-RIV-7834

Jerry Schaefer, Ph.D.
ASM Affiliates, Inc.

Introduction

A sample of 20 ceramic thin sections were examined with a polarizing light microscope to empirically characterize mineral constituents of selected recovered ceramics from RIV-7834. The sample was chosen to reflect perceived variability in paste characteristics of hand specimens as observed under a microscope at 15-40x magnification, and to the extent possible, ceramics that both conformed to standard ceramic types or diverged from normative type assignments. The purpose was to provide more accurate descriptions of ceramic fabrics to supplement standard type-variety classification assignment.

Of late, application of Malcolm Rogers' ceramic typology, as formalized by Waters (1982a, b) has been met with frustration by ceramicists working generally in the Colorado Desert, and most especially in the northern Coachella Valley (Schaefer and Laylander 2007). There seemed to be just too much overlap in normatively described fabric characteristics or divergence from type descriptions. Some percentage of a ceramic assemblage might fit into the type categories but still too much material had to be pigeon-holed or consigned to the "indeterminate" category. In response, some analysts have abandoned or downplayed standard type assignments in favor of assemblage-specific objective nomothetic groupings within which some amount of variability may be described define variants within a type. The approach taken here is a compromise between the Rogers/Waters typology and a more empirical characterization based on ceramic petrology. Substantial differences in surface treatment or rim characteristics are not seen in this assemblage, possibly because it does not represent a chronologically long ceramic seriation. Therefore paste characteristics are the primary source of information for characterizing the ceramic variability at RIV-7834. Methods, results, and interpretations are provided below.

Methods

First, ceramics were classified according to the Rogers/Waters typology (Waters 1982a,b) but with the understanding that researchers in recent years have found it difficult to apply this typology to specific collections because too many sherds display greater attribute variability than the type descriptions would allow (Schaefer 1994a, b; Schaefer and Laylander 2007). Without the benefit of rim sherds in many cases, some characteristics such as temper minerals, grain shape, grain density, surface characteristics, and color can overlap between types. Some ceramics are found to have characteristics of more than one type. This dilemma has been found to be the case especially in the Coachella Valley where ceramic variability exceeds the limits of standard typology (Griset 2004). For that reason, some ceramicists have resorted to classifying their ceramic assemblages purely by addressing discrete attributes and assigning arbitrary ceramic types (e.g. Type A, Type B, etc.), or assigning subtypes within the traditional typological system. We chose for this collection to apply the Rogers/Water typology because so much of the assemblage appeared to fit established types. Also enough rim sherds were present to apply the typology as intended. Rim shapes are an important attribute in the Rogers/Water typology and served to classifying the body sherds of the same fabric. Still, some ambiguities or variability existed that constrained the ceramic classification process and these are discussed below under each ceramic type description. To the extent possible, we expect that the sherd classification will stand the test of independent scrutiny although it must be accepted that some of the Lower

Colorado Buff Ware sherds might be reassigned by another ceramicist. I am confident, however, that the number of reassignments would be small. Initial sherd type classifications were conducted by Philip de Barros of Professional Archaeological Services in collaboration with Jerry Schaefer. These assignments were used to select a sample of sherds for petrographic analysis.

Lab procedures followed the best practices for ceramics analysis. A fresh section was prepared with needle nose pliers and observed under 15-25x magnification to identify mineral types, grain density, sorting, and angularity. The surface was then observed for whether minerals showed through the surface and what mineral types could be identified from that perspective.

Sherds from each the identified "types" were then selected for preparation of thin sections and petrographic identification with a polarizing light microscope. These specimens are identified by the original project catalog number (Cat. No.) and also by slide number (1-20). Clay sources on the Colorado River, Coachella Valley, and Santa Rosa Mountains were also compared to the RIV-7834 samples. Local clays were tempered with sands from various sources in an attempt to replicate sherd fabrics.

Photographs at 15-20x magnification were prepared for all of the sherds (Figures 1-6). These illustrate, as best as can be provided in print form, a visual impression of fabrics. Macroscopic examination is normally done of freshly broken surfaces, and from which initial fabric descriptions and type designations are made. In this case, the preparer of thin sections, R.A. Petrographics, provided saw-cut sections of the sherds that are a byproduct of thin section preparation. Those sections are illustrated as a useful and more accurate indication of mineral constituents as they appear to the naked eye or under a dissecting microscope. After these sections were examined and provisional ceramic classifications were made, thin sections were inspected under a polarizing light microscope with plane polarized light and at cross-polars (MacKenzie and Adams 1994). Photomicrographs were prepared at 40x magnification (Figures 7-13). Illustrations have been arranged by catalogue number.

Table 1 provides a summary of observations made with the polarizing light microscope. Mineral types that occurred in abundance or more than five counts are indicated by an "X". Grains that were counted less than four times in a slide are listed as "trace". All sherds of Tumco Buff had abundant amounts of crushed sherds or clay fragments, although they are not indicated in the table.

CERAMIC TYPE DESCRIPTIONS

The ceramic slide collection contains a very limited number of ceramic types, as best as they could be assigned to the Waters/Rogers typology. They include Topoc Buff, Tumco Buff, and Salton Brown. Furthermore, there appeared to be very little variability of mineral characteristics within each type, including density of mineral inclusions/temper, degree of grain sorting, and grain angularity, and the variety of mineral types within specimens. There also appeared to be some striking similarities in mineral constituents and fabric characteristics of the two most heavily mineralized ceramic types: Topoc Buff and Salton Brown. The only real differences were often just clay color. Both types do derive from sedimentary clay sources in the Colorado Desert and it may be suggested that they were made from closely spaced clay sources or clays that were tempered from the same sources, if they were not self-tempered clays. The low

variability may suggest that much of the pottery was locally made or derive from a population with relatively low mobility or cultural contacts, at least while occupying the site.

Topoc Buff

Topoc Buff is attributed to the Patayan II phase (A.D. 1000-1400) although it likely extends in time to the Patayan III phase. Direct rims with rounded lips occur on bowls although Waters (1982b) suggests that earlier vessels may also have direct rims. In the type description, Topoc Buff is noted for the high percentage (30-50 percent) medium grained subangular to subrounded mineral temper or mineral inclusions, including white quartz, feldspar, black amphibole, and a few mica flakes seen adhering to other mineral grains. The greater diversity and angularity of mineral grains and grainy surface texture that results from grains protruding through the surface are what distinguish Topoc Buff sherds from Parker Buff or Colorado Beige, in addition to generally darker colors of Topoc Buff. Some vessel surfaces, however, can be better finished and less rough- textured. This type often tends to be browner in color and when occurring as a gray, reduction fired ceramic, is indistinguishable from Pyramid Gray (Colton 1939; Waters 1982b). For that reason, any gray sherds of this fabric were classified as Topoc Buff. The greater variety of minerals and more angular shape of the grains are important attributes to identify Topoc Buff. This type also tends to be gray-to brown, making it identical to Pyramid Gray, while other mineral-laden types such as Parker Buff exhibit a lighter buff color.

The five RIV-7834 thin-sectioned specimens clearly show the darker brown-gray color spectrum, evident both in hand specimens and the fabric color in thin section. Grains are clearly seen through the surface. Four of the specimens have high mineral density and poor sorting while only one (Cat. No. 47) displayed a medium density, as well as medium sorting. Grain size sorting is uniformly poor. Unlike the normative type description, grains are more often angular, but do display a diversity here to subrounded. This difference may be due to the fact that grain angularity can be more accurately defined in thin section and cut cross-section, than it can be by examination of hand-held specimens.

Like all of the ceramic types, quartz was by far the most common mineral type. Two thins sections showed noticeably strained quartz grains. Biotite mica was evident in one slide and muscovite occurred in two slides, one of which was only in trace amounts. Muscovite and biotite did not co-occur in the same slide. Muscovite flakes, almost always displaying turquois color with pink rinds in plane-polarized light and light tan color in cross polars, were most usually seen affixed to quartz grains. Two Topoc sherds contained trace amounts of amphibole, easily identified in thin section by its second order greenish birefingent and peleochroic properties in cross polars and 120 degree cleavage angles. It should be noted that while black grains were observed in numerous thin sections and presumed to be amphibole, this mineral was not apparent in thin section. Three slides contained trace amounts (usually only one or two grains per slide) of unzoned plagioclase feldspar with their typical multiple (polysynthetic twinning which appears as black and white banding in cross polars.

In terms of grain characteristics, these sherds closely resemble the Topoc Buff sherds from two Lake Cahuilla high stand sites near Dos Palmas (RIV-6953 and RIV-7112) (Schaefer et al. 2013). The Lake Cahuilla sherds, however, contain microcline or orthoclase feldspar in substantially greater amounts and both biotite and muscovite. Clearly the tempering materials come from different sources.

Tumco Buff

Tumco Buff is a Patayan II phase (A.D. 1000-1500) ceramic type although examples extend into the Patayan III phase with the final infilling of Lake Cahuilla (A.D. 1600-1700) and the historic period. It is likely a refinement of Black Mesa Buff with the same profusion of clay chunks or crushed sherds and a few mineral grains. Rim sherds are easy to distinguish by their recurved profiles while Black Mesa Buff sherds only have direct rims. Tumco Buff sherds do tend to be thinner and more evenly finished, with a harder fracture, and no surface crackling. It should be noted that some error may occur when distinguishing Tumco Buff from Black Mesa Buff if rims are not found. With this assemblage, a large diameter bowl sherd, Cat. No. 69, exhibits a pronounced recurved rim and relatively thin wall thickness that is characteristic of Tumco Buff. Tumco Buff cooking pots are frequently stuccoed with sandy clay to compensate for the lack of minerals in the fabric, a potential weakness when exposed to thermal shock. No stuccoing however, was noted for this assemblage.

The three Tumco Buff thin sections (Cat. No. 67, 68 and 69) have the characteristic blocky fabric of clay chunks with mineral grains just barely visible in freshly broken hand specimens and cut section. Only in thin section under a microscope do the rounded-subrounded mineral grains become apparent. Quartz grains are the most common in Cat. No. 67 and initially suggesting that this sherd should be left in an indeterminate category. Quartz is only a trace in Cat. No. 68 and more common and with larger strained quartz grains in Cat. No. 69. No other minerals were observed in Cat. No. 69 but traces of plagioclase feldspar and muscovite mica were seen under very high magnification in Cat. No. 68. Both macroscopic and microscopic differences between the three sherds indicate they derive from different vessels and different clays. This divergence from the normative type description of Tumco Buff, i.e., grains should be absent or minimal, reflects the problem of applying the Rogers/Waters Patayan ceramic typology. These sherds might be otherwise classified as a Tumco subtype or variant form where both crushed sherds and mineral grains are present. Malcolm Rogers (1936:30-31) observed just such a practice among Quechan potters where upper terrace clays, more likely to contain mineral grains, are tempered with crushed sherds collected from other sites..

Salton Brown Ware

This ceramic type is associated with the western shoreline of Lake Cahuilla, derived from Brawley formation clays, as determined from chemical and petrographic analysis (Hildebrand et al. 2002) although this type may be produced from other Tertiary and Quaternary clay sources near the project area. The brown color and high mineral content are indicative in this case of a sedimentary clay in which there has been substantial alluvial contribution of minerals from a upland geological zone, either naturally or as a deliberate tempering agent. Examination of Brawley formation clays suggest the mineral constituents are naturally occurring. The fact that Salton Brown appears to be the predominant type in the RIV-7834 assemblage would suggest it is locally produced. As defined, it has a distinct dark brown to brick red color with abundant mineral grains that show through the surface. It contain contains abundant angular to subangular/subrounded quartz and feldspar grains with only occasional flakes of mica. Typically, amphibole is absent or very rare, in comparison with Tizon Brown Ware from the Peninsular Ranges.

All of the 12 brown ware sherds were classified as Salton Brown, meeting the above characteristics with a high degree of consistency. Grain density was usually very high with poor

sorting by grain size. Grain shape varied from angular/subangular to subangular/subrounded. Grains were more often angular than any other shape. Quartz was the most abundant mineral constituent (it often is in any ceramic fabric) with three specimens exhibited a higher amounted of strained quartz grains. Plagioclase feldspar occurred in trace amounts in four thin sections, and in counts greater than only one or two grains in six thin sections. Only four thin sections had no observable feldspar. One sherd (Cat. No. 119) had a trace of microcline (orthoclase feldspar) and stands out from the other Salton Brown thin sections as a result. Mica flakes were common in almost every slide except for two where it occurred in trace amounts and only one where it was not observed at all (Cat. No. 119). Muscovite mica was the most readily apparent, often clinging to quartz grains and clearly identified by turquois interference color. Biotite mica was seen in seven specimens, usually very small grains within the fabric. Biotite and muscovite usually don't co-occur in Colorado Desert thin sections but they do in seven of these. Some thin sections were so similar as to suggest they derive from the same vessel or production from the same clay source. This is especially true of the thin sections that have both biotite and muscovite mica (Cat. Nos. 48, 115, 117, 121, 131, 137, and 230).

Interpretations and Conclusions

Buff ware sherds with the petrographic signature of Topoc Buff and brown ware sherds with the attributes of Salton Brown appear to be the most common in the assemblage. These types are indeed predominant at Cahuilla sites like RIV-45 in Tahquitz Canyon (Schaefer 1995) where the majority of assemblage postdates A.D. 1700 and the final recession of Lake Cahuilla. As such, it may be suggested that they are locally produced Cahuilla products. At Lake Cahuilla high stand sites that predate A.D. 1700, these types occur at lower frequencies, such as at RIV-6953 and RIV-7112 near Dos Palmas where a longer and earlier period of occupation is indicated by radiocarbon dates. There, ceramics normally associated with the Lower Colorado River predominate, suggesting considerable movement between Lake Cahuilla and the Colorado River. The Tumco Buff sherds, however, are more likely products of the Lower Colorado River. Tumco Buff on West Mesa, along the southwestern shoreline of Lake Cahuilla, differ from those at RIV-7834 in that they contain none or very little mineral inclusions (Schaefer 1986, 1988). A mix of crushed sherd and mineral inclusions are more often found at sites close to the Yuma and other areas along the lower Colorado River, and perhaps can be identified as a Tumco Buff variant or even a separate type with some geographical specificity (Schaefer 1994a). I would therefore conclude that the Tumco Buff sherds in this collection do indeed represent cultural contacts between the people of RIV-7834 and the Lower Colorado River.

A cursory comparison of clay and mineral sources that underwent petrographic analysis from Orocopia Wash, the Whitewater River near Palm Springs, and the Santa Rosa Mountains found no good matches. All of these contained much greater variability of mineral types than what was found at RIV-7834. More likely, some locally derived clay or clays near RIV-7834 were used. These would be clays with a noticeable lack or paucity of microcline/orthoclase feldspar and amphibole as key markers.

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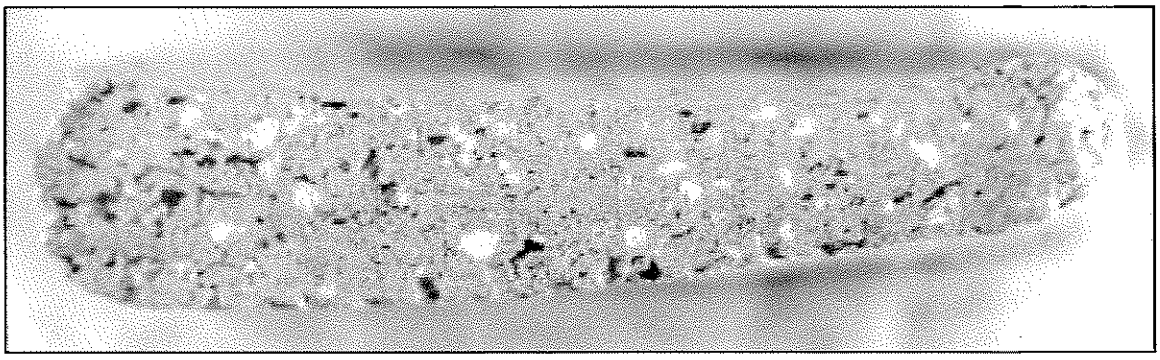
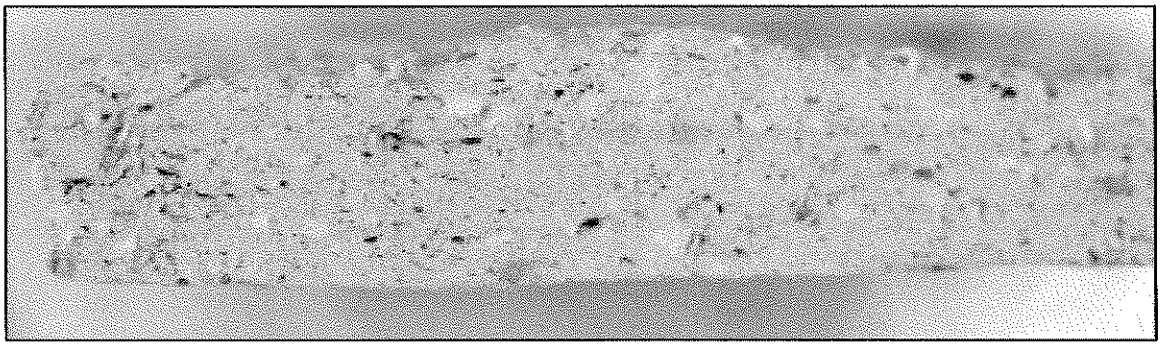
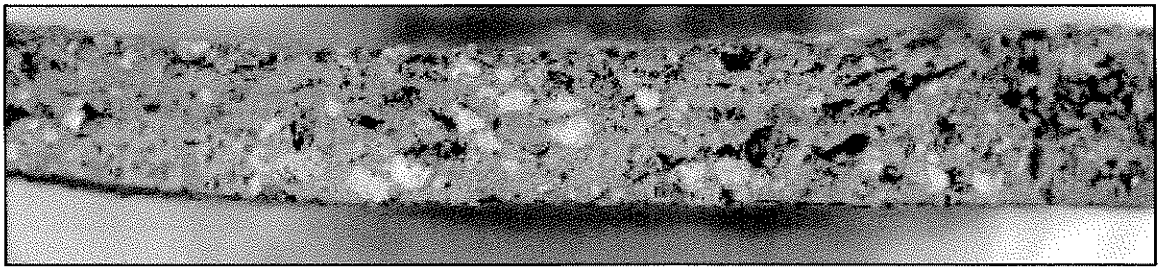


Cat. No. 1 Topoc Buff



Cat No. 8A Topoc Buff



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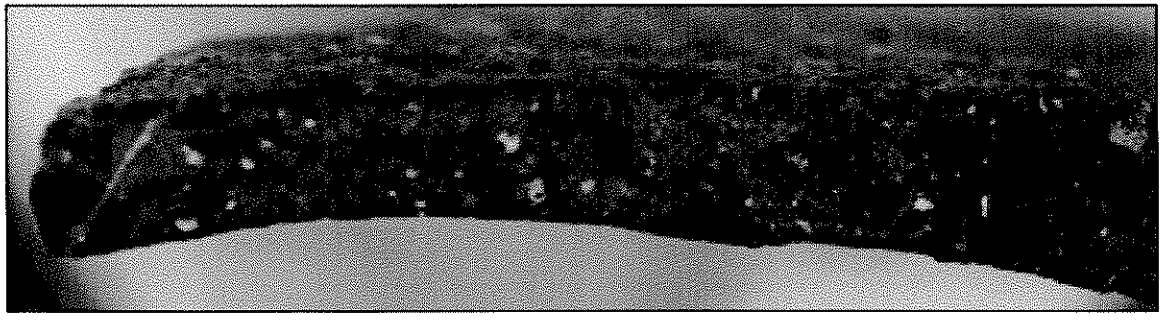
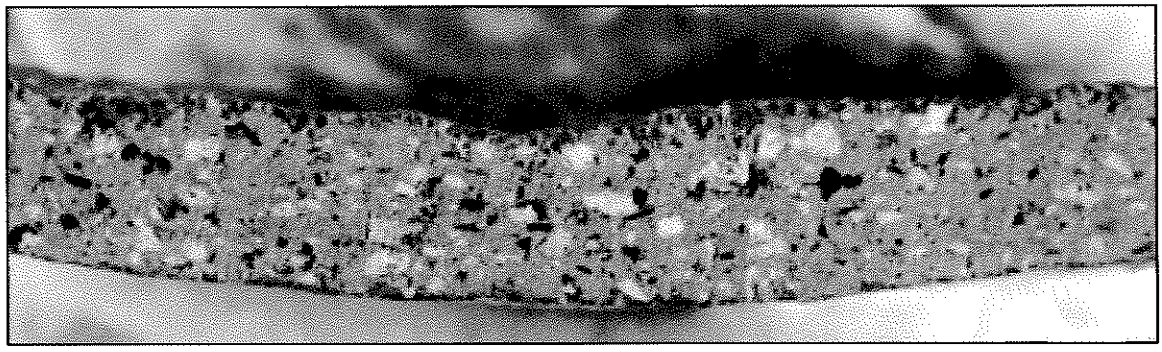
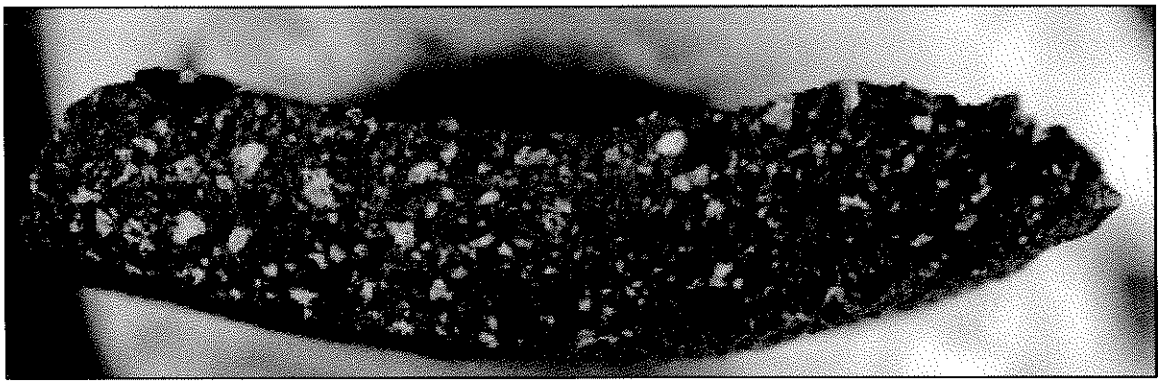


Cat. No. 18 Salton Brown

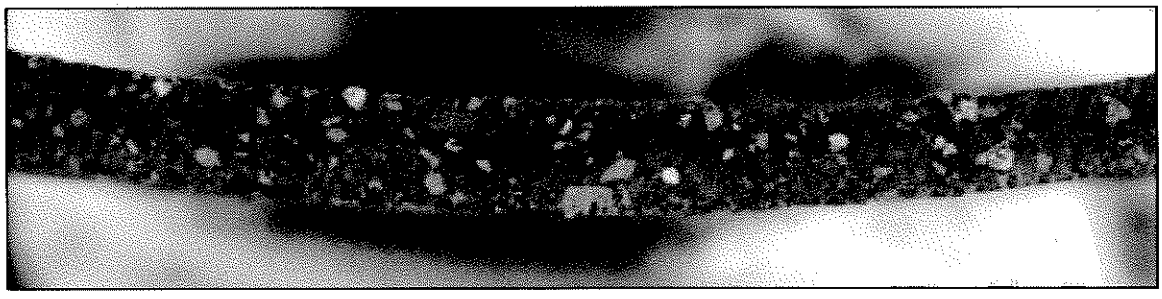
Figure 1. Macrophotography of sampled sherds (Cat. Nos. 1-18).



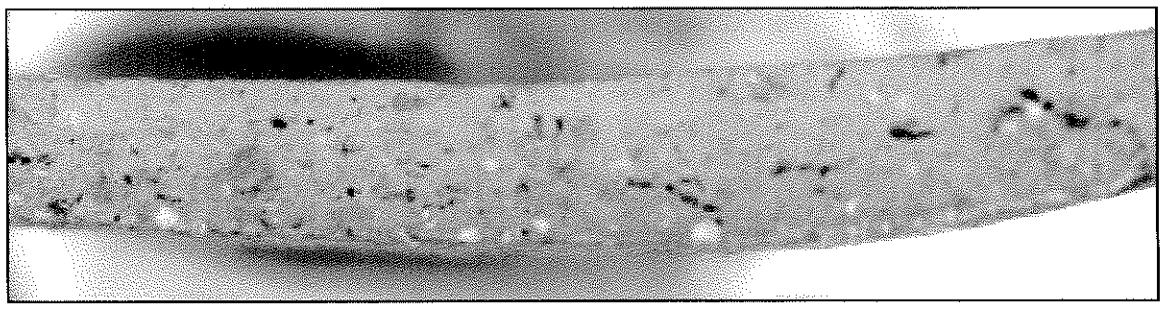
Cat. No. 47 Topoc Buff



Cat. No. 48 Salton Brown

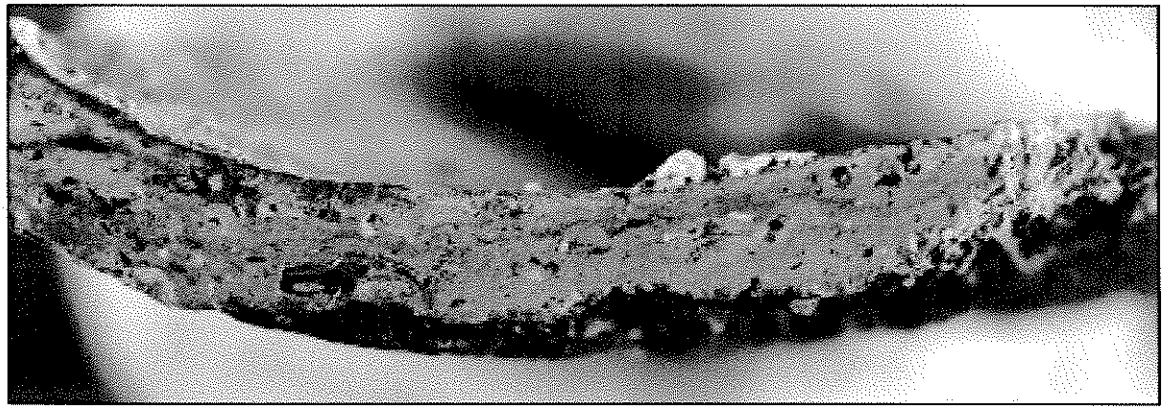


Cat. No. 67 Tumco Buff

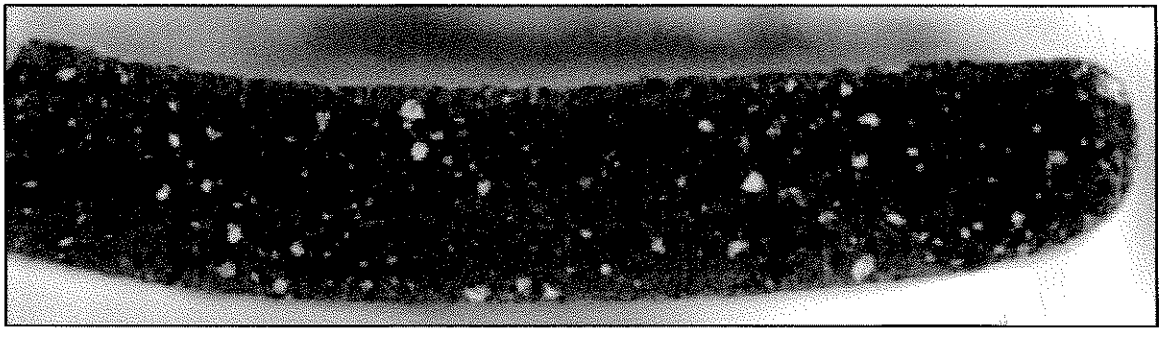


Cat. No. 68 Tumco Buff

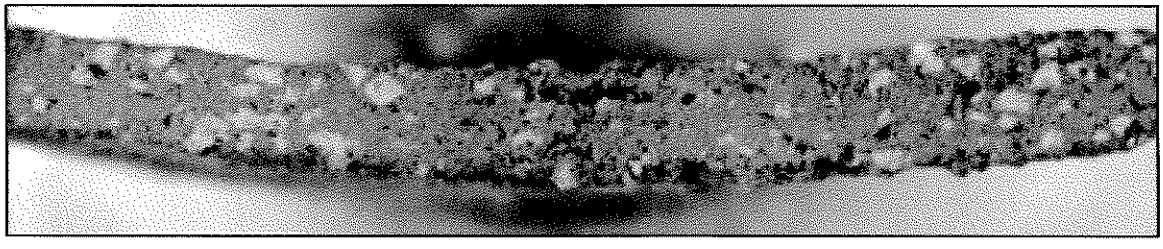
Figure 2. Macrophotography of sampled sherds (Cat. Nos. 47-68).



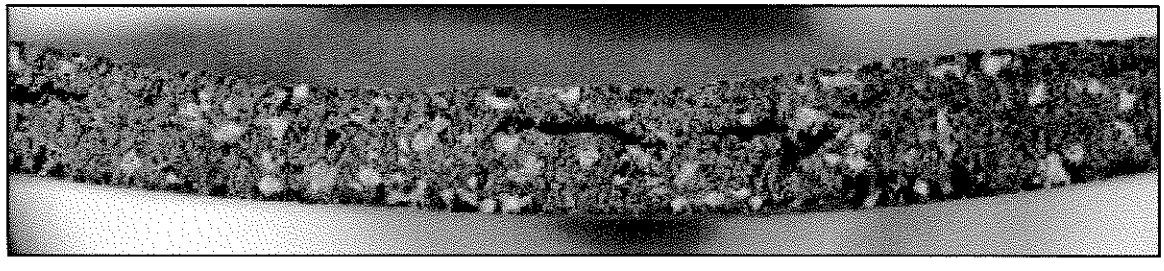
Cat. No. 69 Tumco Buff



Cat. No. 87A1 Salton Brown



Cat. No. 96A Salton Brown

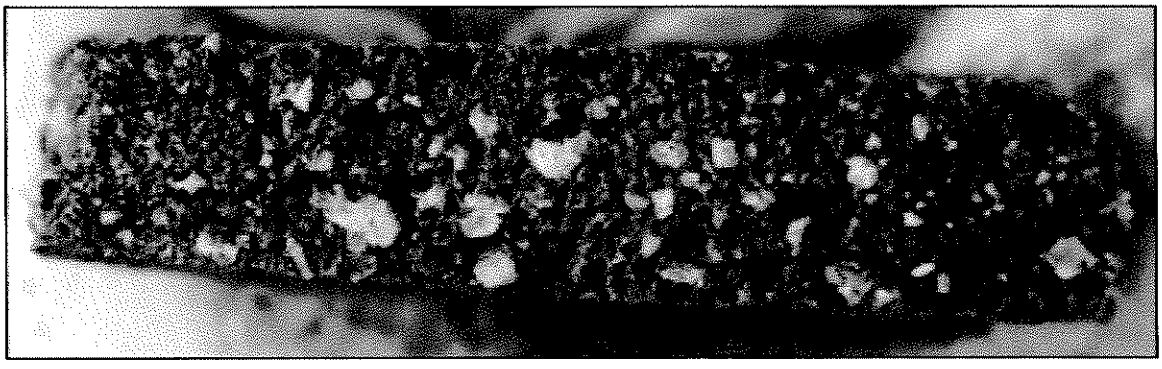


Cat. No. 97 Topoc Buff

Figure 3. Macrophotography of sampled sherds (Cat. Nos. 69-97).

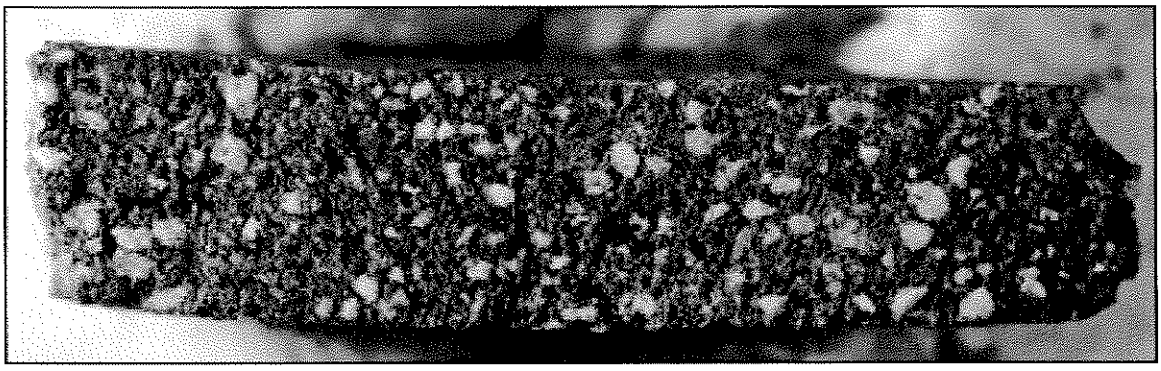
Cat. No. 106 Salton Brown

Cat. No. 115 Salton Brown



Cat. No. 117 Salton Brown

Figure 4. Macrophotography of sampled sherds (Cat. Nos. 68-117).



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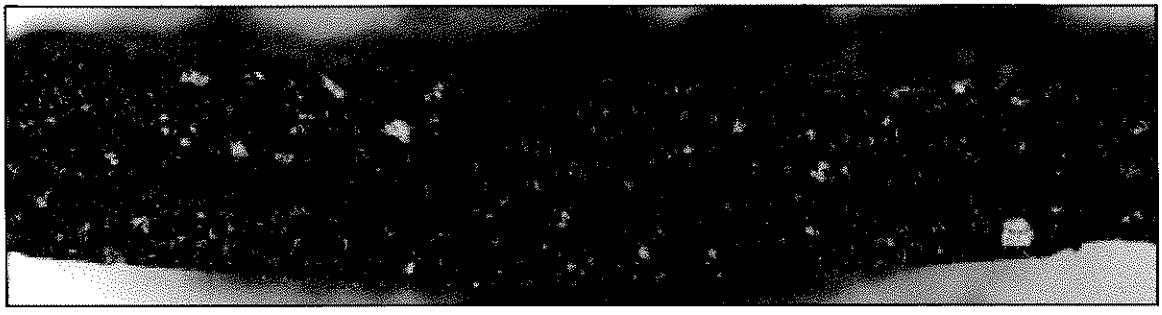

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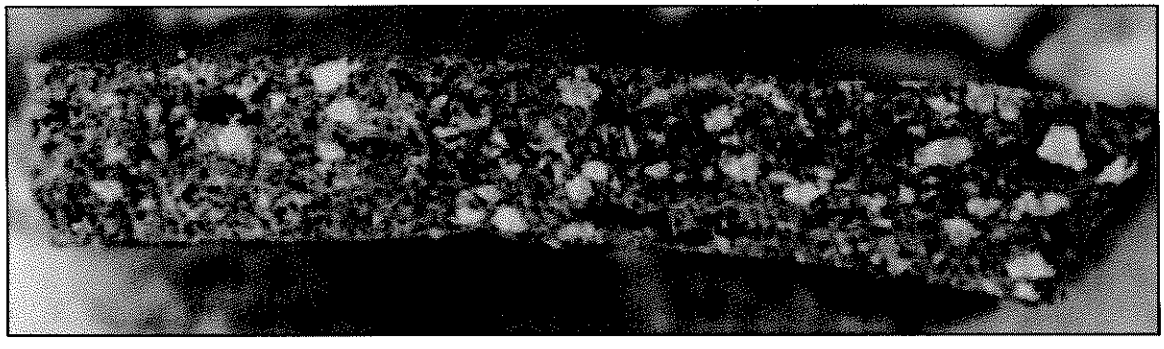
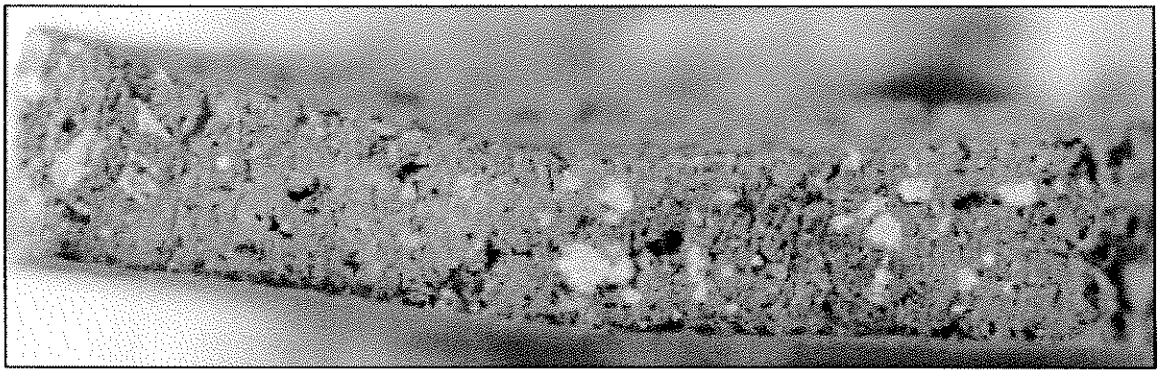
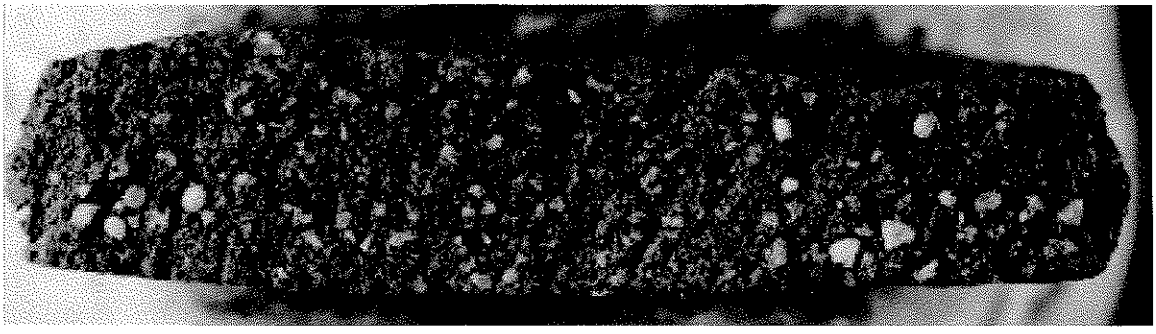


Cat. No. 131A Salton Brown

Figure 5. Macrophotography of sampled sherds (Cat. Nos. 119-131A).

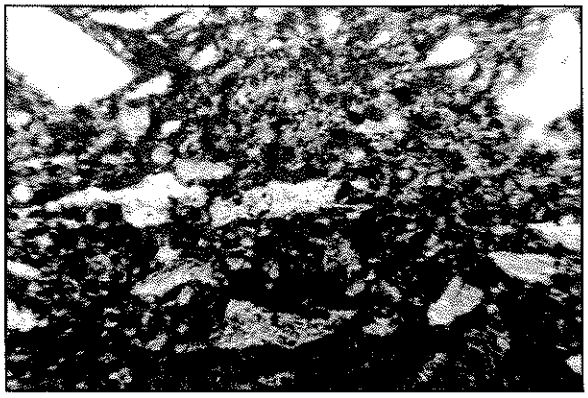


Cat. No. 137 Salton Brown



Cat. No. 230 Salton Brown

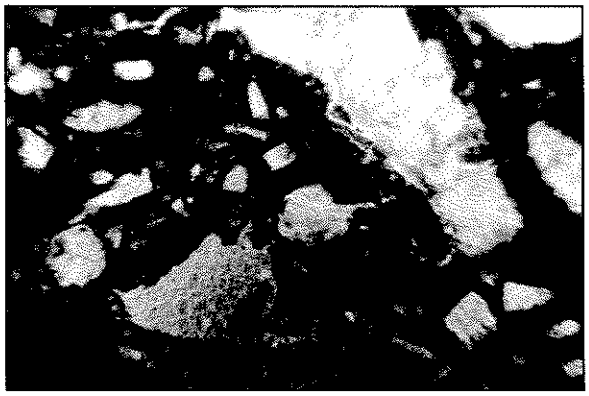
Figure 6. Macrophotography of sampled sherds (Cat. No. 137-230).



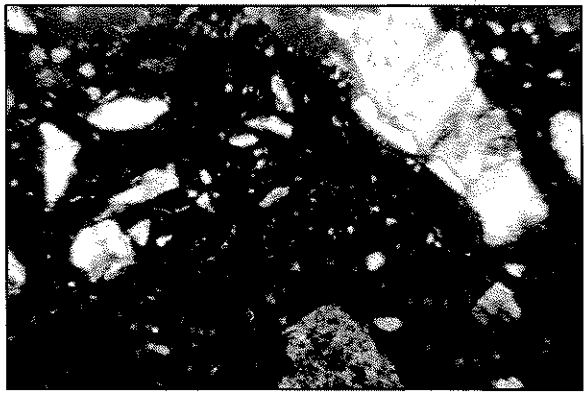
Plane-polarized Light

Crossed Polars

Cat. No. 1 Topoc Buff

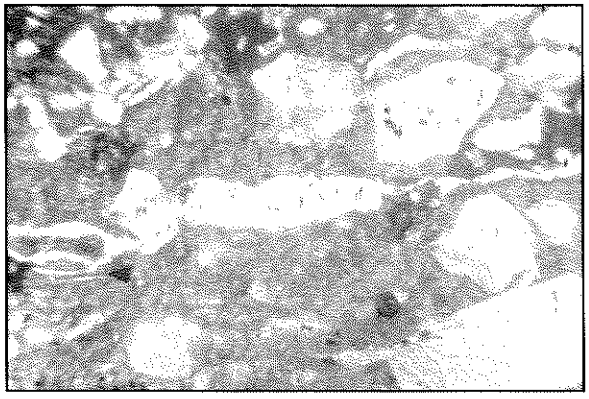


Plane-polarized Light



Crossed Polars

Cat. No. 8A Topoc Buff



Plane-polarized Light

Crossed Polars

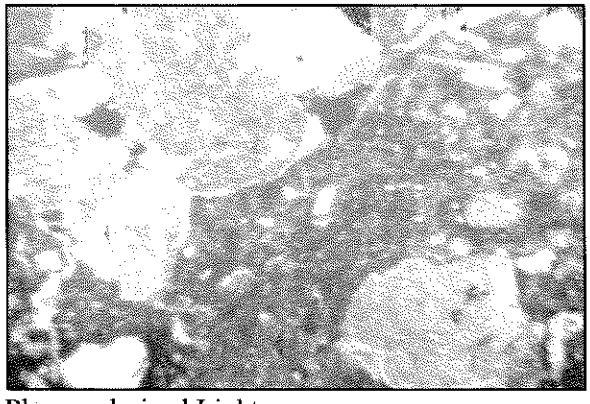
Cat. No. 9 Topoc Buff

Figure 7. Thin-section photomicrographs at 40x magnification (Cat. Nos. 1-9).

Plane-polarized Light

Cross Polars

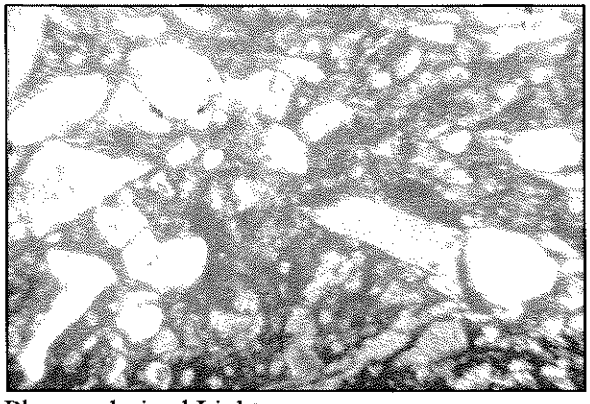
Cat. No. 18 Salton Brown



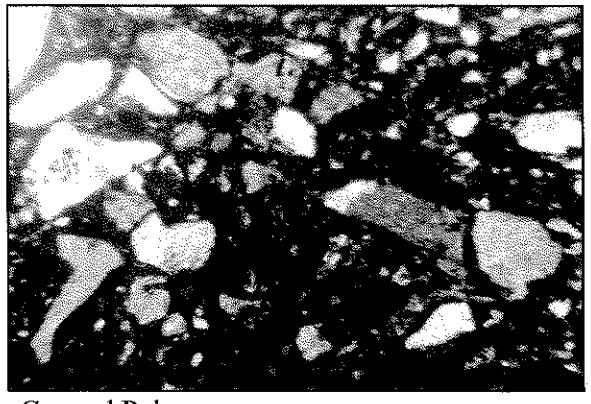
Plane-polarized Light

Cross Polars

Cat. No. 47 Topoc Buff



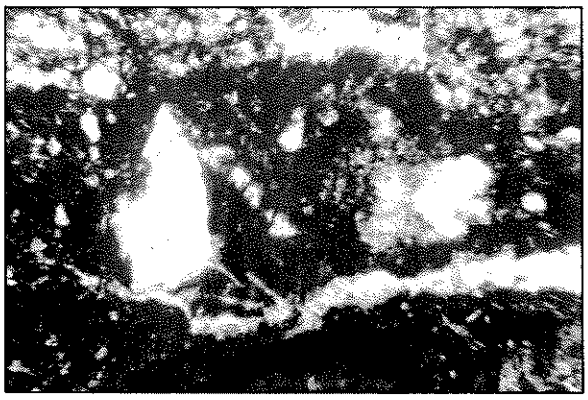
Plane-polarized Light



Crossed Polars

Cat. No. 48 Salton Brown

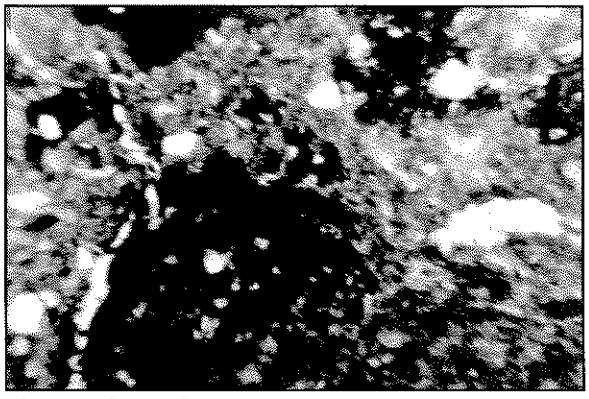
Figure 8. Thin-section photomicrographs at 40x magnification (Cat. Nos. 18-48).



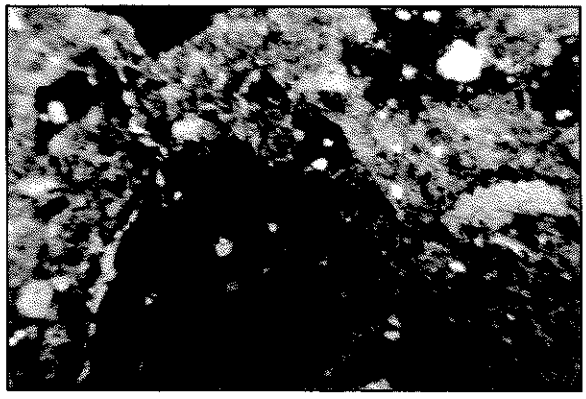
Plane-polarized light

Cross polars

Cat. No. 67 Tumco Buff (?)



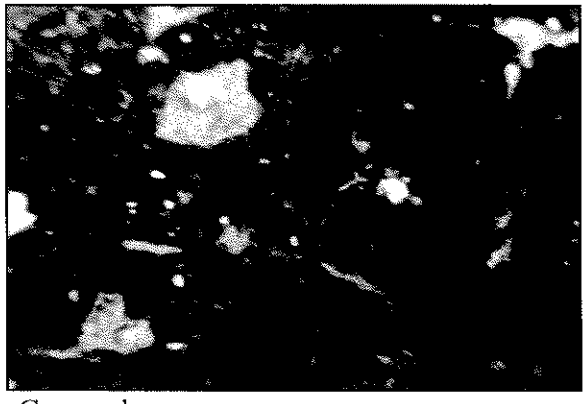
Plane-polarized light



Cross polars

Cat. No. 68 Tumco Buff

Plane-polarized light

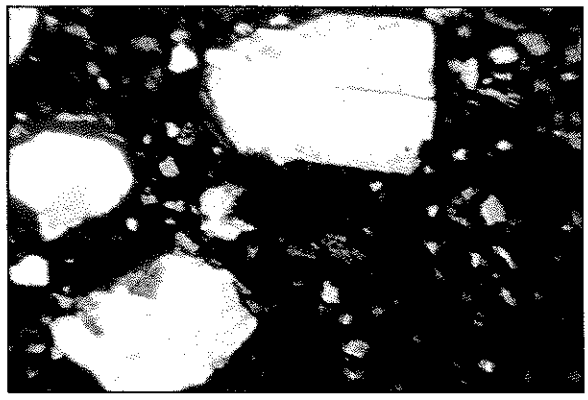


Cross polars

Cat. No. 69 Tumco Buff

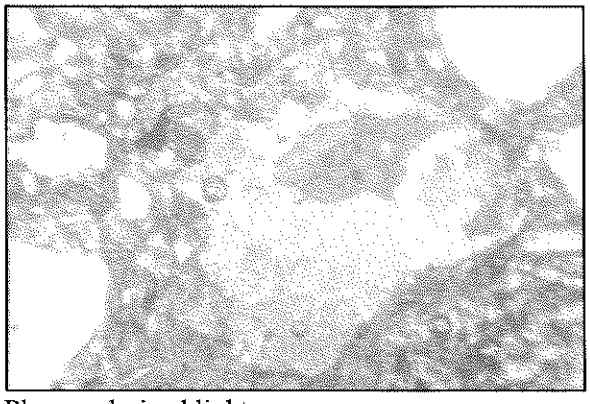
Figure 9. Thin-section photomicrographs at 40x magnification (Cat. Nos. 67-69).

Plane-polarized light

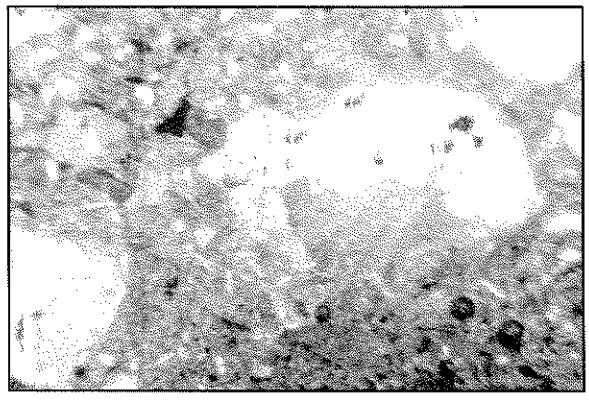


Cross polars

Cat. No. 87A1 Salton Brown

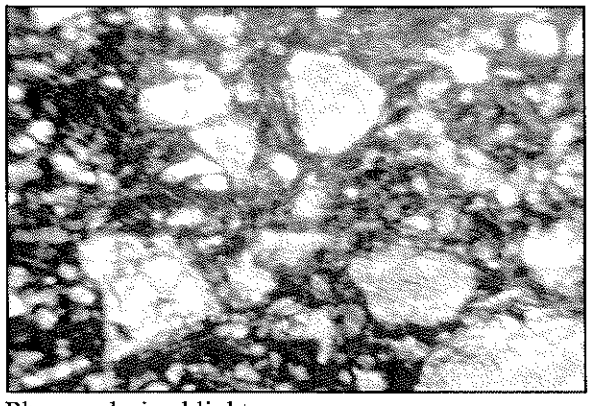


Plane-polarized light

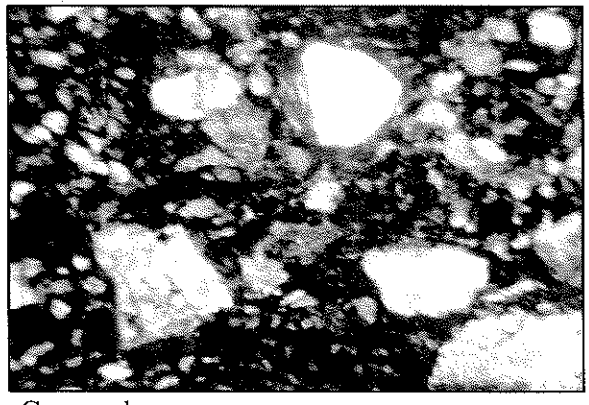


Cross polars

Cat. No. 96A Salton Brown



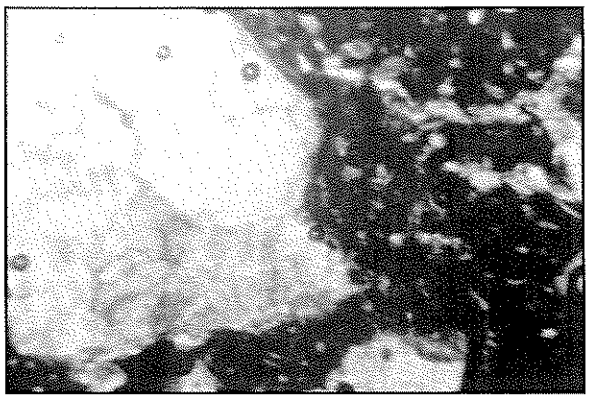
Plane-polarized light



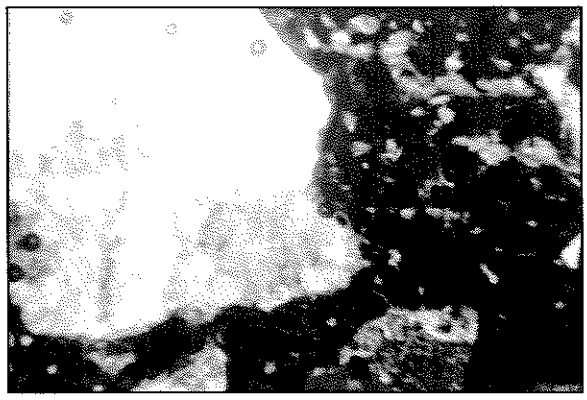
Cross polars

Ca. No. 97 Topoc Buff

Figure 10. Thin-section photomicrographs at 40x magnification (Cat. Nos. 87A1-97).

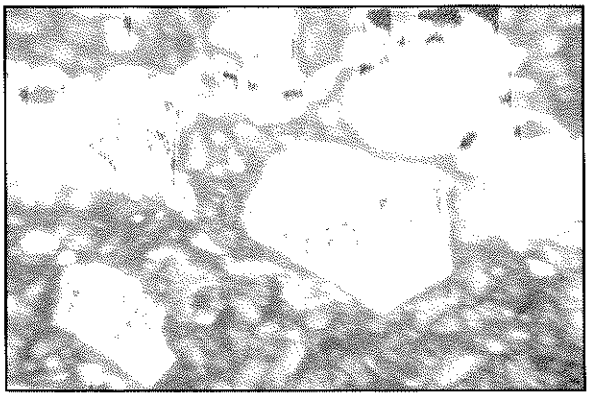


Plane-polarized light



Cross polars

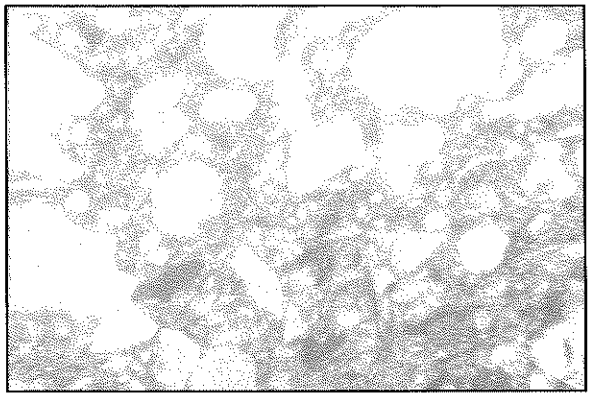
Cat. No. 106 Salton Brown



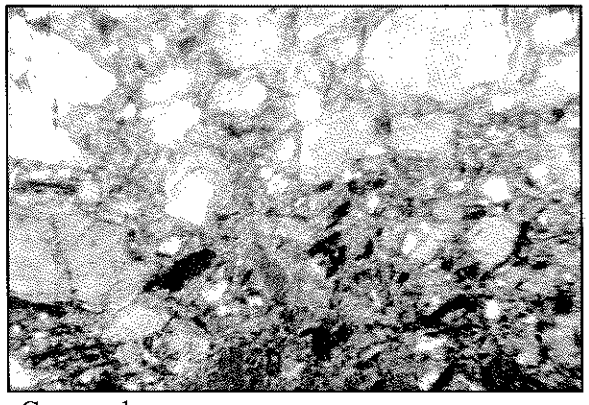
Plane-polarized light

Cross polars

Cat. No. 115 Salton Brown



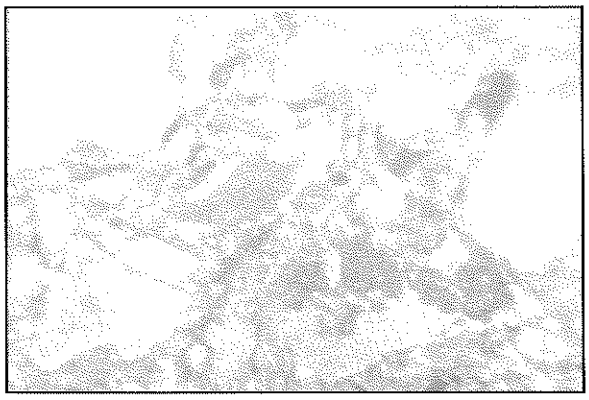
Plane-polarized light



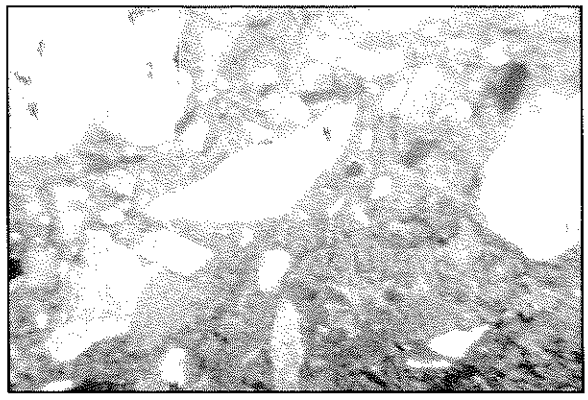
Cross polars

Cat. No. 117 Salton Brown

Figure 11. Thin-section photomicrographs at 40x magnification (Cat. Nos. 106-117).

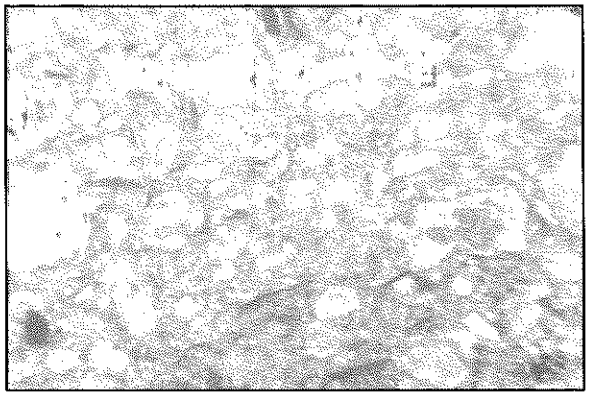


Plane-polarized light

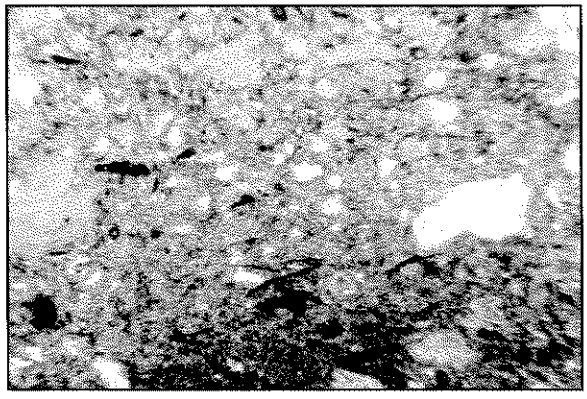


Cross polars

Cat. No. 119 Salton Brown

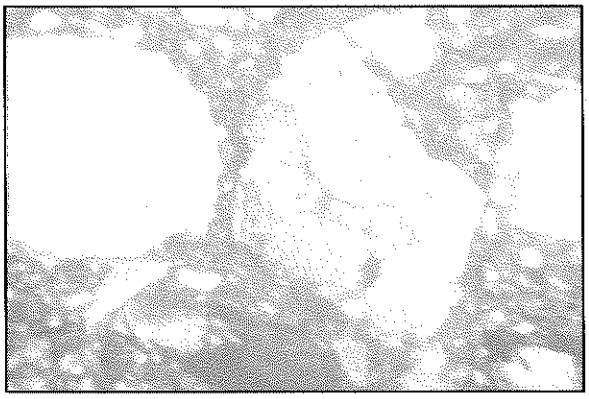


Plane-polarized light

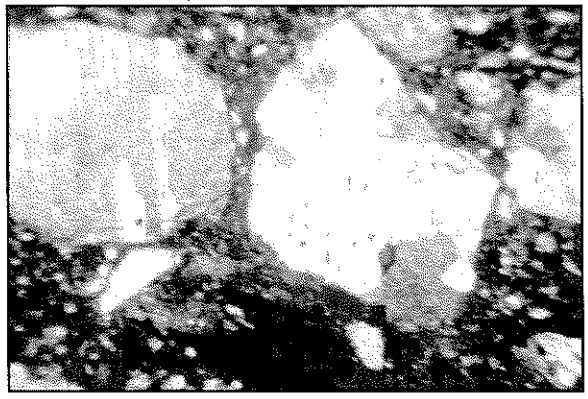


Cross polars

Cat. No. 121 Salton Brown



Plane-polarized light



Cross polars

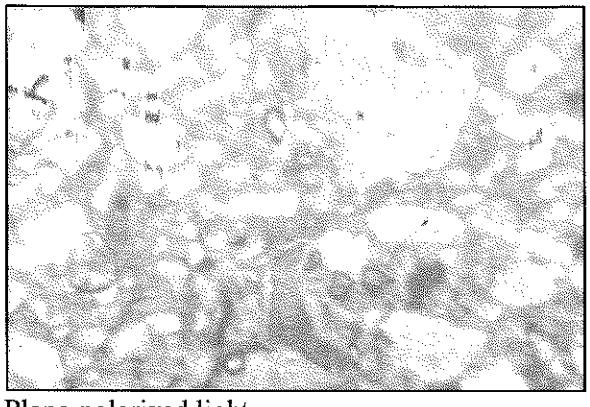
Cat. No. 131 Salton Brown

Figure 12. Thin-section photomicrographs at 40x magnification (Cat. Nos. 119-131).

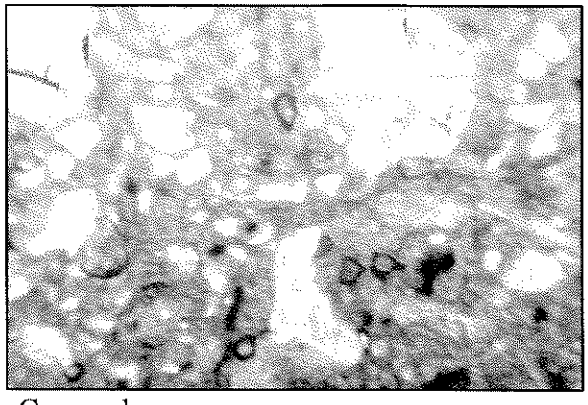
Plane-polarized light

Cross polars

Cat. No. 137 Salton Brown



Plane-polarized light



Cross polars

Cat. No. 230 Salton Brown

Figure 13. Thin-section photomicrographs at 40x magnification (Cat. Nos. 137-230).

Table 1. Thin Section Data Base											
Slide No.	Cat. No.	Type	Sorting	Incl. Density	Grain Shape	Quartz	Na plag	K-spar	Biotite	Muscovite	Amphibole
1	1	Topoc Buff	Poor	High	Angular-Subangular	X				Trace	X
2	8A	Topoc Buff	Poor	High	Angular	X	Trace				X
3	9	Topoc Buff	Poor	High	Angular	X	Trace		X		
4	18	Salton Brown	Poor	High	Subangular-Subrounded	X				Trace	
5	47	Topoc Buff	Moderate	Moderate	Angular-Subrounded	X	X			X	
6	48	Salton Brown	Poor	High	Subrounded-Rounded	X	Trace		X	Trace	
7	67	Tumco Buff (?)	Moderate	Low	Angular-Subrounded	X	Trace			Trace	
8	68	Tumco Buff	Moderate	Very Low	Subrounded-Rounded	X	Trace			Trace	
9	69	Tumco Buff	Poor	Low	Subrounded-Rounded	X					
10	87A1	Salton Brown	Poor	High	Subangular-Subrounded	X				X	
11	96A	Salton Brown	Poor	High	Subangular-Subrounded	X				Trace	
12	97	Topoc Buff	Poor	High	Angular-Subrounded	X	Trace			X	
13	106	Salton Brown	Moderate	Moderate	Angular	X				X	
14	115	Salton Brown	Poor	High	Angular-Subangular	X	X		X	X	
15	117	Salton Brown	Poor	High	Angular-Subangular	X	Trace		X	X	
16	119	Salton Brown	Poor	High	Angular-Subangular	X	X	Trace			
17	121	Salton Brown	Moderate	High	Angular-Subrounded	X	X		X	X	
18	131	Salton Brown	Poor	High	Angular-Subrounded	X	X		X	X	
19	137	Salton Brown	Poor	High	Angular-Subrounded	X	X		X	X	
20	230	Salton Brown	Poor	High	Angular-Rounded	X	X		X	X	

APPENDIX E

RADIOCARBON DATING FOR CA-RIV-7834C

by

Beta Analytic, Inc.

Debarros, Philip

From: Beta Analytic <betaanalytic@radiocarbon.com>
Sent: Wednesday, January 28, 2015 9:30 AM
To: Debarros, Philip
Subject: Important From Beta – Samples received – please read

Dear Dr. de Barros,

We have received material for radiocarbon dating. Below is a table with your Beta number, expected delivery date, analysis method/delivery and your sample identification number.

Important - Promised delivery - Charges: We are committed to providing you results by the quoted delivery date and have immediately started analysis. Please note that charges are accruing. Any requests for changes/cancellations are subject to applicable charges.

Comments/Initial questions: **REPLY ALL**

We have placed 'RIV7834C264' on hold per your instructions. Please let us know how you would like to proceed once your results have been reported. Thanks

Beta	Due	Technique	Submitter Number
403031	Tuesday, February 17, 2015	standard AMS	RIV7834C124
403032	Tuesday, February 17, 2015	standard AMS	RIV7834C157B
403033	Tuesday, February 17, 2015	standard AMS	RIC7834C165

Your directory on our website has been appended with this submittal and you can view arrival in your table of results. With payment terms and conditions satisfied, you will see individual results appear in the table as analysis is completed. (Payment questions: Lcerda@radiocarbon.com;zcernada@radiocarbon.com)

The SSL link: https://secure.radiocarbon.com/betaV2/login.asp

If you haven't received or do not remember your UserID or password, click on *Forgot password* and the Webserver will automatically send them to the email address on file with us.

Once you log on, the first page will contain your contact information. Please be sure it is correct and modify it as needed.

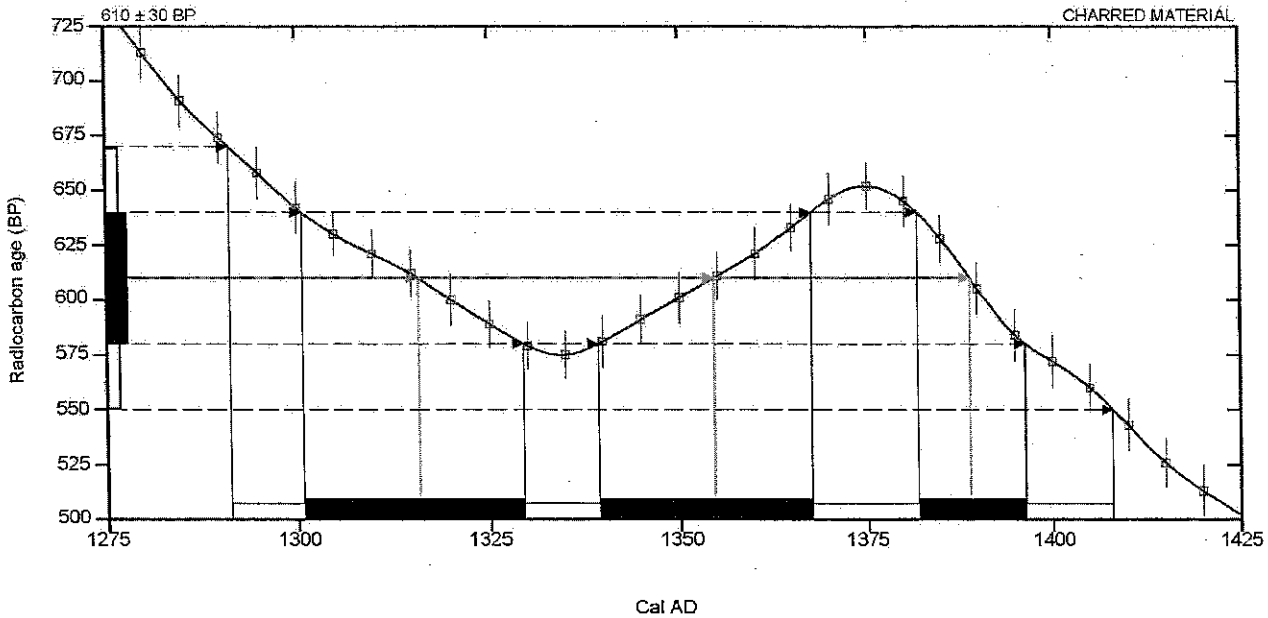
Just above the *SUBMIT* button are fields containing your UserID and Password. You can change these to any text/number character combination you wish.

Then hit the SUBMIT button to go to your table of results page. This is where you track your sample status and retrieve your final report when completed.

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12 = -26.8 o/oo : lab. mult = 1)

Laboratory number	**Beta-403031**
Conventional radiocarbon age	**610 ± 30 BP**
Calibrated Result (95% Probability)	**Cal AD 1290 to 1410 (Cal BP 660 to 540)**
Intercept of radiocarbon age with calibration curve	Cal AD 1315 (Cal BP 635) Cal AD 1355 (Cal BP 595) Cal AD 1390 (Cal BP 560)
Calibrated Result (68% Probability)	Cal AD 1300 to 1330 (Cal BP 650 to 620) Cal AD 1340 to 1370 (Cal BP 610 to 580) Cal AD 1380 to 1395 (Cal BP 570 to 555)



Database used

INTCAL13

References

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates, Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

References to INTCAL13 database

Reimer PJ et al. IntCal13 and Marine13 radiocarbon age calibration curves 0–50,000 years cal BP. Radiocarbon 55(4):1869–1887., 2013.

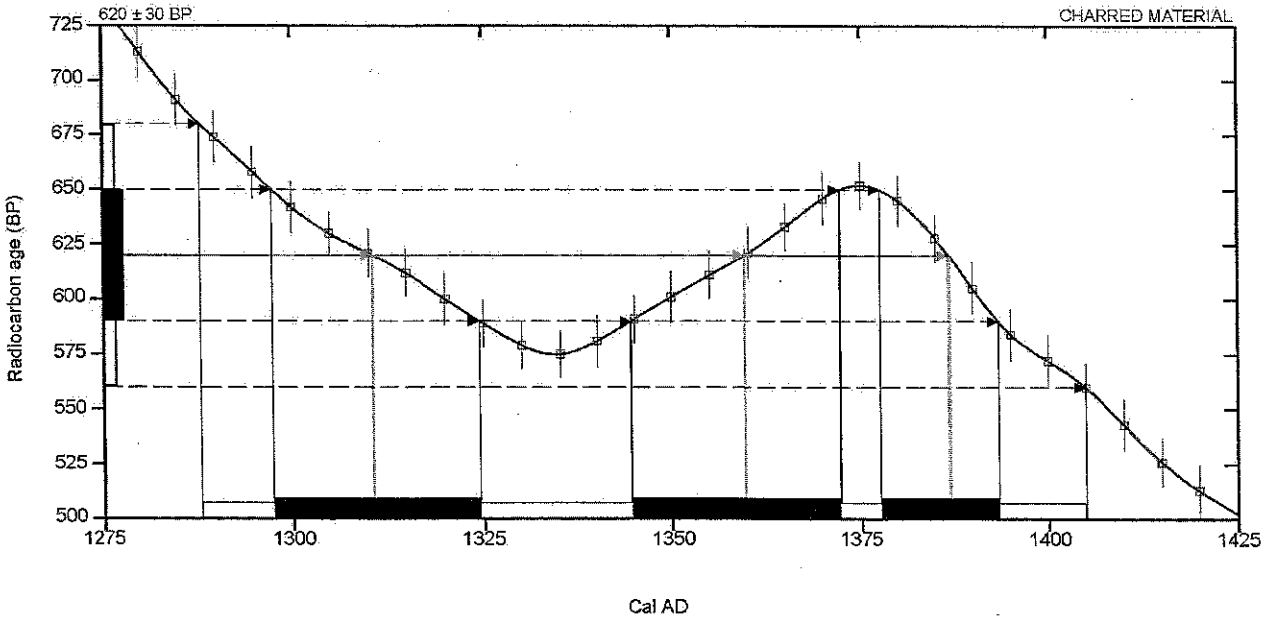
Beta Analytic Radiocarbon Dating Laboratory

4985 S.W. 74th Court, Miami, Florida 33155 • Tel: (305)667-5167 • Fax: (305)663-0964 • Email: beta@radiocarbon.com

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12 = -25.7 o/oo : lab. mult = 1)

Laboratory number	**Beta-403032**
Conventional radiocarbon age	**620 ± 30 BP**
Calibrated Result (95% Probability)	**Cal AD 1290 to 1405 (Cal BP 660 to 545)**
Intercept of radiocarbon age with calibration curve	Cal AD 1310 (Cal BP 640) Cal AD 1360 (Cal BP 590) Cal AD 1385 (Cal BP 565)
Calibrated Result (68% Probability)	Cal AD 1295 to 1325 (Cal BP 655 to 625) Cal AD 1345 to 1370 (Cal BP 605 to 580) Cal AD 1380 to 1395 (Cal BP 570 to 555)



Database used

INTCAL13

References

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates, Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

References to INTCAL13 database

Reimer PJ et al. IntCal13 and Marine13 radiocarbon age calibration curves 0–50,000 years cal BP. Radiocarbon 55(4):1869–1887., 2013.

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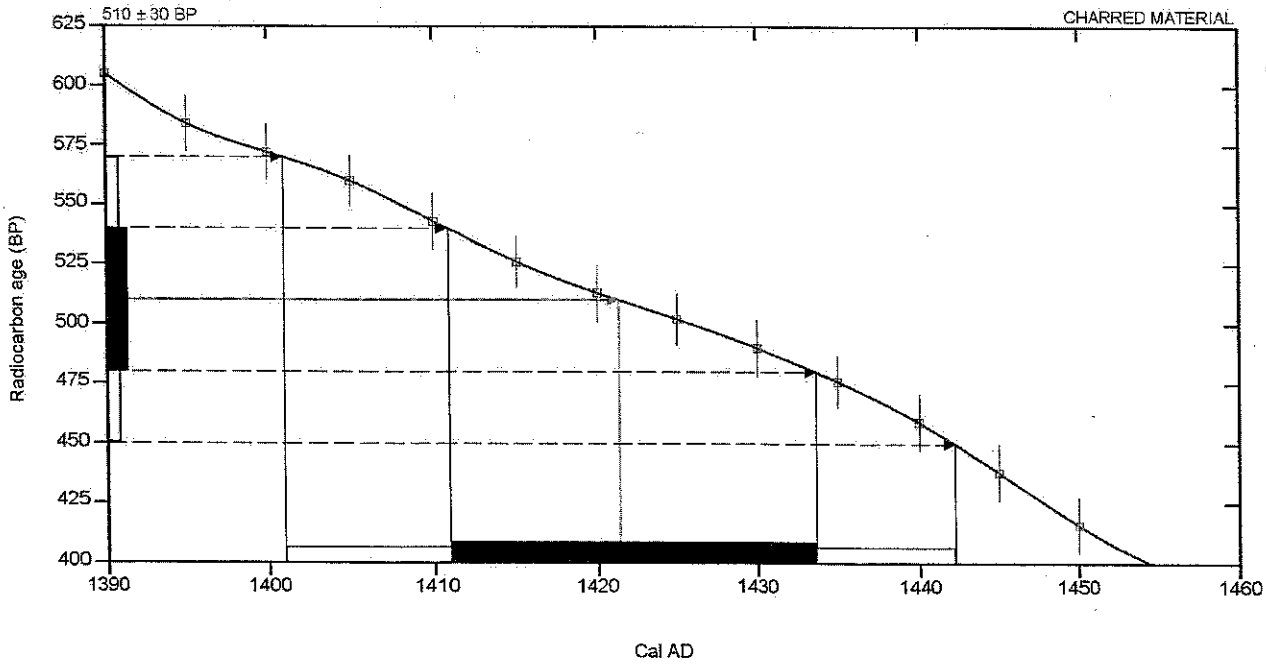
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12 = -17.5 o/oo : lab. mult = 1)

Laboratory number	**Beta-403033**
Conventional radiocarbon age	**510 ± 30 BP**
Calibrated Result (95% Probability)	**Cal AD 1400 to 1440 (Cal BP 550 to 510)**
Intercept of radiocarbon age with calibration curve	Cal AD 1420 (Cal BP 530)
Calibrated Result (68% Probability)	Cal AD 1410 to 1435 (Cal BP 540 to 515)



Database used

INTCAL13

References

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates, Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

References to INTCAL13 database

Reimer PJ et al. IntCal13 and Marine13 radiocarbon age calibration curves 0–50,000 years cal BP. Radiocarbon 55(4):1869–1887., 2013.

Beta Analytic Radiocarbon Dating Laboratory

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APPENDIX F

ARTIFACT CATALOG FOR CA-RIV-7834A-C

by

Philip de Barros, Ph.D.

CA-RIV-7834A Catalog

Cat #	Unit	Depth	Material	Type?	Ct.	REMARKS	Date
1	1	Surface	ceramic	**TOPOC BUFF**	2	conjoined rim sherds	11/21/14
2	1	Surface	ceramic	**TOPOC BUFF**	2	conjoined body sherds (thicker than rim sherds)	11/21/14
3	1	Surface	ceramic		3	larger body sherd fragments without only 1 surface	11/21/14
4	1	Surface	ceramic		9	smaller body sherd fragments, mostly with no surface	11/21/14
5	1	0-5 cm	ceramic		2	body sherds	11/21/14
6	1	0-5 cm	ceramic		7	larger body sherd fragments without only 1 surface	11/21/14
7	1	0-5 cm	ceramic		43	smaller body sherd fragments, mostly with no surface; some with one surface	11/21/14
						Catalog Numbers 1-8 may all be the same vessel, except for #2?	
8	2	Surface	ceramic	**TOPOC BUFF**	2	body sherds that may be from same vesse; only one surface present	11/21/14
9	3	Surface	ceramic	**TOPOC BUFF**	1		11/21/14
10	3	0-20 cm	ceramic		1	only one surface	11/21/14
11	3	0-20 cm	charcoal			small pieces; useless as not located within profile; see site photos	11/21/14
12	3	0-20 cm	vertebra	fish	1	very likely natural; not burned	11/21/14
13	NA	Surface	ceramic		1	near Unit 2; GPS C00D; potsherd #1	11/23/14
14	4	Surface	ceramic		2	conjoined rim sherds	11/21/14
15	4	Surface	ceramic		5	conjoined body sherds (see #16)	11/19/14
16	4	Surface	ceramic		1	probably same pot as #15	11/17/14
17	4	0-20 cm	metal		1	large washer	11/15/14
18	4	0-20 cm	ceramic	**SALTON BROWN**	2	conjoined body sherds; fit with #20	11/13/14
19	4	0-20 cm	ceramic		1	body sherd	11/11/14
20	4	31-34 cm	ceramic		3	large bodysherd with piece flaked off; fits with #18 and 2 conjoining pieces	11/9/14
21	4	31-34 cm	soil/shell	variable		soil and shells adhering to large sherd in #20	11/7/14
22	7	14 cm	ceramic		1	body sherd	11/23/14
23	7	0-5 cm	charcoal		2	2 larger pieces	11/23/14
24	7	0-15 cm	charcoal			many smaller pieces, 1/8th cannister	11/23/14
25	7	0-5 cm	shell	gastropods	5	lakebed sediment gastropod shells; small and some very tiny	11/23/14
26	8	Surface	ceramic	**TUMCO BUFF**	1	body sherd	11/23/14
27	8	35 cm	shell	*Anodonta*	2	*Anodonta* sp.bivalve shells	11/23/14
28	1		Soil sample		1	soil profile layer 1	11/23/14
29	1		Soil sample		1	soil profile layer 2	11/23/14
30	1		Soil sample		1	soil profile layer 3	11/23/14
31	1		Soil sample		1	soil profile layer 4	11/23/14
32	1		Soil sample		1	soil profile layer 5	11/23/14
33	1		Soil sample		1	soil profile layer 6A	11/23/14
34	1		Soil sample		1	soil profile layer 6B	11/23/14
35	1		Soil sample		1	soil profile layer 7A	11/23/14

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Cat #	Unit	Depth	Material	Type?	Ct.	REMARKS	Date
36	1		Soil sample		1	soil profile layer 7B	11/23/14
37	1		Soil sample		1	soil profile layer 8	11/23/14
38	1		Soil sample		1	soil profile layer 9	11/23/14
39	1		Soil sample		1	soil profile layer 10	11/23/14
40	1		Soil sample		1	soil profile layer 11	11/23/14
41	1	60-80 cm	pebbles		9	sample of pebbles/small rocks from 60-80 cm level of Unit 6	11/21/14
42	6		Soil sample		1	soil profile layer 1	11/23/14
43	6		Soil sample		1	soil profile layer 2	11/23/14
44	6		Soil sample		1	soil profile layer 3	11/23/14
45	6		Soil sample		1	soil profile layer 4	11/23/14
46	6		Soil sample		1	soil profile layer 5	11/23/14

CA-RIV-7834B Catalog

Cat #	Unit	Depth	Material	Type?	Ct.	REMARKS	Date
47	17	Surface	ceramic	**TOPOC BUFF**	1	possibly painted sherd with white slip; orange-red paste; potsherd #51 (GPS survey data)	12/7/14
48	18	Surface	ceramic	**SALTON BROWN**	1	small ball body sherd	12/7/14
49	18	30 cm	shell	*Anodonta*	4	2 sets of *Anodonta* sp. bivalves	12/7/14
50	18		soil sample		1	soil profile layer I	12/7/14
51	18		soil sample		1	soil profile layer II	12/7/14
52	18		soil sample		1	soil profile layer III	12/7/14
53	18		soil sample		1	soil profile layer IV	12/7/14
54	18		soil sample		1	soil profile layer V	12/7/14
55	19	Surface	ceramic		1	fits with #56	12/7/14
56	19	0-5 cm	ceramic		1	fits with #55	12/7/14
57	19	0-10 cm	shell	*Anodonta*	4	3-4 *Anodonta* sp. bivalve shells, at least 1, possibly 2 sets	12/7/14
58	19	20-30 cm	shell	*Anodonta*	2	*Anodonta* sp. bivalve set	12/7/14
59	19		soil sample		1	soil profile layer I	12/7/14
60	19		soil sample		1	soil profile layer II	12/7/14
61	19		soil sample		1	soil profile layer III	12/7/14
62	19		soil sample		1	soil profile layer IVA	12/7/14
63	19		soil sample		1	soil profile layer IVB	12/7/14
64	19		soil sample		1	soil profile layer V	12/7/14
65	19		soil sample		1	soil profile layer VI	12/714
66		Surface	ceramic	Salton Buff	1	body sherd; sherd #11, GPS F00G	12/30/14
67	21	Surface	ceramic	**TUMCO BUFF**	1	body sherd	12/7/14
68	22	Surface	ceramic	**TOPOC BUFF**	1	body sherd with red interior	12/7/14
69	23	Surface	ceramic	**TUMCO BUFF**	1	potsherd 47(survey); red paste, lime or white paint; large olla or rectangular vessel rim	12/7/14
70	23	0-20 cm	soil/shell		1	chunk of lakebed sediments with tiny gasropod shells embedded in it	12/7/14
118		Surface	ceramic		1	body sherd; sherd #12; GPS F00K	12/30/14

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Cat #	Unit	Depth	Material	Type?/Wt.	Ct.	REMARKS	Date
71	11	Surface	ceramic	**UNKNOWN**	4	conjoined sherds of small bowl including 2 rim sherds	12/6/14
72	11	20-40 cm	ceramic	Salton Buff	1	well-fired body sherd	12/6/14
73	11	20-40 cm	ceramic	**UNKNOWN**	2	body sherd fragments that may be part of surface wall (#71)	12/6/14
74A	11	25-35 cm	shell	*Anodonta*	2	*Anodonta* bivalve set in gravel layer	12/6/14
74B	11	18 cm	charcoal			2-3 large pieces	12/7/14
75	11		soil sample		1	soil profile layer IA	12/7/14
76	11		soil sample		1	soil profile layer IB	12/7/14
77	11		soil sample		1	soil profile layer IIA	12/7/14
78	11		soil sample		1	soil profile layer IIB	12/7/14
79	11		soil sample		1	soil profile layer IIIA	12/7/14
80	11		soil sample		1	soil profile layer IIIB	12/7/14
81	11		soil sample		1	soil profile layer IV	12/7/14
82	11		soil sample		1	soil profile layer V	12/7/14
83	11		soil sample		1	soil profile layer VI	12/7/14
84	11		soil sample		1	soil profile layer VII	12/7/14
85	11		soil sample		1	soil profile layer VIII	12/7/14
86	11		soil sample		1	soil profile layer IX	12/7/14
87A	12A	0-11 cm	ceramic	**SALTON BROWN**	8	mostly@8 cm;1 surface; 1@11 cm; may all be small bowl (see #71); 87A1 = **S. Brown?**	12/6/14
87B	12A	0-11 cm	ceramic	**TOPOC BUFF**	2	more highly fired than others; 87B1 = Topoc Buff	12/6/14
88	12A	15 cm	ceramic		1	body sherd	12/6/14
89	12B	0-8 cm	ceramic		1	from sidewall collapse within Unit 12B	12/6/14
90	12B	15-25 cm	ceramic		1	in east sidewall of Unit 12A but in unit 12B	12/6/14
91	12B	25-40 cm	shell	*Anodonta*	3	1.5 bivalve shells	12/6/14
92	13	Surface	ceramic		4	1 or 2 types; probably Salton Buff and Salton Brown	12/6/14
93	13	7 cm	ceramic		1	body sherd; pale gray	12/6/14
94A	13	6-14 cm	charcoal	**SALTON BROWN**		charcoal separated from sand matrix after excavation (from north wall)	12/6/14
94B	13	20-40 cm	shell	*Anodonta*	6	bivalve shells	12/6/14
95	14	Surface	ceramic		1	body sherd; could be same vessel as #96	12/6/14
96	14	0-10 cm	ceramic	**SALTON BROWN**	2	body sherds; could same vessel as #95; in soil layer I; **96A = SALTON BROWN**	12/6/14
97	14	25 cm	ceramic	**TOPOC BUFF**	4	in gravel layer; conjoined bodysherds from same vessel	12/6/14
98	15	Surface	ceramic		2	Potsherd 78 from GPS survey	12/6/14
99	15	0-5 cm	shell	*Anodonta*	7	bivalve shells	12/6/14
100	15		soil sample		1	soil profile layer IA, loose sand	12/7/14
101	15		soil sample		1	soil profile layer IB, compact sand	12/7/14
102	15		soil sample		1	soil profile layer II, shell rich soil	12/7/14
103	15		soil sample		1	soil profile layer IIIA, compact sand	12/7/14

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Cat #	Unit	Depth	Material	Type?	Ct.	REMARKS	Date
104	15		soil sample		1	soil profile layer IIIB, compact silt	12/7/14
105	15		soil sample		1	soil profile layer IV, silt	12/7/14
106	16	Surface	ceramic	**SALTON BROWN**	1	slightly everted or thickened rim	12/6/14
107	16	0-22.5 cm	ceramic		1	tiny fragment	12/6/14
108	16	22.5-40 cm	shell	Anodonta	2	2 separate bivalve shells	12/6/14
109	24	Surface	ceramic		1	Potsherd #1 (GPS C008); north of Unit 14 (Unit 24 placed there later)	12/6/14
110		Surface	ceramic		1	Potsherd #2 (GPS C009); may be old sherd point	12/6/14
111		Surface	ceramic		2	body sherds; sherds #1&2; GPS F004; different vessels; 53 cm apart; NW-SE axis	12/30/14
112		Surface	ceramic		1	body sherd; sherd #3; GPS F005	12/30/14
113		Surface	ceramic		1	body sherd; sherd #4; GPS F006	12/30/14
114		Surface	ceramic		1	body sherd; sherd #5; GPs F007	12/30/14
115		Surface	ceramic	**SALTON BROWN**	2	conjoined body sherds; sherds #6&7; GPS F00A	12/30/14
116		Surface	ceramic		1	body sherd; sherd #8; GPS F00B	12/30/14
117		Surface	ceramic	**SALTON BROWN**	2	conjoined body sherds; sherds #9&10, 15 cm apart; GPS F00D	12/30/14
119	25	Surface	ceramic	**SALTON BROWN**	2	2 conjoined body sherds	12/29/14
120	25	10-20 cm	ceramic		1	body sherd in dried clay deposits	12/29/14
121	25	50-55 cm	ceramic	**SALTON BROWN**	2	2 conjoined bodysherds,in NE quad;assoc. with charcoal & variably compact soil layers	12/29/14
122	25	variable	shell	*Anodonta*	6	3 *Anodonta* sp. bivalve sets; some broken; one set with sandy soil inside in situ	12/29/14
123	25	17-18 cm	charcoal			sample 1; 1/5th canister from dispersed area in east quadrant (see field notes)	12/29/14
124	25	28-30 cm	charcoal	0.5 g	**C14**	sample 2 near Rock #3 (blackened FAR); 1/8th canister; C14 dating?	12/29/14
125	25	50-60 cm	charcoal			sample 3 in NE quad of unit in association with #121; 1/8th canister	12/29/14
126	26	Surface	ceramic		1	body sherd	12/29/14
127	26	35-40 cm	charcoal			Sample 1; small amount; small pieces	12/29/14
128	26	0-20 cm	soil sample		1	Sample 1: south wall, upper layer, silty sand	12/29/14
129	26	0-20 cm	soil sample		1	Sample 2: west wall, upper layer, sandy silt	12/29/14
130	26	34-40 cm	soil sample		1	Sample 3: west wall, shell and gravel deposit	12/29/14
131	27	Surface	ceramic	**SALTON BROWN**	5	2 rim and 2 body sherds all conjoined; plus 1 tiny dark gray sherd	12/30/14
132	27	13 cm	ceramic		1	body sherd	12/30/14
133	27	25 cm	ceramic		2	body sherds	12/30/14
134	27	25-27 cm	charcoal			Sample 1, East Wall @ 25 cm; 1/10th canister, Layer III (thin horizontal charcoal layer)	12/30/14
135	27	25-27 cm	charcoal			Sample 2, East Wall @ 25 cm; 1/6th of a canister	12/30/14
136	28	Surface	ceramic		1	olla rim; slightly thickened and everted	12/30/14
137	28	0-5 cm	ceramic	**SALTON BROWN**	3	3 conjoined olla sherds in compact silt layer; see #139	12/30/14
138	28	20-40 cm	ceramic	**SALTON BROWN**	1	rim sherd from wall collapse; could be same vessel as #137	12/30/14
139	28	0-5 cm	soil sample		1	compact silt layer where large olla sherd (in 3 pieces) found; see #137	12/30/14

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Cat #	Unit	Depth	Material	Type?	Ct.	REMARKS	Date
140	25		soil sample		1	soil profile sample IA - loose sand with organics	12/29/14
141	25		soil sample		1	soil profile sample IB - loose sand	12/29/14
142	25		soil sample		1	soil profile sample II - caked mud (clay and silt most likely)	12/29/14
143	25		soil sample		1	soil profile sample III - silty sand	12/29/14
144	25		soil sample		1	soil profile sample IVA - unconsolidated gravel	12/29/14
145	25		soil sample		1	soil profile sample IVB - compact silt	12/29/14
146	25		soil sample		1	soil profile sample V - silt	12/29/14
147	25		soil sample		1	soil profile sample VI - unconsolidated gravel	12/29/14
148	25		soil sample		1	soil profile sample VIIA - fine silt	12/29/14
149	25		soil sample		1	soil profile sample VIIB - compact silt	12/29/14
150	25		soil sample		1	soil profile sample VIIIA - silt	12/29/14
151	25		soil sample		1	soil profile sample VIIIB - compact silt	12/29/14
152	25		soil sample		1	soil profile sample IX - loose silt	12/29/14
153	25		soil sample		1	soil profile sample X - compact silt	12/29/14
154A	25	28 cm	FAR	1.88 kg	1	Rock #3 with charcoal; granite; heavily fire-affected and blackened	12/30/14
						NOTE: Unit 24 depths based on 1x1m metal frame bottom; all other 3x3 m block	
						units (24A-E, G & H) based on line-level datum at NE corner of block excavation	
154B	25	28 cm	FAR	290 g	6	**Smaller FAR just north of Rock #3 (154A):** 1 - granitic (150g); 2 - 60 g, gneissic; 3 - 30 g	12/30/14
						(granitic); 4 - 10 g (granitic); 5 - 10 g (schist); 6 - <10 g (granitic)	
155	24	5 cm	ceramic		1	bodysherd with only one surface	12/7/14
156	24	10-15 cm	charcoal	2.56-3+ g		CS#1(J.C.): NW corner of hearth profile; 25-32 cm east of NW corner (north wall); 1 large piece	12/7/14
						charcoal removed for analyst, ca. 12-26-14; 1/3rd canister with one other large piece	
157A	24	**ca. 19 cm**	charcoal	1.38 g		CS #5 (J.C.); adjacent to north wall of Unit 24 in NW quadrant; 1/4th canister	12/30/13
						Depth corrected from 37 to ca. 19 cm based on correction for use of NE corner datum	
157B	24	16-20 cm	charcoal	1.3 g	**C14**	CS#2(PdeB): 1/4 canister; no large pieces; 33-41 cm along north wall from NW corner	12/7/14
158	24	12 cm	FAR	380 g	1	FAR #1 (see plan view, Unit 24); granite; very fire-affected; NW corner; 10 x 5.5 x 5 cm	12/7/14
159	24	10-20 cm	FAR	510 g	1	FAR #2; metasedimentary; SE corner; 15 x 10 x 4.3 cm	12/7/14
160	24	NA	FAR	100 g	1	FAR (#3) from screen; granitic	12/29/14
161	24	13 cm	FAR	10 g	1	FAR #3; east side wall; granitic	12/29/14
162	24	6 cm	FAR	70 g	1	FAR #4; south side wall; granodiorite	12/29/14
163	24	0-20 cm	FAR	180 g	3	FAR #5-7 found removing backfill; quartz monzonite; quartz diorite (2)	12/31/14
164	24A	20-23 cm	charcoal	0.64 g		CS #15; north side wall; oxidized gravel layer; 1/7th canister; **see north wall profile**	12/31/14
165	24A	15-20 cm	charcoal	0.83 g	**C14**	CS #20; north sidewall, oxidized gravel layer; 1/7th canister; **see north wall profile**	12/31/14
166	24A	32 cm	charcoal		1	CS #19, Plan View 3; NW corner nr north wall; 40% of canister;1-2 large pieces	12/29/14
167	24A	26.5 cm	charcoal		1	CS #4, PV1, central area near east wall; 1/3+ canister	12/29/14
168	24A	15 cm	ceramic		1	Sherd #2, 3 x 3 m block excavation plan view; body sherd	12/29/14

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Cat #	Unit	Depth	Material	Type?	Ct.	REMARKS	Date
169	24A	31-41 cm	ceramic		1	Sherd #5, PV3, body sherd	12/31/14
170	24A	33 cm	ceramic		1	Sherd #6, PV3, body sherd; found in screen	12/31/14
171	24A	36 cm	ceramic	SALTON BROWN	1	Sherd #7, PV3, body sherd; found in screen	12/31/14
172	24A	31 cm	ceramic		1	Sherd #8, PV3, body sherd; found in screen; **NOTE: #168-173 could be from same vessel**	12/31/14
173	24A	41 cm	ceramic	SALTON BROWN	1	Sherd #9; body sherd; not plotted in PV3	12/31/14
174	24A	22.5 cm	FAR	150 g	1	Hearth #1, Plan View #1 (PV1); Rock 2; quartz diorite	12/30/14
175	24A	23 cm	FAR	40 g	2	Hearth #1, PV1, Rock 3; gneissic with pyrite	12/30/14
176	24A	19 cm	FAR	50 g	1	Hearth #1, PV1, Rock 4; quartz diorite	12/30/14
177	24A	23.5 cm	FAR	40 g	1	Hearth #1, PV1, Rock 5; quartz monzonite	12/30/14
178	24A	24 cm	FAR	80 g	1	Hearth #1, PV3, Rock 27; granodiorite	12/31/14
179	24A	22 cm	FAR	80 g	1	Hearth #1, PV3, Rock 28; granitic	12/31/14
180	24A	22 cm	FAR	30 g	1	Hearth #1, PV3, Rock 29; granitic	12/31/14
181	24A	23 cm	FAR	220 g	1	Hearth #1, PV3, Rock 31; quartz diorite	12/31/14
182	24A	23 cm	FAR	80 g	1	Hearth #1, PV3, Rock 32; granitic	12/31/14
183	24A	33 cm	FAR	80 g	1	Hearth #1, PV3, Rock 33; granitic	12/31/14
184	24A	39 cm	FAR	240 g	1	Hearth #1, PV3, Rock 38; granitic	12/31/14
185	24B	13 cm	ceramic		1	Sherd #1, 3 x 3 m block excavation plan view; bodysherd; found in screen	12/29/14
186	24B	30 cm	ceramic	SALTON BROWN	1	Sherd #3, PV2, Hearth 1 area; body sherd	12/30/14
187	24B	36 cm	ceramic	SALTON BROWN	1	Sherd #4, PV2, Hearth 1 area; bodysherd	12/30/14
188	24B	10-20 cm	charcoal	Hearth #1		collapsed NW corner, Unit 24 north sidewall (south end of 24B); 1/10th of canister	12/29/14
						depth here represents depth with reference to datum used for Unit 24	
189	24B	29 cm	charcoal	Hearth #1		CS #6, PV2, NW corner; 35% of canister	12/30/14
190	24B	31 cm	charcoal	Hearth #1		CS #7, PV2, center of Unit 24B; 35% of canister	12/30/14
191	24B	33 cm	charcoal	Hearth #1		CS #16, PV3, south wall baulk nr Unit 24a, just off-center toward west; 1/10th canister	12/31/14
192	24B	19 cm	charcoal	Hearth #1		CS #12, north wall profile, Layer II gravel layer, west side; 25-30% of canister	12/31/14
193	24B	16 cm	charcoal	Hearth #1		CS #13, north wall profile, Layer II, east side; 1/6th of canister	12/31/14
194	24G	18-23 cm	charcoal	Hearth #1		CS #14; north wall baulk (Hearth #2); 1/5th of canister	12/31/14
195	24B		soil sample		1	Layer I, North Wall; loose surface sand	12/31/14
196	24B		soil sample		1	Layer IIA, North Wall; oxidized gravel	12/31/14
197	24B		soil sample		1	Layer IIB, North Wall; non-oxidized gravel	12/31/14
198	24B		soil sample		1	Layer III, North Wall; fine silt	12/31/14
199	24B	21 cm	FAR	300 g	1	Hearth #1, PV1, Rock 6; NE corner; granitic	12/30/14
200	24B	26.5 cm	FAR	70 g	1	Hearth #1, PV2, Rock 7, schist-like	12/30/14
201	24B	29 cm	FAR	100 g	1	Hearth #1, PV2, Rock 8; schist and granitic mix	12/30/14
202	24B	26 cm	FAR	150 g	1	Hearth #1, PV2, Rock 9; granitic	12/30/14
203	24B	24 cm	FAR	40 g	1	Hearth #1, PV2, Rock 10 schist-like	12/30/14

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Cat #	Unit	Depth	Material	Type?	Ct.	REMARKS	Date
204	24B	28 cm	FAR	10 g	1	Hearth #1, PV2, Rock 11; granitic	12/30/14
205	24B	31 cn	FAR	40 g	1	Hearth #1, PV2, Rock 12: material?	12/30/14
206	24B	30 cm	FAR	?	1	Hearth #1, PV2, Rock 13; missing	12/30/14
207	24B	32 cm	FAR	290 g	1	Hearth #1, PV2, Rock 14; schist and granitic mix	12/30/14
208	24B	?	FAR	70 g	1	Hearth #1, PV2, Rock 15; quartz monzonite	12/30/14
209	24B	38 cm	FAR	60 g	1	Hearth #1, PV2, Rock 17; granitic ??	12/30/14
210	24B	33 cm	FAR	10 g	1	Hearth #1, PV2, Rock 18; granitic	12/30/14
211	24B	34 cm	FAR	150 g	1	Hearth #1, PV2, Rock 19; granitic	12/30/14
212	24C	30 cm	charcoal			CS #1; SW quadrant near west wall (18 cm from west wall; 32 cm from south wall)	12/31/14
						1+ canister; 1-2 large pieces; **see Plan View for Unit 24C**	
213A	24C	15 cm	FAR	50 g	1	FAR #5; granitic; **see plan view map for Unit 24C**	12/29/14
213B	24C	25 cm	FAR	?	1	missing; 8 x 6.5 cm; SW quadrant	12/31/14
214	24C	31.5 cm	ceramic	?	1	missing; center of Unit 24C	12/31/14
215	24D	25 cm	charcoal	Hearth #1		CS #3, Plan View 1, NE quadrant near east wall; 1/10th canister; small-medium pieces	12/29/14
216	24D	27 cm	charcoal	Hearth #1		CS #8, PV3, border Units 24A & B, west side; 1/5th canister; medium pieces	12/30/14
217	24D	37 cm	charcoal	Hearth #1		CS #9, PV3, near center; 1/8th canister; small-medium pieces	12/30/14
218	24D	32 cm	charcoal	Hearth #1		CS #17, PV3, east wall baulk, NE corner; <1/8th canister; 1 larger piece	12/31/14
219	24D	28 cm	charcoal	Hearth #1		CS #18, PV3, along north wall, east side; 1/10th canister; several small-med. Pieces	12/31/14
220	24D	26.5 cm	FAR	Hearth #1	1	Hearth #1, PV1, Rock 1; center; schist and granitic mix	12/31/14
221	24D	15-20 cm	soil sample	Hearth #1	1	charcoal-stained gravel soil; north wall baulk of Unit 24D	12/31/14
222	24D	28 cm	FAR	30 g	1	Hearth #1, PV3, Rock 20; granitic	12/30/14
223	24D	27 cm	FAR	20 g	1	Hearth #1, PV3, Rock 21; schist and granitic mix	12/30/14
224	24D	27 cm	FAR	30 g	1	Hearth #1, PV3, Rock 22; sandstone	12/30/14
225	24D	28 cm	FAR	130 g	1	Hearth #1, PV3, Rock 23; schist and granitic mix	12/30/14
226	24D	38 cm	FAR	160 g	1	Hearth #1, PV3, Rock 24; schist and granitic mix	12/30/14
227	24D	29 cm	FAR	70 g	1	Hearth #1, PV3, Rock 25; granitic?	12/30/14
228	24D	32 cm	FAR	70 g	1	Hearth #1, PV3, Rock 26, granitic?	12/30/14
229	24E	10-20 cm	ceramic		1	body sherd in screen (not analyzed)	12/31/14
230	24E	20-40 cm	ceramic	**SALTON BROWN**	1	body sherd in screen	12/31/14
231	24E	24 cm	charcoal			CS #1, plan view for Unit 24E, east central area; small amount in small bits	12/31/14
232	24E	27 cm	charcoal			CS #2, PV for Unit 24E; 1/2 canister; small to med? Pieces	12/31/14
233	24E	32 cm	charcoal			CS #3; PV for Unit 24E; NW quad; 1/4 to 1/5th canister; small to medium pieces	12/31/14
234	24E	32 cm	charcoal			CS #4; PV for Unit 24E; 1/3rd canister; many medium pieces	12/31/14
235	24E	33 cm	FAR	20 g	1	Rock 1; granitic; 7 x 6.5 cm; **see plan view for Unit 24E**	12/31/14
236	24E	33 cm	FAR	270 g	1	Rock 2; granitic; 5 x 4.5 cm; see PV for Unit 24E	12/31/14
237	24E	28 cm	FAR	490 g	1	Rock 3; granodiorite; 8 x 6 cm; see PV for Unit 24E	12/31/14

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Cat #	Unit	Depth	Material	Type?	Ct.	REMARKS	Date
238	24E	33 cm	FAR	80 g	1	Rock 4; gneissic; 9 x 4 cm; see PV for Unit 24E	12/31/14
239	24G	22 cm	FAR?	1.69 kg	1	Hearth #2, Plan View 1, Unit 24G, Rock 2; granitic; 16 x 9 cm;	12/30/14
240	24G	23 cm	FAR	50 g	1	Hearth #2, PV1, Unit 24G, Rock 3; granitic, slightly metamorphosed; 5 x 4.5 cm	12/30/14
241	24G	24.5 cm	FAR	110 g	1	Hearth #2, PV1, Unit 24G, Rock 4; granite	12/30/14
242	24G	21 cm	FAR		1	Hearth #2, PV1, Unit 24G, Rock 5; 4 x 2 cm; missing	12/30/14
243	24G	24.5 cm	ROCK?	20 g	1	Hearth #2; PV1, Unit 24G, Rock 6; granite	12/30/14
244	24G	22.5 cm	ROCK?	40 g	1	Hearth #2, PV1, Unit 24G, Rock 7; quartz diorite	12/30/14
245	24G	22 cm	FAR	370 g	1	Hearth #2, PV1, Unit 24G, Rock 8; 8 x 7 cm; quartz diorite	12/30/14
246	24G	29 cm	FAR	410 g	1	Hearth #2, PV1, Unit 24G, Rock 9; 6.5 4.5 cm; granite	12/30/14
247	24G	27.5 cm	FAR	60 g	1	Hearth #2; PV1, Unit 24G, Rock 12; partially metamorphic toward schist; 7 x 2.5 cm	12/30/14
248	24G	27.5 cm	FAR	80 g	1	Hearth #2, PV1, Unit 24G, Rock 13; quartz diorite; 5 x 2.5 cm	12/30/14
249	24G	33 cm	FAR	130 g	1	Hearth #2, PV2, Unit 24G, Rock 27; metamorphosed schist & granitic mix; 5 x 4.5 cm	12/30/14
250	24G	32 cm	FAR	410 g	1	Hearth #2, PV2, Unit 24G, Rock 28; granodiorite; 10 x 7 cm	12/30/14
251	24G	34 cm	FAR	50 g	1	Hearth #2, PV2, Unit 24G, Rock 29; metamorphosed schist & quartz; 5.5 x 3 cm	12/30/14
252	24G	30 cm	FAR	240 g	1	Hearth #2, PV2, Unit 24G, Rock 30; granitic; 10 x 7 cm	12/30/14
253	24G	28 cm	FAR	180 g	2	Hearth #2, PV2, Unit 24G, Rock 31; granitic; 6.5 x 6 cm	12/30/14
254	24G	31 cm	FAR	60 g	1	Hearth #2, PV2, Unit 24G, Rock 32; granitic; 5.5 x 4.5 cm	12/30/14
255	24G	31 cm	ROCK	50 g	1	Hearth #2, PV2, Unit 24G, Rock 33; quartz monzonite; not fire-affected; 5 x 4 cm	12/30/14
256	24G	33.5 cm	FAR	140 g	1	Hearth #2, PV2, Unit 24G, Rock 35; granitic; 6 x 3 cm	12/30/14
257	24G	37 cm	FAR	130 g	1	Hearth #2, PV2, Unit 24G, Rock 36; granitic; 6 x 5.5 cm	12/30/14
258	24G	45.5 cm	FAR	110 g	1	Hearth #2, PV2, Unit 24G, Rock 40; granitic; 9 x 6 cm	12/30/14
259	24G	38 cm	FAR	230 g	1	Hearth #2, PV2, Unit 24G, Rock 42; granitic; 9x7 cm; **all Hearth #2 very fire-affected**	12/31/14
260	24G	18 cm	charcoal	Hearth #2		CS #1, Deposit 1; see Plan View 1 for Unit 24G; 1/10th canister	12/29/14
261	24G	23 cm	charcoal	Hearth #2		CS #2; Deposit 10; PV1 for Unit 24G; 1/8th canister	12/29/14
262	24G	33 cm	charcoal	Hearth #2		CS #3; Deposit 19, PV2 for Unit 24G; tiny amount	12/30/14
263	24G	29 cm	charcoal	Hearth #2		CS #5; Deposit 22, PV2 for Unit 24G; below charcoal stain; 1/7th canister	12/30/14
264	24G	28 cm	charcoal	H#2; 0.67 g	**C14**	CS #6; Deposit 23, PV2, Unit 24G; below charcoal stain; 1/8th canister	12/30/14
265	24G	29.5 cm	charcoal	H#2; 0.60 g		CS #7; Deposit 24, PV2, Unit 24G; below charcoal stain; 1/10th canister	12/30/14
266	24G	35 cm	charcoal	Hearth #2		CS #8; Deposit 25, PV2, Unit 24G; 1/10th canister	12/30/14
267	24G	35 cm	charcoal	Hearth #2		CS #9; Deposit 26, PV2, Unit 24G; 1/8th canister	12/30/14
268	24G	37 cm	charcoal	Hearth #2		CS #10; Deposit 34, PV2, Unit 24G; some partially burned; 1/8th canister	12/30/14
269	24G	37 cm	charcoal	H#2; 5.15 g		CS #11; Deposit 37, PV2, Unit 24G; 7/8th of a canister	12/30/14
270	24G	38 cm	charcoal	Hearth #2		CS #12; Deposit 38, PV2, Unit 24G; small amount; 1-2 pieces; partially burned pieces	12/30/14
271	24G	37 cm	charcoal	Hearth #2		CS #13; Deposit 39, PV2, Unit 24G; many pieces; some partially burned; 1-2 canisters	12/30/14
272	24G	38 cm	charcoal	**H#2; 7.84 g**		CS #14; Deposit 41, PV2, Unit 24G; north wall; some partially burned; 1-2 canisters	12/30/14
						19 cm depth from Unit 24 frame reference as opposed to NE corn of 3 x 3 m datum	

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Cat #	Unit	Depth	Material	Type?	Ct.	REMARKS	Date
273	24H	31 cm	FAR	40 g	1	from screen; between quartz diorite and quartz monzonite	12/31/14
274	24H	40-45 cm	shell	*Anodonta*	6	3 sets (1 with partially broken shell)	12/31/14
275	24H	49 cm	soil sample		1	thin compact silt layer with roots that underlies entire 3 x 3 m unit centered on Unit 24	12/31/14
276	24B	14-34 cm	burnt bone	<1 g	1	0.6 x 0.5 x 1.1 mm; in Layer IIB, North Wall; non-oxidized gravel (broke in 2 pieces)	12/31/14
277	29	28 cm	FAR	80 g	1	5.5 x 4.0 x 3.0 cm; quartz monzonite? Level IIB oxidized layer; bottom fire-altered	3/7/15
278	29	27.5 cm	ceramic		1	Level IIA; eastern 1/3rd of unit	3/7/15
279	29	29 cm	ceramic		1	Level IIA; in screen; western 1/3rd of unit	3/7/15
280	29	32-40 cm	charcoal	1.02 g		first appears at 32 cm; for charcoal ID not C14; 1/5th canister	3/7/15
281	29	surface	soil sample		1	Level I	3/7/15
282	29	26 cm	soil sample		1	Level IIA	3/7/15
283	29	28.5 cm	soil sample		1	Level IIB oxidized layer	3/7/15
284	29	40.5 cm	soil sample		1		3/7/15
285	29	46 cm	soil sample		1	Level III	3/7/15
286	30	49 cm	FAR	230 g	1	Level IIB; oxidized layer; 10 x 4.5 x 4.5 cm; gneissic rock; bottom fire-altered	3/7/15
287	30	31 cm	ceramic		1	Level IIA	3/7/15
288	30	32 cm	ceramic		1	Level IIA	3/7/15
289	30	30 cm	charcoal	0.11 g		Level IIB (early lense); toward south half; 1/10th canister	3/7/15
290	30	32-45 cm	charcoal	1.09 g		Level IIB, mostly south half of unit; 1/5th canister	3/7/15
291	30	30 cm	soil sample		1	Level IIB; N 1/2	3/7/15
292	30	38 cm	soil sample		1	Level IIB; very gravelly; south end	3/7/15

Locus A: Units 1-10; Locus B: Units 17-23; Locus C: Units 11-16 and 24-30
Surface Cat. Nos. 110-117 in Locus C; Surface Cat. No. 118 in Locus B; all other surface sherds were within test units
NOTE: Unit 24 depths using iron frame and ground contours; nearly every other depth based on datum line level in NE corner of Unit 24C. However, the depth below datum was measured at numerous ponts in all 9 units within the 3 x 3 m block excavation before excavation began.