NATIONAL REGISTER
OF HISTORICAL PLACES

Technical information on the National Register of Historic Places: survey, evaluation, registration, and preservation of cultural resources

U.S. Department of the Interior
National Park Service
Cultural Resources
National Register, History and Education

Bateyes de Viví (U-1), Utuado, Puerto Rico
Archaeological Documentation for its Inclusion in the NRHP
Prepared by José R. Oliver and Juan Rivera Fontán

P. R. - State Preservation Historical Office and the U. S. National Park Service
Submitted: September 30, 2006; NRHP Registration: June 21, 2007
San Juan-Washington D. C.
17 de julio de 2007

José R. Oliver, PhD
Estonia #618
Caparra Heights
San Juan, Puerto Rico 00920

NOTIFICACIÓN DE INCLUSIÓN DE “BATEYES DE VIVÍ (U-1)” AL REGISTRO NACIONAL DE LUGARES HISTÓRICOS.

Estimado doctor Oliver:

Nos complace informarle que la propiedad conocida como “Bateyes de Viví (U-1)”, localizada en el Municipio de Utuado, fue incluida en el Registro Nacional de Lugares Históricos en Washington, D.C., el 21 de junio de 2007.

Deseamos felicitarlo por su trabajo y agradecérsle su participación en la preparación de esta nominación.

Atentamente,

Aída Betién Rivera
Oficial Estatal de Conservación Histórica

ABRR/BRS/jbr
United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM

1. Name of Property

historic name: **Bateyes de Viví**

other names/site number: “El Hoyo”, “Dance Grounds Butterbaugh Estate”, “Vega del Hoyo”

2. Location

street & number: **Barrio Viví Arriba, PR-605, Km 5.6**  \[X\] not for publication

city or town: **Utuado**  \[X\] vicinity

state: **Puerto Rico**  code: **PR**

county: **Utuado**  code: **141**

zip code: **00641**

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this X nomination □ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets □ does not meet the National Register criteria. I recommend that this property be considered significant □ nationally X statewide □ locally. (□ See continuation sheet for additional comments.)

---

**Aida Belén Rivera Ruiz**

Signature of certifying official  June 21, 2007

**Puerto Rico State Historic Preservation Office**

State or Federal Agency or Tribal government

In my opinion, the property X meets □ does not meet the National Register criteria.

---

Signature of commenting or other official  Date

State or Federal agency and bureau
4. National Park Service Certification

[X] entered in the National Register  
____ See continuation sheet  
____ June 21  2007

[X] determined eligible for the National Register  
____ See continuation sheet  
____ June 21  2007

____ determined not eligible for the National Register  
____ See continuation sheet  
____ June 21  2007

____ removed from the National Register  
____ other (explain): ________________

___________________________________  
Signature of Keeper  Date of Action

5. Classification

Ownership of Property

[X] private  
____ public-local  
____ public-State  
____ public-Federal

Category of Property

____ building(s)  
____ district  
[X] site  
____ structure  
____ object

Number of Resources within Property

Contributing  Noncontributing  
0  0  buildings  
0  0  sites  
7  0  structures  
0  0  objects  
7  0  Total

Number of contributing resources previously listed in the National Register 0

Name of related multiple property listing: Ball Court/Plaza Sites of Puerto Rico and the Virgin Islands
6. Function or Use

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7. Description

Architectural Classification: **Other: Batey Site**

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Narrative Description: **See Continuation Sheets**
8. Statement of Significance

Applicable National Register Criteria

___ A Property is associated with events that have made a significant contribution to the broad patterns of our history.

___ B Property is associated with the lives of persons significant in our past.

___ X C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

___ X D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations: N/A

Areas of Significance
Archaeology
Architecture
Engineering

Period of Significance: AD 1260-1450

Significant Dates: N/A

Significant Person: N/A


Architect/Builder: Unknown

Narrative Statement of Significance: See Continuation Sheet
9. Major Bibliographical References

Previous documentation on file (NPS)
___ preliminary determination of individual listing (36 CFR 67) has been requested.
___ previously listed in the National Register
___ previously determined eligible by the National Register
___ designated a National Historic Landmark
___ recorded by Historic American Buildings Survey # __________
___ recorded by Historic American Engineering Record # __________

Primary Location of Additional Data
_ X __ State Historic Preservation Office
_ X __ Other State agency
___ Federal agency
_ X __ Local government
___ University
___ Other

Name of repository: Oficina Estatal de Conservación Histórica de Puerto Rico (PR-SHPO), Instituto de cultura Puertorriqueña (ICP), & Consejo para la Protección del Patrimonio Arqueológico Terrestre de Puerto Rico.

10. Geographical Data

Acreage of Property: Approximately 4.48 acres

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Verbal Boundary Description: See Continuation Sheet

Boundary Justification: See Continuation Sheet
11. Form Prepared By:

name/title: José R. Oliver, PhD and Archeologist Juan Rivera Fontán

organization: Institute of Archaeology, University College London (IoA-UCL) & Programa de Arqueología y Etnohistoria, Instituto de Cultura Puertorriqueña (ICP)

date: September/30/2006

street & number (for IoA-UCL): 31-34 Gordon Square telephone: [011] (207)679-1524

city or town: London    state: England    zip code: WC1H 0PY

Technical Assistance in the preparation of the present National Register nomination was provided by:

name/title: Yasha Rodríguez, PhD Archeologist

organization: State Historic Preservation Office

street & number: P.O. Box 9066581

city or town: San Juan    state: Puerto Rico    zip code: 00906-6581

Telephone: (787) 721-3737

Property Owner

Name: Mr. Miguel Antonio Sastre & María Luisa Frau

street & number: PR 605 Km. 5.4    cellular phone: (787) 300-1214

city or town: Barrio Vivi Arriba, Utuado    state: PR    zip code: 00641

Postal Address:

street & number: Condominio Parque 352    cellular phone: (787) 300-1214

City or town: San Juan    state: PR    zip code: 00912
NARRATIVE DESCRIPTION

The ‘Los Bateyes de Viví’ (ICP/OECH site code: U-1) is a Pre-Columbian archaeological site with multiple precincts demarcated by granodiorite monolithic stones, some decorated with petroglyphs.

The site is found on the property of Don Miguel Antonio Sastre (born, 22 November, 1927) and his sister María Luisa Frau. The Sastre Estate today comprises about 200 cuerdas or 785,800m² (1 cuerda = 39.29 áreas; 1 área = 100 m²; thus 1 cuerda = 3,929 m²). The Estate was purchased by Don Miguel Sastre, grandfather of Miguel Antonio, toward the end of the 19th century. The Estate was then inherited by José Antonio Sastre Alvarado, who was born in Adjuntas at the beginning of the 20th century. José Antonio was the father of Miguel Antonio Sastre, the current owner. However, the terrain where Bateyes de Viví (U-1) is located was not purchased by José Antonio Sastre from Mr. Butterbaugh sometime during the decade of the 1920s. According to Don Miguel A. Sastre (pers. comm., 2006), Mr. Butterbaugh was an Englishman who in the 1920s sold part of the Estate to his father (where the Bateyes de Viví is located) and another portion to Don Pablo Rivera, father of the late Ismaro Rivera, Sr. In the early 20th century the Los Bateyes de Viví site was locally known as ‘El Hoyo’ (literally ‘the hole’ or depression). From the 19th century until about mid 1960s the principal crop grown in the Sastre Estate was coffee; the Ismaro Rivera Estate presently runs an extensive coffee nursery.

The archaeological site is located in Barrio Viví Arriba, Municipality of Utuado, Puerto Rico. The property can be reached by following PR Route 111 from Utuado to Jayuya and turning right (south) on PR Route 605 to the private dirt road (west side of PR-605, at KM 4.2) to the coffee farm of Sr. Ismaro Rivera, Jr. At present, the Rivera farm provides an easier access to the site than through Sastre’s farm, as the latter’s trail to the site is blocked by vegetation and overgrowth. The entrance to the Sastre’s compound is also along PR-605, on Km 5.4, while the entrance to the site from the Sastre farm is further south on Km 5.6. In between the two farm entrances is the Iglesia de La Inmaculada Concepción, comprising a convent, a church and several ancillary buildings that can be easily spotted in maps, aerial photography and satellite images (including popular sites such as NASA Worldwin and Earth Google). The convent is located opposite (east) the meander of the Viví River where the archaeological site is located [see Figures 1-2; Plates 1-3].

The coordinates for ‘Bateyes de Viví’ (U-1) are 18° 13’ 19.14” North Latitude and 66° 40’ 33.06” West Longitude (Oliver and Rivera 2004: Figures 1-2).
Figure 1. Location of "los Bateyes de Vivi (U-1), Adjuntas Quadrangle, USGS 7.5 Series topographic map.
Figure 2. Aerial Photograph showing the location of the main batey structures.
Photo from CRIM (1979), modified with Adobe Photoshop
Bateyes de Viví is located on a colluvial and alluvial terrace on a meander of the Vivi River (Oliver and Rivera 2004:5). The meander is comprised of unconsolidated deposits of sand, lime, clay, and gravel, and is technically an alluvial terrace deposit. The meander was formed by the lateral displacement of the Vivi River toward the east-northeast where it currently stands as a result of structural (geological) constraints. Recent research conducted by Rivera and Oliver (2004, 2005) indicates that the physical and natural landscape observed today within the terrace/meander is largely altered by human activities dating from largely Pre-Columbian but also spanning into modern (historic) times. This conclusion was derived from archaeological data and supported by consulting/project geologists Miguel Vázquez and Eugenio Asencio (see Oliver and Rivera 2004: 9-12; 2005:8-14).

Plate 1. Panoramic view of Los Bateyes de Viví, view toward the east-southeast. The cleared area at the center corresponds to the cultivated field found west of and the dotted circle to the core area of the site. (2006 Neg. 8877 - Exposure 0004)
Plate 2. View of the Bed stream of the Viví River at the apex (left bank) of terrace meander. Note the large granodiorite boulders collapsed from the terrace cliff. River flow is to the northwest curving to the southwest. (2006 Neg. 8874 – Exposure 0008)
7-A.1. Soil Characteristics

The United States Soil Conservation Survey (USCSS) (Acevedo 1982: 32, 42-3) classified the soil type in the vicinity of the archaeological site as Vivi Loam. It is generally a deep but moderately permeable to well drained soil type whose texture ranges from loamy to sandy loam and increased gravel with depth. The groundwater productive capacity is moderate. Another feature of all Vivi Loam terrains is their moderate potential for flooding, as these tend to be found along river courses in the region. The
soils also tend to by strongly acid toward the surface, decreasing to moderately acid with depth. The absence of bone and chitin (land snail shells) due to high soil acidity was confirmed during the 2004 and 2005 archaeological work. The USSCS indicates that the Viví Loam soil is used primarily for agriculture and recommends a limited use for purposes other than agriculture. The Viví Loam soil within the archaeological site, however, does not precisely match the USSCS type profile, as both localized natural events (two possible violent floods) and ancient anthropogenic activities (re-landscaping, earth movement, artificial terrace stabilization) have altered the typical soil profile.

7-A.2. Geology

The rocks in and around the archaeological site, including the metavolcanic rocks transported by the Viví River, belong to the Utuado Batholith formed during the upper Cretaceous or lower Tertiary ages (Mattson 1968). This geological province includes varieties of plutonic rocks, mainly quartz-diorite, diorite, quartz-monzonite, and ganodiorite, particularly those found in the 'TKm' Formation. Specifically, Mattson’s geological map (1968) described these as:

Pinkish-white medium-grained quartz-monzonite and granodiorite, containing 2 to 5 mm euhedral or subhedral plagioclase, hornblende, and biotite crystals forming a granitoid texture within interstitial anhedral quartz and potassium feldspar. Epidote is one of the most abundant accessory minerals. The quartz content is greater than 10 percent. Both rock types weather to a light-colored sandy soil that contains less clay than soils formed from other plutonic [Adjuntas] quadrangle. Unit intrudes grayish-white quartz-diorite and granodiorite.

Mattson’s (1968) geological map also shows a long belt of granodiorite with quartz crystals to the south of Viví Arriba site. This belt is shaped by a strike-slip fault running northwest to southeast. The quartz diorite and granodiorite in this belt differs from the basal rock at the Bateyes de Viví site in regard to grain color, texture and size (smaller) and in the (lower) proportion or percentage of potassium feldspar.

The local geological characteristics are relevant insofar as the Pre-Columbian inhabitants at Bateyes de Viví had exploited the rock materials as resources for construction of court areas and for landscape engineering projects (e.g., terraces). The geological structural foundations around the Viví meander partly motivated the kinds of Pre-Columbian re-landscaping activities deduced from the archaeological studies conducted by Oliver and Rivera (2004, 2005).
7-A.3. The Viví River Basin

Topographic and orographic alignments in the region suggest that the Viví channel (bed stream) is probably structurally constrained. The geological fault lines identified by Mattson (1968) are oriented in the same general direction of the topographic (orographic) alignments, and are located to the south of the Bateyes de Viví site, suggesting the possibility that there is a structural control constraining the course and development of the Viví River. The Viví River River is a mature river; it has vertically incised its basin, cutting into the Utuado Pluton bedrock. The Viví Basin is characterized for its steep slopes, and only on a few selected localities, such as at Bateyes de Viví site, alluvial terrace formations can be observed (Oliver and Rivera 2004:11). Further down river from Bateyes de Viví, a similar terrace on a meander can be observed in aerial photography, and is reported to also contain an archaeological site (access for visual inspection to Oliver & Rivera has been denied thus far). Such alluvial and colluvial terraces, with their relatively level terrains, are apparently prime real estate for Pre-Columbian occupation (settlements) and/or the construction of batey sites (i.e., sites with stone demarcated precincts).

7-A.4. Vegetation and Animals

The vegetation in the terrace area, where the site is located, is almost entirely the result of relatively modern anthropogenic activities (since the middle to late 19th century). The variety of trees present today is what one would expect from a ‘typical’ (former or abandoned) coffee plantation. Until 2004, guaba (most probably Inga vera) was the dominant woody species, almost all of which had died by 2005 because of horse pasturing—the horses chewed on the bark, killing the tree. The new dominant species is the guaraguao or musk wood (Guarea guidonia). In addition, one also finds espino (Zanthoxylum sp.), guara or candlewood (Cupania sp.?), garrocho (Quararibea turbinata), yagrumo hembra or trumpet tree (Cecropia schreberiana), palma de lecho (Genus ???), moral or white manjack (Cordia sp.), higuillo or spanish elder (Piper aduncum), pomarrosa (Syzygium jambos), guayaba or Guava (Psidium guajava), café del país or coffee of the tree-shade variety (Coffea spp.), bambúa común or common bamboo (Bambusa vulgaris or B. glaucescens), laurel geo or whitewood (Ocotea sp.), anón or angeline tree (Annona squamosa), moca or Cabbage Angelin (Andira inermis), cedro hembra or Spanish cedar (Cedrela odorata), cotorro (Adelia ricinella), and guasábaro (GENUS??). Surprisingly, among the trees, there are several mature rubber trees of the same species, probably imported from either Central America (Castilla elastica) or Brazil (Hevea brasiliensis). It is possible that Don José Antonio Sastre, or perhaps Mr. Butterbaugh, imported these trees before World War II, prior to the broad availability of synthetic rubber (Liogier and Martorell 2000; Little et al 1977; Bourne et al. 1988). Some, like pomarrosa, are not native to the Caribbean.
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The current terrestrial fauna in and around the site is rather poor (depauperate) with the exception of amphibians, reptilians, and insects of various species. Terrestrial mollusks of potential economic (food) value are extremely rare and restricted to Pleurodonte caracolla and Polydentes lima species (see Tucker Abbott 1989). Freshwater animal resources from the Viví River observed at present are limited to the varied “guppy family” (1-2.5" in length), the rare small catfish and shrimp (species undetermined). The terrestrial/aquatic buruquena crab (Epilobocera sinuatitrons), a common Pre-Columbian food source in limestone (karst) regions, were not observed alive in this area. The buruquena prefers calm, low energy streams (Oliver and Narganes 2005).

7-B Period of Time

The chronology of the archaeological site has been established through six radiocarbon dates, obtained from excavations conducted in 2004 and 2005 to the east and west and immediately outside of the main batey or Precinct ‘A’. These indicate a period of occupation between cal. AD 1260 and AD 1450.

Based on the stratigraphy of the excavation in Block A, the intense period of activity around precinct or structure ‘A’ was around AD 1400-1450 (for a detailed discussion, see Section 7-D.5, p. 25). This is the period immediately before the Spanish conquest of Puerto Rico led by Juan Ponce de León, which began in 1508. The ceramics recovered from the site, without exception, are stylistically classified as Capá style (see 7-C, below), which articulates well with the range of radiocarbon dates obtained for Bateyes de Viví site. In other interior mountainous regions of western Puerto Rico, sites with the same or very similar ceramic complex (i.e., Capá style) have also yielded a maximum (absolute) date range between AD 1280 and AD 1500 [see Plate 4].
Bateyes de Viví
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The site of Bateyes de Viví can be assigned to the Capá culture (people and style), as defined in Rouse's (1952, 1992) normative, cultural classificatory scheme. Following Rouse's (1992) hierarchical taxonomy, Capá style (or cultural complex) is hypothesized to have a common historical ancestry (phylogeny) with a number of other styles throughout the Greater Antilles and the Northeastern Antilles (as far south as Anguilla and as far west as Eastern to Central Cuba). (Please note that Rouse's definition of 'style' and 'series' substantially differs from that of other archaeologists, such as Ripley P. Bullen in the Caribbean and from the usage of other archaeologists in Southeastern United States.)

With the assumption that all of these styles (and cultures) shared a common ancestry, Rouse hierarchically grouped them in the Chican subseries (the intermediate taxon) and, in turn, in the larger Ostionoid series (the higher taxon). Rouse’s reasoning was that all the styles and cultures in the Chican subseries ultimately derived from earlier (intermediate period, ca. AD 600/700 to AD 1000/1200) styles, which were classified in the Ostionoid series. In Puerto Rico, the Ostionoid series is represented by the early (unmodified) Ostiones style followed by a late or modified Ostiones style in the west of the island. Both were grouped at the level of subseries as the Ostionan (of the Ostionoid series). In the eastern side of Puerto Rico, the Ostionoid series is represented by the Monserrate and Santa Elena styles both of which were grouped in the Elenan subseries, also of the Ostionoid series. In Rouse’s scheme, the material culture of Bateyes de Viví (i.e., Capá) would have its immediate historical and cultural antecedents in the late Ostiones style/culture than with the Monserrate style/culture (see Curet 2005: 11-26).

However, Rouse’s hierarchical taxonomy, with its normative approach centered primarily on ceramic traits (modes, mode complexes) rather than on the dynamics of social, political-economic and other (e.g., religious, ideological) processes, has significant limitations and shortcomings, including the fact that the chronological (distributions) of the different (ceramic) styles and are sharply contradicted by nearly 400 radiocarbon dates (see Rodríguez Ramos et al. in press). In some areas a style not only began earlier but persisted for far longer than Rouse was willing to contemplate and, further, in some local areas more than one style/culture co-existed side-by-side (e.g., La Hueca and Sorcé), thus bringing into question the whole notion of a culture area defined by the dominance of one—and only one—culture (and style) in any given period (for further critiques, see Curet 2005 and Ramos Rodríguez et al. in press).
Bateyes de Viví
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In this light, it would be wise to keep in mind that while Bateyes de Viví does appear to neatly conform to the dates and to the Capá ceramic style defined by Rouse (1952, 1992), it ought not to be assumed that other Capá sites (with bateyes or not) are necessarily of the same chronological span or fit Rouse’s characterization of the ‘Classic Taino’ culture.

**7-C.2. Ethnic Affiliation**

The occupants of Bateyes de Viví were likely to be no more than two or three generations removed from the native peoples that Columbus briefly contacted on his second voyage in 1493 on the west coast of Puerto Rico (or Boriquén) and the Spanish who engaged during the early conquest of Puerto Rico led by Juan Ponce de León in 1508-1519. The anthropological literature has labeled these native groups as ‘Taino/s’. However, this is a ‘loaded’ concept intimately linked to civilized, peaceful, and advanced agricultural peoples that were politically organized into cacicazgos or chiefdoms, features that form part of Rouse’s (1992) definition of the ‘Classic Taino’ culture. Until very recently, the term Taino (or Arawak) was consistently contrasted with ‘Carib’ Indians, who were instead presented as uncivilized, cannibalistic warriors, with less developed or complex social and political organizations (i.e., Steward’s or Service’s ‘tribes’; for a critique see Hulme 1992 and Sued Badillo 1984).

Presently, there is a possibility, based purely on accepting the upper two sigmas of some of the radiocarbon dates, that the Bateyes de Viví inhabitants may have still been around during the first decade or two of the 16th century, albeit there is as yet no material evidence of the presence (or of any direct or indirect impact) of the Spanish at this site.

The term ‘Taino’, is a 19th century construct first articulated by Raffinesque (Rouse 1992). However, it was never used as an ethnic identity designation by either the Spanish or any of the native islanders they encountered. Upon reaching San Salvador, Christopher Columbus asked a local native who they were and the reply was ‘lucayo’, a Taino word (Arawakan) whose etymology can be glossed as “we-islanders” (/lu/= we; kay/o= island/ers; see Oliver 1998). The early Spanish ethnohistoric documents refer to native islanders as “Indians of these [West] Indies”, as “Indians that belonged to...” such and such cacique or region (e.g., Juanillo de Caguana). Less frequently, and mostly in regard to caciques, the Spanish provided their personal names or honorific titles, such as Agueybana ‘El Bravo’ (The Brave One). The Spanish would also impose their European notions of nationhood (esta nación de indios)and of population (poblado, población de indios) on the natives, but never an ethnic term, much less a self-designation, was written down in the chronicles and documents.
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The modern term Taíno thus began as a colonial construction and has, since its inception in the 19th century, undergone many significant conceptual and definitional changes according the anthropological paradigm in fashion at the time —from the classic evolutionary and ‘racist’ perspectives of the late 19th century to the present highly relativistic position promulgated by (most) post-modernist anthropology. In sum, while the ‘ethnicity’ of the occupants of Bateyes de Viví may be grossly categorized as Taíno (just before and after Spanish Contact), it should not be assumed that the natives from Bateyes de Viví (and Puerto Rico) would conform to Rouse’s idealized (and forced into a normative framework) ethnic category of Taíno and to the ‘Classic Taíno cultural type. Moreover, the further implication of Classic Taíno polities being hierarchically structured and organized into paramount chiefdoms is as yet to be tested and confirmed by archaeological evidence, while the 16th century Spanish documents pertaining to Puerto Rican (rather than Hispiolan) Taíno sociopolitical organization are far from clear (see Hofman et al., in press; Oliver 2003).

The Taíno and Classic Taíno classificatory categories simply hide far too much social, economic, political, cultural and material variability to reflect ‘ethnic’ and ‘cultural’ types.

7-D. Physical Characteristics

7-D.1. Site type

The site type is best described as a Pre-Columbian batey site, with multiple precincts or structures (batey, singular; bateyes, plural). However, to determine whether this site was a so-called religious/ceremonial center, a civic (political) ceremonial center, or something other, will require further archaeological research. These precincts could be merely the common public spaces (albeit demarcated with stones) of a local headman/woman where highly ritualized and everyday, quotidian activities took place, without the necessarily implying that it was a ‘central place' in a political-religious hierarchy of settlements. The classifications of sites with single court area as the locus ceremonial/ritual action (of a political-religious nature) and of multiple court sites as ceremonial centers, is not an accomplished fact but rather the hypothesis that needs to be addressed.

The implication behind these two commonly applied classificatory labels, ‘center’ and ‘ceremonial’, in the academic literature (e.g., Siegel 1999, 2004: 87-100) and in nominated multiple-court (batey) sites (e.g., Palo Hincado [BA-1], Caguana [U-10], or Callejones [LR-2]) is that: (a) these sites were centers in a political and religious hierarchy of sites and thus likely seats of power of a chiefdom polity (or cacicazgo, a Hispanicized Taíno word);(b) that whether civic and/or ceremonial, religious or political-economic, the activities were solemn and marked by rigid protocols (ceremonial rituals) and, thus executed (more or less regularly) at particular times of the year; (c) that executing ritualized
and ceremonial ball-games and areito (chants and dances) ceremonies were, essentially, the raison de être of multiple-court/batey sites, congregating participants locally and from afar. All of these are assumptions that rely on data and interpretations derived from colonial Spanish documents and anthropologically re-cast by 'chiefdom' theories, but which in Puerto Rico find no archaeological support, yet. To summarize, Bateyes de Viví cannot yet be declared a ‘ceremonial center’, more so when there is an absence of archaeological data in the region of Viví Arriba. A ‘center’ can only be identified as such in terms of the region and the nature of the surrounding settlements that Bateyes de Viví purportedly articulated (or controlled?).

Figure 3. Topographic map of Los Bateyes de Viví site showing the proposed boundary of the cultural property nominated.
A total of seven standing structures have been identified, and several others (detailed below) may also turn out to also be man-made structures [see Figure 3]. These are:

**Structure/Precinct A.** This is the largest *batey* (stone demarcated precinct) at Bateyes de Vivi (Oliver and Rivera 2004: 20-23; 2005: 3-5). This precinct (plaza-like area) is currently framed on three sides by granodiorite boulders of varying sizes and shapes, some slightly modified by humans, and several of which include petroglyphs. This unequal-sided *batey* measures approximately 40-42 meters in length (N-S) and 27-34 meters in width (E-W), covering a minimum court area of $1,080 \text{ m}^2$ and a maximum of $1,428 \text{ m}^2$. The stone rows to the east and west sides of this *batey* are visible at surface level; two segments of the south row were detected by excavation Units C-1 and C-2; this south row is mostly buried by shallow colluvial (laminar erosion) sediments. In 2006 further segments of buried stones, but close to the surface, were uncovered adjacent to the SW corner, confirming the evidence obtained from Test Excavations 1 and 9 (Oliver and Rivera 2004, 2005). The north boundary of Precinct A once contained a row of erected stones, but at present few are visible and all are displaced from their original placement. Future Ground Penetrating Radar and excavations along the northern perimeter of the precinct are likely to uncover other monoliths that may still remain buried (as was the case for the southern end) [see Figure 4].

Excavation Unit 3, intersecting the western row at N 1000.5–E 1000 provided evidence about the technique of *batey* construction and terrain preparation. As the west side sits on a higher elevation, the natives had leveled the terrain, cutting into the west side. The earth overburden seems to have been dumped on the eastern side of the precinct, as there is a noticeable, unnatural rise of the terrain just behind the row of stones of this precinct (Oliver and Rivera 2004).
Figure 4. Plan view of Structure ‘A’ and location of excavations (in gray)
Structure/Precinct ‘B’. This is the second largest batey in area, consisting of two rows of granodiorite monoliths and boulders. The western row precisely follows the same orientation (azimuth N30°E) as Structure ‘A’. The eastern row of Precinct ‘B’ maintained the same orientation as the western row (N30°E). The row of monoliths on the west side is 38 m in length while the western row is 36 m long. At present the north and south sides have no visible surface stones demarcating this batey. However, since no GPR surveys or excavations have been conducted in these two areas, it is possible that there are buried monoliths to be found. This batey is rectangular in shape (38 m x 16 m), covering an area of 608 m² or about half the area covered by Structure ‘A’ [see Figure 5].

The east row had been impacted since the site was reported by Rouse in 1938. Two areas for burning wood charcoal were detected, one located on the middle of the eastern row, the other within the plaza, on the southern end. Charcoal burning resulted in the displacement of the original batey stones on the eastern row. Despite this, several (N=11) of the stones remained in situ, particularly toward the two ends, thus allowing to determine the length and orientation of the east row. The south east corner area includes three large boulders arrayed in such a manner to suggest that, probably, there was (or may still be buried) a cobble-stone causeway bordering the eastern exterior of Structure ‘B’.

The western row of Structure ‘B’ presents three additional features of interest. First, the terminal rock marking the south end of the west row is a natural boulder carved with simple petroglyphs on the round (locally known as “Las Caritas” rock). As such it is a key terminal monument. It can be speculated that this rock is the primary datum point for the alignment and construction of all the structures by the pre-Columbian architects of Viví. This natural rock is in precise alignment (N30°E) with the western rows of monoliths of Structures ‘B’ and ‘A’. Following this azimuth toward the northern edge of the site, next to the barranca (cliff) of the Viví River, a tall monolith (tumbled to its side) with unique fine-line engravings was found. The close alignment between Las Caritas terminal monument (at N90°E999) to the south and the monolith at the northern end (N105°E1001.5) of the site is not likely coincidental. Secondly, there are two rows of boulders that run west to east and terminate perpendicularly on the outside face of the stones demarcating Structure ‘B’. This is a construction feature not known for other multiple-batey sites in Puerto Rico. The effect of this construction is to segregate or subdivide the space just outside of the western row between the slope of the adjacent hill and the batey itself. Its function remains unknown. Thirdly, the western row not only has the terminal monument with petroglyphs (Las Caritas rock) marking the south end, but another granodiorite round boulder that also has a faint remnant of a petroglyph marking the northern end of this row in Structure ‘B’. These are the only two rocks with petroglyphs in this batey, contrasting with the more frequent petroglyph engraving along the east and west rows of Structure ‘A’ (see section 7-D.6.3, below).
Structure ‘C’. It consists of a single row of granodiorite stones that start very near the northeastern corner of Structure A and extend (azimuth 90°E) for 17 meters eastward, toward the cliff of the Viví River. Most of the stones in this row were buried by some 15-20 cm of sediments, although the tops of some of the rocks protruded slightly on the surface. This may be a single row marking a pathway to the river edge or, more likely, be one of two rows demarcating another batey area. Surface visual inspections did not reveal a parallel stone row on either side of this row. Further surveying (Ground Penetrating Radar) and excavations will be required to determine which hypothesis (batey vs pathway) is most likely [see Figure 6].
Figure 6. Plan view of the single row of monoliths, Structure ‘C’
Structures ‘D’, ‘E’, ‘F’, and ‘G’. Toward the apex of the meander/terrace, and north of Structure ‘A’, mapping of the surface rocks and boulders revealed a pattern that suggests human agency. The rocks include both, those laying on the surface (tumbled or placed) and those set into the ground, some of considerable size and volume. The surface scatter is such that the rocks have bounded three circular to oval areas devoid of any surface rocks (areas ‘D’, ‘E’, ‘F’). A possible fourth area (Structure ‘G’) is tentative, as it is unbounded by surface rocks on the south side. Only one partly buried, long rock tumbled on its side (Rock No. 4 in Structure ‘D’), contained petroglyph designs. This monolith is the northernmost terminal monument aligned with the southern terminus of in Structure ‘B’ (Las Caritas Rock; see description of Structure ‘B’, above) [see Figure 7].

The size and distribution of most of these rocks suggested to geologists Miguel Vázquez and Eugenio Asencio (personal communication, 2005) that they are not all the result of either river deposition or by the natural (gravity) displacement and rolling-down from the hill tip that abuts the site further to the south and west. The river bed and adjacent sand bars at the apex of the river meander, as well as on the cliff along the bank river contain some massive boulders. These boulders can be seen in the bead stream as well as protruding from the bank’s cliff on the (south) side where the terrace is located. It will require further fluvial geomorphologic research to determine terrace formation and development processes so as to evaluate whether the semi-circular rock distributions are explainable by natural causes alone, or whether such patterns are anthropogenic. Oliver and Rivera’s (2005) impression is that the rock distribution on the surface of the terrace and on the uppermost (near surface) segment of the cliff’s profile are, in part, placed there by human agency, while the rocks themselves were locally available (i.e., river deposited) rather than being carried there from elsewhere (as initially suggested in Oliver and Rivera 2004). To clarify these issues a GPR mapping of the terrace around Structures ‘D-G’ and a profile cut along the cliff façade for geomorphological analysis will be required.

In sum, there is a potential that the circular to semi-circular areas just described are partly the result of human intervention and that some of the monoliths inserted diagonally onto the face of the cliff near the top may have been set there by human agency in order to stabilize or protect the terrace from erosion and collapse. Assuming human agency, the function of the semi-circular spaces bordered by stones is as yet unknown, although round plazas bordered with set stones are known for other multiple batey sites in Puerto Rico, such as Caguana [U-10] (Rivera 1992; Oliver 1998) and Tibes [PO-01] (Curet et al. 2006). No excavations were conducted in this sector as it was decided that a non-intrusive Ground Penetrating Radar (GPR) survey would be the best course to determine whether other buried rocks are to be found in the area, particularly under what at surface appears to be a clear court-yard area. The results of a GPR survey would help determine which areas would be most informative for excavation. If the subsurface GPR pattern confirms that these areas are indeed devoid of stones, then further excavations would be needed to determine their functions (houses, huts, plazas?).
Oval Patterns to the West of Structure ‘A’ (Block B). Adjacent to but outside Structure ‘A’ there are two other potential circular or oval clear areas partly bordered by stones. It is as yet unclear whether these patterns, similar to Structures D-G, are the result of Pre-Columbian activities, modern activities or, more likely, both. One of these, located between E995-992 and N984-987, may represent rocks that were originally set in the western row of Structure ‘A’ between N982 and N990. On the other hand, the rock scatter between E984-E990 and N998-1005 may once had been an indigenous structure other than an oval precinct, as originally proposed by Rivera and Oliver (2005:6-7). One fragmented petroglyph was found near this latter oval “precinct”. GPR surveying and excavations would be required to sort out the nature of these two apparent structures [see Figure 8].
Structure 'I'. Along the slope of the hill on the west side of the site, surface inspection revealed the possibility that terrace stone walls may have been erected to control drainage and slope-wash erosion. Although many of the rocks have been displaced or rolled down slope, there remain strong hints that many of these were aligned along the contours of this hill. This area of the eastern slope of the hill needs detailed mapping and excavation to determine its nature (man-made and/or natural?), function (drainage, erosion control and/or agriculture?) and age (prehistoric and/or historic?). Local informants have commented that Pre-Columbian pottery has been frequently found on this slope.
7-D.3. Kinds and Number of Features

There are four major sets of features pertaining to aboriginal engineering work and three additional sets pertaining to other kinds of human activities. The engineering works are: (a) possible terrace stabilization and terrain leveling (re-landscaping) evidence at the apex of the terrace/meander; (b) a quarry pit of probably Pre-Columbian age; (c) monolith row construction techniques; and (d) repairs and re-building activities (in Structure A). Four additional key features pertaining to social-cultural activities are: (i) a possible ritual pit where stones of a former, earlier batey were buried; (ii) postholes that may be related to the ritual pit hole; (iii) boulders and monoliths with petroglyphs; and (iv) refuse disposal. Each is briefly described below [refer to Figure 3, above].

Terrace Stablization 'H' (see Figure 3). At the north end of the site, there is a possibility that the terrace is, at least in part, artificially stabilized and, perhaps, raised. On the river’s left bank, at the apex of the meander, the river cuts into the terrace. Large boulders and rocks have tumbled into the river bed. Some of these boulders at the bed stream level show granodiorite rocks with a heavy patina (river-worn) embedded in consolidated, coarse, sandstone that has been eroding faster than the granodiorite. These rocks embedded in sandstone indicate that they tumbled into the bed stream from the adjacent cliff in recent geological time. The same granodiorite rocks, but some lacking the cemented sandstone, form the basal stratum underlying the terrace at this northern end of the site. As one moves up (east and south) the bank’s exposed cliff, medium to large boulders are still embedded within the terrace’s unconsolidated alluvium. These, however, are all of the friable granodiorite and do not show a smooth surface and patina. At surface level, at the edge of the cliff and terrace, the large, friable granodiorite rocks are found in a dense concentration, decreasing as one moves south further into the terrace. The distribution of these larger boulders, however, seems not to be entirely due to natural processes (see discussion for Structures ‘D-G’ above). The unusual semi-circular distributions combined with the fact that the high concentration of cliff-edge boulders is found confined on the highest point of this northern terrace area lead to the possibility that (a) the stone array at the edge may be the result of human activities and that (b) that these may have been intentionally placed in order to contain soil erosion from terrace wash into the river as well as a practical wall to raise and level this area’s floor.

Terrain Leveling and Earth Movements. Excavations in Block A (Units 4-7) and Block B (Units 3, B-1 and B-2) adjacent to Structure ‘A’ revealed that the natural southwest to northeast sloping gradient of the alluvial-colluvial terrace on the meander had been intentionally altered for the construction of the large Precinct ‘A’. Immediately to the inside of this batey, the sloping terrain had been cut to a lower, flat floor level (evidence from excavation Unit 3) to match the naturally lower elevation of
the terrain on the east-northeast side of Structure ‘A’. This is a technique also reported for other batey sites in Puerto Rico, including Caguana (plaza A) in Utuado and Batey Delfín del Yagüez in Mayagüez (Mason 1941; Oliver 1998; Rivera Fontán 2005). Earth overburden may have been used to raise the northern terrace area and also re-deposited to the east of Structure ‘A’. It is likely that the western side of Structure ‘B’ has also been artificially leveled, but excavations are needed to confirm this.

**Quarry Pit ‘J’** (see Figure 3). At base of the northern tip of the elongated hill/ridge that rises southward toward the Viví mountain range, a man-made circular pit was detected. It is suggested on the basis of circumstantial evidence that this was likely the result of Pre-Columbian quarrying/pit-mining activities. Such quarry would supply some of the stones needed to construct the bateyes and stabilize the terraces. Informants insist that within the pit hole, pottery vessels (one nearly complete) had been recovered within ‘grottoes’ formed by overlapping boulders. (Many of the artifacts were found a a Dr. Vilar, resident of Utuado.) The pit hole is partly sedimented toward the bottom.

There is no history of colonial or modern mining at this site. Furthermore, coffee plantation activities have no particular reason to mine or excavate pits for quarrying boulders. The probability that this is a Pre-Columbian quarry pit is somewhat increased by the presence of ceramic vessels within. If this interpretation is confirmed, it would represent the first aboriginal quarry or open-mining pit known for Puerto Rico. If so, the quarry pit could provide data for estimating indigenous labor organization, time investment and energy expenditures (e.g., calorific requirements) as the heavy rock resources would be within the site itself (shorter distance for transport). It should be added that the granodiorite rocks enclosing the bateyes are not derived from the river. Instead, these are the granodiorite species with coarse minerals that are more easily eroded and friable. The granodiorite stone form the Viví riverbed, on the other hand, shows the effects of water erosion in the form of a smooth surficial patina that renders these rocks less friable. The patina is an important detail because there is evidence of an earlier batey that existed in the location of Structure ‘A’ (to be described below). Without exception, these earlier batey stones were collected form the Viví riverbed; they all exhibited the characteristic patina.

**Construction of Monolith Rows.** Excavation Units 1, 9, 3, C-1 and C-2 provided evidence for the construction techniques of segments of the row of stones in Structure ‘A’. Units 1-9 (Feature 1-1) defined the southwest corner of this batey. The stones demarcating the corner of the precinct had been yanked-out in historic times, and laid nearby. The location of the stone markers, where the boundary shifts from N-S to E-W, was ascertained by two areas devoid of rocks in Units 1 and 9. In July 2006, Oliver and Rivera exposed a set of eight stones aligned E-W in a prolongation from the SW corner defined in Units 1 and 9, confirming the proposed interpretation (Oliver and Rivera 2005: 26, Figs. 30-31). Surrounding the two clean areas, where the batey stones had been located in Units
1 and 9, was Feature 1-1, a secondary deposit of flaked stones and fragmented rocks. Analysis of this lithic deposit suggests that a considerable number of these were flaked stones (direct and bi-polar percussion) that included utilized flakes, spent nuclei and debitage mostly made from a green siliceous tuff; a few were made of chert. In addition there were also fragments of hammer stones and manos made of various metavolcanic rocks (locally available) (Oliver and Rivera 2004: 91, Fig 28; 2005: 25-6. This lithic deposit represents the remnants of a lithic workshop that was likely located elsewhere at the site and then used as gravel fill to set or anchor the batey stones. Alternatively, it is possible that, at this corner or very near it, there was a lithic workshop area whose detritus was subsequently swept in-between the standing rocks.

The south row of Structure ‘A’ (i.e., Units C-1 and C-2) also revealed fragmented (large, bulky flaked) rocks in and around the stone (monolith) boundary markers (Oliver and Rivera 2005:27). In these two units, the batey stones (of smaller dimensions) were placed on a relatively shallow pit around which rock fragments and debitage were added so as to anchor the monoliths. At some points along the east and west rows, large anchor stones (piedras de calce) were observed at surface level and in excavation Unit 3. These anchor stones were placed at the base of the erect monolith to give it support. Anchor stones have also been observed at other batey sites in Puerto Rico (e.g., site Utu-27, U-10 in Utuado).

**Repairs and Re-building.** Excavations in Block A (Units 5 through 8) on the east side of Structure ‘A’ were the most revealing in terms of batey restoration. Feature 4-2 is a deep oval to circular aboriginal pit excavated adjacent to and outside of the east row. The block excavation revealed two distinct strata that suggest violent, high energy floods (Oliver and Rivera 2005: 12-20).

The earliest flood event (undated) probably occurred at a time prior to human occupation at this site. The more recent flood, represented by Stratum III and III/IV mixed strata, is dated between AD 1400-1450 (see section 7-D.5 for a discussion of chronology). The pit included a series of batey monoliths at depths well below the existing monoliths visible in Structure A (Oliver and Rivera 2005: Figs. 20-21). The buried monoliths were not in their original location but clearly had been collected and placed carefully at the bottom of the pit (Feature 4-2); the pit was then filled.

The pit feature cuts into both flooding events leaving little doubt that the burial of stones belonging to a former batey followed the more recent (second) flooding event. Since all the buried batey stones exhibited the characteristic patina (shiny, smooth surfaces) from water erosion and river transport it is reasonable to assume that, pre-flood, there was a batey (where Structure A is today) whose monoliths were collected from the river. The flood event is likely to have destroyed all or impacted a part of the original batey and, shortly thereafter, a new batey was built to replace the older one, using the friable granodiorite stones from either the nearby hill/ridge or the Quarry Pit ‘J’ above described.
Larger excavations along various points of the east row of Structure A (and at other points on the site) should provide further useful data regarding the magnitude of the flood impact and the repairs or reconstructions leading to the currently visible Structure A. Also, soil sequences recorded from the Shovel Test Pit (STP) program (Oliver and Rivera 2004: 33-38), once studied in greater detail, would shed light on the extent of the flood throughout the site, although another shovel testing program aimed at collecting soil samples, instead of artifacts, will be advisable. Such soil data would add significantly to a better understanding of the extent of the flood(s), and allow estimating indigenous labor investment and organization, and the kinds of resources need to repair and rebuild the batey. Of particular importance is the question of whether repair and reconstruction would require the enlistment of resources (human and material) from outside the site.

Finally, Unit 5, excavated near the east row of Structure ‘A’ and within the courtyard area revealed two additional details. First, the ‘living’ floor of the plaza was defined on the profile of the excavation, at 30 cm below present surface and ca. 75 cm below the surface level where the stone row is located (see Oliver and Rivera 2004: Fig. 44); second, potholes were detected on the living (batey) surface which were filled by sandier material mixed with loam. The latter may be indicative of pothole repairs to make the batey field level, although these may have been naturally filled from sediment runoff.

**The Ritual Pit (Feature 4-2) & Associated Posthole Features.** The excavations in Block A, revealed a pit feature (above noted) that contained a series of stones from an earlier batey. These stones were not merely thrown haphazardly into this pit, but were placed with some care. One stone, fragmented on the top, was placed erect in the middle of the pit, the rest were bundled next to each other to the north side of the pit (Oliver and Rivera 2005: 14-20, Figs. 20-21). The pit was then back-filled with what was in effect midden material (Stratum B-II, see Oliver and Rivera 2005: Fig. 17). It is abundantly clear that the midden material was brought from elsewhere in the site. Over this re-deposited midden the fill material is related to the Stratum I and to Strata II and A defined for Block A. The stratigraphy reveals that the excavation of the pit (and some of its contents which did not go back into the fill of the pit) occurred at the interface of Stratum A and II (Oliver and Rivera 2005: Fig. 17). The pit was then sealed and capped by Rock #39, which contains two petroglyphs, one (a heart-shaped face) visible at the surface level, the other (a simple round face) near the base of the rock, “looking” toward the pit (Oliver and Rivera 2005: Fig. 23). This rock (#39 in the maps) is not part of the boundary stones (the east row) of Structure A, but sits about 50 cm outside (east of) the row alignment. Furthermore, the topside petroglyph [Visible as #8, in Figure 14; see cover photo] is inverted and carved on the side
looking away from Structure A. The only way to see the topside petroglyph in its proper anatomical perspective is to stand just behind the rock, with one's back to Structure A and looking east, toward the river. All of these observations suggest that this rock is unrelated to the existing batey and has everything to do with the proposed ritual pit and its cache of stones.

It ought to be pointed out that the batey stones in this pit were exposed in 2005 but not fully excavated or removed. There is a chance that this cache, in turn, runs deeper (i.e., there are more underlying batey stones) or that they ‘sealed’ other kinds of features (e.g., offerings, human burials, etc.).

Oliver and Rivera (2005:20) proposed that Rock #39, sealing this pit, is related to the placement of the old batey stones. The petroglyphs (topside and underside/buried) were sealing or ‘guarding’ this cache of ‘deceased’ stones, placed out of circulation after the catastrophic flood. If so, the best explanation with the available evidence is that a selection of stones from the ‘deceased’ batey were ritually entombed. Such ritual burial of a former batey also signals a renewal, the birth of new batey, Structure ‘A’. The monolith with petroglyphs could, therefore, be a monument or marker to commemorate the death-rebirth of bateyes. If this interpretation is correct, it would be the first evidence documented in Puerto Rico and the Caribbean, of the death and renewal ceremonies pertaining to life-cycle of structures (bateyes, buildings, temples, etc.), a practice well attested for many civilizations in the Americas.

On the surface of Stratum II (in Units 6 and 7, Block A) the 2005 excavation also uncovered two posthole features. In Unit 6 (Feature 6-1) the posthole was braced by three vertically set stones, leaving an area of about 15 cm in diameter into which the post would be set (Oliver and Rivera 2005: 21-22, Figs. 24, 25). The posthole penetrated deep into the culturally sterile Stratum VI. The horizontal outline of the posthole fill from top to bottom remained a steady 30 cm in diameter, only turning into a blunt cone at its base. A non-diagnostic Pre-Columbian sherd was recovered at the base of the posthole.

Some 3 meters south, in Unit 7, another posthole (Feature 7-5), minus the bracing stones (Oliver and Rivera 2005:23, Figs. 26-27), was detected. Unfortunately the entry point of the posthole could not be determined (due to the absence of bracing stones). It is not possible, without extending the excavation area, to determine the type of structure the posts might have supported (shed, house?), or its floor plan (round, square?) or whether these two defined postholes belong to the same or to different structures. In any case, the structure(s) almost certainly covered Feature 4-2; that is, the ritual pit with the buried cache of batey stones.
United States Department of Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

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Bateyes de Viví
Utuado, Puerto Rico
Ball Court/Plaza Site of Puerto Rico and the Virgin Islands

7-D.4. Depth & Extent of the Archaeological Deposits

On the basis of shovel testing (see Oliver and Rivera 2004: Table 2), as well as excavations, in the areas outside the stone demarcated precincts (the courtyard area), the depth of artifact finds is quite variable, ranging from surface or near surface to around 100 cm below surface. The deepest finds (over 100 cm Below Surface [cmBS]) tend to be found along the raised areas along the eastern row Structure ‘A’, precisely because this area of the batey was most likely were the overburden from terrain leveling occurred. On the opposite (west) side of Structure ‘A’, the artifact recovered from excavations are overwhelmingly concentrated on the top strata (Strata I and II), to about 70 cm cmBS (Units B-1 and B-2). The re-deposited lithic workshop, Feature 1-1, on the southwest corner of Structure ‘A’, is found within Stratum II to a depth of about 40 cmBS (Units 1, 9). In Unit 3 on the same west side of Structure ‘A’, artifact deposits are, again, limited to the top two strata (to 50-60 cmBS). Likewise, all throughout Block A, artifacts were concentrated in Strata I, A and II, except where there were features (pit hole, postholes) in which case artifacts continued to depths of at least 110 cmBS.

Obviously the presence of artifacts is not the only determinant for the depth of the evidence of human activity at this site. Pit and posthole features reach depths of 100 cmBS. Because of re-landscaping (terrace filling) and earth movements, it is more than likely that buried evidence of Pre-Columbian human activities substantially surpass the 100 cm of depth/thickness (e.g., Feature 4-2 reached 110 cmBS and does not mark the bottom of the feature).

The STP (30cm diameter) program was designed to demarcate the maximum spatial and vertical extent of the archaeological site. The 129 STPs were distributed approximately 5 meters apart in several transects falling outside the two main batey enclosures (see Oliver and Rivera 2004: 33-38, 75, Fig. 9). The distribution of positive STP finds, combined with surface structures (A trough I), has provided the rationale for establishing the boundaries of the site. These essentially encompass the entire meander terrace, east of the hill or mountain ridge that divides the site from the cultivated field [see Figure 9].

The western side of the terrace is characterized by cultivation field that has been active since the earliest aerial photograph (March 1936). This field may have once been part of this archaeological site; however, at some point in the not too distant past, the contours were re-landscaped with a bulldozer, presumably for purposes of flood control. Surface inspections in 2004 and 2005 of this plot revealed that the terrain’s top soil (and, perhaps the mound observed by Lothrop in 1916) was stripped down to the mineral Horizon. As a result, the crops grown today (beans in 2004; coffee in 2005-2006) require both artificial irrigation and commercial fertilizers and, still, they do poorly. The spoil from the bulldozer activities however have been located. One spoil tract forms an elongated mound on the north and eastern end of this field, next to the thick bamboo stand, while the other
abuts the site’s quarry pit [see Figure 9: pozo de cantera] and continues along the east side of the hill. It is possible that if there were archaeological deposits in the cultivation field, such as possibly the long gone “mound” observed by Lothrop (see Rainey 1934), the artifacts and other cultural remains could still be found by screening the bulldozed spoil. If so, even though the context is lost, an excavation of the spoils should yield a wealth of artifacts that would contribute to a much better understanding of the material culture of its Pre-Columbian occupants.
7-D.5. Known & Projected Dates of Occupation

Six standard Radiocarbon dates are available. The six dates were calibrated with Calib v. 5.0.1(at 2 α). The graphic rendition (next page) of the probability curve distributions (1 and 2 σ) were obtained from OxCal v. 3.10. The results of the calibration are itemized below [see Figure 11]:

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</table>

Ranges marked with a * are suspect due to impingement on the end of the calibration data set.

* PJ Reimer, MGL Baillie, E Bard, A Bayliss, JW Beck, C Bertrand, PG Blackwell,
* CE Buck, G Burr, KB Cutler, PE Damon, RL Edwards, RG Fairbanks, M Friedrich,
* TP Guilderson, KA Hughen, B Kromer, FG McCormac, S Manning, C Bronk Ramsey,
* RW Reimer, S Remmele, JR Southon, M Stuiver, S Talamo, FW Taylor,

The graphic display (with OxCal v. 3.1) of the probability curves (1 and 2 σ is shown on the next page.)

Figure 10. Radiocarbon Calibrated Results
The occupation at this site ranges from a minimum of AD 1225 to a maximum of AD 1630. However, as the graph above shows, the more probable range is between AD 1290 and AD 1450. Since all but sample GrN-30058 came from Block A and Feature 4-2, the date ranges reflect the activities on that locus of the site rather than the potential full temporal range of occupation/use of the entire site. An argument can be made, given the stratigraphic placement of the dates, that pit Feature 4-2 consistently dates to cal AD 1290-1450 (2σ). This feature cuts through Stratum II, which dated to cal. AD 1290-1400 (2σ). Thus, Stratum II and Feature 4-2 are essentially contemporaneous. The date obtained from Stratum III (GrN-30054), with two intercepts, is more likely to date to the earlier intercepts (i.e., cal AD 1430-1520, with a .75 probability curve at 2α) than to the later range (.25 probability), given that it underlies Stratum II which, as noted, dated to AD 1290-1400. Given these probability ranges for Strata II, III and Feature 4-2, it is suggested that the upper sigma, around AD 1400 is the most probable date for the feature and Stratum II. Because of the stratigraphic order, Stratum III has to be (relatively) earlier than AD 1400, while Stratum II must be later. The pit (Feature 4-2), orifice begins at interface between Strata I and II, would therefore be more likely to date to AD 1400-1450, rather than to the lower end of the two sigma (i.e., AD 1290). This also means that the

### CALIBRATED RADIOCARBON DATES FROM BATEYES DE VIVI

<table>
<thead>
<tr>
<th>Sample</th>
<th>Age (BP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GrN-30058</td>
<td>710±40BP</td>
</tr>
<tr>
<td>GrN-30053</td>
<td>630±40BP</td>
</tr>
<tr>
<td>GrN-30057</td>
<td>610±50BP</td>
</tr>
<tr>
<td>GrN-30056</td>
<td>600±50BP</td>
</tr>
<tr>
<td>GrN-30055</td>
<td>510±30BP</td>
</tr>
<tr>
<td>GrN-30054</td>
<td>410±40BP</td>
</tr>
</tbody>
</table>

Figure 11. Radiocarbon Calibrated Results - Graphics
second (last) flood event had to have occurred before AD 1400, but to determine how much earlier would require additional dates for Stratum III and new dates for the mixed III/IV layer (see stratigraphic profiles in Oliver and Rivera 2005: Fig. 17). Having said that, the date from Unit B-1, on the opposite (west) side of batey ‘A’, suggests a somewhat earlier temporal range between cal AD 1220-1390 (2σ) for the top of Stratum II (artifacts are limited to Strata I and II).

All the diagnostic ceramics recovered indicate a clear affiliation with Capá style (Chican Ostionoid series). The radiocarbon dates known for Capá deposits in the interior mountainous regions of western Puerto Rico, most coming from the Caguana-Utuado region, range between cal. AD 1280 and cal. AD 1450. Both the absolute dates and estimated dates of occupation at Bateyes de Viví, and in association with Capá style pottery, are in full agreement with what is known for the Utuado region. Nowhere in the Utuado region are there any dates earlier than cal. AD 1250-1280 found associated with Capá style pottery (see Rivera and Oliver 2005; Oliver and Narganes 2005; Pagán Jiménez and Oliver in press).

7-D.6. The Nature and Distribution of Artifacts
7-D.6.1 Shovel Test Pit (STP) Artifacts

From a total of 129 shovel test pits (STP), 285 items were recovered (see Figure 12). Of these 175 were identified as prehistoric and 14 as historic artifacts (see table, next page), the rest being natural stones (n=96) that were not modified or altered by natural agency. Of the 128 prehistoric ceramics, 11 presented diagnostic traits of decoration and/or form. Of the 47 lithics, 22 presented diagnostic traits of use or modification. Very few (n=14) artifacts were historic, and all of them were 20th Century casual discards from coffee planters or from the inhabitants of the house once located on the adjacent cultivated field [see Figure 12].

The artifacts were also classed into four categories based on size. The overwhelming majority (n=120) were 2cm² in area or smaller. The lack of artifacts greater than 8cm² throughout the shovel tested area suggest that most of the ceramics have suffered post-depositional effects of trampling, sweeping, and erosion (surfaces are more often than not eroded, worn-out).
The vertical and horizontal distribution of the materials recovered by shovel testing, as detailed in Oliver and Rivera (2004: Table 2, Fig. 9) show that 69% resulted in positive artifact finds. The spatial distribution of positive finds is relatively broad, concentrating on the east, west and south of Structure ‘A’, outside the demarcated court (Oliver and Rivera 2004: Fig.9). The ceramics recovered on the east side of Structure ‘A’ tended to be smaller and more eroded than those recovered on the western side and in the space between Structures ‘A’ and ‘B’. Artifacts were found up to depths of up to 117 cmBS, but the immense majority was to be found within the upper 50 cm or so. The deeper finds (50> cmBS) may be indicative of either the presence of features or, more likely, that the soils were re-deposited from elsewhere (overburden) due to the preparation, construction, maintenance and/or repairs of the bateyes.

The distribution map illustrated in Oliver and Rivera (2004: Fig, 9) shows that the positive STPs extend from N1035 to N985 on the N-S axis, and from E975 to E1075 on the E-W axis; that is, an area of approximately 50 x 100 m. However, finds of ceramics have been made along the river bank, possibly eroded from the terrace, and as well surface finds, though sparse, spread somewhat beyond the limits of the STP survey.

7-D.6.2 Artifact Distribution from Excavation Units

In addition to the materials collected from the shovel test pit (STP) program, a total of 1,622 artifacts were obtained from both surface collections and from the various excavation units and trenches. As the table on the next page shows, 1,038 of the artifacts were Pre-Columbian ceramics and 531 were lithics (diagnostic and non-diagnostic), with a small number of historic (modern, 20th Century) artifacts, including glass, metal, red-wares, nails and others [see Figure 13].

<table>
<thead>
<tr>
<th>Shovel Test Pit Counts</th>
<th>Diagnostic Artifacts</th>
<th>Artifact Size Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total materials</td>
<td>Prehistoric Ceramics</td>
<td>Lithic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stone Natural (?)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lithics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ceramics: Decorated + rims</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All Historic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 cm2 2 cm2 4 cm2 8&lt; cm2 8&gt; cm2</td>
</tr>
<tr>
<td>Bateyes de Viví (U-1)</td>
<td>285</td>
<td>128 47 96 22 11 14</td>
</tr>
<tr>
<td></td>
<td>120</td>
<td>49 13 1</td>
</tr>
</tbody>
</table>

*Note: The above table reflects the final revised totals undertaken in 2006.
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<table>
<thead>
<tr>
<th>SUMMARY*</th>
<th><strong>PREHISTORIC CERAMICS</strong></th>
<th><strong>LITHICS</strong></th>
<th><strong>HISTORIC</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Ceramics</td>
<td>Decorated Ceramics</td>
<td>Total All Stone material</td>
</tr>
<tr>
<td>Bateyes de Viví Counts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface finds</td>
<td>19</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Unit / Trench 2 (Structure 'C')</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Units 1 &amp; 9 (SW Corner Structure 'A')</td>
<td>355</td>
<td>40</td>
<td>670</td>
</tr>
<tr>
<td>Unit 3 (West of Structure 'A')</td>
<td>47</td>
<td>0</td>
<td>192</td>
</tr>
<tr>
<td>Unit 5 (Inside the plaza, Structure 'A')</td>
<td>8</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Block A: Unit 4 (East of Structure 'A')</td>
<td>121</td>
<td>2</td>
<td>177</td>
</tr>
<tr>
<td>Block A: Unit 6 (East of Structure 'A')</td>
<td>41</td>
<td>1</td>
<td>64</td>
</tr>
<tr>
<td>Block A: Unit 7 (East of Structure 'A')</td>
<td>211</td>
<td>10</td>
<td>340</td>
</tr>
<tr>
<td>Block A: Unit 8 (East of Structure 'A')</td>
<td>37</td>
<td>0</td>
<td>48</td>
</tr>
<tr>
<td>UNIT B-1 (West of Structure 'A')</td>
<td>77</td>
<td>0</td>
<td>51</td>
</tr>
<tr>
<td>UNIT B-2 (West of Structure 'A')</td>
<td>52</td>
<td>2</td>
<td>31</td>
</tr>
<tr>
<td>UNITS C-1, C-2 and C3 (South Row, Structure 'A')</td>
<td>70</td>
<td>5</td>
<td>125</td>
</tr>
<tr>
<td>Totals</td>
<td>1038</td>
<td>63</td>
<td>1733</td>
</tr>
<tr>
<td>Total Artifacts</td>
<td>1622</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: The above summary was conducted in 2006 from more detailed analytical tables. The full analysis by types/modes is in progress. Note that different units have different areas and depths that affect direct comparisons of frequency between them. For more detailed information & breakdown, see ‘additional documentation’ provided to the PR-SHPO (OECH-PR).*

Figure 13. Artifact Frequency
The stones collected totaled 1,733. However, of these only 141 had clear signs of either use or intentional manufactures (i.e., diagnostic). A further 390 were regarded as non-diagnostic, but do appear to have use-wear signs. Both categories, diagnostic and non-diagnostic total 541 lithics. The remaining 1,061 lithics were natural, unmodified stones. There are nearly two potsherds for every lithic artifact [see Figure 13]).

The artifacts recovered from the excavated units reached depths of almost 120 cm Below Datum (about 100 cm Below Surface). The deepest finds, however, are associated with features such as pits and postholes that penetrated into culturally sterile layers. Otherwise most of the artifacts are concentrated in the first 40 cm to 50 cm from the surface.

Of the 1,038 ceramics only 6.08% (n=63) showed incised, incised-punctated, incised-modeled and other plastic decoration. The decorative designs are within the range of motifs described for Capá style by Rouse (1952) and others. In terms of vessel segment, there are 57 rim sherds, 925 bodies, 51 clay griddle (burén; plural: burenes) bodies, and two burén rims. In addition, there are also two appendices and one head lug. In regard to ceramic fragment size, 61.66% of the total (n= 1,038) are 2cm$^2$ or less; only 0.58% of these were 8cm$^2$ in area or larger. As well, 56% (n=585) of all the sherds presented heavy erosion in one or both surfaces.

The small fragmentary state of the immense majority of the sherds coupled with poor surface preservation can, tentatively, be explained as follows. Almost all of the potsherds came from within sediments that were decidedly not midden or garbage deposits. The refuse generated by the occupants at this site was not collected in particular dump areas within the terrace/meander. Neither the shovel test pits nor the excavated units revealed primary midden deposits. Oliver and Rivera (2004, 2005) hypothesized that any garbage that might have been generated in this site, must have been regularly swept and dumped into the Viví River. Recall that pit Feature 4-2 (the proposed ritual cache above described) was partly filled midden refuse, proving that typical midden garbage was indeed generated in this site. The action of regularly sweeping the surfaces (batey and adjacent areas) and collecting garbage to dump in the river would, inevitably, leave behind the small potsherds and other discarded artifacts. It is the latter that constitutes the majority of the artifact finds made to date, and would explain both the small size and the generally poor state of the potsherds (even when taking into account that the Capá style ceramics in optimum preservation are typically friable and soft). Additionally, the stratigraphy from Block A strongly suggests that a major flood, probably around AD 1400, had impacted the site and would have contributed to the deflation of the existing middens and the deterioration of the remaining scattered potsherds.
If future investigations confirm the observed pattern (sweeping/garbage dumping in rivers), it would be of great significance, as one key argument wielded by archaeologists to declare a multiple court site as inhabited (hamlet, village, even town) or vacant is predicated on the presence/absence of substantial midden deposits that, presumably, would be generated by domestic (as well as ceremonial) activities. This is, for example, Alegría’s (1983) argument for Caguana being a vacant (specialized) ceremonial center. The same hypothesis of garbage sweeping/dumping into the river probably also operated in Caguana, as it is also adjacent to the Tanamá River. Given the lack of substantial midden deposits at Bateyes de Viví, it can be hypothesized this is not because of an absence of permanent residents generating garbage, but because its occupants disposed of them in the river.

Another important observation regarding artifacts is the apparent lack of portable artifacts that could conceivably be regarded as ‘status/wealth’ or ‘political-religious’ objects (see Oliver 2005). For example, to date, no cemís ("zemis") of any shape, size or form, stone collars, elbow stones, spheroliths, or other elaborate sculptured objects have been found. Artifacts for personal (body) decoration, such as necklace beads, pendants and ritual paraphernalia (e.g., vomiting spatulas) have not been recovered (Rivera and Oliver 2004, 2005). Instead, the pottery and lithic tools found at the site suggest the kinds of activities more often associated with daily, mundane life: a variety of practical lithic tools for cutting, pounding and squashing vegetable or woody matter (e.g., cordage, root crops, wood) and typical ceramic vessels for cooking or food serving. Clay griddles (burenes) fragments are also ubiquitous. These are the sorts of artifacts one would encounter in domestic contexts, such as described for the Capá ("Taino") village site of Cocal-1, in Sabana Seca Puerto Rico (Oliver 2003). However, because of soil acidity, bone and shell artifacts at Bateyes de Viví did not preserve. This unfortunate fact eliminated a potentially significant portion of the material culture of the occupants.

The variety of artifacts obtained thus far from Bateyes de Viví, of course, cannot in and of itself, be used to argue whether what was manufactured or consumed was for exclusively domestic purposes or for ceremonial (feasting) functions. Both in solemn ceremonial feasts as well as in domestic contexts food is prepared, cooked and consumed and is, thus, likely to require similar if not the same kinds of tools, vessels and cooking paraphernalia.
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7-D.6.3. The Petroglyphs

If there are no portable artifacts that suggest prestige/wealth or political-religious power, the same is not true for the more permanent monoliths showing petroglyphs. As Oliver (2005) argued for Caguana (U-10), petroglyphs found in batey monoliths can potentially be wielded as instruments of social and/or political-religious power. That these are fixed in space, rather than portable and exchangeable items, makes the spatial locus, the batey, a key aspect (axis) of power. Bateyes de Viví has a total of 12 monoliths and one natural boulder (the Las Caritas Rock) decorated with petroglyphs. Drawings derived from polyethylene drawings of all but one (the still semi-buried monolith with petroglyph #10) have been reduced and illustrated in page 39 [see Figure 14].

Three of the monoliths (#11, 12 and 13) are no longer located at the site and are instead in private hands. One (#11a, 11b) was traced to the house of Ismaro Rivera, Jr. while a second one (#12) was placed next to another house within the Rivera farm. This last monolith, despite warnings to the Rivera family, was pushed (sometime in 2006) over the hill's cliff and has not yet been recovered. The third monolith (#13) is presently in the town of Jayuya at the house of Ivor Hernández's mother. Except for the monolith dumped into the cliff, the other two have been photographed with both conventional film and digital cameras, and drawn in 1:1 scale drawings on polyethylene (plastic) sheets. The monolith thrown into the cliff has only been digitally photographed. The remaining monoliths and boulder with petroglyphs remain at the site of Bateyes de Viví. These were all photographed with conventional Tri-X film and digital camera, and drawn (1:1 scale) on polyethylene (plastic) sheets.

Not surprisingly, the three monoliths taken out from the site show the most elaborate petroglyphs known for Bateyes de Viví site. The remaining petroglyphs are still found at the site.

The petroglyphs depict two principal types of anthropomorphic images (see illustrations, page 31): (1) eye-mouth motifs without a facial outline and (2) eye-mouth motifs with either a simple rounded facial outline or a heart-shaped outline. However, the three monoliths lifted from the site, not surprisingly, are more elaborated [see Plates 5 and 18 on pp. 40-41].

Petroglyph #13 (the ‘Hernández’ monolith) shows an elaborate human face with head-dress decoration and ear motifs (ear-spoons). Note that on the side of the same monolith there is also a simple eye-mouth motifs lacking facial outline, repeating the main iconographic theme of this site.
In contrast to all the other petroglyphs, the design was achieved not merely by pecking or gouging (incising), but also through low relief. This specimen is well cared for by its current owner, who is willing to re-locate it to its original place, if guarantees of its protection can be provided. According to Ivor Hernández, the specimen was purchased from the farmer that lived next to the site on the current cultivated field (there is both archaeological and documentary [USGS maps] of the former existence of this house), who claimed that it was extracted from the larger batey, Structure ‘A’. Since the monolith was fractured (probably with a pick) in a peculiar way at its base, the remainder of the base should be easily identified at the site, if it is still there. The tall monolith with five petroglyphs (#11a, 11b) is currently used as a decoration of the front garden of the main house of the Rivera farm. This monolith has one petroglyph that is also unique, a triangular facial outline that ends with two lower ‘extremities’ giving the impression of a winged biomorphic creature. The remaining four petroglyphs conform to the normative theme of simple faces. Finally, the other (‘lost’) Rivera monolith (petroglyph #12), presents a double facial (nested circles) outline with vertical short tentacle-like lines extending from the base of the head (like a jelly-fish).

Although not yet published anywhere, Oliver and Rivera have noticed that the set of petroglyphs of the better documented multiple (and single) court sites from Puerto Rico (e.g., Caguana, Utu-27, Batey Delfín de Yagüez, Palo Hincado) seem to emphasize their own distinct, vernacular iconographic themes, rather than follow an established ‘official’ blue-print (style and/or iconographic order in space). At the very least, this would suggest that there is no political-religious central authority dictating or imposing an official iconography (and themes) on these so-called ‘ceremonial centers’. If each civic-ceremonial, multiple batey site has its own political-religious imagery, then it raises the question of whether there was, in fact, a centralized, hierarchical power (i.e., paramount cacique or chief) existed in the way that is conventionally described in the literature for Hispaniola and Puerto Rico. One would expect that paramount chiefs would manipulate and impose religious imagery that would clearly identify with the ideology of the polity (cacicazgo) and its ruler (cacique), particularly in sites that are generally interpreted as both “centers” and “ceremonial”. The above observation highlights the important role that petroglyphs play in the indigenous social and political-religious arena. The petroglyphs that survive at Bateyes de Viví are all the more significant because of their overwhelming emphasis on bodiless faces and even ‘faceless’ creatures (only eye-mouth), an iconography with motifs and themes that could not be further removed from that of other contemporaneous batey sites such as Caguana (Oliver 1998, 2005), Yagüez (Rivera 2005) or Vega de Nelo (Rivera and Oliver 2005).
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Figure 14: Bateyes de Viví Petroglyphs

**Top row (l-r):** #2, #1; #3, #4 and #5, all located in Structure A, west row; #4 is not in situ, but located further west of the row.

**Middle (l-r):** #6a #6b the north and south faces of Las caritas rock (Structure B); #7, #8, and #9 (East row of Structure B) and #11a and #11b (bottom right) are from the monolith at Ismaro Rivera’s house.

**Bottom left:** #12, monolith at Ismaro Rivera’s house and #13 monolith at Hernández’s house in Jayuya.
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Plate 5. Clockwise from top: Petroglyphs 1, 2, 3 (Structure A, east row); Petroglyph 6a (north-facing) and 6b (south-facing) of Las Caritas Rock (Structure ‘B’) (photos from 2006). Negative 8877–Exp. 0024; Neg. 8878–Exp. 0006, 0004, 0022; Neg. 8877–Exp. 0015
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Plate 18. Clockwise from the top: Petroglyphs 8 and 9, east row, Structure ‘A’ and Petroglyph 11 from the monolith at Ismaro Rivera’s house.

Neg. 8878 – Exp. 0007
Neg. 8876 – Exp. 0001
Neg. 8877 – Exp. 0001
Neg. 8877 – Exp. 0003
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7-D.7. Natural and cultural processes

This topic has already been woven into the discussions presented in the preceding sections (7-D.1 through 7-D.6). Of the natural processes, two are paramount. The formation of the alluvial and colluvial terrace is a key area that requires detailed fluvial geomorphologic and geological research in order to ascertain the hypothesis that the apex of the terrace/meander is partly man-made, the result of stabilization and terrain raising through the use of large monoliths and boulders to prevent the terrace from crumbling down into the river bed. The second major natural process also has to do with the fluvial regime in relation violent climatic events, namely hurricanes and severe tropical storms. Two events of flooding have been inferred on the basis of excavation data in Block A, both of which will require a firmer confirmation by geologists (via soil particle analysis of the strata). If fully confirmed, the second flooding event, which based on 14C dates occurred sometime around AD 1400, had important consequences for the inhabitants and users of the bateyes at Viví. The flood would explain the presence of a buried cache of batey stones adjacent to the visible (later) Precinct or Structure ‘A’ and would account for the unexpected sequence of sediments recorded in the stratigraphy. The flood, however, did not provoke the abandonment of this site, but rather it prompted the re-construction of a new court or repairs and/or redesign of a new court in the same locus (around current Structure ‘A’). It remains to be elucidated whether the repairs or new constructions were on par or under par with the earlier structure. Was the new batey larger or smaller, more modest court? Were the labor and material resources invested greater or smaller? The flood, if fully confirmed, would also go a long way in explaining the (apparent) absence of midden deposits, as these would have been washed away, if located near the river bank, and also would partly account for the poor state of conservation of the pottery.

From the cultural perspective, the construction (both the early and later ones) of batey courts implies large-scale earth movements and, thus, the modification the natural landscape. Drainage control on the slopes was achieved by the construction of terrace walls. All of these natural events and cultural (social) activities must have also had a noticeable impact on the local flora and fauna.

At present, the archaeological data is insufficient to speak about ‘cultural’ and ‘natural’ processes from a position of strength, but this site is rich in terms of its potential to not only clarify the nature of the relationship (synchronic and diachronic) between humans and climatic events (storms, floods), as well as between social groups and the landscape, that would lead to assessments of the impacts that such relationships may have had on the people, culture, nature and landscape (i.e., a historical ecology of Viví).
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7-D.8. Non-contributing buildings & objects within the site

There is only a single non-contributing building within the site’s proposed boundary. On the west and just outside Structure ‘A’, there is a modern, cement block box sunk into the ground. This construction is nothing other than the latrine (an outhouse) that belonged to the farmhouse once located in the cultivation field. It is of no intrinsic architectural or historic value and, further, it can pose a health-risk to visitors, as the cover of the cesspit has collapsed and is obscured by vegetation.

7-E. Likely Appearance of the Site During Periods of Use or Occupation

The likely appearance of the site between AD 1290 and AD 1500 is, of course, speculative. Nevertheless, it is reasonable to assume that the area within the bateyes ‘A’ and ‘B’ (the courtyards) would have been regularly swept and kept clear of any vegetation, including grass. Nor, would one expect to find trees adjacent to these courts, especially since one batey (Structure ‘A’, east side) showed evidence of postholes. This structure may be a shed or a house (bohío) that was erected just outside and adjacent to Precinct ‘A’. Facing the court and in its most prominent location would be the dwelling of the most prominent family, perhaps that of a cacique or simply the local ‘big man’ or headman. The 16th century Spanish chroniclers mentioned that the houses of the most prominent “Señor” or leader were usually located in front of or next to the largest batey (Oviedo 1944; see Hofman et al. in press). Possibly along the southern end of western row of the largest court (Structure ‘A’) a stone demarcated trail with ‘steps’, leading toward the Vivi River and beyond to Pico Guilarte in the highlands would indicate the importance of communication networks to and from Bateyes de Viví site. This causeway was not merely a trail, but one that the natives invested far more labor (bordered with stones) that it would be required if it was just constructed for convenient and effective human transit.

The slopes of the ridge or hill located to the west of the site (see Figure 2) may well have been cultivated, with terrace walls running along the contours for drainage and erosion control. Although as yet unproven, the current cultivated field (outside and north-west of the proposed property boundary) may also have been a conuco (garden) in the past. This can no longer be tested as this field has been bulldozed. But, it is conceivable also that dwelling structures (bohíos) would have been located between the cultivated field and the western row of Precinct ‘A’.
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The northeast section of the site may have either included another court area (of which only a stone row—Structure ‘C’—has been defined). This northeastern flat area could also potentially be a locus for a couple of bohíos or houses. The area between the two principal bateyes (area A/B in the map, page 11) may have either been an open space or the locus of other dwelling structures.

The function of circular to oval structures on the northernmost sector, surrounded by stones and boulders are, at this point, a total mystery in terms of their function. They may be the outline of more private or personal (as opposed to public and civic) courtyards to conduct rituals or for meetings of various kinds dealing with intimate/private matters pertaining to the family or families attached to such courts. On the other hand they could also represent the foundations of a roofed structure, but if so, they would be of different kind (and function) than a typical family dwelling (bohío), that thus far have never been found having stone foundations.

It may be that around the dwelling houses there would be some shade and fruit trees, perhaps also a house garden containing medicinal plants (evening primrose), fruit plants (e.g., papaya, guava), pigment-yielding trees (annatto or achiote), perhaps even hutías (Isolobodon portoricensis) and iguanas (Iguana iguana; Cyclura spp.) would have been maintained in cages or small corrals for future meals. In addition to dwelling structures (bohíos), there may have been kitchen sheds (guariquitén) and workshop areas, detached from but near the residential houses. This seems to be the case reported from some Capá/Taino sites in Puerto Rico, like Cocal-1 at Sabana Seca (Oliver 2003).

Given the site’s area (including the cultivated field) it would have sufficient space to hold between approximately 6-10 dwellings (ca. 5-8 meters in diameter) and their ancillary structures (kitchen shed, workshop). The current (speculative) perception is not one of a village, but rather more of a hamlet (at most), consisting of a few bohío dwellings inhabited by related kindred: a homestead settlement composed of, perhaps, no more than 5 or 6 households. It is also conceivable that not all dwellings would have been inhabited at the same time. Other non-residents who lived in dispersed farmsteads in the nearby area were linked to this site as members of a larger community group (either or both linked politically or just socially, through marriage and kinship) to Bateyes de Viví site.

If so, the bateyes at Viví were of sufficient area and size to accommodate a larger participating group than could be (speculatively) accounted for by the local and permanent residential group. These larger gatherings at Bateyes de Viví may have taken place for a wide range of reasons and for different lengths of time. Some would be the result of regular yet ad hoc visitations (and exchange of goods and news) by the settlers from the surrounding area; other periodic yet solemn
gatherings, such as the areítos (chant/dances) described by the Spanish (see Oliver 1998, 2005), would have been in-keeping with a strict religious calendar, while in other instances would entail the ceremony and pomp accorded for the reception of members or representatives of other communities from further away. Yet, at the same time, the local resident families would use these large civic arenas for causal, daily interactions devoid of all the ceremonialism and pomposity and formal protocols normally reserved for only specified contexts and occasions during the year. The two main bateyes (A and B) were adorned with the numinous icons (petroglyphs), emblematic of the cemíes (zemís) held in trust by the local leader, or alternatively by the local corporate group. It is possible (but unproven) that for festive or solemn occasions, the incisions and positive surfaces would be painted in black jagua (Genipa americana) or charcoal, red annatto (Bixa orellana) and or yellow and red hematite.

Ball games (also named batey in Taíno language) may have been played in either or both precincts (A and B). The ball games would probably have ranged from the casual ‘in-house’ games to those formal, solemn events with higher stakes in placed on the outcome of the competition (see Oliver 1998 and Alegria 1983 for detailed discussions of the Antillean ball game). Local competing teams would formed among the site’s residents and members residing in the periphery. Other competitive games would also take place between the local team and foreign (visiting) teams coming from other communities further a field. Ball games were at once a sporting event (some casual, some highly ceremonial) and an occasion for the asymmetrical exchange of goods, through betting. These bets on occasions would involve the life of an enemy or captive, but most often material goods passed hands. Like the areíto (dance/chants), the ball games could range from the casual to the highly ceremonial, from merely local competitions with more relaxed rules of engagement, to events involving foreign or visiting groups from afar and highly formal rules of engagement. The ball games may have been played at all or in one or both of the bateyes (A, B) cannot be specified at present. It is possible that areítos, ball games as well as other kinds of gatherings, solemn or casual, would have taken place in either or both of these precincts.

The physical appearance alone (without interpretations of social action) of the site, as it might have been in the 15th century can certainly be extricated from the realm of speculation with further archaeological research. To do so would require large-scale excavations with an interdisciplinary team consisting of archaeologists, archeobotanists, geologists, geomorphologists, geophysicists, and also specialists in conservation. Excavation and research data would substantiate these speculative interpretations regarding appearance and social action, while conservators would lend expertise in designing its (re-)construction into a credible, ‘authentic’ (for the general public) representation of what Bateyes de Vivi might have looked like. The latter is important given the fact that archaeological excavations, by definition, are largely destructive. Any further studies and excavations in this site should always be conducted under the assumption that in the future.
however distant, Bateyes de Viví may well become a public archaeological park, an open museum, like Caguana (Utuado) and Tibes (Ponce) are today, and Batey Delfín de Yagüez (Mayagüez) will be in the near future.

7-G. Current and Past Impacts

The past, Pre-Hispanic impacts to the site involve both intentional human activities and natural events. The creation of level court yard areas (bateyes), involving indigenous excavations and earth movements, the extraction of rock materials (quarry pit), the construction of possible terrace containment walls near the river (north end of the site), the re-distribution of natural as well as man-modified boulders throughout the site, the excavation of postholes for sheds or houses, the excavation of pits for the entombment of monoliths from a former batey, and the probable excavation of canals to drain excess water from the bateyes (especially Structure ‘A’) are but a few of the ancient human impacts on the natural landscape of the Viví terrace/meander. As noted earlier, two flood events, the last of which dated to around AD 1400, were noted in Block A excavations. Their overall impact to the site remains yet to be determined, but it appears that the last one impacted a former batey court. Such natural events, probably caused by sever tropical storms and hurricanes are likely to be repeated again in the future.

The more recent, late 19th and through the 20th Century, relate to agricultural activities. The site had operated as a coffee plantation, at least since the late 1920s, if not earlier, and remained active until the early to middle 1960s, at which point coffee operations ceased. Don Antonio Sastre, the father of its current owner, Don Miguel, had consciously decided protect the bateyes. Back then the variety of coffee used require shade trees. The present shade trees and coffee trees still form the basic vegetation assemblage in this terrace, along with a number of other pioneering trees (such as yagrumo hembra) that have since invaded the site.

The impact of these coffee-growing at the site have left visible marks. While fortunately the many of the monoliths remain in situ, about half of the remaining monoliths have been displaced by drainage canal digging, via planted coffee trees or by the growing shade tree roots displacing or tumbling the batey rocks. Many remain near the locus where the stones were erected, except for the areas where canal ditches were excavated. Here the displacement appears to be greater. In Structure ‘B’, the pattern of displaced batey stones is different in that a good number of the smaller batey stones were yanked out and gathered into discrete piles. There is both verbal (informant) and documentary evidence that the relocation of stones in Structure ‘B’ is of relatively recent date, perhaps as late as the 1970s. At this time, the dwellers of a house located in the cultivated field north and west to the site’s proposed boundary had used the site’s batey area for burning wood for
charcoal production (i.e., carboneras in Spanish). Thus far, only Structure ‘B’ was used for such purposes. Two discrete slightly mounded areas of charcoal burning were identified. One of these was located within the courtyard, but the other was placed on the eastern row of monoliths. The stones in and around this charcoal hearth were removed and piled-up nearby. In order to extract the charcoal, a Jeep carved a dirt road all along the east side of the eastern row of Structure B (data from descendants of family that lived in the house of the cultivated field).

The former dirt Jeep road (not visible at surface level today) toward Structure ‘B’ probably originated in the cultivated field, near where the current cement bridge is located. The well-trodden dirt trail/road traversed the cultivated field and entered to the site where the middle section of the western row of Structure ‘A’ is located. The dirt trail can be detected by an evident 3 meter wide gap across the row of monoliths, with the stones belonging to this gap laid nearby on their flat sides (N998-N1001). It is also this zone, west of the batey and adjacent to the cultivated field, that shows a greater, more haphazard distribution of batey stones. Rivera and Oliver believe that some other structure or structures, perhaps another court or a pathway marked by stones, was once present in this location. Also it is in this zone (west of Structure A) where the sediments are highly compacted and very hard for excavation (Block ‘B’ area), as this still remains the principal point of entry to the area of the terrace with the bateyes. It is also this area the one linking the cultivated field and the house (already present in maps dating to 1947, but perhaps rebuilt with improved materials, from wood to cement blocks, several times since) that was used for the construction of a cement latrine.

Finally, two other man-made impacts were also noted. Both involved the use of heavy machinery (i.e., bulldozer or backhoe). The cultivated field, which appears as such since the earliest aerial photographs (in 1936), at some point was razed by a bulldozer. Any of the archaeological materials that may have been at this locus were piled up in two elongated mounds (north and east). It is for this reason that the cultivated field zone was eliminated from the proposed site boundary in this nomination. The other bulldozed area lies between the edges of the cluster of circular court features
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(Structures D-G) and the cultivated field, running along the apex of the Viví meander. The evidence for this is that within the impact area there are no mature trees, while the edge of the impact is visible by a rather straight line (E-W) of mature trees that were left untouched by the machine.

In the past two years (2005-06) a pair of horses have been introduced and left to graze freely within the property. The horses belong to the Ismaro Rivera farm. Their presence has sharply changed the vegetation cover of the site (aside from the clearing activities conducted by archaeological survey) by chewing on the bark of the then dominant guaba (Inga vera). When the horses trot over batey rocks the horseshoes cause damage that in the long run will affect the petroglyphs as well as rocks. Although employees of the Ismaro Rivera farm have been warned, no positive action has yet been taken. Don Miguel Sastre has not objected primarily (and understandably) in order to maintain good neighbor relations with the Ismaro Rivera family.

Despite all the post-Columbian impacts, the site (the area suggested for nomination) has preserved a substantial portion of its surface structures, or at least preserved them close enough to the original locus so that most of these can still be restored to their original emplacement. In fact, in the 10 plus years of research in the Utuado region, the authors have not seen any another multiple batey site with such a high degree of integrity. The excavation work (e.g., Units 1, 9, trenches C) demonstrates that clear features of batey rock locations are visible on the soils. The subsurface impacts to the site from modern activities seem to be limited, if not relatively negligible, with only a few discrete areas having suffered substantial modern impacts (e.g., the cement latrine; charcoal burning areas; old dirt, Jeep track). Instead, it is more the Pre-Columbian period impacts, both natural (e.g., floods) and human were far larger in terms of scale and magnitude (e.g., terrain leveling, quarrying). In regard to nomination, the latter impacts are not to be regarded negatively. On the contrary, these ancient impacts on the landscape provide valuable insights about how the indigenous occupants dealt with natural disasters (a topic of much currency after Katrina and the Asian tsunami disasters), on how they manipulated and dealt with the landscape and environment, and the consequences that such attitudes and actions had on animals, plants and other local resources. Indeed, the flooding event(s) that affected Bateyes de Viví are not unique. A major earthquake was registered in the 15th century at Batey Delfín de Yagüez in Mayaguez (Rivera Fontán 2005), while a series of recurring major flooding episodes have been recorded in the long series of human occupations (since late Archaic period) at the site of Paso del Indio, in Vega Baja (Walker 2005:53-87).
7-H. Previous Investigations of the Property & Archival Literature Search

The earliest, unequivocal references to Bateyes de Viví date to 1916. The site appears in an inventory of sites from Puerto Rico that were surveyed by Samuel K. Lothrop, then with the Peabody Museum of Archaeology and Ethnology at Harvard University. That year of 1916 Lothrop recorded that the site had two well preserved “dance grounds” (bateyes) and observed that these were near a mound (midden?), for which today there is no evidence—but which may have been located in today’s bulldozed cultivated field [see Plate 8, below, p. 56].

The Bateyes de Viví site was labeled by Lothrop as the “Dance Grounds of Butterbaugh Estate”, albeit locals at that time referred to the locality as El Hoyo (The Hole), possibly in reference to the distinctive quarry pit (perhaps an indication of its Pre-Hispanic age?) Until early 1920s the site, where the bateyes are located, was owned by Mr. Butterbaugh, an Englishman. It was then bought by José Antonio Sastre, father of the current owners, Don Miguel Antonio Sastre and María Luisa Frau (personal communication, 2006).

The documentation assembled by Lothrop during his Puerto Rican survey has never been published. However, the Peabody Museum has both photographs and field notes that were taken by Lothrop. Presently, in collaboration with the OECH (PR-SHPO), Rivera and Oliver have established contact with the Peabody’s curator, Dr. Jeffery Quilter, in order to arrange for copying (probably digitally) all the available documents and photographs deposited Lothrop at the Peabody. Those pertaining to Bateyes de Viví will be assembled and deposited, as soon as is feasible, at the PR-SHPO (OECH).

As part of the preparations for the 1934 Puerto Rican survey, Froelich Rainey (unpublished notes, 1934:15) visited the Peabody Museum at Harvard and hand-typed Lothrop’s field notes. Subsequently, Rainey’s copied notes ended up in Irving Rouse’s archives (see Rouse, unpublished documents 1937-1938). Rivera and Oliver (2004: 12-13) believe that Rouse’s copy (typed) are a summary of Rainey’s copy of Lothrop’s original. Rouse’s extract from Lothrop via Rainey on the Bateyes de Viví site as well included Rouse’s own observations:

On Mr. Butterbaugh’s farm near the Utuado-Jayuya trail, there are two well preserved dance grounds, and a small mound near them. In both grounds there are carved pillar stones. Traces of all four sides of the bateys [sic.] still remain, which is unusual in Porto Rico. In dance ground A (see plan [which is the plan made by Rouse and appears in his unpublished notes, 1937-8]).
there is a break on the east wall with steps in the opening. This, and a somewhat similar case in
the Barrio El Consejo, is the only examples of such a structure which we have seen in Puerto Rico
(Rainey 1934)”; [Rouse unpublished archives, 1937-38).

The Butterbaugh Estate (Bateyes de Viví) was site No. 127 (of a total of 127 sites) of the inventory of
Puerto Rican sites prepared by Lothrop. The observation of a four-sided batey has been confirmed in
the recent work conducted by Rivera and Oliver (2004, 2005), but the “small mound” no longer exists.
It is probable that it was located somewhere in the cultivated field impacted by the bulldozer. On
the other hand, Rouse did not mention the presence of a “small mound” in his 1938 visit. Lothrop also
mentions that one of the bateyes had an opening or gap somewhere on the eastern row of
monoliths (Structure A) where a set of (stone?) “steps” were observed leading toward the river.
Oliver and Rivera did not find evidence of such steps, but suspect that this feature, if it existed at all,
will be uncovered near the southeastern end of Structure A. This location, just outside Structure ‘A’,
includes a couple of batey-like stones tumbled on their side, on the way to the river. It is also this
area has the highest embankment of soil just outside the existing (erected) batey stones in all of
Structure ‘A’. Thirdly, local informants have kept alive the story that this site had escaleras (a ladder)
leading to a stone demarcated pathway (not a paved cobblestone causeway) that led from the
site to a distant point the mountains, Cerro Guilarte. Such marked routes would not be unique; they
have been confirmed for other batey sites (but with earth embankments rather than stones), linking
sites such as Palo Hincado with La Toje (or ‘Torre’) (Ortiz Aguilú et al. 2001).

Irving Rouse (unpublished notes, 1937-38) visited the site on the 12 and 15 of July, 1938 as part of his
island-wide survey. He recorded it as site #398/127. (The first number [#398] refers to Rouse’s site
inventory, whereas #127 to refers to Lothrop’s.) Since this site was personally surveyed by Rouse, he
bestowed on the site yet another label: Utuado-6 (or U-6). This is the formal code format Rouse (1952)
used for all the other sites published in the Scientific Survey of Porto Rico (Rouse 1952), even though
Utuado-6 was, in the end, excluded from the published monograph. It was not even in the “Other
Sites” section discussing the mountain region (Rouse 1952:507-510). With the unpublished site notes
Rouse also included a sketch map locating the two structures (our ‘A’ and ‘B’) and free-hand
drawings of four of petroglyphs located in Structure ‘A’. In Rouse’s words (//= indicates a sentence
break in the original manuscript; new page brakes are noted in straight brackets):

Description of site: Two ball courts on the flood// plain along the banks of the river. The // lower
one [ cf., Oliver and Rivera 2004: Fig. 7: Structure A] has both sides remaining. They consisted//
[new page] of banks of earth 1-2 ft. high lined with large// flat stones 2-3 ft. high. On one stone
there is a pictograph. The ends of this court [Structure A]// are open.
The other court [i.e., Structure 'B'] has only one side// remaining, plus a short part of the opposite// side [west side]. The ends of this court are open too. There// is no embankment here. The side still remaining// [to the west] is made only of stones, 1-2 feet high. The upper // other side is near the hill [to the east], and the side of the// hill may have formed an embankment. The stairs// mentioned by Lothrop were probably on this side. There is no trace of these stairs now. However, there are many stones piled in this area, which// might have been used for the wall of the ball court,// and for stairs. The pillar stones described by // Lothrop likewise are missing. ///[new page]/// I looked over the ground in the region but saw no// sherds or other remains.

There are four pictographs on the lower //court [A]. They are shallow and almost indistinguishable,, they are weathered the same color as the stones// of the ball court, grayish green. Lines are 1 cm wide and 1 mm deep.

Possibilities for excavation: Fair, if refuse can be found.

The land is planted with coffee, in part. (Rouse, unpublished notes, 1937-38).

In the above notes Rouse stated that he could not find the stairs reported by Lothrop, but concurs with Oliver and Rivera about its probable location. He also notes that he did not see any surface ceramics, the reason why he did not excavate there and eliminated it from the final 1952 publication. The apparent poverty of pottery artifacts was not ideally suited for the goal of establishing the island-wide cultural chronology (Rouse 1952). Rouse also mentioned that the eastern row of Structure 'B' was in good condition and that only part of the western row was preserved in situ. By 2004, however, the western row of the structure had been impacted by the production of wood charcoal, confirming what the informants told Oliver and Rivera: that this was done some time during the 1970s. The petroglyphs (which Rouse called pictographs) drawn by Rouse have all been relocated in 2004 and re-drawn by Oliver and Rivera. Those illustrated by Rouse are all located in Structure 'A'.

The sketch plan-view accompanying Rouse's notes was produced by means of compass and steps, which were then estimated in meters. The map is not accurate, nor was it meant to be. In comparison to the maps provided in Oliver and Rivera (2004, 2005), there are errors of orientation of the batey rows as well in the size of court yard. This is unfortunate because a more detailed, reliable map would have provided clues as to the state of the batey rows in 1938 compared to the present.
The next reference to this site is found in the book *Orígenes del Utuado*, authored by a native historian, Pedro Hernández. In it, he commented that:

> El cementerio indígena de ‘Bibi’ Arriba, descubierto hace más de 30 años por el Sr. Vicente Medina y explorado por el Sr. Mario Rubén Delgado, al igual que la plaza ceremonial que existe en el mismo barrio, en un sitio llamado La Joya de Santana en la finca de Rubén González Chapel, promete ser de incalculable valor arqueológico. Dice que Don Antonio Sastre, propietario de la región, había caminado veredas de indios bordeadas de piedras que conducen de este centro hasta el Cerro Guilarte”.

**Translation**: The indigenous cemetery of ‘Bibi’ [Viví] Arriba, discovered more than 30 years ago by Sr. Vicente Medina and explored by Sr. Mario Rubén Delgado, as was the case for the [other] ceremonial plaza that exists in the same district, in a site named La Joya [sic] de Santana, in the farm of Rubén González Chapel, promises to be of incalculable archaeological value. He [Sr. Rubén Delgado] says that Don Antonio Sastre, [then] owner of the region [estate], had walked through Indian-made trails framed by stones that lead from this center toward Cerro Guilarte”.

(Hernández, 1971: 13; our translation).

This quote, once again, tells the story of the footpath framed by stones first mentioned by Lothrop, a feature apparently linked to the “steps” of stone. This observation, however, cannot be dismissed as a folk-tale; Don Miguel Sastre, the son of Don José Antonio, has repeatedly told Oliver and Rivera that he had walked through this foot-path bordered by stones and the steps did exist. Because of his age (79 years old) and health of his knees, Don Miguel was unable to walk to the site to point to Oliver and Rivera precisely where this feature is located, but through conversations and looking at plan views, the most likely area remains the southern half of the east row, leading toward the river.

As part of the *Inventario de Yacimientos Arqueológicos de Puerto Rico* Project, sponsored by the *Instituto de Cultura Puertorriqueña* (ICP), archaeologist Juan González Colón registered Bateyes de Viví (U-1) under the name “Vega del Hoyo”, a name that no one used in reference to this site, save for the elder generation (who simply called “El Hoyo” of Viví). In the *Site Inventory Form* filed in the Consejo Para la Protección del Patrimonio Arqueológico Terrestre and the Oficina Estatal de Conservación Histórica de Puerto Rico (or PR-SHPO), González Colón noted the following:

> Lugar multicomponente; por lo menos hay evidencia de tres bateyes. Uno de los bateyes fue removido para ser usado como verja en la casa del Sr. Juan Rey.

**Translation**: Multi-component site; there is at least evidence of three bateyes. One of the bateyes was removed to be used as a “fence” in the house of Sr. Juan Rey.
In the same document González noted the existence of petroglyphs and ceramics and indicates its cultural affiliation as “Taino (Chicoide)”. It is unclear what González meant by “multicomponent”. He may have been referring to multiple courts, rather than cultural components. In any case, the evidence obtained by Oliver and Rivera (2004, 2005) has abundantly refuted the presence of different (stylistic) components (in Rouse’s sense and definition of ‘component’). The only stylistic component present is Capá style of the Chican Ostionoid series, albeit two different temporal phases can be postulated as a result of the second flooding event (as discussed in previous subsections).

The site was also visited in the early 1980s by members of the now defunct Sociedad Arqueológica del Otoao (some ex-members of which have participated in the recent work by Oliver and Rivera, including geologist Miguel Vázquez). Their inventory of sites named it Bateyes de Viví and provided the code “Utuado #51”. In 1983 the site was subjected to an field inspection by Dr. Jeff Walker, then working as PR-SHPO archaeologist, who included it the Inventario de Recursos Culturales de la Región Central Montañosa [Inventory of Cultural Resources of the Mountainous Region]. This inventory is currently filed at the OECH (PR-SHPO) in San Juan. It contains a hand-written note by Walker that states:


Translation: J. J. Aguilú and members of the [Instituto de Cultura Puertorriqueña] visited the site in 1982 or 1981, and they documented it in part with photographs and maps. The study was never completed. [signed] (J.W. 1/8/83).

On several occasions between 1999 and 2005, Oliver and/or Rivera have conversed with J. J. Ortíz Aguilú in reference to his 1981/2 survey at the site. In brief, the work led by Ortiz was aimed at producing a detailed topographic map of the site (with an alidade), particularly of the batey structures and monoliths, in preparation for future excavations. For various reasons, the work was not completed and the proposed excavations never took place. The end result, however, was a topographic map of the northern half of the site, in and around Structures ‘A’, and ‘C-G’ and ‘H’ (see map on page 11). Many of the batey stones and other displaced monoliths still bore in 2004-05 the rock number marked with a yellow (waxy) crayon assigned by Ortiz. Unexpectedly, these crayon numbers provided Oliver and Rivera with an index of sedimentation over the rocks since 1981/2. The rock numbers given by Ortiz were annotated (whenever legible) on the plan-views produced by Oliver and Rivera (2004, 2005).
Ortiz had no recollection of what happened to his field notes, photographs and the map. However, by pure chance, Juan Rivera Fontán found out that the original or a copy of the Ortiz map was in the hands of Ismaro Rivera’s mother (and widow of Rivera, Sr.). Despite repeated requests by Rivera and Oliver, this map has yet to be produced, although Oliver and Rivera will continue their efforts. The Ortiz map is, of course, an important document as it will permit to compare the state and positioning of the batey monoliths between 1981/2 and 2004-05, and assess the relative impact of various human activities during the 20-odd year interval. It may also help in re-locating displaced rocks to their 1981/2 mapped locus (assuming further displacements since 1981/2). Coupled with the black and white photographs taken by Lothrop in 1916, a very useful picture of the recent history of the state of conservation of the bateyes could be produced.

As part of the Utuado-Caguana Archaeological Project, Oliver and Rivera had focused Bateyes de Viví (U-1) as a potential site for yielding high quality data about so-called ‘ceremonial centers’. Because within the Project’s 15 km² study area (Barrio Caguana, Angeles, Sta. Isabel) the only, major multiple batey site, Caguana (U-10), had already been impacted as a result of prior excavations and its restoration as a public archaeological park, there was no other site of comparable scale and with good integrity to pursue intra-site level research problems, its internal cultural development, precise construction (repair) chronology, that could yield new data about how its emergence and decline might relate to the surrounding farmstead sites already studied in this Project (Oliver et al 1999). Instead, Oliver and Rivera searched for a well preserved site that could stand as a sort-of proxy for Caguana (U-10) and thus be amenable to yield the kinds of data sets needed to address the research questions at hand.

As early as 1996 Rivera, and since 1999 Oliver as well, had inspected the site and decided that Bateyes de Viví was an excellent candidate. The site was visited almost every summer since 1999, but no formal archaeological work was undertaken. The opportunity to commit to Bateyes de Viví came in 2003. At this point in time, the archaeologists at the OEC (PR-SHPO) fully supported the research proposal and subsequently provided matching federal funds (from NPS) under their program of Bateyes de Puerto Rico (Barnes 1999). The aims of this program were specified in the document Ball court/Plaza Sites of Puerto Rico and the U. S. Virgin Islands, authored by Mark Barnes (1999), and submitted to the PR-OEC and the NPS in Atlanta. A two-year (2005-2006)small grant award (£7,500) from the British Academy and another grant in 2004 from the Consejo Para La Protección del Patrimonio Arqueológico Terrestre de Puerto Rico ($6,000) were awarded to Dr. Oliver (Institute of Archaeology-UCL) and were then matched by the OEC, to recover some of the costs of the investigations.
United States Department of Interior  
National Park Service  

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The funds allowed for carrying out an intensive survey in 2004, followed by additional survey and excavations in 2005, and a final (pre-nomination) visit in 2006 to document the site with standard B&W film and make accurate 1:1 scale drawings of all the petroglyphs on polyethylene sheets. The data gathered was principally aimed at fulfilling the requirements for this nomination, but also to gather the essential data necessary for further work aimed at addressing questions that arose as a result of the Utuado-Caguana Archaeological Project. All the goals for this nomination were accomplished with the regrettable exception of the Ground Penetrating Survey (GPS).* Although the GPS equipment was deployed in 2005 under the direction of geologist Eugenio Asencio, PhD (Dept. of Geology, University of Puerto Rico, Mayagüez Campus), while on the field, it malfunctioned. UPR-Mayagüez lacked the funds to repair it and Oliver and Rivera lacked the seed (grant) money to rent equipment from the private sector (an additional $10,500 were needed), this survey had to be postponed. Nevertheless, there are plans to carry-out the missing GPR survey in 2007, should grant proposals (in preparation) be successful. The GPR survey is undoubtedly a powerful tool for locating and detailing potential buried features (batey rows, etc.) that were not registered in the (surface) plan views and maps submitted to date, and thus allow for designing and preparing future archaeological work, especially excavation size and placement.

The results of the 2004-05 investigations, along with copious documentation, are contained in two final reports presented to OECH (PR-SHPO). Copies of the final reports were also provided (as PDF files) to the supporting grant institutions in Puerto Rico and the United Kingdom. Because both reports were written in Spanish, Oliver and Rivera opted to present in this nomination form a much more detailed description of Bateyes de Viví, so that an English-written summary (incorporating data from the 2004 and 2005 reports and new data from 2006) would be readily available.

*Note: On July 7-, 2007, a preliminary GPR survey was conducted at the site. In this PDF version, in Section 10, beginning on page 71, of this Continuation Sheet, some of the results are added. These were not available in the original documentation submitted to the PR-SHPO and U. S. NPS. As of 2009, the soil particle size analyses to determine sedimentary regime (floods) from Block A promised by Dr. Asencio have not been forthcoming.
Plate 8 (top). Picture of eastern monolith row of Structure ‘A’ taken by Samuel K. Lothrop in 1916. The view is probably looking to the north-east end (opposite where the lady stands, left of the photo) of the eastern row, and from of the inside to the outside of the court. Bottom: Information printed on the reverse of the photograph (typed by Irving Rouse).
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Bateyes de Viví
Utuado, Puerto Rico
Ball Court/Plaza Site of Puerto Rico and the Virgin Islands

The investigations at Bateyes de Viví from 2004 to 2006 were co-directed by José R. Oliver (PhD, 1989, University of Illinois at Urbana-Champaign) and archaeologist Juan Rivera Fontán (MA candidate at the Centro de Estudios Avanzados de Puerto Rico y El Caribe), with Dr. Oliver also acting as the Principal Investigator. Dr. Oliver is currently an Assistant Professor (i.e., Lecturer, in the British system) of Latin American Archaeology at the Institute of Archaeology, University College London, where he teaches undergraduate and graduate courses on South American and Caribbean archaeology. Juan Rivera Fontán is an archaeologist employed by the Instituto de Cultura Puertorriqueña in the Programa de Arqueología y Etnohistoria. Both have collaborated and co-directed the Utuado-Caguana Archaeological Project since its inception in 1996.

Dr. Oliver can be contacted by e-mail at j.oliver@ucl.ac.uk (or joseoliver@tiscali.co.uk). Juan Rivera can be contacted by e-mail at jrivera@icp.gobierno.pr The PI’s postal address is: 31-34 Gordon Square, Institute of Archaeology-UCL, London WC1H 0PY, ENGLAND
NARRATIVE STATEMENT OF SIGNIFICANCE (under Criteria C and D)

Bateyes de Viví is a highly significant archaeological Pre-Columbian site. It is among the very rare, few multiple-court bateye sites in Puerto Rico that has retained a substantial proportion of its stone demarcated court-yard features in situ. This excellent state of indigenous architectural and engineering preservation is the fortuitous result of having experienced a rather low impact level of colonial and modern agriculture (coffee plantation). Its preservation is also because for the last 60 years two generations of owners, José Antonio Sastre and Miguel Sastre, have taken conscious measures to conserve the bateyes for posterity, most significantly, the cessation of coffee planting at the site. Even though the site was first reported in 1916 and visited by archaeologists, no excavations have ever been conducted until the 2004 and 2006 intensive survey executed by Oliver and Rivera as part of the requirements for this nomination. These facts implied an excellent surface and subsurface integrity of the site. Even most those batey monoliths that have tumbled or been displaced can eventually be restored to their original positions.

The batey structures, as Barnes (1999) noted, are a distinctively indigenous architectural feature of Puerto Rico. Batey constructions, framed by stone slabs and monoliths, are not spread throughout the entire Caribbean. Rather these are known from the Altagracia-Higüey region in Easter Dominican Republic, Caicos Island in the Bahamas, Mona Island, Puerto Rico, Vieques Island, St Croix (U.S. Virgin Islands) and Tortola (British Virgin Islands). The earliest dated batey court (ca. AD 650) is from the Las Flores site near Coamo, Puerto Rico. Most archaeologists agree that Puerto Rico is where this architectural feature had first flourished and where it reached its maximum splendor. Puerto Rico, by far, has the highest number of sites with one or more bateyes. The use of stones, rather than earth embankments (as in most of Hispaniola) also meant that there was a ready-made canvas for the engraving of petroglyphs in such sites. Bateyes de Viví is a prime example of its type (i.e., multiple batey). Bateyes de Viví dates to a period (AD 1260-1450) when multiple batey sites reached their zenith in numbers and also diversity in Puerto Rico.

Bateyes de Viví, with its two (A and B), possibly three (Structure C) nearly rectangular courts, four oval to circular precincts (Structures D-G, a quarry/mining pit, terrace walls, and other features of ancient re-landscaping, offers a diversity and wealth of structural features that few other known multiple court sites have, and even adds others not yet found anywhere else (e.g., quarry pit). The monoliths with petroglyphs are as well hallmarks of Pre-Colombian artistic output that characterized the native Capá/Taíno culture.

The fact that the excavations at this site strongly suggest that a major flood occurred and prompted the indigenous occupants to reconstruct and/or repair the impacted bateyes provides a rare
opportunity to evaluate the state of this site between pre-flood and post-flood phases and of how the occupants may have reacted and dealt with disastrous natural events. The presence of a post- 
flood pit with what appears to be a ritual entombment of selected (rescued) pre-flood batey stones is the first strong indication of the attitude and behaviors associated with the ‘re-birth’ and ‘renewal’ of buildings (in this case, plazas or bateyes), and as well points to the great potential for defining other such ritual features at this site in the future. Bateyes de Viví is the only site of the interior mountains of Puerto Rico to have sufficient stratigraphic integrity to allow for a definition of the different temporal phases of batey construction work. This is particularly important among late, Capá (or Taino) period sites, since the precision of even calibrated radiocarbon dates is too broad to establish narrow temporal phases with such short chronological spans (200 years and more often less).

While not exceedingly rich and dense in (portable) artifacts, the sites does have a qualitatively significant number of ceramics and lithics. Details of ceramic manufacture and style (form, decoration) permit its identification with the Capá style. Furthermore, a few of the ceramic fragments preserved the carbonized soot that can be potentially submitted for starch, lipids, or blood residue analyses in order to identify the kinds of plants or animals (fats, proteins) that were cooked or baked in these pots. The formally varied lithic materials (flaked, ground stones), when analyzed for function (use-wear), will provide valuable insights as to the kinds of works conducted at this site. Like ceramics, the lithics are also amenable for starch residue analyses that can link specific tools to the plants being processed, as has been already done for sites in Puerto Rico (see Pagán Jiménez and Oliver, in press, 2006). The unfortunate absence of bone and other perishable artifacts due to the acidity of the soil can thus be compensated by these other techniques. The richness (and preservation) of pollen to reconstruct ancient vegetation has yet to be assessed, but unscreened sediment samples (anthropic as well as natural, from pre-occupation contexts) have been collected. A grant proposal (to the NSF) is being prepared by Lee A. Newsom (Penn State University) and José R. Oliver to process these and test for pollen and macro-botanical richness.

The excavations also yielded evidence that roofed structures, residential or otherwise, can be identified at this site. The two postholes adjacent to Structure A, given a future wider excavation area, should yield the floor plan and (functional) nature of the building(s) present (residential bohío, roofed structure with no walls?) in this part of the site. Their presence also bode favorably in terms of the probabilities that there are more such features in other areas of the site.

The intrinsic value of this site to archaeology lies in its potential to address research new questions and problems, and to resolve or clarify conflicting hypotheses, most particularly those linked to the emergence (or not) of complex pre-state societies based on social differentiation and stratification,
such as assumed under the label of cacicazgos (chiefdoms). Before listing some of these key questions, it is worth providing three hypothetical scenarios on the role and nature of multiple-batey sites, of which Bateyes de Viví is an example. These scenarios ought to be seen as analytical points or arbitrary breaks along what in effect is a continuum, rather than be regarded as formal, ideal (classificatory) types. Only further intensive archaeological work at Bateyes de Viví and micro-regional investigations could provide the rich, abundant evidence needed to refine the likely hypothetical scenarios and refute those most unlikely.

Bateyes de Viví could be hypothesized to be the locus of a limited in-site residential group consisting of a few related families; namely, a hamlet. If so, the presence of two, possibly three relatively large public arenas (Structures A and B, perhaps C) would seem to exceed the area logically needed to accommodate the in-site residents in public arenas. Taking this assumption as a given, then two hypothetical scenarios insinuate themselves (Scenarios 1 and 2). But if the site was not occupied (domestic residences) permanently, then a third scenario emerges (Scenario 3). There are other possibilities of course, but for the sake of brevity only these will be considered below.

**Scenario 1.** The first scenario would be that these court areas were used by not only the in-site residents but by other surrounding, nearby communities or settlers who were linked by both affinal relationships and blood or even fictive kinship (as implied by the Taíno term of guaitiao) to the in-site residents. This would not exclude that peoples from further a field would, periodically, visit or be invited to the site for a variety of reasons, such as trade and exchange, but it does imply that these public court yards ‘belonged to’ a precise set individuals who had and could argue for their right to claim their place in them (membership). All ‘others’ will be people who are, in essence, allowed or invited, to form part of the group gathering. In this scenario, the question arising is why would then these in-site residents, and not the others living in the vicinity (but with rights to use these courts), have physical proximity to such relatively large bateyes in the first place. One might envision that while the social ethos may have been largely egalitarian, there was nevertheless a system of seniority (birth order) and/or of personal achievements gained in life (instead of rights based on class or social stratum) that determined why and who could live in proximity to multiple bateyes. Alternatively, one could envision that physical proximity (in-site residence) was not the key criterion for ‘ownership’ or ‘membership’ (use rights) but instead that the bateyes were corporately administered (‘owned’). In this instance, the socio-political power structure might be heterarchical rather than hierarchical.

**Scenario 2.** The second scenario would hold that the site’s residents were, in fact, members of a chiefly, political-religious (elite) class, and that the large court areas were the visual, tangible marks (akin to symbolic wealth or capital) of such high status. This status (elite social stratum) would, of course, be defined by birth and inheritance rights, as would be its ‘head’ or cacique. In this case,
the large court areas themselves take on a different meaning. The relatively large courts would then
represent the seat, or center, of a polity (however large or small), and the petroglyphs would be
among the powerful symbols wielded and commissioned by the chief. The large public spaces
would not only be the public arenas used by the in-site elite residents for both mundane communal
activities and for their own particular ceremonies, but these would primarily be the theaters where
solemn ceremonies and rituals, with rigid protocols, were staged periodically. Such public activities
would include not only the immediate subject population, but also political allies and guests
(economic partners) from beyond. The site, along with its public arenas, would thus be the political
and ceremonial center of a polity and the power structure would likely be more hierarchical than
heterarchical. Given a limited number dwelling structures, some of these sites (e.g., Caguana, Vivi,
Yagüez) may have been permanently occupied by the chiefly elite and their entourage. But in other
settlements (perhaps, Palo Hincado?), a wider socio-economic spectrum would be expected. This
scenario and close variations of it would suggest that the site overwhelming function was as a
regional civic-ceremonial center, or ‘capital’ of a polity.

Scenario 3. The third and final scenario assumes that this site did not have an in-site
(permanent) residential occupation. This implies that the site was only activated during particular
events and festivities of political and religious (or even economic) significance. Peoples residing in
the local region, or throughout a wider region (a polity or shared by several polities) would
congregate and reside in this site only through the duration of the marked event or events in the
year, be these religious, social, political, economic or a combination. One possible situation is
pilgrimage, such has been suggested for Cahuachi in the Nazca Valley in Peru. Another instance
would be the ‘vacant’ ceremonial village centers of the modern Cogi (Kogi), Caggaba, and lca of
Sierra Nevada de Santa Marta, in Colombia, where most of the actual year-round domestic
dwellings are dispersed and located near the conucos (gardens). The latter is of explained through
the economics-based model of vertical ecological zonation (‘verticality’), first espoused by
anthropologist John V. Murra for the central Andes. Such a vacant ceremonial site may have been
located at the center of a polity or, as the late Gary Vescelius (see Oliver 1998) suggested long ago,
at the border between two or more polities, with its connotations of neutrality and its valuable
function of articulating disparate, perhaps event competing, socio-political entities. The core
activities taking place at such sites would likely be solemn and highly ceremonial, and designed to
articulate and integrate, rather than reign over the participants who came from different polities
and regions.

Each of these three scenarios—in essence models—can be reformulated so as to develop specific
predictions about what sorts of archaeological evidence ought to be found to confirm or refute (or
refine) them. Clearly, most of the questions arising would require high resolution archaeological data
from not only the immediate area around Bateyes de Vivi (about which currently the data is
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However, there are specific questions and issues at the intra-site level for which there is a high level of confidence that Bateyes de Viví (U-1) holds the relevant archaeological evidence. These are rather low-level questions that would form the initial basis upon which to begin to broach the hypothetical scenarios above outlined. The following questions/issues are but a sample and are not meant to be exhaustive.

1. **Perishable Architecture & Its Occupants/Users.** What is the nature and function of the wooden structures, as inferred from post holes and post molds found in Block A excavation, at this site? What was the floor plan like and what was its function, residential or non-residential? The STP program in relation to the distribution of the bateyes suggests that the zone between Precincts ‘A’ and ‘B’ is a potential area for erecting one or two wooden structures (bohíos), as is the area along the western side of Precinct ‘A’. In these two zones the ceramics found are somewhat larger in size, more abundant and less eroded than elsewhere, and at the same time, are not found in midden (garbage dump) contexts. If there is further evidence of roofed wooden structures, then the artifacts and features associated to these can potentially illuminate the social status of its occupants, the kinds of domestic and economic activities performed in and around these, the number of occupants per structure and, ultimately, the nature and composition of the household unit, which has not yet been defined for Puerto Rico. A key question that could also be answered, once household units can be defined, is whether the different households are of the same or similar socio-economic stratum (egalitarian) or not (elite and commoners, or just one or the other being represented). Additionally, the intensity and nature of house activities should yield clues as to whether its inhabitants permanently resided in them or whether their stay was temporary. Could any of the wooden structures be something other than residential units, such as kitchen sheds, workshops, huts, perhaps even storage structures? Answers to these questions may allow then for comparisons to other settlements in the vicinity: How do the peripheral community settlements differ from that of the multiple-batey site?

2. **Stone Architecture and Landscape Engineering.** There are still open-ended questions about what were the primary functions of the all the different kinds of areas or spaces bordered by monoliths and stones. Precincts ‘A’ and ‘B’ dominate the public areas of the site. Their function as communal spaces to perform areítos—that is, dances and chants of various kinds such as funerals, weddings, war victories, etc.—and/or ball games (batey) is inferred largely from ethnohistoric documents, but finding unequivocal archaeological evidence to allow a determination of whether these courts were multifunctional or exclusively destined for one class of activities (areítos, ball games, or other kinds of feasts) remains elusive.
However, further excavations inside and around these two precincts may yield direct or indirect information about the results of activities that took place in and around these spaces that could strengthen our inferences or deductions. On the other hand there is great potential for addressing questions about construction, maintenance and repair or reconstruction of the various structures and terrain re-landscaping, all of which have significant implications for elucidating social organization and economy. Excavations in Precinct ‘A’ already suggest that there was an earlier batey that had almost certainly been destroyed or severely impacted by a major flood event. The questions that can be addressed include:

a. What was the magnitude of the ca. AD 1400 flood impact on Precincts A and B? What was the scale of labor and resources needed in repairing and/or re-constructing the two precincts? Were all the other structures (C through G, not to mention wooden structures) equally impacted? Despite of the efforts in repair and reconstruction, for how much longer was this site occupied/utilized before abandonment?

b. The re-landscaping of the terrain during the construction (and re-construction) of the precincts required terrain leveling. Was all the earth spoil around Structure A dumped on the eastern side of the court? How much dirt volume was removed; what it implies in terms of labor investment (man-days) and organization?

c. What is the nature and function of the three or four stone delimited circular to oval structures (D-G)? Are these indeed man-made and oval or will their configuration change upon further work (GPR, excavation)? If man-made, were these open arenas or roofed structures? Were these contemporaneous or erected in different times (e.g., pre- or post-flood)?

d. Is the lone row of monoliths in Structure ‘C’ part of a square or rectangular precinct, or indeed a single row dividing two areas or leading towards the river? Is this row contemporaneous with the post-flood Precinct ‘A’?

e. Structure ‘B’ includes at least two parallel rows (W-E) of boulders and stones that terminate perpendicular to the (N-S trending) western row of this precinct. What is the function of these exterior divisions? As no excavations have yet been conducted, the nature, function and temporal placement of this portion of the site cannot be established. (However, because of the precise alignment of the western row of Structure ‘B’ with that of Structure ‘A’, it is probable that both were erected at the same time; they were part of a well designed blue-print).
f. The eastern slopes of the hill adjacent to Structure ‘B’ have a series of boulders that at different elevations follow the contours of this hill. Is there evidence that boulders are placed by humans, selected to be used as drainage and erosion control walls? If so, was the slope gradient artificially changed (i.e., terracing) also? If terraces were constructed, what was their function agricultural? If man-made, are these of Pre-Columbian age or colonial, or both?

g. The apex of the Bateyes de Viví terrace, around Structures D-G, tentatively suggest that the boulders and monoliths found on the cliff’s upper half may have been placed there by human action in order to stabilize the cliff and control its erosion so as to maintain the level of the terrace surface. The anthropogenic nature of these needs to be confirmed with further archaeological work, involving fluvial geomorphology and geophysics (GPR). If it is a man-made feature, again questions about labor investment and organization can be addressed, and technical issues of indigenous fluvial engineering know-how be elucidated.

The resolution of most if not all of the issues above raised (and others not mentioned here) can be achieved with further archaeological and inter-disciplinary research. The potential for success is high, given the current state of preservation of the site. A key issue intimately related to views on site complexity is whether or not all the stone demarcated areas (including bateyes, sensu strictu) are contemporary. Which structures were built earlier (pre-flood), which survived and continued to be used (or abandoned) and which were built later during the estimated AD 1260-1450 time span would result in different levels or degrees of complexity attained through time. Did the site grow gradually or in spurts of high activity? Were there more diverse kinds and more numbers of precincts before or after the purported AD 1400 flood event?

3. **Iconography and Symbolism.** The presence of petroglyphs at this site provides fertile grounds for exploring a wide range of questions, particularly those regarding the identity of the creatures (images) depicted and their relationship to the inhabitants and visitors. These icons are also likely to be emblematic of the site’s distinct identity and, as Oliver (2005) suggested numinous objects of political-religious significance that may have been used as power-brokers. Aside from the specific meanings and symbolic interpretations (are these objectified cemís [zemís], in the sense discussed by Oliver [2005]?), they seem to show a distinct formal and stylistic predilection, if not norm. As a whole, the preferred forms consist of simple faces and heads. The rarity elaborate faces with headdress decoration (n=1) and the near absence (n=1?) of zoomorphic imagery distinguishes this site from other multiple batey (so-called “ceremonial centers”) of Puerto Rico. The iconography of Caguana is by far much more structured and diverse, including clear references to social hierarchy/age, ancestors/ancestors, to zoomorphic icons framing full-bodied anthropomorphic ones (Oliver 1998, 2005). The Batey Delfín de Yagüez site (Mayagüez), on the other hand, has a predilection for what Rivera (2005) describes as a zoo-iconography derived from marine
fauna, and where the natural shapes of the selected monoliths, with little or minor modifications, constitute an integral part of the iconography (i.e., volumetric instead of bi-dimensional). Tierras Nuevas (Manatí) site, which also preferred simple faces, did include full-bodied anthropomorphic petroglyphs but whose bodies were depicted in ‘X-Ray mode’ (skeletal-like lines, rather than fleshy-like outlines; data based on copies of slides taken by Ovidio Dávila, late 1970s). Unlike these sites, Bateyes de Viví includes one large, natural boulder replete with petroglyphs, forming the terminal monument from which departs the west row of Structure ‘B’. Other single and multiple batey sites, dating to the same late period, also local iconographic/thematic preferences. The key question is what is the implication of such diverse and local preferences exhibited in different multiple and even single batey sites? What do these locally-flavored images imply in terms of socio-political identity for the sites? What does the absence of a broadly distributed, official political-religious iconography mean? Can this localized distribution be deployed as evidence against a centralized power or authority ‘dictating’ an ‘official’, elite-led iconographic style?

4. The Space between Structures A and B. Aside from the STP data confirming positive artifact finds, no other subsurface surveys (GPR) or excavations have been implemented in this sector. The STPs indicate that this zone is not likely to have been a refuse or midden area. Informants reported that this one area where large decorated potsherds and a half vessel were found by them in the past. What was the function or functions of this area? Was it a locus for wooden structures or houses? Are there as well other buried features? What kinds of activities were undertaken in this zone? How these related to the adjacent precincts to the south and north?

5. The Quarry Pit. The hypothesis that this is a Pre-Columbian anthropogenic hole (an inverted cone) at the northern tip of the hill and that it is a open mining pit or quarry needs to be confirmed. If it turns out to be a quarry location to extract granodiorite rocks to be used in the construction/repair of bateyes, on terrace stabilization and so on, it would have important consequences for understanding in labor investments and costs and the economics of this site. Informants have insisted that the boulders still found at the bottom formed a “cave” (shelter) where, again, large and decorated vessels were found. What is the evidence that this was a Pre-Columbian mining pit? What techniques for quarrying stone were used?

The above are but a selection of the issues and questions that the authors feel are the most salient and potentially answerable by further research at the site of Bateyes de Viví. These research problems at the intra-site level need to be addressed first in order to then be able to test the three hypothetical scenarios (and others) visualized for the broader, regional and island-wide significance.
of Bateyes de Viví. This site is among those very rare multiple-batey sites that have eluded the severe impacts and pressures from agriculture and urban development in Puerto Rico. Its potential to address significant questions is, without exaggeration, enormous. Bateyes de Viví represents a key piece in the grand puzzle that is the broad question of what was the nature and function of multiple-court (batey) sites, the so-called civic-ceremonial centers, in Puerto Rico and the Caribbean, and what can these tell us about the culture and societies that built and used them. More specifically this site can positively contribute to a critical re-examination of what is that Caribbean archaeologists mean by ‘civic’ and ‘ceremonial’ and ‘center’, and to rethink what ‘batey’ means, rather than the automatic equation with ‘ball games/courts’ and (areiño)‘dance plazas’.

Although the Oliver and Rivera have provided here what they feel is a solid case for the nomination of Bateyes de Viví, they would also argue that, although not absolutely required for its nomination, a non-intrusive Ground Penetrating Radar Survey of the site should be requested by the PR-SHPO to enhance and complement the documentation provided thus far. The GPR survey would generate a site-wide map that would clearly register all the patterned subsurface anomalies, namely slabs, monoliths and boulder patterns. The results of such a non-intrusive survey and mapping technique could then be put to use in two ways. First it will define what subsurface areas may contain buried features and structures so that future research designs and excavations can be intelligently formulated. Secondly, the existence of such GPR map, along with the surface maps, will allow for a sensible management of the property and design conservation/protection plan (for example, where to cut or remove growing trees, and where to allow these to grow, or where to cut drainage ditches). Indeed, Oliver and Rivera would strongly recommend that no further archaeological excavations be conducted at the site until the GPR survey is executed.
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Utuado, Puerto Rico

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On July 8, 2007 a GPR survey was conducted at Bateyes de Viví. As shown in the map to the left, several tracks were established. These tracks were laid out so as to intersect, at some points, with buried monoliths from Structures A and B and Row C. The tracks were run in one direction and then back to the starting point; each direction constitutes a line and given Arabic numbers. The tracks are color-coded as follows (see also detail map, page 72):

- **Track A** South, **Line 27** (North) and **Line 28** (South) run on the east side (outside) of Structure A and intersects the Stone Row C.
- **Track B** North, **Line 25** (North) and **Line 26** (South) run a short distance immediately east of the batey (Structure A) stones and pass over the block excavation area (whose prior disturbances we hoped to pick up with the GPR).
- **Track B** Line 23 (South) and **Line 24** (North) extend from the SE corner of Structure A and cross diagonally through the area between Structures A and B.
- **Track C** Line 20 starts at N1000 inside the batey Structure A and runs through the south (buried) stone row limit of the plaza.
- **Track D** Line 22 run parallel to Track C and also through the south (buried) stone row limit of the plaza.
• **Line 33** crosses the N1000 gridline between E1015 and E1005, and some 8 meters east of the western boundary of Structure A (see map on the right). Here an unexpected major anomaly was detected. It was determined not to be a buried tree-trunk. Further excavations will be required to define and determine the nature of this anomaly.

• **Track F Line 34 (West)** runs on N1000 between N993 and E1000 crossing the outside (W) and inside (E) of Structure A.

• **Track G Line 35 (North)** - Line 38 (South) run on the west of Structure A and parallel to the stone row. Several anomalies were detected.

The GPR data was collected by Juan Negrón of GeoEnvirotech, Inc. and geologist Miguel Vázquez of ERM, Inc. on 7 and 8 July, 2007. A Noggin plus 250 MHz GPR cart unit with was utilized for this survey.
Clockwise from top left: Juan Negrón runs the GPR unit through Track A in the east side of Structure A. Close-up view of real-time data display; View of the Nuggin GPR (250 MHz) unit hanging from the cart; a view to the north of Tracks A (right) and Track B (left).

08/July/2007
Track C, Line 20  (08/July/2007)

Comments
National Park Service

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Track D, Line 22 (08/July/2007)

Comments
Track B, Line 25 (08/July/2007)

Comments
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Comments
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Track A, Line 27 (08/July/2007)

Comments
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Track A, Line 28 (08/July/2007)

Comments
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Track , Line 30 (08/July/2007)

Comments: Not on Oliver's field notes.
Comments: Arrow 1 points to a break in the horizontal banding at 180-200 cmBS. Arrow 2 points to the basal rocky layer sloping downward to N1004 inside the batey/plaza. Also note the “^ ^ ^” patterns of the radar within 80-200 cms layer (Arrow 3). Arrow 4 points to another anomaly blurring the strong horizontal signal at 200 cmBS.
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Track F (N1000-E994 to E 1004.5), Line 34 (08/July/2007)

Comments:
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Track G, Line 35 (08/July/2007)

Comments:
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Track G, Line 38 (08/July/2007)

Comments:
Many times the location of graves are not marked or improperly marked because of cemetery deterioration or lack of maintenance. GPR provides a quick means of relocating grave sites. In this example, the bodies of 1919 Spanish Flu victims buried in permafrost was of great interest for medical research. The GPR mapping survey allowed scientists to select the locations for exhuming the victims.

Longyearbyen Cemetery, Svalbard
GPR plan map: high amplitude areas (red) surround coffins.

Quickly cover large flat open areas, such as lawns, roads and sidewalks.

Integrated cable system for signal, power and odometer

Interchangeable brackets allow any Noggin to be attached

Fold down handle

Tough fibre glass cart - no metal, to eliminate interference

12V battery

New battery 9Ah, 3.9 kg, (8.8 lb) lighter, smaller, 12V gel cell

(250 MHz model shown used at Bateyes de Vivi)

http://www.sensoft.ca/applications/forensics/casestudy/cs_cemegraves.html
Adjunto líneas de GPR de Utuado. Cuidado al correlacionar estratos, pues esta data no tiene corrección topográfica.

Juan.

Miguel A. Vázquez, PG
Project Manager, Hydrogeologist

Estas eran todas las líneas que estaban en el diagrama

Hardy