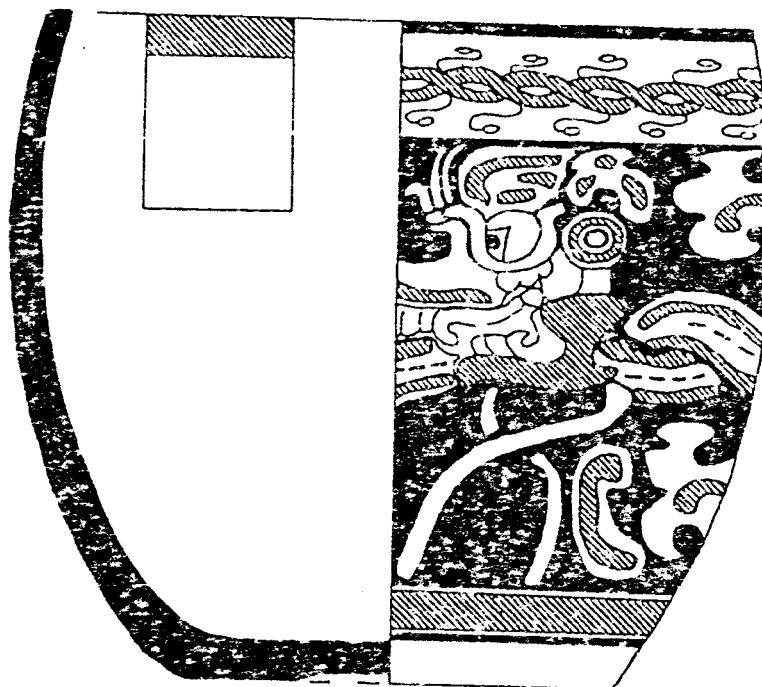


**BELIZE VALLEY
ARCHAEOLOGICAL RECONNAISSANCE
PROJECT**



**PROGRESS REPORT
OF THE 1995 FIELD SEASON**

Edited by

James M. Conlon

Institute of Archaeology
London
1996

In Memory of
Harriot Topsey

Table of Contents

Preface	
James M. Conlon	vii
The Bedran Bones: Preliminary Analysis of the Human Skeletal Remains from the Bedran Group, Baking Pot, Belize	
Rhan-Ju Song	1
Archaeology in the Plow Zone: Results of Salvage Operations at the North Caracol Farm Settlement Cluster, Cayo, Belize	
Charles W. Golden and James M. Conlon	19
Investigations at the Lost Ballcourt of Group I, Baking Pot, Belize	
James M. Conlon	39

PREFACE

The 1995 season of operations by the Belize Valley Archaeological Reconnaissance Project (BVAR) was the second consecutive year it conducted investigations alongside of The Belize Valley Preclassic Maya Project (BVPM), coordinated and directed by Drs. Paul Healy and Jaime Awe of Trent University. This union provided valuable assets that were enjoyed *pro bono* by the BVAR Project. I would like to acknowledge my, and all BVAR researchers, indebtedness to both Paul and Jaime for their cooperation in allowing the continuation of BVAR research under the BVPM Project permit, as well as their generosity in sharing the utilization of some of the logistical amenities, including residences, laboratory facilities and consumables. The cooperation between the two projects enriched our research team and assisted them in reaching their objectives with a minimum of responsibility. Although our usual veteran BVAR research staff was limited due to other commitments, the comparatively brief report compiled here reflects the diminishing focus upon Cahal Pech by BVAR and the subsequent shift in research focus to Baking Pot. The "continuing completion" of major investigations at Cahal Pech has enabled an incremental transition of full scale investigations at Baking Pot, aiding in developing more pointed foci of research.

To our colleagues conducting research in the Belize Valley we acknowledge their considerable unselfish inputs, in both formal and informal circumstances. Ultimately our research is fostered by the benevolent Belizeans of the Cayo District, who graciously welcome us back year after year, providing a home away from home, a sanctuary to retreat to at the end of each working day.

Finally, I thank all the members of the Belize Department of Archeology for their continued support of our project endeavors. In closing, I, and on behalf of the BVAR staff, extend sincere condolences to the colleagues, friends, and family of the late Harriot Topsey.

James M. Conlon

**The Bedran Bones:
Preliminary Analysis of the Human Skeletal Remains
from the Bedran Group, Baking Pot, Belize**

By

**Rhan-Ju Song
Department of Anthropology
Trent University**

Introduction

The following report is a brief synopsis of preliminary osteological analyses undertaken by the author in Belize during the summer of 1995. The skeletal remains of sixteen individuals were excavated from twelve burials, two caches and two bone concentrations, from Mounds 2 and 3, at the Bedran Group during the 1992 field season (Figures 1 and 2). Their chronological placement, grave type, and associated artifacts have been described previously (Powis 1993, Conlon 1993a and b, Conlon and Powis n.d., Conlon et al. 1994, Conlon et al. 1995) and so, for the sake of brevity, this report will focus on outlining general age and sex determinations, and include discussions of skeletal pathology and health where possible.

It should be noted that the extent of some osteological details have been limited due to the fragmentary state of some remains, their incomplete curation (i.e. incomplete cleaning and reconstruction), and time constraints. In particular, interment of the remains in very hard clay soil used as construction fill at the Bedran Group has noticeably affected their preservation and appearance. Additional cleaning and future intensive examination of the skeletal remains should hopefully elaborate on the present discussion.

Mound 2

Burial 1

This poorly preserved burial mainly consisted of non-diagnostic long bone fragments, which could only hint at an adult individual. While the robusticity of the fragments suggest a possible male sex, no pelvic or cranial remains were recovered which could provide a confident sex determination, or better defined age category. No pathologies were noted on the long bones.

Burial 2

This burial was also very fragmentary, with only several undiagnostic long bone fragments, miscellaneous small bone pieces, and a few maxillary cranial sections by the orbit. No bones provided reliable sex indicators, but a robust radius shaft fragment with a very protruding interosseous crest is suggestive of a male adult.

The Bedran Settlement Cluster, Baking Pot, Belize 1994

Survey by: S. Brisbin
Plan by: J. Conlon
Graphics by: A. Allan

LEGEND

- Mounds (Prehistoric) ○
- Linear Indentation —
- Unsurveyed

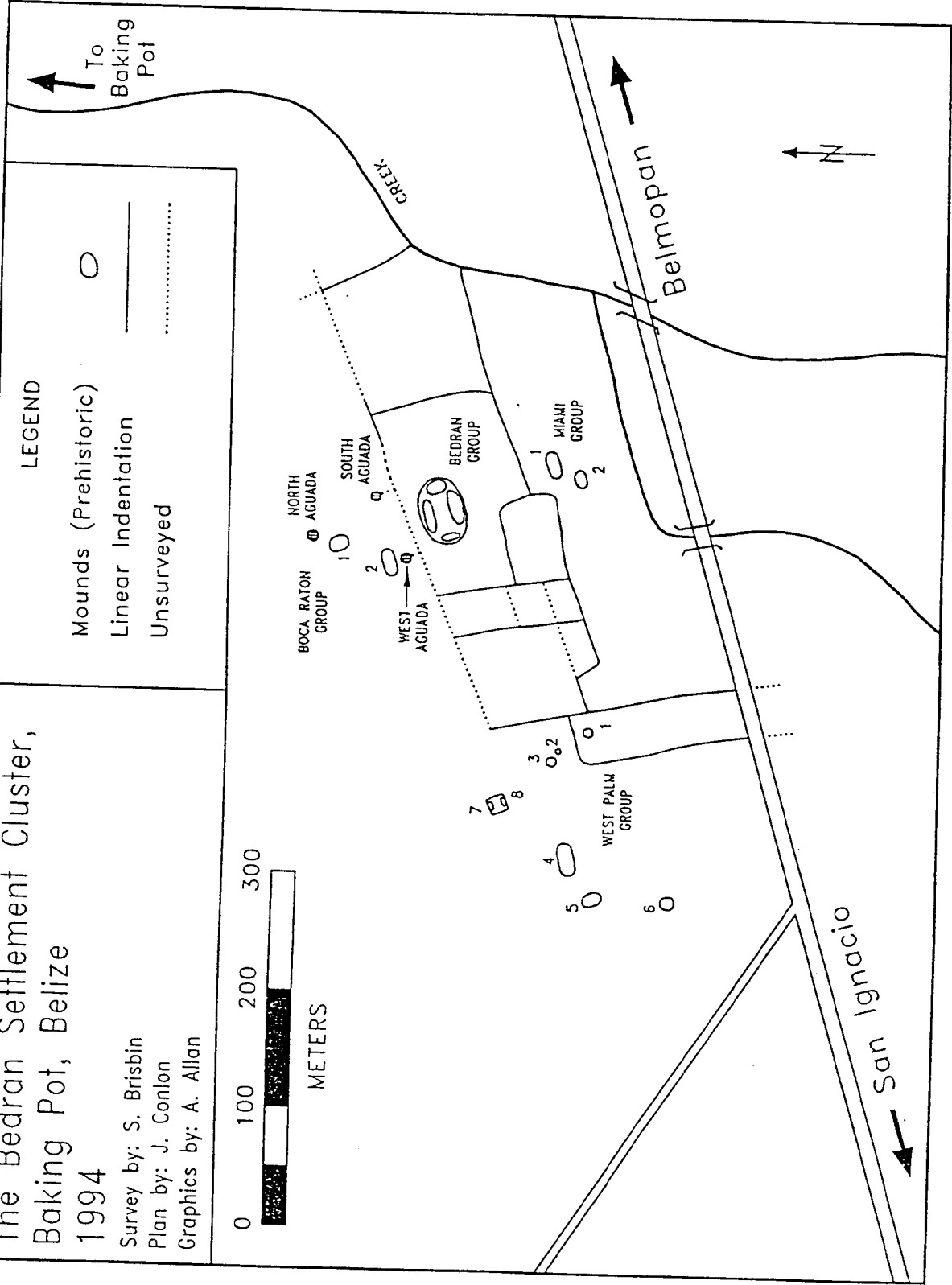
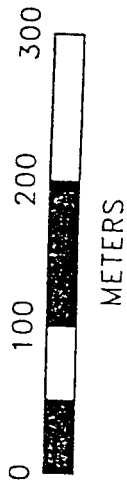


Figure 1

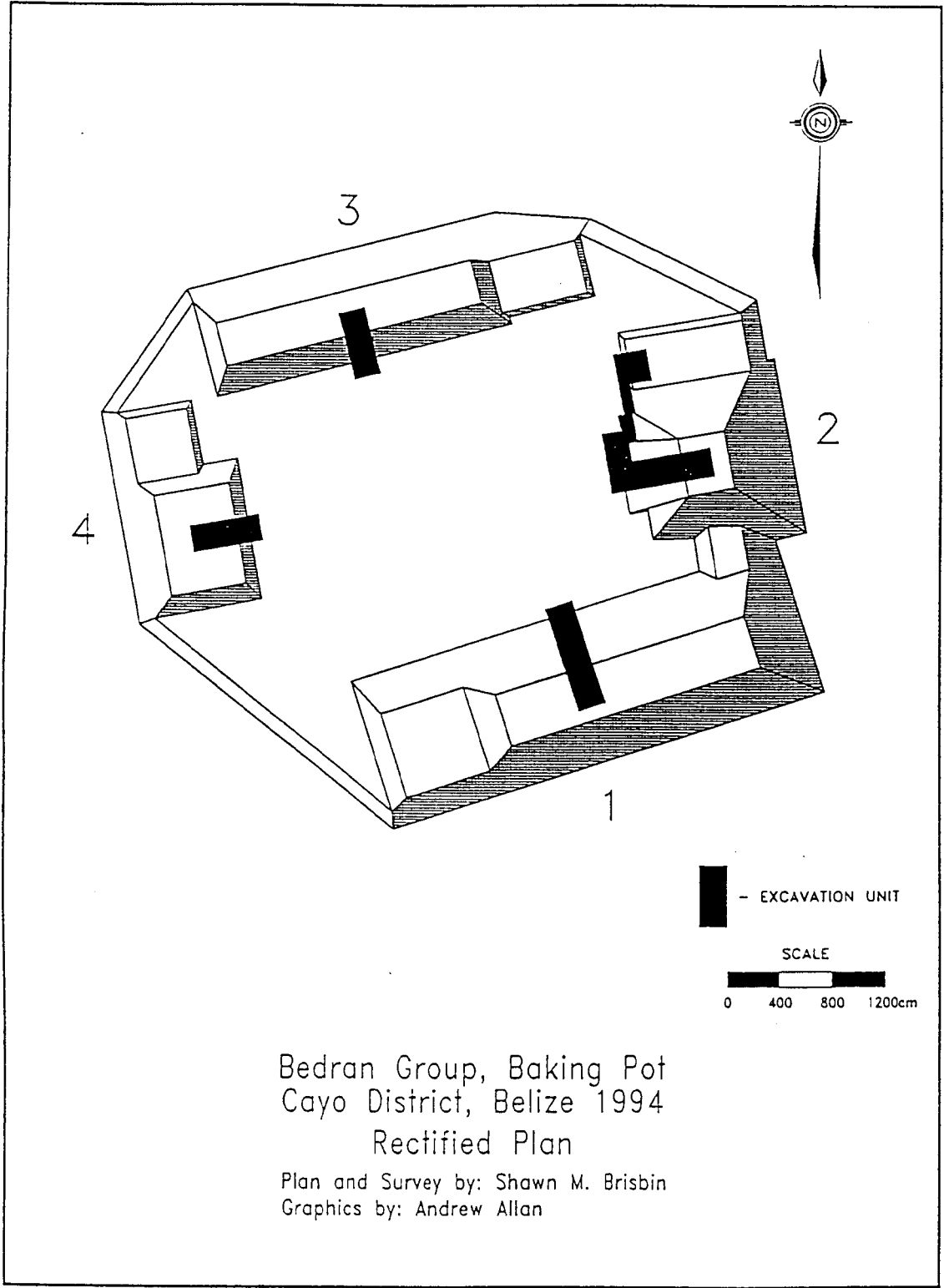


Figure 2

Burial 7

This adult skull interment consisted of several cranial fragments and seventeen teeth. A female sex was indicated by gracile cranial features, namely the supraorbital ridge on a right orbital portion, and the small mastoid process of a right temporal fragment. No pathologies were observed on the cranial remains. The following secondary teeth were present for Burial 7:

R	P4	P3	C		I1		I2	C	P3	P4		L
R	P4	P3	C	I2		I1		C	P3	P4	M2	L

In addition, five single roots and one double root were recovered which probably represent the worn-down remains of the four absent incisors and a possible M3. Similarly, the lower right M1 was only represented by roots. The missing crowns of these teeth could be attributed to be the result of either severe attrition, or a combination of dental wear and carious destruction, which is more likely for the molars. Overall, dental attrition was graded heavy in severity, and calculus was slight to heavy (see Brothwell 1981: Figs 3.9 and 6.14).

The upper right I1 was distinct for the dental filing that was evident on the lateral occlusal edge. This notched tooth was modified in a Type B4 variety, following Romero (1970). The upper left I2 may have possibly been modified in a similar fashion (which could indicate a similar appearance for the missing upper right I1 and I2), but the state of occlusal dental wear in this tooth precluded a definitive answer.

Evidence of antemortem tooth loss and consequent bone resorption was evident in the lower right M2, which displayed complete alveolar bone resorption of the socket. Like the above mentioned teeth, loss of this tooth was probably due to excessive dental attrition and carious activity.

Elsewhere in this individual's dentition, carious lesions were observed on several teeth. They included the upper right I1 and upper left I2, both upper canines, upper left P3, both lower canines, lower left P3 and lower left P4. For these nine teeth, carious lesions were apparent along the cemento-enamel junctions of the labial surfaces, ranging in severity from slight surface erosions to deep cavitations into the root. Lastly, the lower left M2 had an extensive lesion present on the occlusal surface of the mesial-lingual cusp, which had penetrated into the dentine and destroyed half of the labial crown under the occlusal surface.

Among seven of these teeth, linear enamel hypoplasia was evident as a slight groove along the labial surfaces of the crowns. This developmental defect of enamel is basically a deficiency of enamel on the crown surface (usually labial), and can appear as lines, grooves, random or linear arrangements of pits, or areas of entirely missing enamel (FDI 1982). They have been widely examined in paleopathological studies because the completely calcified nature of enamel after childhood dental development means that it permanently records incidences of health and dietary insults at the age they occurred.

Importantly, the ages of dental development are known for most human populations, so that timing of defects can be extrapolated from the position of the defect

on the crown relative to the cemento-enamel junction (often using dental charts of Massler et al. 1941).

A wide variety of systemic, hereditary and traumatic causes have been linked to the development of enamel hypoplasias (see Shawashy and Yaeger 1986; Suckling 1989; Weinmann et al. 1945; Winter and Brook 1975), but in archaeological populations, the primary cause of defects will be systemic metabolic factors (Goodman and Rose 1991; Goodman et al. 1980; Rose et al. 1985). Common systemic conditions include malnutrition (kwashiorkor, marasmus), exanthematous fevers, viral infections, insufficient dietary intake of vitamins A, C, D and calcium, haemolytic disease and prematurity (see reviews in Goodman and Rose 1991; Cuttress and Suckling 1982; Song 1996).

Using regression equations devised for Altun Ha Maya dentitions (see Song 1996), the position of defects on the upper right I1, all upper and lower canines, and lower right I2, indicated that a disease or dietary stress occurred at around 3 years of age (3 to 3.3 years), while another episode was indicated in the lower right P4 at around 6.5 years of age.

Burial 8

The adult individual in this burial, whose sex was indeterminate, was only represented by a few undiagnostic long bone shaft fragments. No pathologies were noted.

Burial 9

The remains of this juvenile individual were noteworthy for the nature of skeletal traits indicative of a male sex. While young children can rarely be sexed due to the absence of secondary sex characteristics in their immature skeletons, some studies have indicated that specific cranial and pelvic features (if pronounced) can be suggestive of sex (Schutkowski 1993).

Overall, this individual was characterized by comparatively good skeletal preservation, with inclusion of several cranial fragments, mandible with 25 teeth, major long bones, pelvis, and possible foot phalanges. In this child, who was between the age of four and six years based on dental development (see Ubelaker 1989: Fig. 71), "typically" male features included a squarish, broad (hyperbolic) mandible with noticeably flared gonial angles and a prominent knobby chin. These are mandibular features which usually characterize males of adult age as well.

Scrutiny of the frontal cranial portion, including the right upper orbit, indicated it clearly lacked any pitting typical of *cribra orbitalia*, a childhood cranial manifestation of anemia (Stuart-Macadam 1985, 1989).

The following primary and secondary dentitions belonged to this child:

R								I1	I2	C	P3		M1		L
r										c(?)	m1	m2			l
r			m2	m1							m1	m2			l
R	M2	M1	P4	P3	C	I2		I1	I2	C	P3	P4	M1	M2	L

In addition, an upper premolar was retrieved, but its side could not be correctly identified due to antemortem chipping of the lingual cusp, and medium to heavy dental attrition. Among primary teeth, dental attrition was slight and calculus mostly non-existent, while secondary teeth had none to slight dental wear and no calculus.

With respect to enamel defects, this Bedran individual exhibited the most severe and extensive defects. These defects were manifest as wide circular craters of depressed enamel (moderately deep and almost the entire width of the latero-labial or mesio-labial cusps) on the labial surfaces of the secondary lower right and left M1. The position of these craters indicated a continuous stress period between 1.3 and 2.0 years (using regression equations of Song 1996). During this time span, two distinct stress periods at 1.8 and 2.0 years were particularly indicated by two shallow grooves on the same tooth. Similarly, the upper left M1 had a depressed crater and two deep grooves indicative of stress episodes at 1.8 and 2.0 years.

On the upper left I1 and left canine severe (deep) grooves were also present. The incisor indicated a long-term stress period from around birth to 2.1 years (thus incorporating the stress period reflected in the defects of the above mentioned teeth). The upper I1 also had brown and cream coloured hypocalcification on the labial surface.

Finally, with respect to dental health, caries were present on the primary lower left m1, in the form of a 2.58 mm wide pit on the distal/lateral cusp (occlusal surface) which penetrated into the dentine; primary upper left m1, which had two occlusal (interfissure) pits extending into the dentine and a small pit on the labial occlusal cusp; primary upper left (?) canine, which had a small lingual pit near the occlusal surface; secondary lower right M1, which had three small occlusal/interfissure pits; secondary lower left M1, which had an interfissure pit on the labial surface which penetrated into dentine; and the secondary upper left M1, which had a carious pit in between the mesial and lateral lingual cusps, and two or three small interfissure pits on the occlusal surface.

Burial 10

This solitary skull interment consisted of the partial cranial remains of an adult male individual, which was sexed primarily from the robust supraorbitals and mandible. While cranial fragments were present, their state of preservation did not allow for age estimates based on cranial suture closure.

The following secondary teeth were recovered:

R	M3		P4	P3	C	I2	I1		I1	I2	C		P4	M1	M2	M3	L
R		M2	M1	P4	P3	C	I2	I1		I1	C	P3	P4	M1	M2		L

Dental attrition of these teeth was moderate in severity, while calculus deposits were often heavy to very heavy (see Brothwell 1981: Figs 3.9, 6.14). A very large carious lesion was observed on the lower left M2, which resulted in destruction of the mesial cusps (with only part of the distal crown edge present), and cavitation extending into the root. Developmental defects were identified on both lower canines and appeared as a roughened region of depressed enamel along the lateral half of the labial surface (see

Song 1996: Chapter 6). Aging of the right canine defect indicated a stress episode at around four years of age.

Burial 11

Burial 11 was a complete individual but only the skull was available for detailed analysis. A rugged nuchal crest, pronounced supraorbital ridges, and broad mandible are all indications of a robust adult male. Overall, the cranium was very fragmentary. Some fragments appeared to be afflicted with *porotic hyperostosis*, a cranial condition indicative of anemia or infectious disease (Stuart-Macadam 1992), manifest as outer surface pitting and a thickened diploe (middle table) layer. However, this diagnosis cannot be confidently made at this time due to the state of bone preservation.

Dentally, this individual can be aged to be an older adult, 40-45+ years, based on extensive and severe dental attrition, antemortem tooth loss, and general poor dental health (caries). In most teeth, crowns were worn all the way down to the cemento-enamel junction and root, and in conjunction with carious destruction, this resulted in very few functional occlusal surfaces, which would have made chewing food a formidable task. The following teeth belonged to this individual:

R	P?		I2?	L
R			C	L

In addition, seven single roots lacking crowns were recovered, which probably represent some of the missing incisors, and possibly some premolars.

Other teeth were probably lost antemortem, like the lower left P3 which had complete bone resorption of the socket, but incomplete preservation of alveolar bone along other tooth sockets hindered a clear assessment. These teeth, in addition to the absent crowns of the seven roots, were most probably lost due to a combination of carious destruction and severe dental wear brought on by a gritty maize and fibre diet.

In the lower left P4 socket, reactive bone (spicules) and a cavity down through the mandibular body suggest extensive antemortem carious activity, in the form of dental abscess, and alveolar bone infection, which would have been a painful burden to bear.

Other evidence of carious lesions were apparent on the lower left canine, which had a large cavity of the entire mesial and labial width along the cemento-enamel junction, deep into the dentine and nerves; and a probable upper premolar with crown destroyed by a carious lesion extending through the dentine into the root (possible abscess).

No evidence of pathologies such as enamel hypoplasia or hypocalcification were noted, but their supposed absence may be a direct result of the state of dental crown preservation, rather than a true absence. If such enamel defects truly did not exist here, then this would be significant since it further supports the correlation between increased life span (as indicated by this adult's older age), and the absence of defects reflecting childhood stress episodes.

Mound 3

Burial 1

This juvenile individual was mostly preserved, though fragmented, but could not be completely analyzed due to its continued "burial" in unyielding Bedran soil (in the lab). Some cranial fragments and teeth were removed for this examination. The following deciduous teeth were recovered:

right			i1	i2		m1		left
right				c				left

Dental crown development indicated a child between nine months and one year of age, although an age closer to one year is more likely (see Ubelaker 1989: Fig. 71). Like most studies which indicate high hypocalcification rates among deciduous teeth (Blakey 1981; Blakey and Armelagos 1985; Duray 1990; Song 1996), which could be taken to reflect minor stress episodes when compared to enamel hypoplasia, four of the five teeth had orange-brown hypocalcified staining of their crowns. No enamel hypoplasias were observed. However, unlike enamel hypoplasias, the age of stress occurrence cannot usually be extrapolated from the position of most hypocalcifications on the crown. Other dental remains probably represent this individual, but the embedded state of the skeleton within concrete-like clay soil precludes identification until further "emancipation".

Additional Human Skeletal Material

In addition to human remains recovered from defined burial contexts, miscellaneous skeletal material was also recovered from two caches (13 and 18) and bone concentrations in the northwest and southwest quadrants of the plaza unit excavated in front of Mound 2 (Figure 3).

Cache 13 was a dedicatory deposit of six vessels, a chert biface and a mano recovered from within the inset shrine feature and underneath the plastered platform along the primary axis of Mound 2 (Conlon et al. 1995:49 and 51, and Conlon et al. 1994:242, 246 and 252). The very fragmentary remains of a juvenile of indeterminate age, mixed amongst faunal bones were present. The incomplete nature of the long bone shaft fragments and other non-diagnostic bone precludes a defined age range, and similarly, no statements about pathology can be made due to preservation.

Cache 18 was located along the primary axis of Mound 2 below the terminal plaza floor and in front of the inset shrine (Conlon et al. 1994:246 and Conlon et al. 1995:49 and 51). It consisted of a partial Platan Punctate-Incised type vessel, an obsidian blade, marine shells and the very fragmentary remains of an adult, or older adult (i.e. 30-40+), of indeterminate sex. This individual was represented by several long bone shaft fragments, some vertebral remains, and one tooth, an upper premolar with side indeterminate due to extensive carious destruction. The carious lesion extended through the dentine into the root and resulted in destruction of almost all of the middle of the crown, particularly the labio-lingual region.

Plan of Mound 2, Bedran Group Baking Pot, Belize, 1994

Plan by: Terry G. Powis & James M. Conlon
Graphics by: Andrew D. Allan

Scale = 1:40

LEGEND	
① BURIAL	⑩ EMPTY CIST
② CACHE	⑪ CHERT BIFACE
③ SHERD CLUSTER	⑫ PARTIAL VESSEL
④ RIVER COBBLE	⑬ CENTRE OF ROUND PLATFORM
⑤ PARTIALLY EXCAVATED	⑭ SHERD FRAGMENTS OF V1 FROM B11
⑥ BURNT PLATFORM	⑮ RIGHT TIBIA AND FIBULA FROM B9

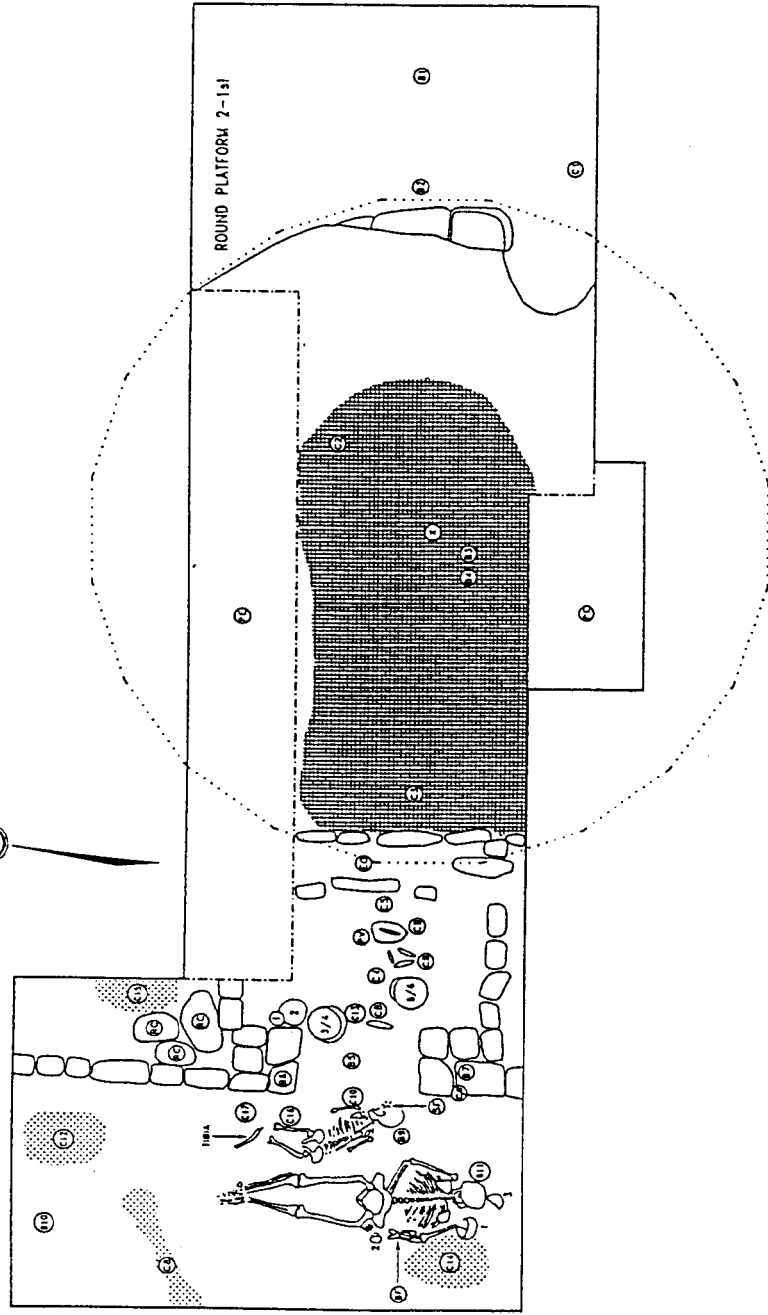


Figure 3

From the northwest quadrant of the plaza in front of Mound 2 fragmentary remains, possibly representing two different individuals, were identified. The nature of long bone shaft fragments and dental remains suggested that an adult and child were represented, however, the two teeth found (deciduous lower right canine, and secondary lower left M1) could have also conceivably belonged to a single juvenile individual aged 4 to 7 years. A right temporal cranial portion with small mastoid and zygomatic processes could have belonged to this juvenile or to a gracile female or young adult. Enamel hypoplasia on the secondary lower left M1 indicated that separate stress episodes occurred at approximately 2.3 years, and 2.6 years of age for one individual (using regression equations in Song 1996).

Lastly, from the southwest quadrant of the plaza unit of Mound 2 several long bone fragments, mandible, teeth and other miscellaneous bones, constituted the remains of an adult of unknown sex. The following secondary teeth were recovered for this individual:

R	P3?	C	M2?	L
R	P4	C		L

Antemortem tooth loss was evident for the right M1, which exhibited complete bone overgrowth of the socket, while the empty socket of the right M2 also indicated some bone resorption. In general, dental attrition was medium to heavy in severity (see Brothwell 1981: Fig. 3.9), while calculus deposits were slight to medium along the cemento-enamel junction (Brothwell 1981: Fig. 6.14). Other than possible hypocalcification staining of the labial surface of the upper left canine, the only other dental pathology observed was a hypoplastic line on the lower left canine. The position of this enamel defect suggested that a health or dietary stress affected this individual at around 3.5 to 4 years (3.8 years, based on regression equations in Song 1996).

Conclusions

Approximately sixteen Bedran individuals were represented by the burial and cache remains excavated from the Bedran Group. It is possible that more individuals were represented by long bones included in the caches and bone deposits, but their fragmentary nature cannot support such conclusions at this time. Equally plausible too, is the situation where long bones from some partial burials or bone deposits may have belonged to the cranial interments of Burials 7 and 10 which would reduce the number of individuals.

If the burials and caches represent separate individuals, then at least four juveniles, two males, one female, five adults of indeterminate sex, and four possible males make up the Bedran skeletal population. The four possible male adults must be accepted with caution as their sex was solely based on relative long bone robusticity.

More correctly, the sex status attributed as male should be considered questionable since the general population of the Classic period agricultural community of the Bedran settlement cluster were probably engaged in strenuous agricultural and manual labour as indicated by the large scale prehistoric irrigation system at this site

(Conlon 1993:203, Conlon and Powis n.d., Conlon 1995, Conlon and Awe 1995a and b, see also Kirke 1980). Such occupational activities would have placed increased stress on bone, resulting in increased shaft diameter and pronounced muscle markings, so consequently, both males and females of the group might have been characterized by fairly robust long bones. Thus, the robust long bones of Burials 1,2,3 and 5 could indicate female individuals as much as they represent male adults. Only cranial and pelvic remains can pinpoint a clear sex designation, but they are unfortunately absent for these interments.

Healthwise, the Bedran individuals who could be assessed for pathology reflect a moderately healthy population. However, it should be kept in mind the poor skeletal preservation restricted examination of health status to dentition, and particularly the incidence of enamel hypoplasia, hypocalcification, caries, alveolar bone infection and resorption. Dental evidence of physiological disturbances cannot be taken as the sole expressions of ill-health for an individual's lifetime, especially since teeth cease to develop after late childhood (or early adulthood in the case of third molars). In general, the Bedran dental remains reflect a "typical" Maya pattern, namely medium to heavy or very heavy calculus deposits; severe attrition in adult and older adult teeth, which was often combined with extensive carious destruction; and consequent antemortem tooth loss of posterior teeth (molars) in particular.

Enamel hypoplasia defects indicative of childhood stress episodes affected one or more teeth of four individuals, but these four, from Burials 7, 9, and 10, and the bone concentration in the southwest quadrant of the plaza excavations, represent all the individuals with scorable secondary teeth (100% incidence). Three other burials contained teeth, but Burials 5 and 11 exhibited extensive attrition and destruction which precluded a true assessment, while Burial 1 from Mound 3 only had primary teeth. Notably, for this infant burial, the non-existence of hypoplasia in primary teeth indicates relative good prenatal and neonatal health, since primary teeth develop from 5 to 6 months in utero to just shortly after birth (Shaw and Sweeney 1973). However, the absence of comparative infant dentitions cannot support a statement of such a trend for Bedran children in general.

From the secondary dentitions, defect positions on various teeth indicated the individual of Burial 7 experienced two childhood stress episodes at 3 and 6.5 years of age; the individual of Burial 9 experienced a significant long-term period of ill-health starting from birth onward (see below); the individual of Burial 10 experienced health stress at around 4 years of age, and similarly, the individual represented in the southwest quadrant bone concentration had a health insult at 3.8 or 4 years.

The juvenile of Burial 9 is significant because of the extensive enamel hypoplasia identified, and general poor dental health, as evident in numerous carious lesions on six primary teeth. The presence of a very wide defect on the upper left incisor reflects a long-term physiological disturbance from birth to two years, with notable insults at 1.5-1.8 and 2.0 years. The severity of the defects clearly reflects a serious illness or malnourished state which may have contributed to the early death of this child between 4 and 6 years of age.

It is obvious from these individuals, in addition to Formative and Classic period Maya from nearby Cahal Pech (see Maar and Varney 1993; Song 1993, 1995; Song et al.

1994) and Altun Ha in northern Belize (Song 1996), that there is a trend for hypoplastic defects to primarily occur on secondary dentitions between the age of two and five years. The preponderance for defects at this time has been attributed by several authors to be correlated with late weaning practices of prehistoric and modern Maya (Saul 1972; Saul and Saul 1991; White 1986).

This is a conclusion that has been drawn in numerous Maya and non-Maya osteological studies, particularly regarding the role of nutritionally inadequate maize in childhood health. However, it should be stressed that while increased maize reliance may diminish the quality of diet and promote poor nutrition (primarily through reducing dietary variety), the presence of defects indicative of childhood stress should more accurately be attributed to the interaction of diet with environmental and cultural factors, such as settlement density and ecological setting. These factors must be equally weighted in determining the nature of total pathogen load at the site, and how it affected prehistoric Maya health.

In truth, most defects **do** occur in the middle thirds of tooth crowns (Goodman and Armelagos 1985), representing the period of development between two and five years, but this situation may just as likely reflect the peak period of enamel development in teeth at this time, when there are also increased nutritional requirements for this period of rapid childhood growth. It is possible that stresses which were minor and did not affect developing teeth at other times somehow tend to express themselves during this period of growth because of increased enamelization rates and ameloblast sensitivity (see Goodman and Armelagos 1985; Goodman and Rose 1990).

While the inherent nature of enamelization during childhood may partially determine the patterns of observed enamel defects, their applicability and usefulness in paleopathological studies is still relevant in a comparative sense. While limited, both in number and the extent of skeletal preservation, the Bedran skeletal remains reflect an observable level of moderate stress for Maya during the Classic period. Stressful periods of individual development seems restricted to early childhood and late adulthood and thus may be no more significant to Classic period Maya stressful health conditions than the comparability of susceptible ages of world populations today. A more detailed analysis incorporating the archaeological context of the Bedran burial data with this analysis may elucidate cultural conditions to explain some of the pathologies evident, and along with future incorporation of this preliminary data with other studies of human remains from the Belize Valley should, hopefully, clarify the picture and demonstrate clearer trends in prehistoric Maya health.

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**Archaeology in the Plow Zone: Results of Salvage Operations at the North Caracol
Farm Settlement Cluster, Cayo, Belize**

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Introduction

The site of North Caracol Farm lies approximately two kilometers to the east of the major center of Baking Pot, in Cayo, Belize (Conlon 1995a:97). The site was originally reconnoitered by Jaime Awe in 1993 in preparation for assessing potential future investigations at the site of Baking Pot. During the 1994 survey of the eastern region of Baking Pot (see Conlon 1995a), the senior author and David Iguaz noticed men laboring atop the main mound at North Caracol Farm and proceeded to ascertain the landowners permission for access to the site. While the site was not the focus of any organized archaeological work in 1994, interviews with farm workers indicated the current tenant had been cultivating the area for at least four seasons. The removal of limestone blocks from the field, to avoid damaging plows, was common practice every season. Thus, by the beginning of the 1995 field season, none of the sites terminal architecture remained undisturbed.

A grouping of at least thirty mounds, the largest rising approximately eight meters, North Caracol Farm is presently situated on the south bank of the Belize River on land owned by Minister Dito Juan. In light of the current agricultural use of the land, and the ongoing destruction of the site, it was decided that surface collection represented a minimally invasive method by which significant information on the North Caracol Farm settlement cluster might be salvaged. Minister Juan graciously afforded us access to his lands for this purpose. Data and artifact recovery from North Caracol Farm is crucial not just because of the sites continuing destruction. Located two kilometers from the site core of Baking Pot, a major ancient Maya center in the area (see Ricketson 1931, Willey et al. 1965 and Bullard and Ricketson-Bullard 1965), understanding the prehistory of North Caracol Farm becomes imperative in broadening insights garnered through ongoing research at its larger neighbor.

Method

Due to the severe damage incurred by the terminal architecture of the structures at North Caracol Farm (Conlon 1995a:97), it was determined that the primary provenience of objects recovered would be difficult, if not impossible, to determine. Long streaks of artifacts could be seen extending beyond mounds where they had been turned up and dragged away by plowing activity. By collecting artifacts found only on the mounds themselves, however, it was possible to acquire a gross knowledge of artifact provenience. Collectors lined up facing a mound, separated by two plow furrows, each person collected from three furrows, walking methodically back and forth across the mounds. All artifacts lying between mounds were to be left uncollected as they could not be securely assigned a point of origin.

Unfortunately, as it was relatively late in the field season, time and manpower did not allow for all mounds to be surveyed and only a rough sketch map with estimated relative positions of settlement was prepared (not available here). Even without a formal plan of the settlement at North Caracol Farm it was determined that conducting salvage operations during the 1995 field season, before mounds suffered any more disturbances, was more important than losing data forever. Because field collection was severely limited in time it was decided to not only concentrate the focus of our efforts on recognizably significant mounds but also to gather data from those mounds that may represent less prominent features in the settlement cluster. The decision was made to collect from the largest mound at the site (NCF-M1), the two mounds which appear to form a ballcourt (NCF-M12 and M13), two mounds on the edge of a large barrow-pit (NCF-M5 and M14) and two a little further from its edge (NCF-M2 and M3). It was hoped that this would establish parameters which would yield data regarding differential occupation types and periods at the site.

Results

NCF-M1

NCF-M1, located very near Garbutt Creek (Conlon 1995a:92), is by far the most imposing mound at North Caracol Farm. It is a range mound measuring, at its base, approximately fifteen meters east to west, ten meters north to south and rising about eight meters above the modern ground surface. On its western side is an obliterated superstructure evidenced by an area of pulverized stucco and small cobbles, approximately three meters square. Though, as discussed above, all cut stone has been removed from the surface of the mound, the general outline of the fill remaining gives the impression of a staircase extending up the south side of the platform. NCF-M1 appears to have been one terminus of a *sacbe* whose other terminus lies only one half kilometer from the site core of Baking Pot (Conlon 1995a:96). Though much of the *sacbe* is lost in modern experimental rice fields and plowed areas of the Central Farm government agricultural station (Conlon 1995a:92 and 96), an individual standing on BP-M154, facing eastward, can follow the *sacbe's* east-west orientation directly to NCF-M1. It is, at present, impossible to say exactly what the interrelationship was between North Caracol Farm and its larger neighbor to the west, but the NCF-M1/BP-M154 *sacbe* may either have served an important role in physically connecting Baking Pot and the NCF

settlement cluster, or, the *sacbe* may have functioned to define the western extent of the NCF settlement cluster zone.

Ceramic material recovered from NCF-M1 ranged in date from the Middle Preclassic (Jenny Creek phase), through Terminal Classic (Spanish Lookout phase). No manos or metates were recovered from NCF-M1. This was noteworthy in that they were relatively abundant elsewhere at the site, having been collected from all other mounds investigated.

The remains of one individual, NCF96-B2 (Table 1), were recovered from the western face of NCF-M1. Found just over halfway up the slope of the mound, the burial was badly disturbed, with only a right humerus fragment, femur shaft fragment, right radius fragment, and one other long bone fragment found. No artifacts could be associated with the human remains.

The burial is particularly interesting given the apparent connection between NCF-M1's western side and the *sacbe*, discussed above, which runs west towards Baking Pot. Along with the superstructure perched on the western edge of NCF-M1, this burial may suggest an orientation of this structure's activities involving Baking Pot. This possibility will be discussed in greater detail below.

NCF-M2

Located just to the southeast of NCF-M1 and just west of the access road into the site is NCF-M2. It is a small mound, no more than one to one and one-half meters high, measuring approximately four meters east-west by three meters north-south. Sherds recovered from NCF-M2 could be securely placed within a range of dates incorporating the Jenny Creek through Spanish Lookout phases.

NCF-M3

NCF-M3 is a moderately sized mound at North Caracol Farm, measuring approximately four meters east-west, three meters north-south, and rising about two to three meters from the ground surface. Located to the northeast of NCF-M1, it is just a few meters away from the south-western edge of the large barrow-pit which dominates the central portion of the site. Once again, sherds recovered from this mound range in date from Jenny Creek through to Spanish Lookout.

Of special interest from this mound was the recovery of a large portion of an Aguacate Orange bowl. One fragment of this bowl was observed, prior to recovery, to contain an obsidian blade fragment adhering to its inner face via a clump of dirt. Nearby this same sherd lay two large jute of the species *P. glaphyrus*, another obsidian blade fragment, and fragmentary human remains (NCF96-B4). Bone material recovered included one fragment of the right innominate (superior iliac spine), a distal left humerus fragment and one long bone shaft fragment (this last later found to be non-human). Once back in the project lab it became apparent that more than one sherd of the Aguacate bowl had been recovered. In fact, about one fourth of the vessel was reconstructed, revealing the original vessel diameter to have been about thirty-eight centimeters. The bowl seems to have been deposited, either as a burial offering along with NCF96-B4, or as a cached vessel

NORTH CARACOL FARM
BURIALS 1996

BURIAL NUMBER	STRUCTURE	DESCRIPTION
NCF96-B1 (also NCF96-SF13)	NCF-M12	lt. tibia frag.,prox. rt. femur frag.,cranial frag. long bone shaft frag.,metatarsal frag.
NCF96-B2 (also NCF96-SF14)	NCF-M1	rt. humerous frag., femur shaft frag.,rt. radius frag.,long bone shaft frag.
NCF96-B3 (also NCF96-SF24)	NCF-M14	lower rt. first molar,distal rt. hum. frag., cranial frag.,ulna shaft frag.,2nd rt. hum. frag.
NCF96-B4 (also NCF96-SF34)	NCF-M3	frag. rt. innominate,long bone shaft frag.(non-human),distal lt. humerous frag.
NCF96-B5 (also NCF96-SF33)	NCF-M14	femur frag., 9 longbone shaft frags., distal humerous frag., left ulna frag.

Table 1

containing obsidian blades, shells, human and animal bones. Vessels that contain human remains are not uncommon in Preclassic and Classic period times as evidence from Cas Pek (Song 1995:175 and 176) and Zopilote (Cheetham et al. 1993:162) would attest. Cache 3 from the courtyard group (Structures 4-7) of the Tolok Group consisted of an interment within and Aguacate Orange: Aguacate Variety vessel with a diameter of 23.5 centimeters (Powis and Hohmann 1995:69).

NCF-M5

NCF-M5 is the second largest mound at North Caracol Farm, and is situated on the eastern edge of the barrow-pit. A roughly square platform measuring about ten meters to a side and about three meters high, NCF-M5 supports the disturbed remains of three, and perhaps four, superstructures (NCF-M5n, -M5e, -M5w) which form a courtyard group on its summit. Morphological similarities include the platform groups of the Gallo Group east of Baking Pot (Conlon 1995a:94), the Naxima Group west of Baking Pot (Conlon et al. 1994:236), and the Cas Pek Group west of Cahal Pech (Awe et al. 1992; Cheetham et al. 1993; Sunahara and Awe 1994; and Lee and Awe 1995). NCF-M5w, the western superstructure, appears L-shaped, with base of the L extending eastward from the southern side, but due to the destruction of the site, it may be that there is, in fact, a fourth superstructure on the south side of the platform. None of the superstructures stand more than one and one half meters in height. Again, owing to the removal of all cut stone from the site, it is impossible to tell from what materials the superstructures were constructed. The remains of plaster evident on the surface of NCF-M5e suggest it had plastered platforms.

The ceramics collected from NCF-M5 were perhaps its most interesting aspect. Like all the mounds discussed above, ceramics from the Jenny Creek through Spanish Lookout phases were recovered. In addition, Postclassic types from both Paxcaman and Augustine groups were found, as well as one sherd of Daylight Orange: Darknight Variety. The abundance of Post-Classic materials at this mound made them difficult to miss and may be important for assessing the magnitude of Postclassic settlement at NCF.

In terms of artifacts, a number of potentially enlightening distributions were noted at this platform. To begin with, the greatest quantity of Post-Classic sherds were collected from on, and around, the western superstructure. The eastern slope of NCF-M5 was littered with rough "chopping" tools (see Willey et al. 1965:426), which were not particularly prevalent elsewhere on the platform. On the north slope, manos and metates seemed especially numerous. Finally, there seemed a greater abundance of often characterized "elite goods", especially surprising given their virtual absence from other mounds. The "elite goods" included one green and one gray bead, and a slate wrench fragment (NCF96-SF21, -SF19, -SF18: Table 2). The grey bead was plain and ovoid in shape while the green bead was square in shape and apparently incised.

NORTH CARACOL FARM
SPECIAL FINDS 1996

SPECIAL FIND NUMBER	STRUCTURE	DESCRIPTION
NCF96-SF1	NCF-M1	4 obsidian blade fragments
NCF96-SF2	NCF-M5	2 obsidian blade fragments
NCF96-SF3	NCF-M12	slate fragment
NCF96-SF4	NCF-M5	chert point (biface)
NCF96-SF5	NCF-M12	chert knife, tapered stem, bifacially worked
NCF96-SF6	NCF-M5	chert point (uniface)
NCF96-SF7	NCF-M5	sandstone vessel fragment
NCF96-SF8	NCF-M3	6 obsidian blade fragments
NCF96-SF9	NCF-M5	11 obsidian blade fragments
NCF96-SF10	NCF-M1	17 obsidian blade fragments
NCF96-SF11	NCF-M12	3 obsidian blade fragments
NCF96-SF12	NCF-M13	2 obsidian blade fragments
NCF96-SF13	NCF-M12	see burials, NCF96-B1
NCF96-SF14	NCF-M1	see burials, NCF96-B2
NCF96-SF15	NCF-M14	rim sherd, black paint on unslipped orange paste
NCF96-SF16	NCF-M14	2 censor fragments
NCF96-SF18	NCF-M5	slate wrench fragments
NCF96-SF19	NCF-M5	green jade bead, rectangular, polished and carved
NCF96-SF20	NCF-M5	perforated slate fragment, possible pendant or mirror back
NCF96-SF21	NCF-M5	dark gray jade bead, ovoid, polished
NCF96-SF22	NCF-M5	slate fragment
NCF96-SF23	NCF-M5	4 obsidian blade fragments
NCF96-SF24	NCF-M14	see burials, NCF96-B3
NCF96-SF25	NCF-M14	late formative figurine leg
NCF96-SF26	NCF-M3	aguacate orange sherd, possibly assoc. w/NCF96-B4
NCF96-SF27	NCF-M3	one quarter aguacate orange vessel, assoc. w/NCF96-B4
NCF96-SF28	NCF-M3	slate wrench fragments
NCF96-SF29	NCF-M3	2 obsidian blades associated with NCF96-B4
NCF96-SF30	NCF-M3	10 obsidian blade fragments
NCF96-SF31	NCF-M14	11 obsidian blade fragments
NCF96-SF32	NCF-M3	2 jute, <i>P. glanhyrnus</i> , associated with NCF96-B4
NCF96-SF33	NCF-M14	see burials, NCF96-B5
NCF96-SF34	NCF-M3	see burials, NCF96-B4
NCF96-SF35	NCF-M14	2 long bone shaft fragments, non-humans
NCF96-SF36	NCF-M3	basalt bowl fragment
NCF96-SF37	NCF-M3	conch shell fragment

Table 2

NCF-M12 and NCF-M13

These two small mounds appear to form a ball court at the NCF settlement cluster. Running parallel to each other, NCF-M12 on the west and NCF-M13 to the east, with a central alley about two meters wide, they lie at the north end of the site quite close to the tree line of the Belize River. Each is of equivalent dimensions, some five meters north-south, three meters east-west, and rising to almost two meters in height. The orientation of the long axes of the mounds is near north-south, congruent with the predominant orientation of other ball courts in the valley. In terms of architectural planning, it is striking that standing in the playing alley of the ball court, looking south, the only part of NCF-M1 visible is the superstructure on its western summit. Whether this visual perspective is coincidental, or was planned by the ancient Maya, is debatable.

The ceramics collected from NCF-M12 and NCF-M13 are dated almost exclusively to the Late and Terminal Classic periods, falling into either Tiger Run or Spanish Lookout phases. One Savannah Orange (Jenny Creek) sherd and five Augustine Red (New Town) sherds represent the only outliers in the collection, and both of these came from NCF-M12. There were also an unusually high number of large, unslipped sherds recovered, some thirty pieces in all, from NCF-M13, far more than from NCF-M12. Unfortunately, lacking secure context, or any defining surface decoration, it was difficult to accurately type the unslipped component of the collection, or assign a period phase with any certainty.

Bone fragments from what may have been an interment (NCF96-B1) were recovered from the eastern slope of NCF-M12 (ball court alley side). Material collected included one left tibia fragment, one proximal right femur fragment, one cranial fragment, two long bone shaft fragments, one first metatarsal and one metatarsal fragment. The burial appears to have been placed along a north-south axis, probably with head to the south. Associated with the burial, found close beside one of the long bone fragments, was a large chert knife (15.5 cm long), bifacially worked, with a tapered stem. A similar stemmed chert blade, Cache 15-1, was recovered from ball court excavations at Pacbitun (Healy 1987:9; Figure 16).

Although the intent to restrict surface collection from on, or within close proximity to, selected mounds was made from the outset, the area between NCF-M5 and NCF-M12/13 was too interesting to overlook. This area is littered with broken green glass bottles and more recent ceramic materials. Though most of the site shows no immediate evidence of historical occupation, a few of these obviously historical sherds were collected. These sherds were identified by Terry Powis as "Blue Willow" china, a common type prevalent in the first half of the nineteenth century. No signs of a historical residence was observed which could be associated with these remains.

NCF-M14

Situated on the south side of the barrow-pit, NCF-M14 is approximately six and one-half meters east-west, five meters north-south at its base. The mound stands about two and one-half meters high. Ceramics collected from NCF-M14 range in time from

Jenny Creek through New Town phases, though Postclassic ceramics do not appear as abundant here as on NCF-M5.

Human skeletal material recovered included the lower first right molar, a right distal humerus fragment, a smaller right distal humerus fragment (representing a second individual), a cranial fragment, and a right ulna fragment. It is not clear whether two censor fragments and two non-human long bone fragments found in close proximity to the human remains are all part of the same interment(s).

Summary

The 1995 investigations involved only surface collecting several mounds in the North Caracol Farm settlement cluster but all indications point to a long period of occupation. Occupation likely began sometime in the Jenny Creek phase (900 B.C. - 300B.C.) and continued through to the New Town phase (A.D. 900 - 1500). In this regard, NCF settlement occupation is similar to that of nearby Barton Ramie (see Willey et al. 1965). It is difficult to make many other comparisons between these neighbors because of the dubious provenience of the NCF surface collected materials. However, some observations are warranted here, though they must be considered not only tentative, but also highly speculative at this time.

Preclassic period (900B.C. - A.D. 300)

Little can be said about any potential early period settlement at NCF. Ceramics from all phases of Formative period occupation were recovered from all mounds, though NCF-M12 and 13 (the ball court) had only one example from this phase (a Savannah Orange sherd). This may indicate that the ballcourt does not have a Preclassic construction component. The abundance of Preclassic sherds in close proximity to the surface indicates that they were probably part of the construction fill of those mounds collected from. This fill may have come largely from the large barrow-pit at the sites center, the possible primary source of most of the Preclassic ceramics recovered in our surface collection. The depth of this barrow-pit appears to be almost four meters, and if it reaches down to undisturbed Preclassic levels, it provides a far easier access to this period than excavation from the current ground surface.

Thus, the barrow-pit may have originally been dug for Classic period construction material. However, the secondary Preclassic deposits may also be representative of earlier occupation construction phases dating to this time period. At Cahal Pech it was not uncommon to find Preclassic ceramic material mixed in with Classic period construction phases (Awe and Campbell 1989: 30-31). Future excavation is the only method to ascertain the extent and magnitude of settlement during this time period.

Classic period (A.D. 300 - 900)

All mounds tested displayed indications of Classic period ceramics. Like the Preclassic component at NCF, the lack of secure archaeological context for the majority of artifacts recovered makes it difficult to draw many definite conclusions about the Classic period settlement. Like Barton Ramie, NCF appears to have 100% "occupation" during this time period (Willey et al. 1965:567). In terms of settlement morphology, the

organization of structures at North Caracol Farm, apparently lacking distinguishable formal patio groups (except NCF-M5), is in line with Maya construction in much of the upper Belize River Valley. Solitary structures in this region account for sixty-eight percent of all residential units in the Belize River area, eighty-five percent in the valley bottom itself, and nearly ninety-eight percent of structures in the Barton Ramie area (Ford 1990:173 and 180). However, the deep furrows created by plowing at NCF has possibly obliterated most terminal occupation superstructures whose heights were less than 20 centimeters above their associated platform substructures, making "structure" identification difficult.

As noted, the supposition that Preclassic ceramics came from the barrow-pit suggests that it was dug during the Classic period. The barrow pit may have more significance than simply as a "quarry" for construction material. Though NCF's proximity to both Garbutt Creek and the Belize River would suggest an abundant water supply throughout the entire year, it is not inconceivable that a concerted effort was made to utilize this sole locale for construction material, with a concomitant goal to eventually provide a large receptacle to contain water.

Digging an aguada near the Belize River is not inconceivable for two reasons. First, reconnaissance at the Bedran Group has revealed an intricate system of ditched fields among which occur several large depressions (Conlon 1993; Conlon 1995b; Conlon and Awe 1995a and 1995b; and Conlon and Powis n.d.). These depressions interconnect ditches at several points along the system and thus, likely functioned as aguadas (Conlon and Awe 1995a:66). Unfortunately, our limited investigations, along with the deep plowing which has occurred at NCF (on average 20 to 40 centimeters deep), makes it impossible to assess, at this time, the possibility that ditched fields were a component of the settlement here.

The second indicator that the barrow-pit may have functioned as an aguada is based upon its location within the settlement cluster at NCF. The two closest mounds to the barrow-pit are NCF-M3 and NCF-M5 (the latter second largest at NCF next to NCF-M1). Surface collection at these two mounds produced some of the more interesting finds (burials, vessels and lithics). Next to NCF-M3 and NCF-M5, NCF-M1 is the next closest mound to this barrow feature. The association of barrow-pits and quarries next to important structures is widespread throughout the Belize Valley.

Large aguadas of the ditched fields at Bedran are located in close proximity to the plazuela group, the main group focus of the Bedran settlement cluster (Conlon and Awe 1995a:74). At Baking Pot, at the base of Group II, there is a large depression which may also have acted to pool water in prehistoric times. Similarly, at Cahal Pech, some 10 kilometers to the west of Baking Pot, a large aguada is located at the base of the central precinct near Plaza E (Awe and Campbell 1989:7). Also at Cahal Pech, both the Tzinic and Cas Pek Groups have substantial depressions associated with the main, or dominant, architectural features within these groups. Finally, one last example comes from Floral Park where several depressions are located on the western edge of the main group (Glassman et al. 1995:58).

Although referring specifically to monumental architecture within the site core of major centers, Ashmore (1992:173) suggests special patterning bespeaks "of divine

mandate for authority..." The barrow-pit, if it did function as an aguada, and in conjunction with its proximity to significant structures within the settlement cluster, likely takes on a similar role of defining authority. The pattern of large depressions, which could have functioned as aguadas, in close proximity to monumental, or special function structures, can be taken to indicate a significant correlation between important structures and aguadas. Therefore, although the NCF settlement cluster was bounded by substantial natural water sources it was still necessary to construct an artificial water containment feature near the heart of the settlement cluster. The exact function (practical and/or symbolic) of such features is debatable. However, with an abundance of natural water resources, it is not unreasonable to suggest these types of aguadas were significant purveyors of the symbolism revolving around water, control, and the entrenchment of social, political, and religious power (Puleston 1983:3-4, Conlon 1992:86).

Several other observations can be made from the sites settlement morphology, in conjunction with the material recovered in surface collection at North Caracol Farm. To begin with, the relationship of North Caracol Farm to Baking Pot seems to have been relatively concrete, at least during the Classic Period. The orientation of NCF-M1 seems to have originally been along its north-south axis, where a major staircase may have ascended its southern side. In its final form, however, the construction of the western superstructure, the sacbe running towards Baking Pot, and the burial on the western slope, all seem indicative of the growing importance of its east-west axis. The reorientation of established architecture is not unknown from the Belize Valley, specifically at Floral Park (see Glassman et al. 1995:61).

The growth in importance of NCF-M1's east-west axis may be representative of a growing dependence on Baking Pot for any number of activities, whether ritualistic or secular, as reflected in this architectural reorientation. As Ashmore (1992:173) indicates:

"Maya rulers used monumental architecture... to make pointed statements of their sovereignty in the minds of **both** peers and subordinates" (our emphasis).

The precise point this change of orientation took place, or even if it was a change at all, is a question which only excavation can securely answer. Such changes in orientation are sure to reveal more about the relationship between these two sites.

While it has been posited that the east-west reorientation of NCF-M1 represents a greater interdependence with Baking Pot (for whatever reasons), it would be presumptuous not to consider the contrary hypothesis. That is, the sacbe may represent the NCF settlement cluster's "...territorial claim within the boundaries of Baking Pot" (Conlon 1995a:96). However, perhaps linkage was an important function of the *sacbe*:

"...causeways would have served not only to link the key positions by routes of literal physical access... causeways themselves are the key to perception and continuous active **integration** (our emphasis) of the otherwise invisible whole." (Ashmore 1992:178).

Thus, perhaps it was NCF which was "reaching out" to Baking Pot via the *sacbe*. The termination at BP-M154, some distance from the core of Baking Pot, may have acted to define NCF's autonomy, while at the same time indicating a degree of integration with its larger neighbor.

The inclusion of a ball court at NCF may speak the loudest as to integrative and autonomous interrelationships regarding Baking Pot. As Baking Pot declined in the Terminal Classic, North Caracol Farm may have expressed a new independence through the construction of its own ballcourt in the form of NCF-M12 and NCF-M13. These mounds are small enough, and the ceramic evidence restricted enough (overwhelmingly Spanish Lookout phase), that they are likely only single phase constructions. In their location and orientation, they even seem to replicate the form of the northern ball court associated with Baking Pot - Group I. With the creation of NCF-M12 and NCF-M13, the NCF settlement cluster inhabitants may have instituted formal independence, possibly no longer relying so heavily on Baking Pot for those rituals which were associated with site core ball courts. This type of scenario is contradictory to the one posited by the reorientation of NCF-M1 and, again, it must be considered how the ball court may have represented inclusivity with larger centers like Baking Pot. The effect may have elevated the previously hierarchically subordinate NCF "elite" to "peerage" status with Baking Pot elite.

The work of the Southwest Texas State Belize Valley Archaeology Project demonstrates how little was actually known about settlement diversity in the Belize Valley with the discovery of the ball court at the minor center of Ontario, east of Blackman Eddy. Even more recent is the survey of a ball court at the minor center of Cayo Y (Xual Cunil) by Gyles Iannone. Thus, ball courts that occur outside of major centers may not be as uncommon an occurrence as would be thought. Minor centers in the Belize Valley may have used ball courts to denote independence (autonomy). Conversely, ball courts, like *sacbeob*, could also have provided an "integrative" function (see Ashmore 1992:176). Thus, Mayanists need to explore the potential integrative properties architectural replication of core features at minor centers represented, not so much as in conjunction with implications for autonomy but implications for expanded role of lesser centers. Excavation of the ball court structures at North Caracol Farm also seems important for these same reasons (linkage versus independence). If the ball court is a purely Late Classic construction at North Caracol Farm, this too is indicative of the changing nature of settlement in the Belize Valley and the interrelationships between major centers and their apparent subordinates.

The implementation of more typically core associated type architecture, such as ball courts and *sacbes*, within settlement other than major centers, "...may represent consolidation of centralized control to periphery in the Late Classic" (Willey et al. 1965:293). Similarly, E-Group morphological replication by peripheral outliers also has "communicative properties" that may have operated to emphasize the integration of social, political, and economic interrelationships between various levels of settlement (Conlon et al. 1995:59). The interrelationship of groups with similar morphological templates may have been more integrative than sovereign, operating to forge alliances

rather than foster competition (Conlon and Awe 1995a:75) by the act of defining "status inclusivity" (cf. Lincoln 1985:75, Chase et al. 1990:501 and Sanders 1992:280).

Organization in the Belize Valley has been characterized as a loose system that allowed for the growth of multiple centers within close proximity to each other (Leventhal 1993). Furthermore, it has been suggested that this loose organization is in part reflected by the cooperative nature of the ancient Maya in the Formative period and the hypothesized planned development of site center focii in the region (Garber 1993:17). The need for a singular, centralized authority, was not necessary until Classic period disturbances in the central Peten region mitigated it (Leventhal et al. 1993). While Xunantunich may appear to have dominated the valley in Classic times it is becoming more apparent that minor centers were beginning to play a larger role throughout this region at the same time.

Therefore, we would suggest replacing "consolidation" with "dissemination" to indicate the diffusion of power within this region during the Classic period. Dissemination may more accurately describe the way power became more diffused throughout the region at all levels of settlement, possibly creating a situation contrary to the intended affect of consolidation, providing only potentially weak linkages (social, political, and economic included). Thus, the attempted consolidation of centralized control through the dissemination of authority and power, as evidenced in the replication of previously restricted core site features appearing in the peripheral settlements of the valley, was an attempt to integrate a broader spectrum of ancient Maya elite in the Belize Valley during the Classic period. This may have been not only a case of too little, too late, but also a critical miscalcualtion of the desired consolidation affect, creating a larger segment of elite society that was more apt to question authority than obey it.

Postclassic period (A.D. 900 - 1500)

The continuation of habitation into the Postclassic at North Caracol Farm is also in line with the demographic patterns for the region. There appears to be great continuity in occupation from the Late and Terminal Classic into the Postclassic period at Barton Ramie (Willey et al. 1965:568). If the NCF data is taken as has been designated there are a total of seven "mounds" that were surface collected. Using this loose criteria (i.e., "mounds"), then 43 percent of the tested mounds had indications of Postclassic occupation. This closely approximates the 20 percent figure of Postclassic occupation for the Belize Valley as a whole (Ford 1990:180 and Fry 1990). However, if the superstructures are the important features (as opposed to "mounds") for estimating "occupation", then 60 percent of the structures at NCF can be said to display Postclassic activity. The structure figure of 60 percent comes closer in line to the Barton Ramie data of 95 percent.

Though early and late facet Postclassic ceramics have been recovered from the site, settlement seems to be as ephemeral as at Barton Ramie (Willey et al. 1965:568). In the 500 to 600 year period that New Town spans one would suspect more than a minimal construction component. The occurrence of late facet New Town ceramics with apparently minimal construction activity suggests a closer examination of both habitation continuity, and time range the ceramics are purported to span, is warranted. Although the

95 percent New Town occupation rate at Barton Ramie is highly suggestive of continuity in occupation from Spanish Lookout times, at present, it is difficult to assess to what degree the 43 or 60 percent occupation rate at NCF truly was continuous from Classic period times and, even moreso, the precise time NCF was completely abandoned.

The inability to effectively discern patio groups on the modern day surface solely by observation needs to be scrutinized through careful excavation before Postclassic occupation can be effectively characterized. Potentially wide discrepancies in "mound" and "structure" counts needs further examination and clarification. Specifically, the general amorphous nature of present day mounds may hide the multiplicity of prehistoric superstructures they may once have supported (both on the present day surface and concealed within them). In any event, the area nearest Barton Ramie seems to have had relatively widespread Postclassic occupation in comparison to upland centers such as Cahal Pech.

Finally, a note on the ball court is also warranted here. What does the preponderance of utilitarian ware sherds found on the east ball court mound (NCF-M13) suggest? If coeval with the Postclassic sherds found on the west mound (NCF-M12) then possibly these mounds functioned as a residential unit at this time? But why inhabit a ball court when other mounds appear abandoned at this time that may have been more suited to habitation (i.e. former residences) as compared with a ball court. Did a Classic period perishable superstructure, suitable for habitation, once top the ball court mounds? These questions are presented here because they need further investigation before suggesting NCF-M12 and 13 functioned as a ball court in the Postclassic. The apparent abandonment of NCF-M1 may suggest the settlement cluster inhabitants had similarly abandoned parallel symbolism of power and authority that NCF-M1 conveyed. If so, the ball court may very well have served as a habitation mound in the Postclassic period.

Future Investigations

The surface collection program instituted at NCF in 1995 has been successful in providing a broad base for the general discussion above. Even though surface features have been badly disturbed there appears to be great potential for future contributions via the implementation of an excavation program. In addition to any future excavations, a more thorough surface collection and mapping program should be carried out in the immediate future to prevent further loss of data to the plow. All mounds should be tested through a systematic surface collection program at the very least. Inclusion in the map of the greater Baking Pot area is also of extreme importance for archaeological investigations in the region as a whole.

Future investigations at North Caracol Farm seem warranted in light of continuing work at Baking Pot and in the Belize Valley. A better understanding of the larger center is certainly predicated, in part, on an understanding of an array of various sized settlement clusters in close proximity to Baking Pot which may have interacted closely with this site. Medium sized sites in the Belize Valley, such as most recently investigated Ontario, Floral Park and Cayo Y (Xual Cunil), attest to the multiplicity of settlement morphology and the concomitant complexity of settlement hierarchy in this region. NCF displays many similarities with Floral Park, especially the *sacbe* connection

of a single mound to the main mound, and a separate courtyard group. The ball court at NCF differentiates it from Floral Park and suggests equivalent status with Cayo Y (Xual Cunil) and Ontario. The expanding database on these minor centers, with its ever increasing diversity, requires greater concentration of efforts on obtaining intersite comparative data. The results of surface collection at NCF has provided important insight into several possible routes of such concerted efforts might take.

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Investigations at the Lost Ball Court of Group I, Baking Pot, Belize

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Introduction

Like most major centers in the Belize Valley, Baking Pot (Figure 1) was known to possess two ball courts, one in Group II that was investigated by Bullard and Bullard (1965), and another just north of Group I (Mounds K and L) that was surveyed by Ricketson in 1924 (Figure 2). During the continued reconnaissance of Baking Pot by BVAR project members in 1995 Dr. Jaime Awe noted small indentations on the modern surface of Mounds F and EVH at Group I that indicated similar lengths and parallelism (Figure 3). In order to confirm Jaime's suspicions that there was a third ball court at Baking Pot test excavations were undertaken in 1995.

Method

Relatively large scale operations that would define the length and breadth of the terminal architecture, and specifically reveal sloping or battered walls of a ball court playing alley, would most readily confirm or deny the existence of a third ball court in this local. However, working under time and personnel constraints meant only less intensive operations could be conducted. With these constraints in place it was decided to search specific loci for indications of ball court identifiers other than architecture, specifically, "markers" that are sometimes found associated with these buildings and often located in the middle or ends of the playing alley.

Ricketson's plan indicates the southern extension at the eastern end of Mound F is approximately 25 meters long and the entrance it forms to Group I is around 8 meters wide (see Figure 2). Our measurements indicated this extension is roughly 19 meters long and the alleyway some 4.5 meters wide. Based upon our measurements Unit 1 was placed in the approximate center of the proposed playing alley to search for a center marker and a second unit (Unit 2) was opened at the southern extent of the alley with the hopes an end zone marker would be found (Figure 4).

Results

Unit 1

Unit 1 extended 2 meters N\S by 4 meters E\W. The eastern portion of the unit revealed a jumble of terminal collapse (Figure 5a). No limestone slabs, that sometimes are used in ballcourt construction, were uncovered. Ceramic evidence from this initial level included examples from the Hermitage to Spanish Lookout phases (A.D. 300-900) and three briquettes were recovered that

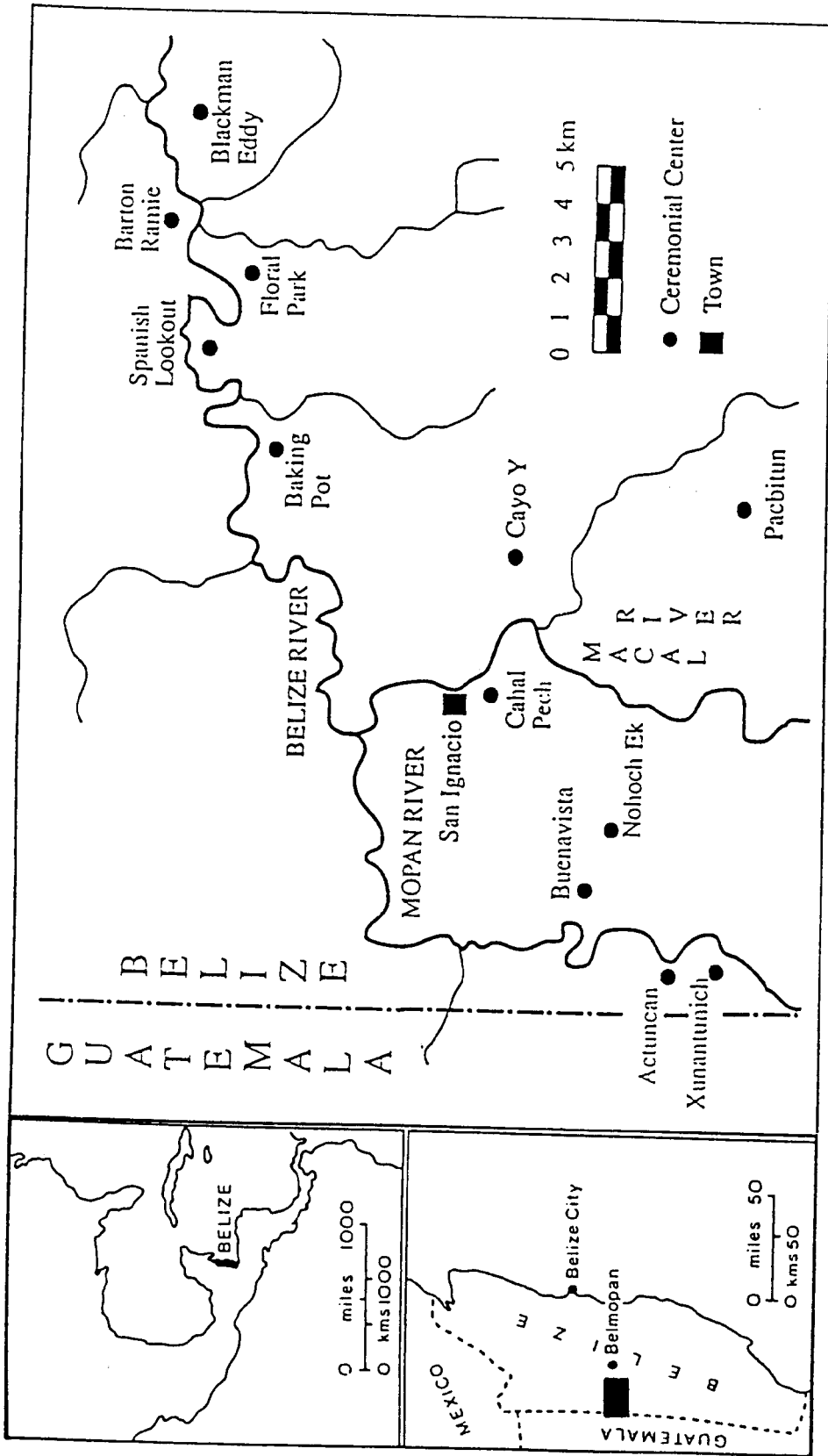


Figure 1

Baking Pot,
 Group I
 1924 Survey
 (After Ricketson 1931, Plate 1)

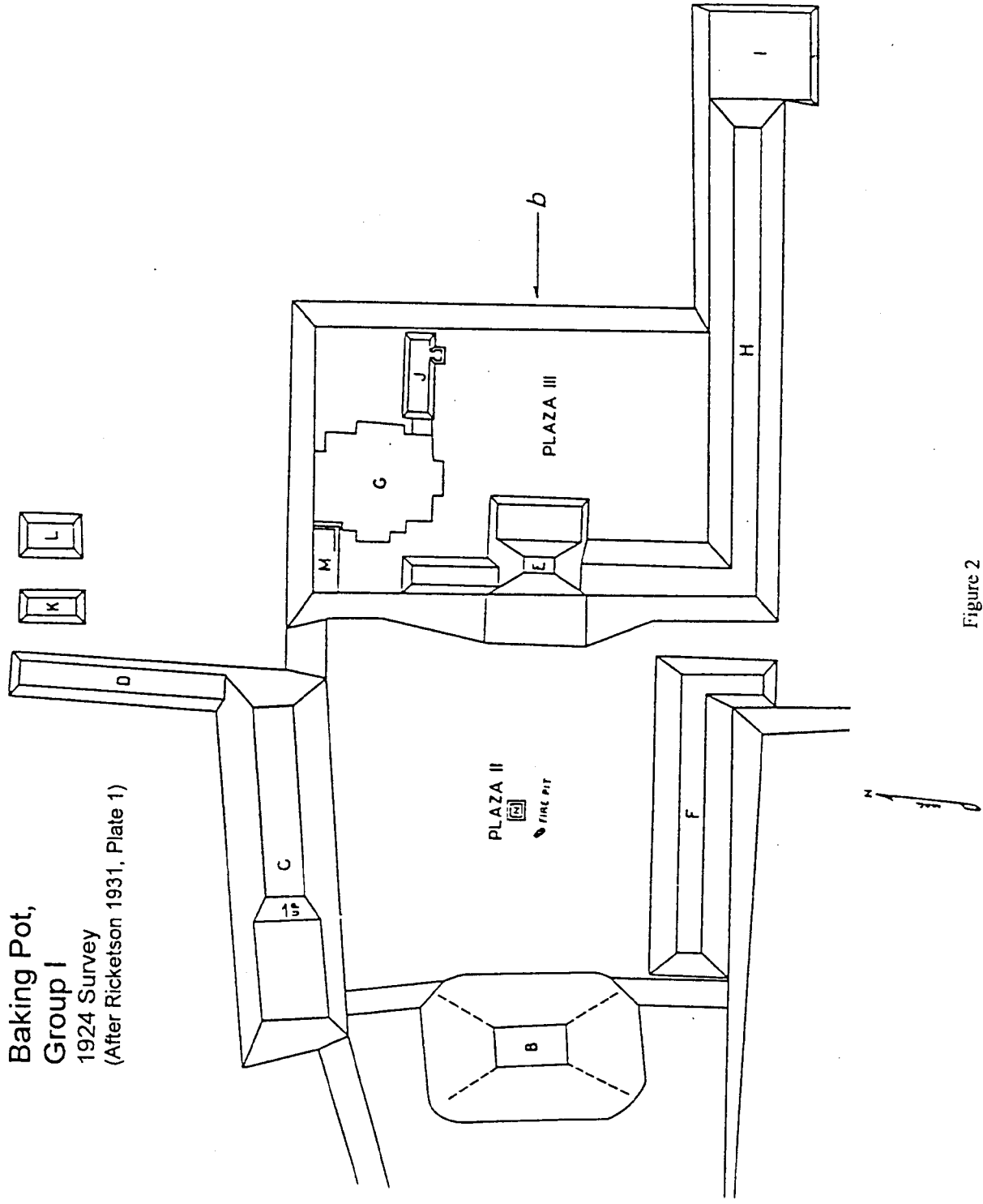


Figure 2

Baking Pot,
Group I
1995 Rectification
of Rickelton's 1924 survey

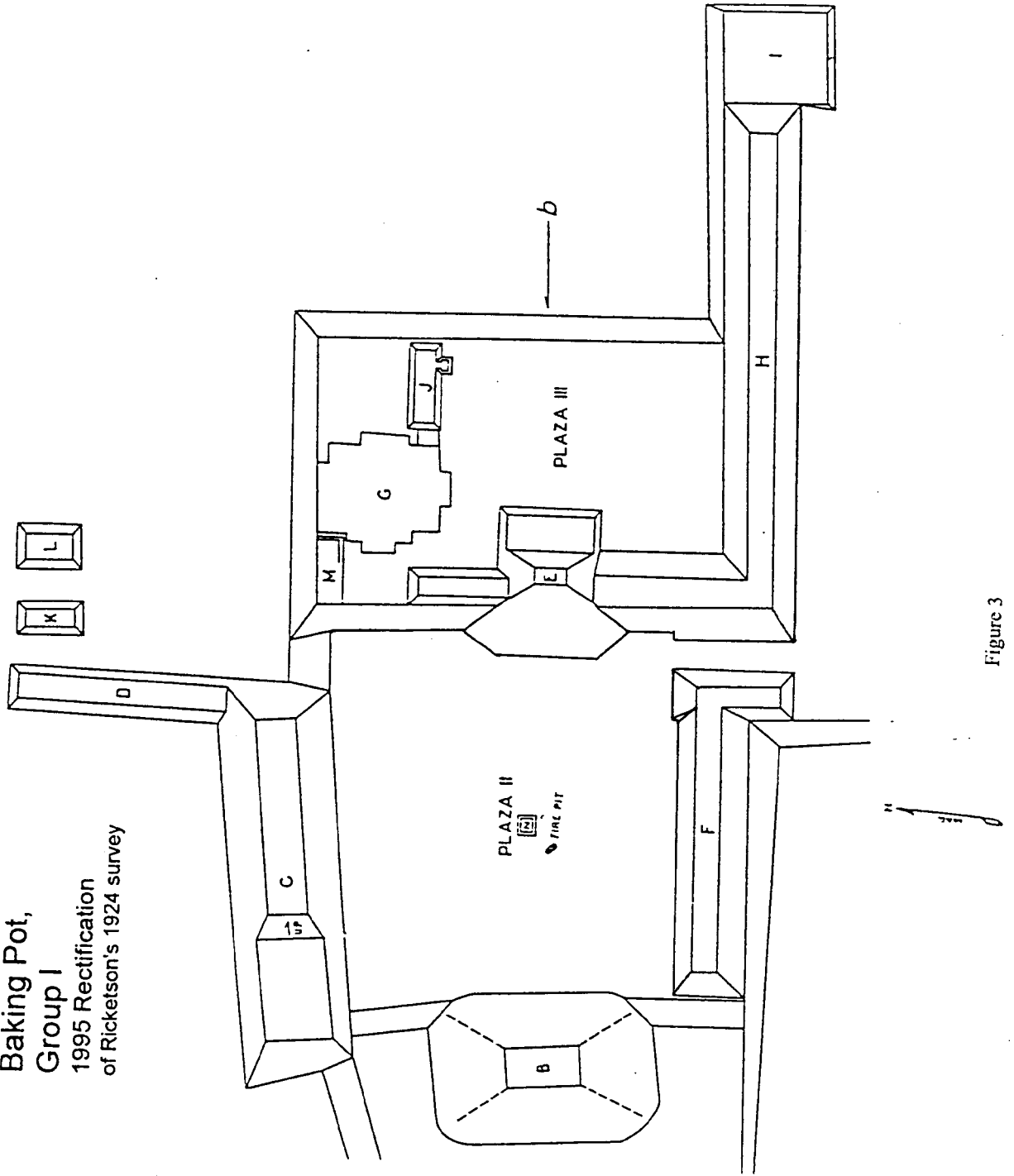
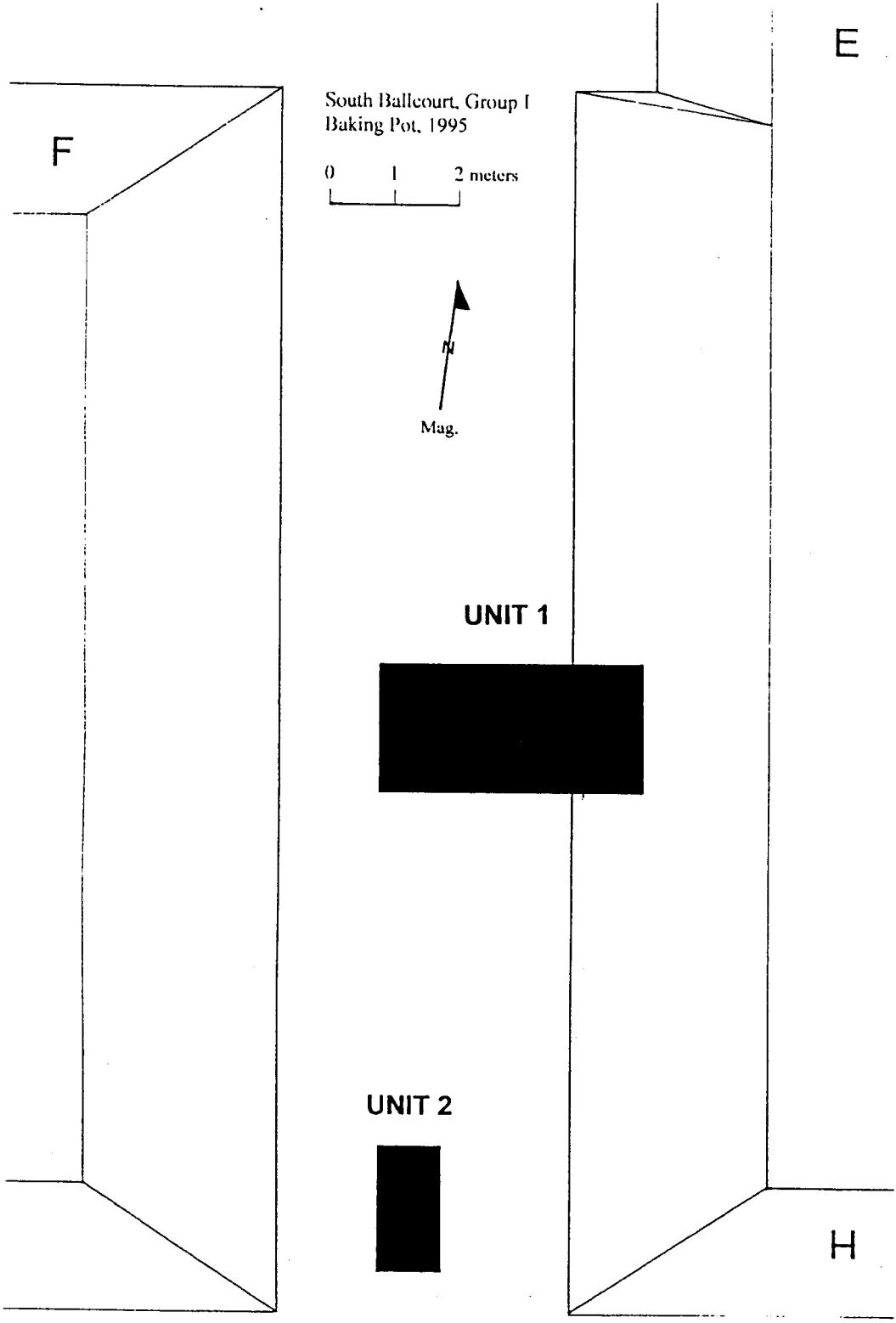


Figure 3



South Ballcourt, Group I
Baking Pot, 1995

0 1 2 meters



UNIT 1

UNIT 2

F

E

H

Baking Pot, Group I
South Ballcourt, 1995
Unit 1
a - Terminal phase
b - Excavation limit

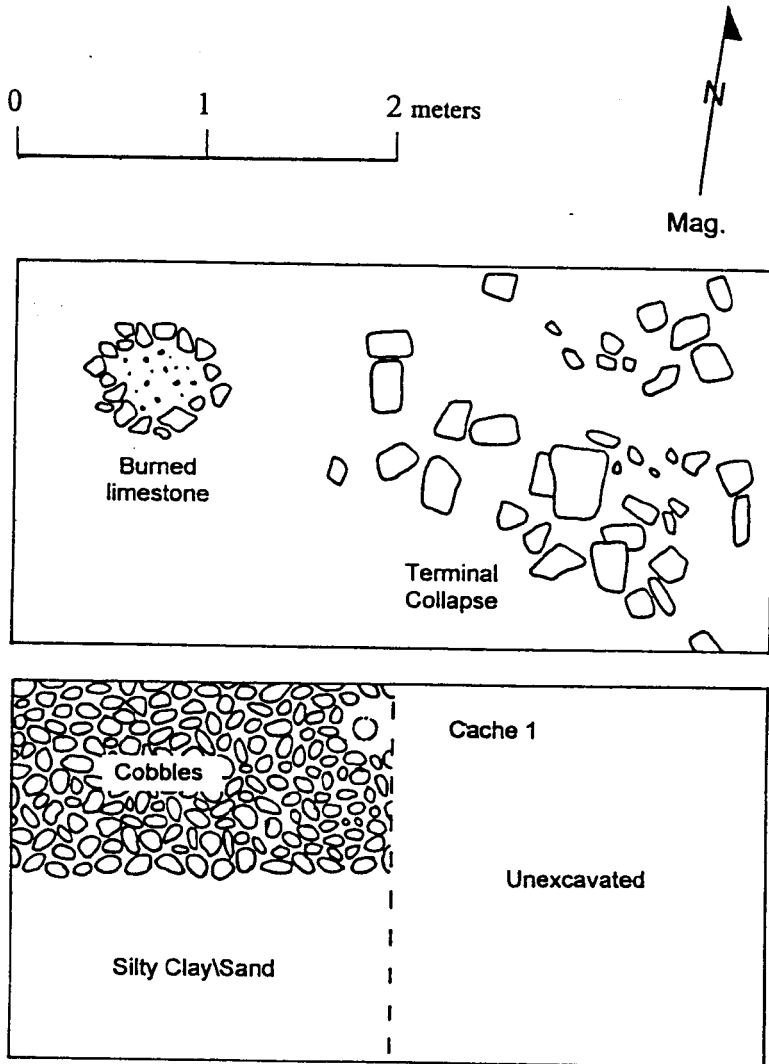


Figure 5

suggest a perishable superstructure may have topped the terminal architecture of either Mounds F and/or E\H. The eastern half of this unit was not excavated any further.

In the western half of the unit a number of small, irregular, burnt limestone fragments were positioned in a circular formation. This feature seems to have once been capped by a plastered surface, though its remnants are very poor (Figure 6). No artifacts of significance were recovered from this area. Further down in this level Cache 1 was uncovered, consisting of a partial vessel, inverted, of an unknown vessel type (Figure 5a and 6). Although this vessel was very poorly preserved it had attributes similar to both Aguacate Orange and Aguila Orange and appears to have been unslipped. The lack of a definitive correlation with known ceramic types suggests either it was a transitional type or it may have been specifically manufactured for the purpose of caching it in the locale it was recovered from.

Cache 1 was located just above a poorly preserved plaster surface that overlay a bed of river cobbles that occupy only the northern half of the western end of the unit. The ceramic evidence recovered between this second plaster surface and the first one (level 2) encompasses types identified from the Barton Creek to Hermitage phase (300 B.C.-A.D. 600). Five briquettes were recovered from this level. Excavation was terminated at this point before reaching a sterile level.

Unit 2

Unit 2 measured 2 meters N\S by 1 meter E\W. Its stratigraphy corresponds well with Unit 1 to the north (Figure 7). The small discrepancy between the first plastered surfaces encountered in both units can be accounted for by the slight downslope of the alleyway from north to south. Level 1 (modern surface to first plaster surface) consisted of ceramic types from all known phases at Baking Pot (Jenney Creek to Spanish Lookout) and one briquette.

Level 2 included types from the Barton Creek to Spanish Lookout phase (300 B.C.-A.D. 900) and 1 briquette. Level 3 is an almost 20 centimeter lens of silty clay\sand which overlies the plastered surface and river cobbles found in both units and was devoid of artifacts.

Unlike Unit 1, excavation proceeded below the level of the river cobbles (Level 4). Artifacts became increasingly scarce as excavation continued down into a silty clay\sand stratum before becoming nonexistent in both the small (5 centimeter) lens of sand which overlies the similarly sterile stratum of mottled clay. Ceramics from below the river cobbles included only those types from the Jenney Creek and Barton Creek phases (900 B.C.- 100 B.C.) and no briquettes were recovered. No features or artifacts of significance were encountered in this unit.

Summary

Before providing a typical summary some notes on the excavation results are warranted. Although the two units excavated in 1995 were located relatively close to each other some differences are apparent. Both units seem to have similar stratigraphy, at least from the river cobbles on up. Ceramic evidence from Unit 1 ranges from Barton Creek through to Spanish Lookout (300 B.C.-A.D. 900). The lack of identifiable Jenny Creek phase ceramics differs from that found in Unit 2. This may in part be explained by the early termination of excavations in Unit 1 compared with Unit

Baking Pot, Group I
South Ballcourt, 1995
Unit 1, Profile (North balk)



WEST

EAST

- Surface
- Humus
- Platform Surface (?)
(limestone inclusions)
- Platform Surface (?)
Cobbles

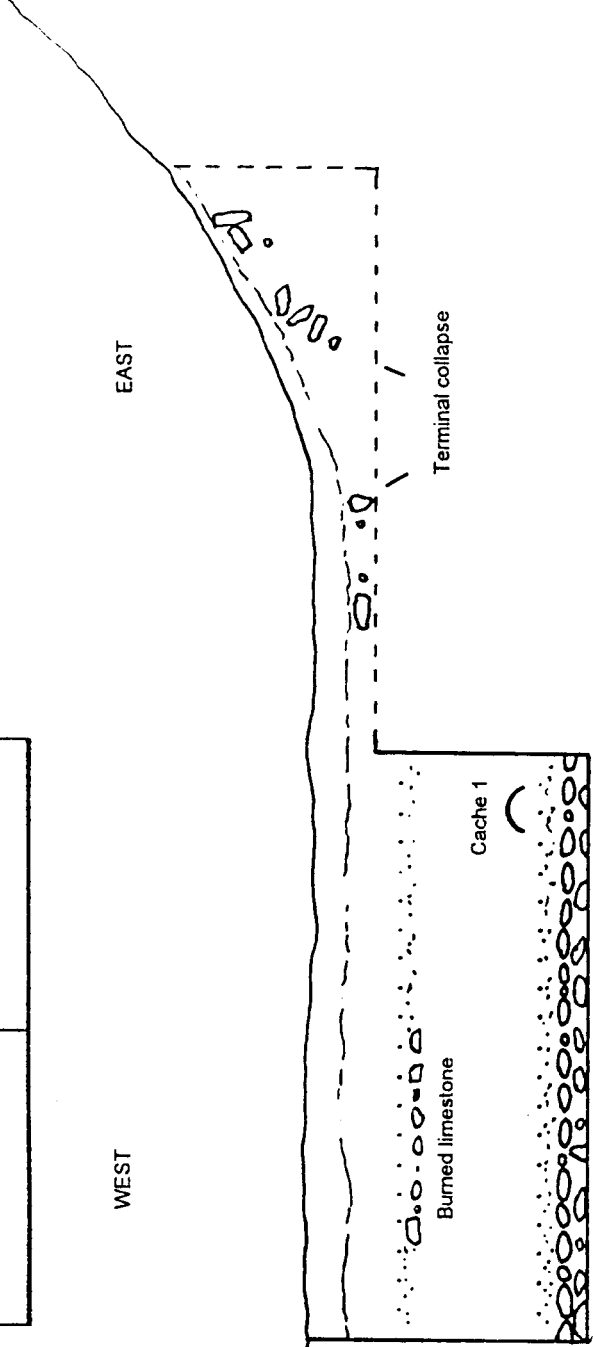
Burned limestone

Cache 1

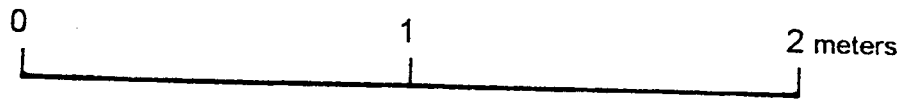
Terminal collapse

Limit of Excavation

Figure 6



Baking Pot, Group I
South Ballcourt, 1995
Unit 2, Profile (North balk)



WEST EAST

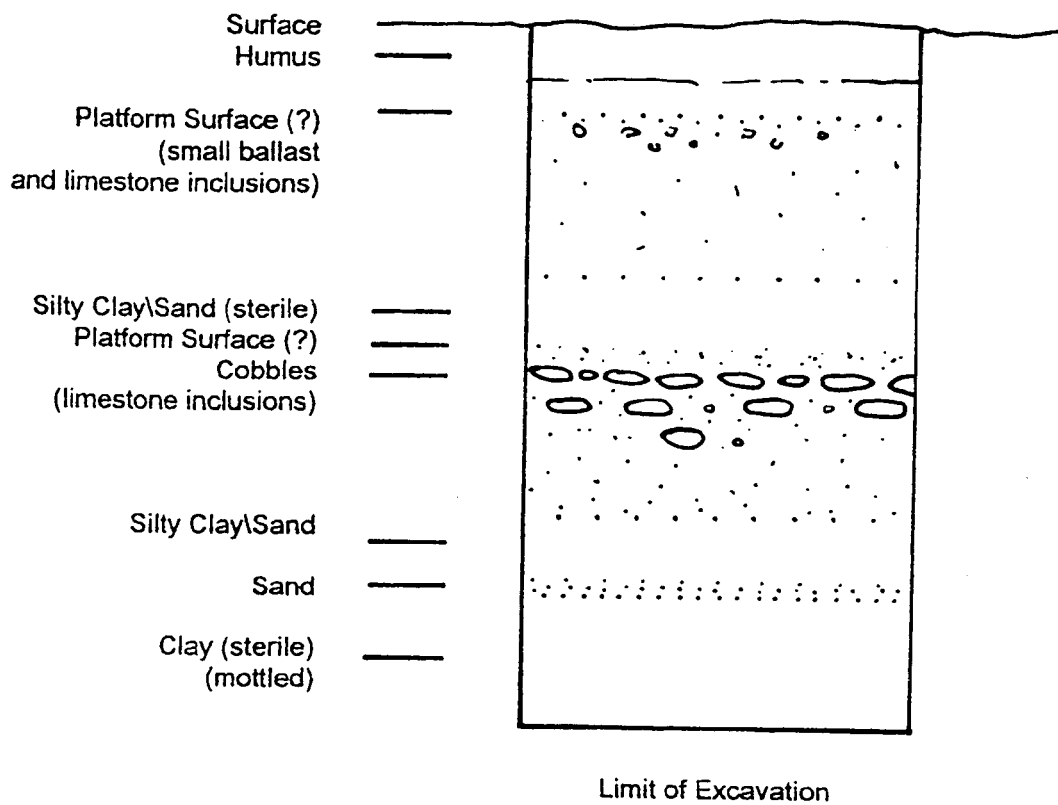


Figure 7

2, however, Unit 2 had Jenney Creek phase ceramics in its latest level (Level 1). Further discrepancies in the ceramic assemblage is evidence in the last two levels of both units. Unit 1 displays a clear continuity from the Early Classic (A.D. 300-600) Level 2 to the Late Classic (A.D. 600-900) Level 1. The corresponding levels of Unit 2 are apparently both Late Classic (A.D. 700-900). This difference, and that of the Jenney Creek dissimilarity noted above, could be explained by the heterogeneity of typically secondary deposits that ceramic sherds in construction fill are usually considered to represent. However, the termination of river cobbles in the southwestern end of Unit 1, and the 20 centimeter lens of silty clay/sand in Unit 2, suggests other forces may have contributed to this discrepancy in the ceramic assemblage. It is possible that some kind of construction modification may have taken place in the entrance area to Group I around the Spanish Lookout period that may have disturbed an Early Classic component in Unit 2.

Though a comparable Preclassic level was not excavated in Unit 1 some comparison is warranted. The most striking aspect of Unit 2's Preclassic component is that it appears to be no later than Barton Creek (300 B.C. - 100 B.C.) with no evidence of Mount Hope phase ceramics. Also striking is the lack of briquettes recovered from the Preclassic level of Unit 2, whereas all Classic period levels in both units had at least one briquette in them.

In summary, based upon results from Unit 2, it appears as though a cobbled path was laid sometime during the Late Preclassic (300 B.C. - 100 B.C.). These river cobbles were plastered over and the path rose approximately 65 centimeters above the old ground surface, as is hypothetically represented by the sterile mottled clay stratum. Another plaster surface was laid some 40-60 centimeters above the Preclassic one, either in the Early Classic (A.D. 300-600) or Late Classic (A.D. 700-900), though hypothesized subsequent construction modifications disallows an accurate estimate of its construction. Finally, it appears as though the center point of the alleyway was a significant focus of ritual in the Late Classic (A.D. 700-900) as evidenced by both Cache 1, placed at the time of commencement of construction of the terminal plaster surface, and the burnt limestone feature placed just prior to plastering.

Discussion

The construction sequence revealed in the 1995 operations poses some discrepancies that may be solved by further comparison with investigations performed by other researchers at Baking Pot. Ricketson's (1931) limited investigations reveal little about potential early occupation at Group I but later investigations in Plaza I of Group I recorded ceramic evidence from Barton Creek to Spanish Lookout (300 B.C.-A.D. 900) (Willey et al. 1965:301). This corresponds well with the 1995 results from Unit 1 but also highlights the limited recovery of Jenney Creek ceramic material. Granted, operations at Baking Pot have been very restricted (Bullard and Bullard 1965:7, Conlon 1993a:173, Conlon et al. 1994:229, Cheetham 1995:35) but the lack of Preclassic materials recovered in Group II (Willey et al. 1965:309, Bullard and Bullard 1965:10) does not bode well for finding early occupation levels comparable to those that have been found at other sites in the uplands of the Belize Valley (e.g., Xunantunich and Cahal Pech). Of course, the inclusion of Middle Preclassic ceramics, as have been found in 1995, indicates occupation during this period can not be ruled out entirely. Only extensive investigations will reveal the extent of Formative period occupation at Baking Pot.

With respect to the lack of Mount Hope ceramics in both Unit 1 and 2, generally, the problem most Mayanists in the Belize Valley are faced with revolves around discerning Hermitage phase construction between Late Formative and Late Classic construction phases (Willey 1974, Gifford 1976:111, Lincoln 1985, Awe and Campbell 1989:30, Cheetham 1992:4, Conlon 1992:80, Conlon 1993b:183-185, see also Chase 1990:51). Again, it needs to be emphasized that investigations at Baking Pot have been minimal, but the potential that the valley bottom site of Baking Pot will be found to display a similar resistance to utilizing Mount Hope ceramics, the way upland sites appear not to have wholly embraced Floral Park or Hermitage phase ceramics, is intriguing, albeit highly speculative.

The lack of Preclassic data for Baking Pot makes it difficult to assert that the plastered cobble path unearthed in 1995 is a Late Preclassic *sacbe* joining Group I and II. Certainly Late Formative *sacbeob* are not unknown, even in the region (Cheetham et al. 1995:5). It becomes even more difficult to assert a Formative inception for the main *sacbe* at Baking Pot when considering data from investigations conducted along it the year before. A test pit excavated in 1994, approximately 100 meters to the south of Group I, revealed "exclusively Late Classic type" ceramics (A.D. 700-900) (Cheetham 1995:36). This finding corresponds well with the ceramic data from Levels 1 and 2 of Unit 2 excavated in 1995. It suggests the *sacbe* that joins Group I and II at Baking Pot is no earlier than Late Classic in date. This assignation is further supported by the inability of the 1994 investigations, which reached a depth of 1.55 meters (Cheetham 1995:36), to uncover a cobbled stratum similar to that revealed (80-90 centimeters below modern surface) in the 1995 operations. Thus, the river cobble-plastered platform is either just that, a platform at the edge of a Preclassic plaza of Group I, or, perhaps it extended further south to connect a Preclassic mound that may have been located where the mound that flanks the *sacbe* near Group I is located. Regardless, it appears as though there may have been a Late Classic construction modification near Mounds F and EVH mitigated by the necessity to connect Group I and II by *sacbe*.

A mitigating factor for connecting Group I with II may have been the desire or need to consolidate power of the ruling elite at Baking Pot. As Ashmore (1992:178) indicates:

"...the causeways would have served not only to link the key positions by routes of literal physical access but also to **remind** those passing along them that the points so linked were few and special, and all parts of a larger whole.... But the causeways themselves are the key to perception and **continuous active integration** of the otherwise invisible whole."

And just as causeways integrate not only specific people, or social segments of groups of people of a community, they also serve to integrate the whole community. Similarly, ball courts may play an important role in communicating the same types of messages of power, status, and the status quo concerning individuals, groups of people (segments of society), and communities.

Thus, ball courts functioned other than simply as physical playing fields. The legitimization of power via the act of ritual human sacrifice, which is intimately linked with the playing of the ball game, may have been less significant for promoting status differentiation between elites and commoners than the **continuous reminder** (daily) provided by the ball court itself. Elite power is continually communicated by the ball court as it represents how the elite are not only **integrated** divinely, but also how the elite are "commissioned" to **integrate** a community into a comprehensive functioning whole.

Conclusion

The 1995 investigations into the apparent third, or lost, ball court of Baking Pot did not determine conclusively a ball court existed at the northern end of the Baking Pot main *sacbe*. However, several attributes discovered in 1995 indicate the suggestion needs further study. Specifically, present day surface morphology of equal heights, lengths and parallelism of the mounds are a preliminary indicator a ball court is located here. These mounds are not only in close proximity to an E-Group variant (Mound E), like some ball courts at other major centers in the Belize Valley, but also physically attached to it. Both ball courts and E-Group variants signify important ritual revolving around death, rebirth and agricultural fertility, and their close proximity to one another is not incongruent with these shared themes. The 1995 investigative results suggest the central point of the opposing mounds (F and E/H) at Baking Pot, like the center point of other ball court playing alleys in the Maya lowlands, was a significant focus of ritual, at least during the construction of its terminal phase architecture (A.D. 700-900) which the surface morphology reflects. Ball courts sometimes are located at important access points to major centers. A Late Classic ball court at the northern end of the main *sacbe* at Baking Pot would mirror the ball court of Group II at the southern end of the *sacbe*. Both the main *sacbe* and the ball courts located at either of its ends are highly symbolic of socio-political unity and simply passing between the two mounds of the ball court to gain access to the main plaza area acted as a continual reminder of the legitimization of power of the ruling elite. The ball courts at Baking Pot communicated not only to peers but also to the general populace that the elite residing here were the sole manipulators of the cyclical passage of death and rebirth. Projecting legitimacy by Maya elite proliferated during the Late Classic in the Belize Valley, as evidenced by the diffusion of major center elite characteristics to minor centers throughout the region. Thus, while the only conclusive evidence will be further excavation of the terminal architecture of these mounds, all other indices point strongly to evidence of a third ball court at Baking Pot.

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