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# Settlement Archaeology at Motul de San José, Petén, Guatemala. Preliminary Results from the 1998-2003 Seasons

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## ABSTRACT

Ongoing archaeological investigations at the ancient Maya center of Motul de San José are focusing on delineating patterns of Late Classic Maya political and economic integration. Field investigations by the Motul de San José Archaeological Project between 1998 and 2003 included extensive reconnaissance, mapping, and test excavations at Motul de San José, Akte, Trinidad de Nosotros, and several other nearby centers. These investigations permit a provisional description of settlement and chronology in the Motul de San José area and constitute the first step towards the project's larger research goals. Motul de San José is situated within a dense network of secondary and tertiary centers and the preliminary results of studies at four of these centers have highlighted some potentially important patterns in regional settlement strategies. These studies also provide an early indication of the complexity of examining patterns in regional political and economic interaction in the Motul de San José area.

**Key Words:** Classic Maya, settlement patterns, Motul de San José, Akte, Trinidad de Nosotros.

## RESUMEN

Las investigaciones arqueológicas en proceso en el sitio arqueológico maya de Motul de San José están enfocadas a delinear los patrones de integración política y económica del periodo Clásico Tardío. Los trabajos de campo realizados por el Proyecto Arqueológico Motul de San José entre los años 1998 y 2003, incluyeron reconocimiento, mapeo y excavaciones de sondeo en Motul de San José, Akte, Trinidad de Nosotros y otros sitios cercanos. Estas investigaciones

permiten una descripción preliminar de los patrones de asentamiento y cronología en el área Motul de San José, y constituyen los primeros pasos encaminados hacia los objetivos finales del Proyecto MSJ. Motul de San José está situado dentro de una red de centros secundarios y terciarios, y los resultados preliminares de las investigaciones llevadas a cabo en cuatro de esos centros han mostrado unos patrones importantes en las estrategias regionales de asentamiento. Asimismo, estos estudios han aportado una indicación preliminar de la complejidad de examinar patrones regionales de interacción política y económica en el área Motul de San José.

**Palabras clave:** Periodo Clásico maya, patrones de asentamiento, Motul de San José, Akte, Trinidad de Nosotros.

## INTRODUCTION

Motul de San José is an ancient Maya center located in Guatemala's Petén lowlands, just north of Lake Petén Itzá and approximately 32 km southwest of the major center of Tikal (Figure 1). Motul de San José is best known for its identification as the so-called «Ik site» described in hieroglyphic inscriptions at several major sites in the Maya lowlands during the Late Classic (600-830 AD) and Terminal Classic (830-950/1000 AD) periods (Foias 2000, 2001, 2003; Marcus 1976). Motul de San José has also been identified as a possible source of the famed «Ik-style» painted polychrome pottery (Reents-Budet and Bishop 1989; Reents-Budet *et al.* 1994).

Since 1998, the Motul de San José (MSJ) Archaeological Project, directed by Dr. Antonia E. Foias, has been conducting multidisciplinary investigations at the site of Motul de San José and in the surrounding zone. The principal goal of the MSJ Project is to test

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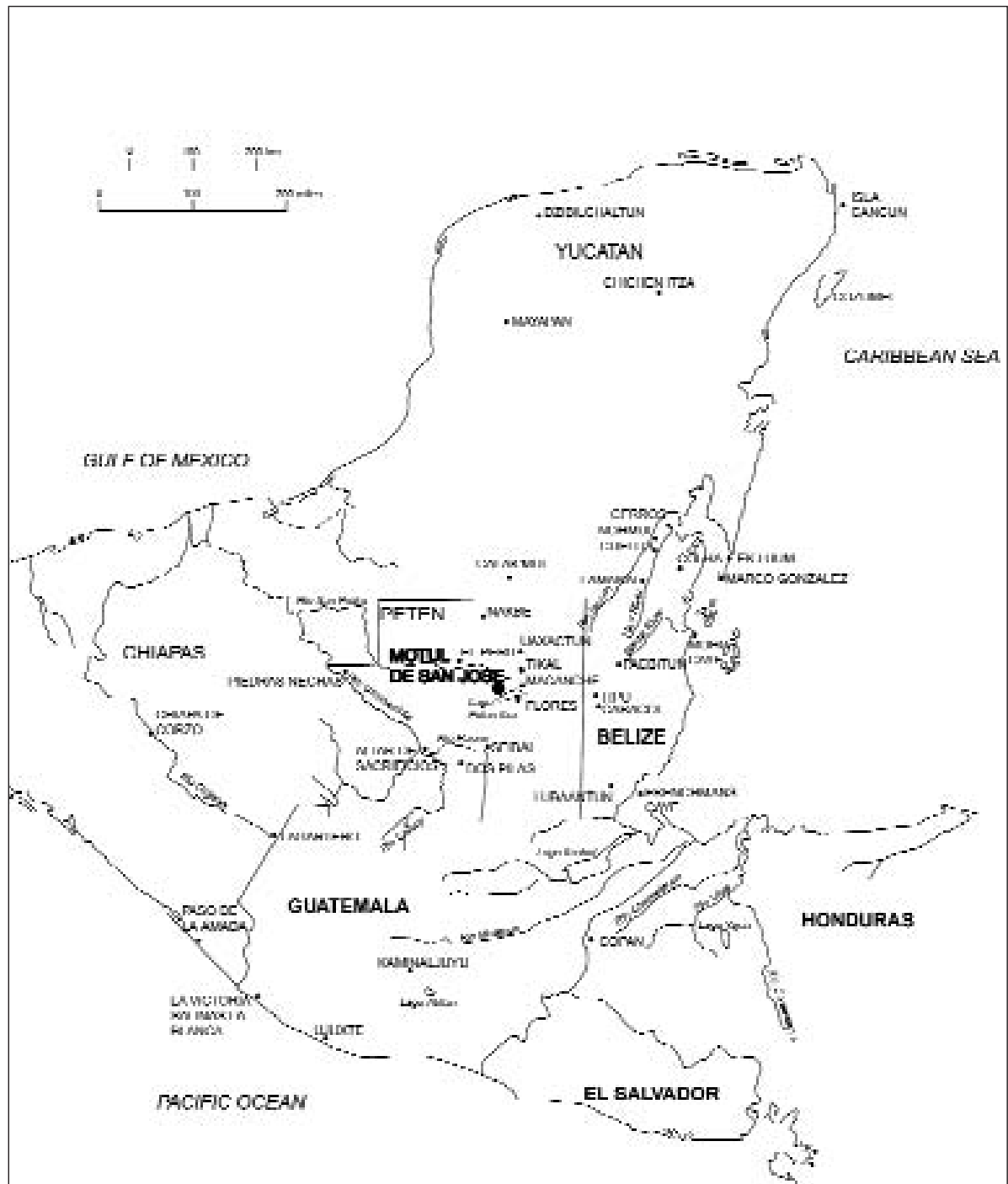


Figure 1. Location of Motul de San José in the Maya Lowlands (courtesy of Kitty F. Emery)

models of Late Classic Maya political and economic integration at Motul de San José and within its associated polity (Foias 1998, 2003). Secondary project goals include the identification of «Ik-style» pottery production areas, the assessment of patterns of interaction between the ancient Maya and their environment, and the study of long-term political dynamics in the Motul de San José area (Emery 2003; Foias 2003).

Since its initiation, the MSJ Project's main field focus has been on reconstructing the basic settlement history of the Motul de San José area. This article synthesizes settlement pattern data from MSJ Project investigations between 1998 and 2003<sup>2</sup>. These investigations include the mapping of Motul de San José, the survey of three transects in the periphery of Motul de San José, and preliminary studies at several nearby centers. Test excavations have also been carried out throughout much of the research area. These studies provide us with an early understanding of the site of Motul de San José within its cultural setting, as well as its place within the larger surrounding landscape.

## LOCATION AND PHYSICAL SETTING

Motul de San José<sup>3</sup> is located 3 km north of Lake Petén Itzá, at approximately 17°1' North latitude, 89°53' West longitude, and at an elevation of 170 m above sea level. The central portion of the site is situated atop a broad limestone plateau approximately 75 m above modern lake level and 4.5 km northeast of the plaza in the modern *pueblo* of San José<sup>4</sup>. Peripheral settlement zones, as well as a dense network of nearby satellite centers and secondary sites, are located atop surrounding uplands and along the north shore of the lake.

Motul de San José's location, just north of Lake Petén Itzá, places the site near the northern edge of the fault depression underlying the Central Petén lakes. Topography within this zone is undulating with generally E-W or NE-SW running ridges and uplands alternating with low, clayey bottomlands or *bajos*. The in-

tervals between uplands are generally narrow and most of the intervening *bajos* are small and rarely fully inundated. Instead, most feed a system of drainages that flow south into Lake Petén Itzá or west into the *río* Akte. The largest of the west-flowing drainages, the *río* K'ante't'u'ul, starts 5.0 km northeast of Motul and flows to within 2.0 km of the Main Plaza before turning to the northwest and joining the *río* Akte. Although presently a seasonal drainage, local informants indicate that in the recent past the *río* K'ante't'u'ul was much larger and could be navigated by canoe. Similar conditions may have prevailed in the late 17<sup>th</sup> century when Fray Andrés de Avendaño y Loyola passed through en route to the Itzaj Maya capital of Noj Petén (Jones 1998). If the *río* K'ante't'u'ul had a larger volume during the peak occupation of Motul, it may have provided a critical link between the Lake Petén Itzá Basin and the *río* San Pedro, an important artery of ancient Maya trade and transportation.

The hilly zone northwest of Lake Petén Itzá is an area marked by environmental variability. Lithic resources are relatively limited, although chert nodules can be found along the first- and second-tier ridges to the north of the lake. Most of the soils of the MSJ area can be classified as *mollisols*, an order of soils high in organic content (see Jensen *et al.* n.d.). Characteristics of drainage, slope, and topographic setting, however, provide for extensive variations in soil fertility. Relative soil fertility is encoded in the soil classification system utilized by the modern Itzaj Maya inhabitants of San José (Atran 1993; Moriarty 2001; Reina 1967)<sup>5</sup>. Shallow, well-drained soils, typically found in hillcrest settings, are referred to as *Säkni'is* («white/gray earth») and are highly regarded for *milpa* agriculture. Deeper, generally less well-drained soils of the *Ek'lu'um* («black earth») class, found in shoulder and foot slope settings, are also regarded as suitable for *milpa* agriculture with added utility in household gardens. The deep clayey *Ek'luk* («black clay/mud») soils of the numerous small *bajos* of the Motul area are regarded as having a limited fertility that is highly affected by yearly variations in rainfall.

<sup>2</sup> This report synthesizes data from a variety of MSJ Project investigations carried out by numerous individuals. I would like to particularly note that Dr. Antonia E. Foias directed all mapping and excavation within the site of Motul de San José. Data from these investigations are included here as critical to regional synthesis.

<sup>3</sup> For Itzaj Maya terms, the MSJ Project is utilizing the orthography suggested by the Academia de Lenguas Mayas de Guatemala (ALMG). We utilize traditional orthography, however, for terms already well established in existing literature (e.g., Motul de San José, Akte, Lake Petén Itzá). Translations come primarily from Hofling and Tesucún's (1997) *Itzaj Maya-Spanish-English Dictionary*.

<sup>4</sup> The central portion of Motul de San José, recently established as an archaeological park and protected reserve, can be accessed by a secondary road running north from a junction with the principal lakeshore road 3.0 km east of the *barrio* Nuevo San José.

<sup>5</sup> More detailed syntheses of Itzaj Maya soil classification and its implications for understanding ancient Maya settlement in the Motul de San José area will be available in upcoming reports (Jensen *et al.* n.d.; Moriarty n.d.; Webb *et al.* n.d.).

Many of the seasonal drainages and spring outlets in the MSJ area also provide rich micro-environments where conditions of high relative moisture and greater soil depth provide for improved soil fertility. Many of these drainages are marked by modern plantings of fruit trees. The MSJ area also includes a number of localized savannas where drainage and weathering have produced highly laterized soils (Rice 1976: 22-24). Itzaj Maya informants refer to these soils as *Chächäku'um* («red/colored earth») or, more rarely, *K'anlu'um* («yellow earth»). Although savanna areas are not currently regarded as having great potential for *milpa* agriculture, they may have had an increased

significance or alternate agricultural function for the ancient Maya.

The modern vegetation and environment of the Motul de San José area reflects centuries of use by local agriculturalists. Although relict stands of broadleaf forest can still be found along the north shore of the lake and in isolated stands further inland, most of the area has been cleared for *milpa* agriculture or cattle pasture within the last one hundred years. The nearby *pueblo* of San José is one of the last Itzaj Maya communities in Petén, and its residents have long been known for their skill as farmers and foresters (Atran 1993; Cowgill 1962; Reina 1967). Scott Atran (1993) has

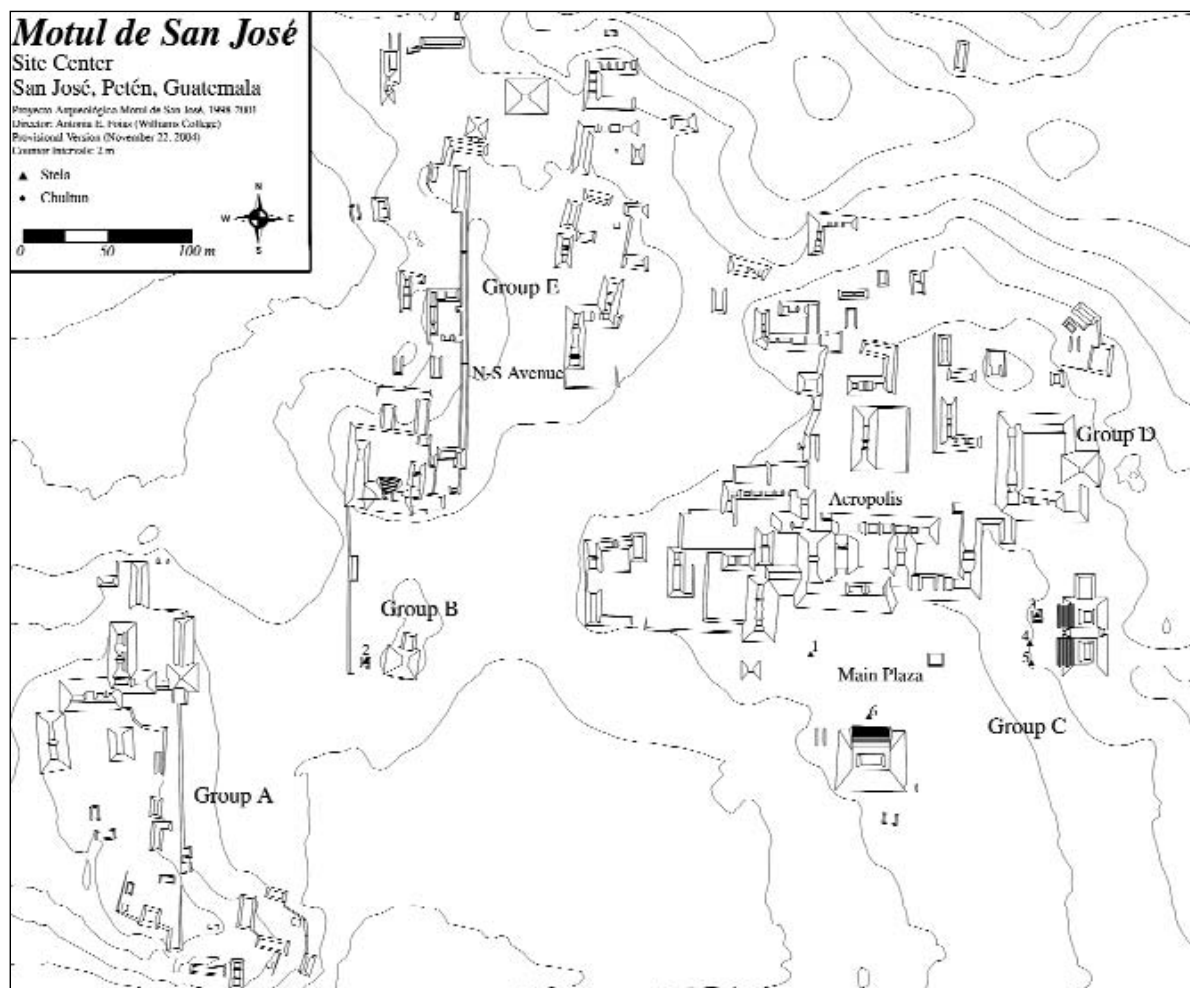


Figure 2. Provisional Map of Motul de San José Site Center (Fojas *et al.* n.d.)

recently provided a detailed synthesis of traditional Itzaj Maya agricultural practices, or «agro-forestry,» and suggested its potential utility in understanding ancient Maya land use strategies. Increasingly, however, Itzaj Maya practices are being replaced by less sustainable methods utilized by immigrants arriving from highly populated areas in the Guatemalan highlands. The application of these methods has amplified the rate of deforestation and overall land degradation. For example, although the central portion of Motul de San José is enclosed within a protected archaeological reserve, uncontrolled *milpa* fires have swept through the area at least three times in the last five years. Large tracts of land have also been cleared for cattle pasturage and suffered extensively from erosion.

### SETTLEMENT RESEARCH METHODOLOGY

Between 1998 and 2001, one of the principal concerns of the MSJ Project was to complete an accurate map of the site of Motul de San José (Figure 2). In 1998 and 1999, survey teams under Foias' direction mapped most of the core architectural zone including the site's major temples and Acropolis (Deter-Wolf *et al.* 1999; Foias *et al.* 1998). In 2000 and 2001, survey operations were extended to include more dispersed settlement zones to the east and north of the site center (Glaab *et al.* 2001; Morales *et al.* 2000). Combined, Foias' survey teams covered an area of approximately 1.2 km<sup>2</sup> within the *circa* 2.2 km<sup>2</sup> Motul de San José National Park. Topography and archaeological features were recorded using a Topcon GTS-213 total station and GPS base points established in 1998 and 2000. Map data were differential corrected and oriented to Grid North in 2001 and 2002, and a provisional rectified map was prepared in 2003 and 2004 (Foias *et al.* n.d.).

In 2000 and 2001, survey transects were cut to the north, south, and east of the archaeological park boundary (Figure 3). These transects were designed to delineate the periphery of Motul de San José and to identify additional nearby centers. The north and south transects were 1.5 and 3.5 km long, respectively, and 250 m wide, covering a combined area of 1.25 km<sup>2</sup> (Moriarty *et al.* 2000). The east transect was 2.0 km long and 400 m wide<sup>6</sup>, covering an area of 0.8 km<sup>2</sup> (Moriarty *et al.* 2001). In each transect, survey

methods included the establishment of a survey baseline with secondary trails cut perpendicularly at 25 m intervals. Additional trails were cut in areas of particularly dense secondary growth. On the north and south transects, archaeological features were mapped using a Trimble backpack-mounted GPS. On the east transect, features and topography were recorded using a combination of GPS, total station, and tape-and-compass data (see Moriarty 2002). The tertiary sites of Chäkokot and Buenavista-Nuevo San José, located on the east and south transects respectively, were mapped during survey operations.

In 2002 and 2003, mapping operations focused on the secondary centers of Akte and Trinidad de Nosotros located 7.1 km NW and 2.6 km SE, respectively, of Motul's Main Plaza. The central portions of both sites were surveyed using techniques similar to those employed on transects, and maps were prepared using total station data. Survey and mapping at Akte covered an area of 0.12 km<sup>2</sup>, encompassing approximately 40-50% of the site (Morales *et al.* 2002). At Trinidad, we mapped a 0.41 km<sup>2</sup> area, encompassing 50-75% of the site's total settlement area (Moriarty *et al.* 2003).

In addition to formal survey investigations, informal reconnaissance has been conducted in the surrounding zones during the last three seasons (e.g., Moriarty and Wyatt 2001). In most instances, reconnaissance included some combination of surface ceramic collection, preparation of a tape-and-compass map, and the recording of a GPS reference point. The principal rationale for these informal investigations was to improve our understanding of settlement dynamics in the MSJ area and to lay the groundwork for a larger regional study. Reconnaissance has also helped us to identify some of the principal secondary and tertiary centers in the area.

Finally, the MSJ Project has conducted extensive test-pitting programs throughout most of the areas described above. Although the test-pitting strategies utilized by MSJ Project personnel have varied slightly, depending on the particular research site, all involved the excavation of at least a single 1-x-1 m test-pit within each architectural group. The most comprehensive sampling has taken place at Motul de San José (Foias 1998, 2003). Each architectural group was tested by at least two 1-x-1 m pits as well as by extensive shovel tests designed to locate associated middens (Deter-Wolf and Charland 1998; Halperin *et al.* 2001; Ramírez

<sup>6</sup> The east transect was extended south an additional 100 m in numerous locations and should be seen as, in effect, having covered an additional 0.2 km<sup>2</sup> for a total of 1.0 km<sup>2</sup>.

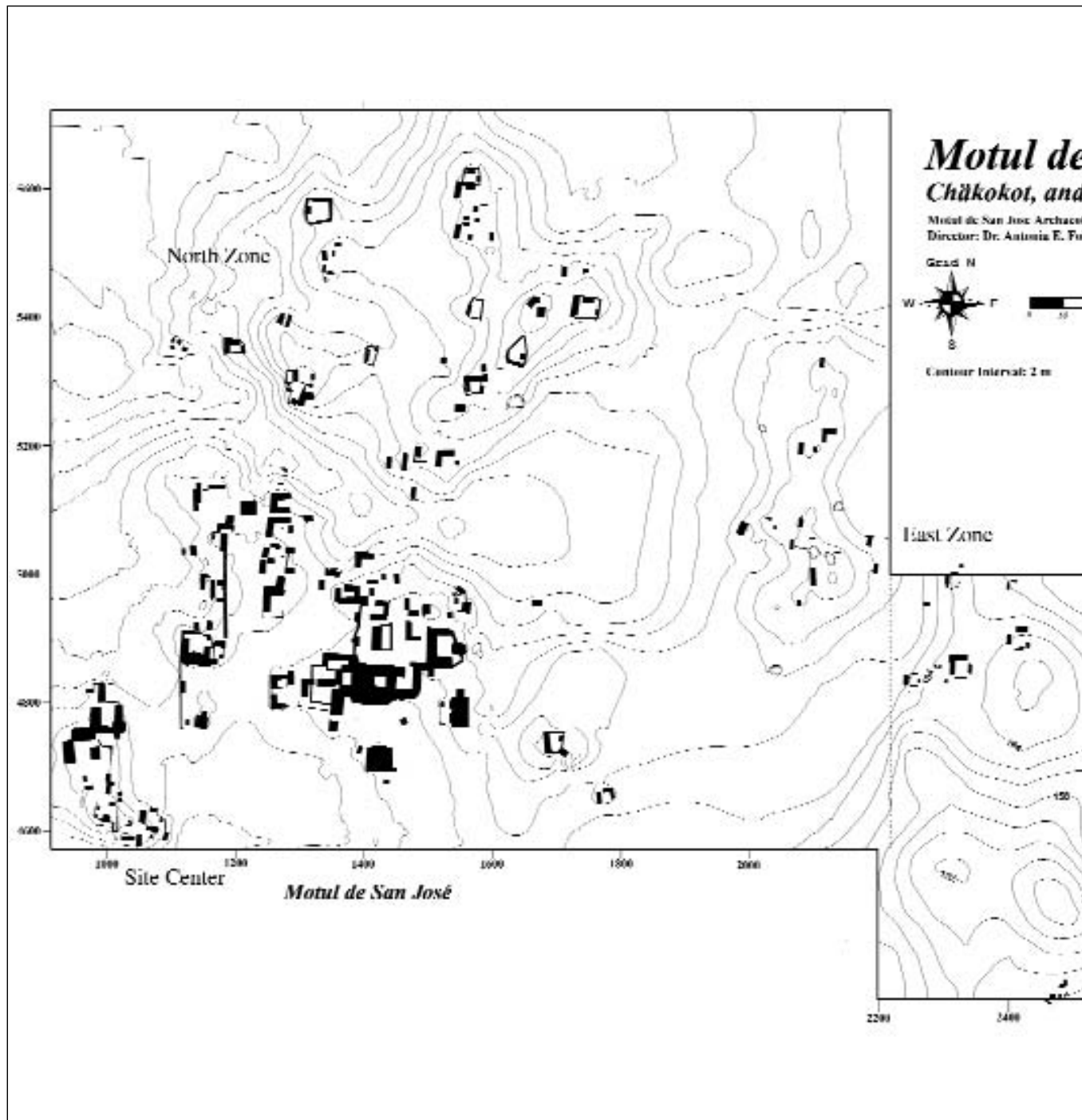


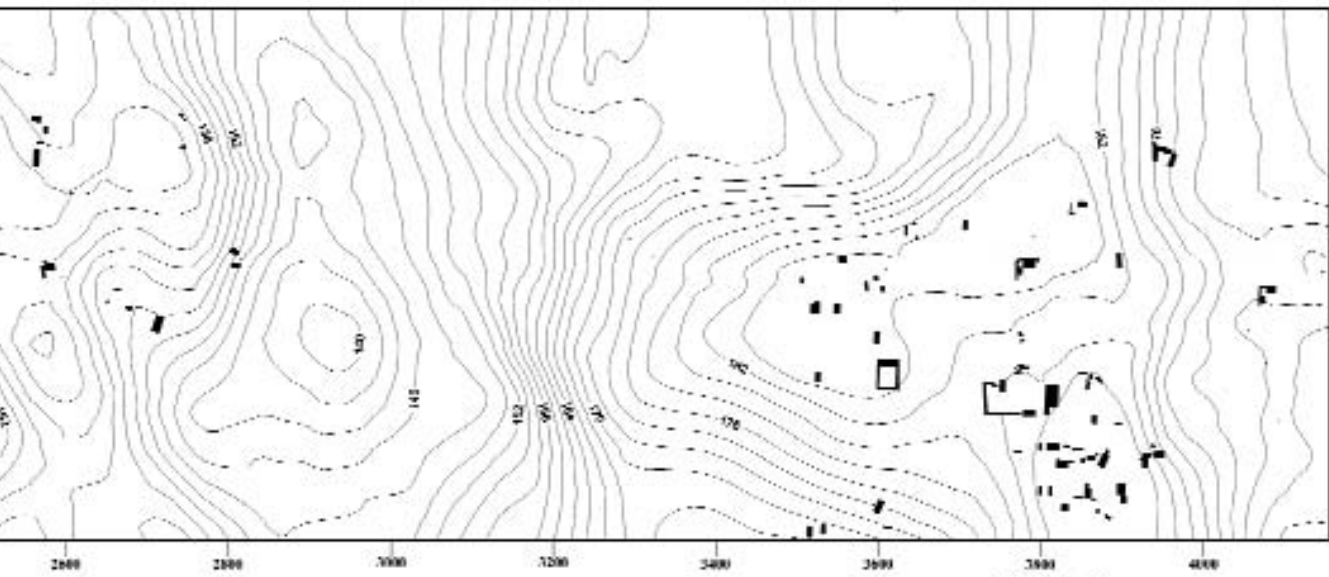
Figure 3. Motul de San José, the East Transect, and Chäkokot (Foias *et al.* n.d.; Moriarty 2002)

*San José,  
East Transect*

Topographical Project, 1998-2001



*East Transect*



*Chükokot*



*et al.* 2000). Approximately 90% of the architectural groups at Motul de San José were sampled using these methods. Outside of central Motul, sampling has been slightly more limited, normally consisting of a single 1-x-1 m pit in each group. All groups found on the east transect in 2001 and at Akte in 2002 were sampled by a single pit (Kerns *et al.* 2002; Moriarty *et al.* 2001). Test-pitting operations at Trinidad are ongoing, but we have already sampled 60% of the groups encountered to date (Moriarty *et al.* 2003). Although some ceramic analysis remains to be completed, the basic history of occupation for the MSJ area is well understood and can be presented in outline format below.

### SETTLEMENT CLASSIFICATION IN THE MSJ AREA

To guide sampling strategies and facilitate inter-group and inter-site comparisons in the MSJ area we are utilizing a provisional residential group classification system (Figure 4). Classification is based primarily on the architectural arrangement of structures forming the group, commonly referred to as a group's «plaza plan» (see Becker 1971, 2003), although other characteristics easily identifiable in survey are also considered. This approach considers a group's architectural arrangement as a reflection of the beliefs and decision-making of the ancient Maya builders, thus classifying groups on *emic* rather than potentially *etic* attributes (Becker 2003: 256). This approach to settlement classification lends itself to field application. Most of the structures encountered during survey in the MSJ area are covered in deep layers of soil and collapse that make it impossible to provide accurate descriptions of any building's internal layout or construction method without excavation. Labor investment, construction technique, and architectural style will be incorporated into the MSJ settlement classification as representative data become available.

In the provisional MSJ classification system we are focusing exclusively on residential groups and treating public and ceremonial architectural complexes separately. This differs significantly from the scheme developed by Becker (1971, 2003). The use of such an approach is warranted both by perceived functional differences between arguably residential and public ceremonial groups and by the economic emphasis of MSJ Project investigations. Residential groups, or «minimum residential units,» are generally understood to represent the shared domestic quarters of a minimal

social unit (Ashmore 1981). Although there are distinct epistemological problems in identifying a «household» in the archaeological record (Ashmore 1981; Ashmore and Wilk 1988; Gillespie 2000; McAnany 1993), the occupants of a residential group are expected to have engaged in a variety of cooperative economic activities. Further, although the range of activities occurring in residential groups may have overlapped with those found in public or ceremonial complexes, residential groups are seen as providing a closer estimation of patterns in household economic activity.

In our provisional classification system, the Type I and Type II classifications designate the «informal» and «formal» residential groups found throughout the Maya lowlands and widely distributed in the MSJ area. Type I groups are defined as those groups of 1-7 structures lacking a formal patio area and identified by the «constituent structures being located closer to each other than other structures or groups» (Ashmore 1981: 49; Sharer 1994: 474). Type II residential groups are defined as groups of 2-7 structures organized around a square or rectangular patio (Ashmore 1981; Sharer 1994). Structures in Type I and II groups are generally rectangular in form and presumed to have had primarily «non-ritual» functions (Becker 2003: 259; see below).

The Type III classification is the most provisional designation. Within the MSJ area we have encountered a modest number of groups with large autonomous basal platforms surmounted by only 1-2 structures, with considerable vacant patio space on the platform's upper surface. Although future investigations may identify «invisible» structures atop these platforms, we are currently isolating these groups as a separate class. Subsequent research may identify a specific function or set of activities associated with such platform groups. Freidel and Sabloff (1984: 190), for example, interpreted many similar basal platforms encountered on Cozumel Island as storage facilities. In contrast, at Chau Hiix in Northern Belize, Cook (1997) used artifact assemblages associated with platform groups to identify a «middle class» associated with specific craft production activities.

Type IV and Type V residential groups are, in most respects, identical to Type II groups and consist of 3-7 structures arranged around a common patio. Type IV and V groups are distinguished, however, by the presence of one or more «ritual» structures. «Ritual» structures are informally defined as those edifices that are frequently higher than other structures in the

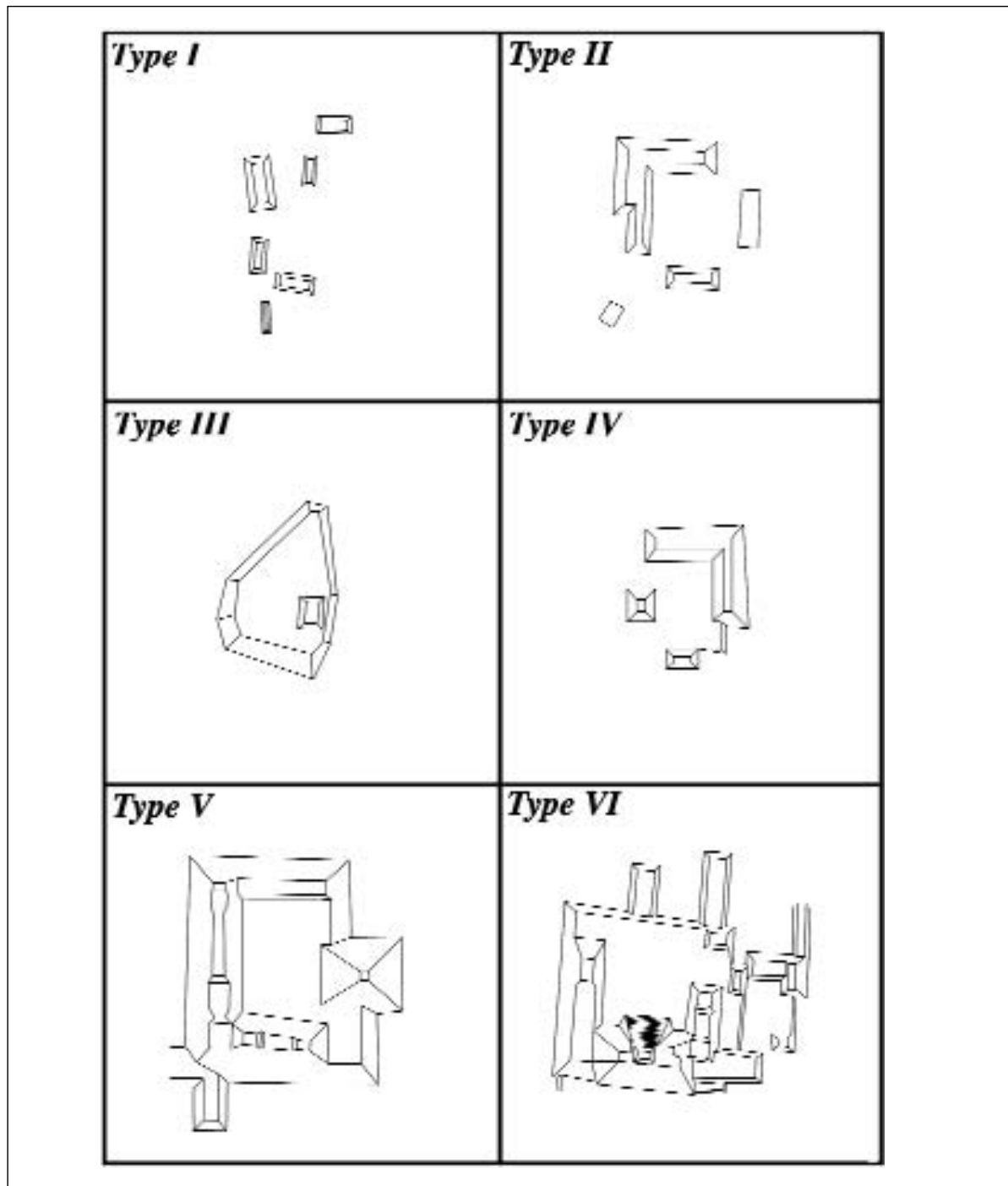


Figure 4. MSJ Type I-VI Residential Groups

group, square in plan, and interpreted to be temples, shrines, or oratorios (Becker 1971, 2003). Following Becker (1971, 2003: 259), we identify such structures based on width to length ratios (>0.70). Unfortunately, we can also normally identify such structures on the basis of architectural characteristics and the remains of caches or high-status burials revealed by looters<sup>7</sup>. Type V groups include a «ritual» structure on their eastern side and should be seen as similar to «Plaza Plan 2» at Tikal (Becker 1971). Type IV groups, though rare, are identified by the presence of a «ritual» structure on any side other than the east. Among the limited number of Type IV groups identified to date in the MSJ area, the «ritual» structure is normally situated on the west side of the group. As is the case at several other sites in the southern lowlands (e.g., Valdés and Suasnávar 1991), several variants of the standard «Plaza Plan 2» or MSJ Type V arrangement have been identified. If further examples or variants of each class are encountered during future investigations, Types IV and V may be sub-divided accordingly.

The Type VI classification was created to isolate the small number of large residential groups with multiple adjoined patios. Type VI groups normally include 5-12 structures organized around 2-3 enclosed patios. In all instances the structures and patios of Type VI groups form coherent architectural complexes that cannot be systematically sub-divided. For example, several of the Type VI groups in the MSJ area have a northern patio of Type V classification and a southern patio of Type II classification. Thus, the Type VI classification was specifically created to account for the fact that numerous large, multi-patio residential groups in the MSJ area exhibit characteristics conforming to multiple classifications. An additional Type VII classification can be used for residential groups exceeding this classification in number of patios and structures, while continuing to serve an arguably residential function. To date, however, we have encountered only one such group—the Motul de San José Acropolis—a massive architectural complex covering more than 83,000 m<sup>2</sup> and including at least six patios.

## MOTUL DE SAN JOSÉ

Survey and mapping between 1998 and 2001 revealed Motul de San José to be a small—to medium—sized Classic Maya ceremonial center, comparable in size and complexity to the «Level 9: Regional Ceremonial Center» in the classification system developed by Hammond (1975) for Northern Belize. The mapped portion of Motul de San José, including a zone of contiguous settlement on the east transect, covers an area of 1.44 km<sup>2</sup> and includes more than 230 structures. The total settlement area covered by Motul, however, is probably significantly larger than that mapped to date. Both the north and south survey transects encountered contiguous settlement well beyond the MSJ archaeological park boundary. Using the maximal distances at which contiguous settlement remains were encountered on survey transects to estimate the site's N-S (2.2 km) and E-W (1.9 km) dimensions, we can estimate Motul's total size to be approximately 4.18 km<sup>2</sup>, of which approximately 35% has been mapped. Settlement within the mapped portion of Motul de San José can be divided into two semi-discrete zones: a highly nucleated site center, or core architectural zone, and a surrounding peripheral settlement zone (see Figure 2).

### The Motul de San José Site Center

The central zone of monumental architecture, public plazas, and principal residences at Motul de San José, referred to as the site center, covers an area of approximately 0.4 km<sup>2</sup> and includes more than 144 structures. Most of these structures are found in a series of five architectural complexes, designated Groups A-E by mapping teams.

Group C is the largest architectural complex at the site and includes Motul's Main Plaza, its Acropolis, and the site's major temples and pyramid. The Main Plaza is the largest at the site and covers an area of more than 11,000 m<sup>2</sup>, providing sufficient space to potentially accommodate up to 11,000 standing or 5,500 seated individuals<sup>8</sup>. The Main Plaza is also setting for

<sup>7</sup> Almost all of the eastern temples in the MSJ area have been thoroughly looted. Exploration and cleaning of numerous looters' trenches suggests that looters were almost always successful in locating rich tombs beneath eastern temples. Screening of looters' backdirt from a tunnel that had entered a burial chamber in the eastern temple of MSJ Group D, for example, led to the recovery of 10 jade beads, 20 pieces of a jade mosaic, 145 pieces of a shell mosaic, 98 pieces of a pyrite mosaic, and other elements of the dedicatory offering (see Foias 2001, 2003: 23). Assuming the looters removed the best pieces, the associated burial appears to have been of a high or, possibly, royal status (Foias 2003). At the nearby tertiary center of Chäkokot looters also encountered what was probably an important burial in an eastern temple. Although any significant grave goods were removed, the tomb itself was an elaborate construction with a stone lintel roof and cut-stone retaining walls.

<sup>8</sup> These estimates follow Tourtellot *et al.* (2003:107) in using rough figures of 1 m<sup>2</sup> per standing person and 2 m<sup>2</sup> per seated person.

five of Motul's six carved stelae. Stelae 3, 4, and 5 aligned north to south on the east side of the plaza and Stela 6, discovered in 1998, is situated on the south side of the plaza. Stela 1, with the best preserved glyphic text at Motul, is located on the west side of the Main Plaza. A lengthy text on the back of Stela 1 records the accession of an «lk» lord in the 8<sup>th</sup> century AD, and provides the best evidence for identifying Motul de San José as the Late Classic «lk» site. Although the lord's name is, unfortunately, eroded, his accession is described as occurring under the auspices of the ruler Jasaw Chan K'awiil (Ruler A) of Tikal. Stela 2, the monument photographed by Maler (1910), is located several hundred meters west of the Main Plaza, in front of a small temple on Plaza B.

The Acropolis, forming the north side of the Main Plaza, is a considerable architectural complex by itself and covers a surface area of more than 83,000 m<sup>2</sup>. Within this area, the Acropolis is divided by a series of six small partially enclosed patios surrounded by numerous large single and multi-storey range structures. Although only limited excavations have been undertaken within the Acropolis (Castellanos 2000), we currently interpret it as the palace for Motul's royal family.

The largest public or ceremonial structures at Motul are also found adjacent to the Main Plaza. The South Pyramid, a 20 m high structure and the tallest structure at Motul de San José, forms the south side of the Main Plaza. The Twin Temples, a pair of 17 and 18 m high structures, are situated on the east side of the Main Plaza. Both temple structures were probably originally surmounted by roof combs and were accessed by parallel staircases on their western sides. The Twin Temples are particularly interesting since the two structures share a common basal platform. Although this configuration of structures is slightly unusual for the principal temples of a regional center in the southern Maya lowlands, it almost certainly represents a large-scale variant of the «Plaza Plan 2» configuration commonly referred to as «Plaza Plan 2T» for the presence of twin eastern structures (e.g., Valdés and Suasnávar 1991: 778).

The second major zone of ceremonial architecture at Motul de San José is formed by Group E. The principal element within this complex is a 200 m long avenue, or *vía*, bounded to the east by a series of Type V and Type VI residential groups, to the west by a 1 m high wall, and to the north by a small temple. To the south, the North-South Avenue terminates in Plaza B. Although use of the N-S Avenue for ceremonial pro-

cessions cannot be effectively demonstrated archaeologically, it is notable that in 2002 we identified a possible banner stone in Plaza B almost directly south of the avenue's baseline.

The principal residences of the Motul de San José site center, aside from the Acropolis, are found in Groups A, B, and D. Group D, located directly north of the Main Plaza, is a large residential group of Type V plan with a small temple or oratorio on its east side. Foias and her team conducted excavations in Group D from 1998 to 2001 and found it to be an elaborate residential complex (Álvarez *et al.* 2001; Foias *et al.* 2000; Foias *et al.* 1999). Unfortunately, the eastern structure in the group was looted in the recent past. Cleaning of the looters' tunnel and screening of looters' backdirt indicated that the looters probably encountered a burial of high or royal status (see Note 6). The principal residential group in Complex A is a Type VI group with two enclosed patios (7J-1 and 7J-2). Group 8K-5, the principal group in Complex B, is situated at the base of the N - S Avenue and is highly similar in form to the La Paciencia group at Dos Pilas (see Houston 1993: 43). Furthermore, the outset stairways on the major southern structure in this group are very similar to the stairways found in the Petexbatun region (Foias, personal communication, 2004). We are currently interpreting all of these groups as the palatial residences of Motul's highest ranking elites.

### The Motul de San José Periphery

The mapped portion of the Motul de San José periphery can be sub-divided into two discrete zones: a North Zone and an East Zone. The North Zone is separated from Central Motul de San José by a large *aguada* depression. Although we have located several quarries along its northern and southern edges, particularly in the area closest to the northern terminus of the N-S Avenue, its principal function may have been as a reservoir for Motul's inhabitants. Although we have yet to test the depression's possible function as a reservoir, its deep, clayey *Ek'luk* soils retain a considerable amount of water at the height of the rainy season.

Settlement in the North Zone is notable primarily for the presence of numerous groups of the Type III classification. At least four examples of this particular type are found within the North Zone and if any possible function for such structures is identified, it will likely come from future investigations in this area. Other residential groups within the North Zone consist of a

mix of Type I, II, and V groups as well as a single Type VI group. Settlement in the North Zone is relatively dispersed with large intervening open areas. At least some of this zone was probably utilized for infield agriculture as the soils are generally of the highly fertile *Säkni'is* and *Ek'lu'um* classes.

In contrast, settlement within the East Zone is characterized primarily by the presence of numerous small and medium-sized Type I and Type II groups. Most of these groups are situated along the irregular edge of the limestone plateau upon which Motul de San José is situated. Soils in this zone are highly mixed with *Säkni'is*, *Ek'lu'um*, and *Ek'luk* deposits all co-occurring within a relatively small area. Some of the soils most highly regarded by modern Itzaj Maya agriculturalists are found directly south of a series of large

Type II groups approximately 400 m east of the Main Plaza (see Figure 3).

#### SECONDARY AND TERTIARY CENTERS IN THE MSJ AREA

Although we cannot yet define a «Motul de San José area» potentially corresponding to the territory encompassed by the Late Classic Motul de San José polity, our regional investigations to date are giving us an early impression of settlement scale and dynamics in the surrounding zone. Motul de San José is situated within a dense network of smaller secondary and tertiary centers (Figure 5). Tertiary centers, or middle-level settlements, are informally defined as sites cove-

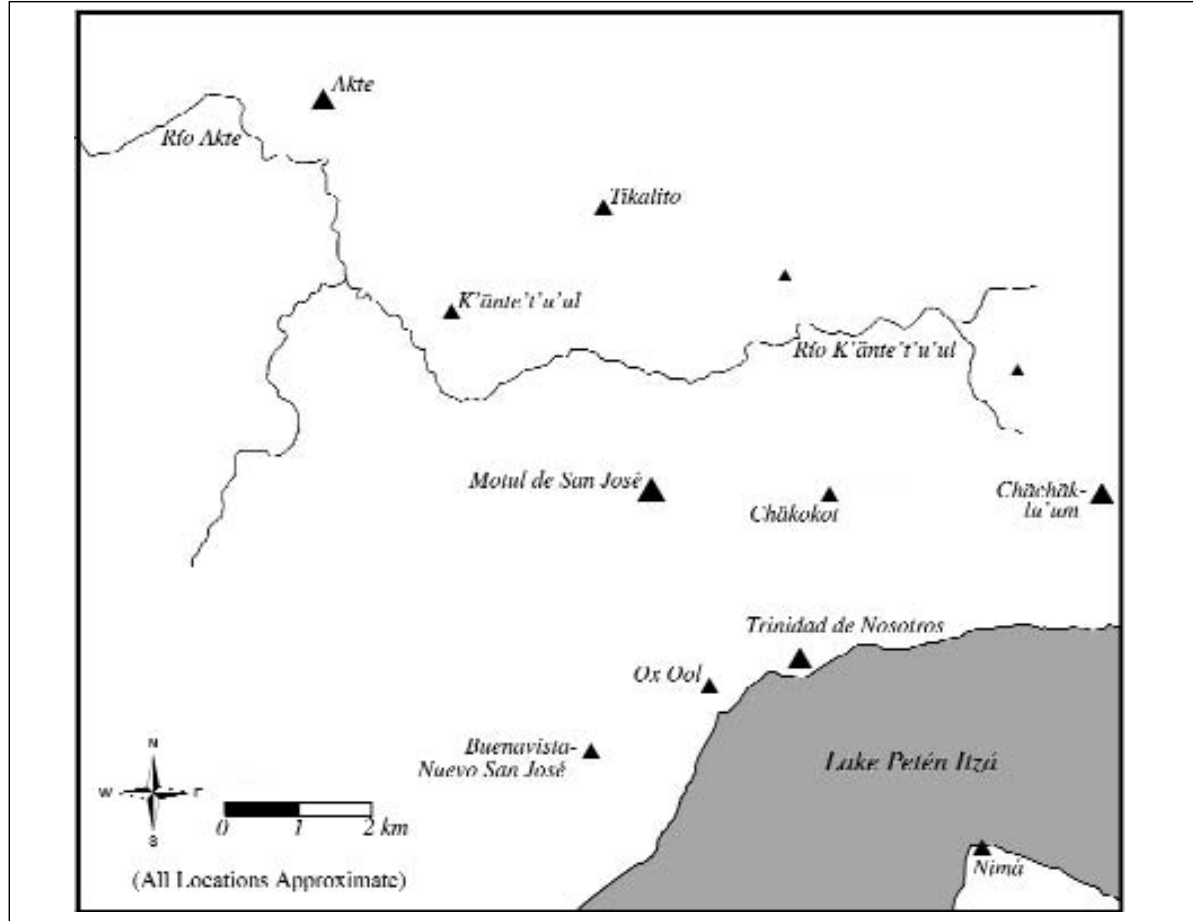


Figure 5. Selected Archaeological Sites in the Motul de San José Area

ring more than 10 ha and including a modest zone of public or ceremonial architecture. Secondary centers are characterized by greater settlement areas and larger zones of public or ceremonial construction, with an attendant increase in overall site complexity. Although this summary classification oversimplifies and obscures important variations in site design, location, and, presumably, function, we are using it as a simple guide until we have completed further regional research.

### Secondary Centers in the MSJ Area

The largest of the secondary sites studied to date is Trinidad de Nosotros, the principal focus of MSJ Project field investigations in 2003 (Moriarty *et al.* 2003). Within a surveyed area of 41 ha, more than 100 structures were identified (Figure 6). Most of these structures are located atop a 40 m high ridge overlooking Lake Petén Itzá and form parts of small to medium-sized Type I, II, and III residential groups. The principal residence at the site, Group C, is of Type V plan with a small eastern shrine. Unmapped areas to the north and west contain additional structures and we estimate that Trinidad will cover 60-75 ha and include 150 structures when we complete the map in 2005.

The key architectural complexes at Trinidad are a 12 m high radial pyramid, several small temples, and a ballcourt. The Trinidad ballcourt is 25 m long with a closed north end zone. An 8-m high temple is attached to the western lateral structure and forms the principal eastern temple on Trinidad Plaza I. In overall layout, the Trinidad ballcourt is relatively similar to the ballcourt on the Main Plaza at Dos Pilas (see Houston 1993; Palka 1997: 294). The presence of a ballcourt at Trinidad is particularly interesting since none have been discovered at nearby Motul de San José.

It is also interesting to note that Trinidad has an especially large amount of public plaza area for a site of its size. Plazas I through IV are typical public plazas situated within the site's core architectural zone and delineated by range structures, temples, and other architectural complexes. All of these plazas were surfaced several times during the Late Preclassic and Late Classic periods. Plaza V, however, is markedly different in being simply a vast, largely unmodified, open area directly adjacent to the site's principal struc-

ture. Plazas I through V, combined, cover more than 20,000 m<sup>2</sup>. Plaza V alone, however, covers more than 10,000 m<sup>2</sup>, only slightly smaller than the Main Plaza at Motul, and provides sufficient space for an estimated 10,000 standing people or 5,000 seated people<sup>9</sup>. Both of these highly theoretical estimates are well beyond any reasonable estimate of the site's total population.

Trinidad can also be securely identified as an ancient Maya port. During the 2003 season a relatively complex set of port facilities was identified in a relict harbor at the base of the ridge overlooking the lake. Port facilities include an inner harbor wall and dock as well as a possible harbor breakwater. These features are currently 20-30 cm above lake level, and the harbor itself has been partially filled with eroded materials from above, but would have provided an effective harbor during periods of slightly higher lake level (Spensley 2003). Test-pits in the harbor area suggest that most of the features were constructed at least as early as the Late Classic period, but possibly much earlier. Secondary indications of port function at Trinidad include relatively high frequencies of obsidian and other exotics (Moriarty 2003). At present we are considering Trinidad to be Motul's principal port on Lake Petén Itzá and a potentially important node in overland trade networks utilizing the Central Petén lakes.

A second important secondary site in the MSJ area is Akte. Located 7.1 km northwest of Motul, Akte is a small site with an unusual set of attributes. The central portion of the site covers a modest area of 12 ha and includes only 34 structures. Most of these structures are clustered within a 5 ha area at the summit of a 40 m high hill overlooking the confluence of the *ri*o K'änte't'u'ul and the *ri*o Akte (Figure 7). The principal residential group at Akte is a large Type VI group with three patios situated atop a 3-5 m high basal platform (Platform A-B). The northern patio includes a small oratorio or temple on its eastern side and the group is, overall, highly similar in layout to the major Type VI groups at Motul. Smaller Type I, II, and III groups are clustered to the E, S, and W of the platform's base. In its entirety, Akte probably covers an area somewhat larger in spatial extent, if reduced in total structures, than Trinidad. Peripheral residential groups of Type I and II plan are widely dispersed atop hilltops throughout a 2-3 km<sup>2</sup> area and only the central portion of the site could be mapped in 2002 (Morales *et al.* 2002).

The public and ceremonial architecture at Akte is

<sup>9</sup> As with the Motul de San José Main Plaza estimates, these estimates follow Tourtellot *et al.* (2003) in using a figure of 1 m<sup>2</sup> per standing person and 2 m<sup>2</sup> per seated person.

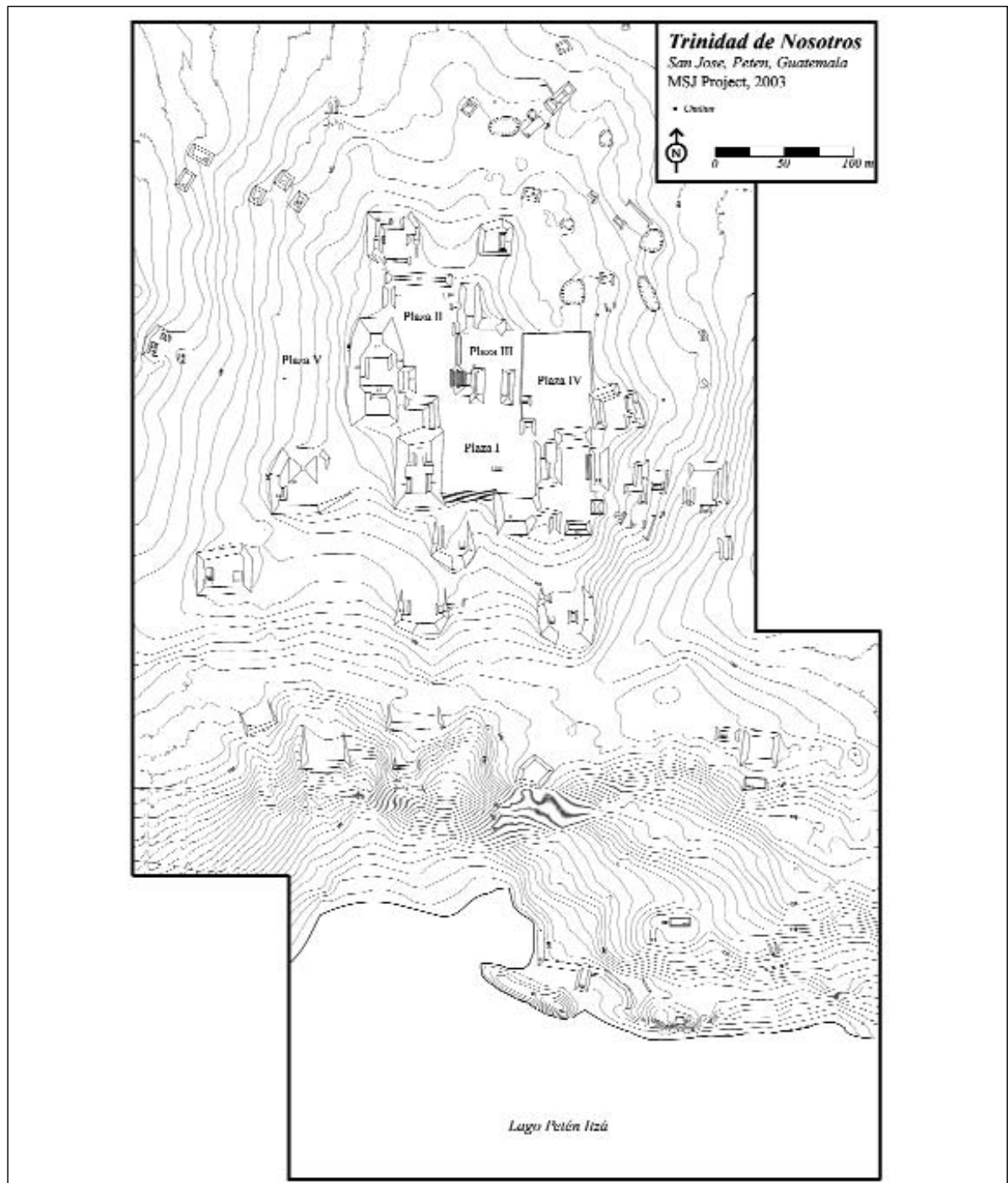


Figure 6. Provisional Map of Trinidad de Nosotros

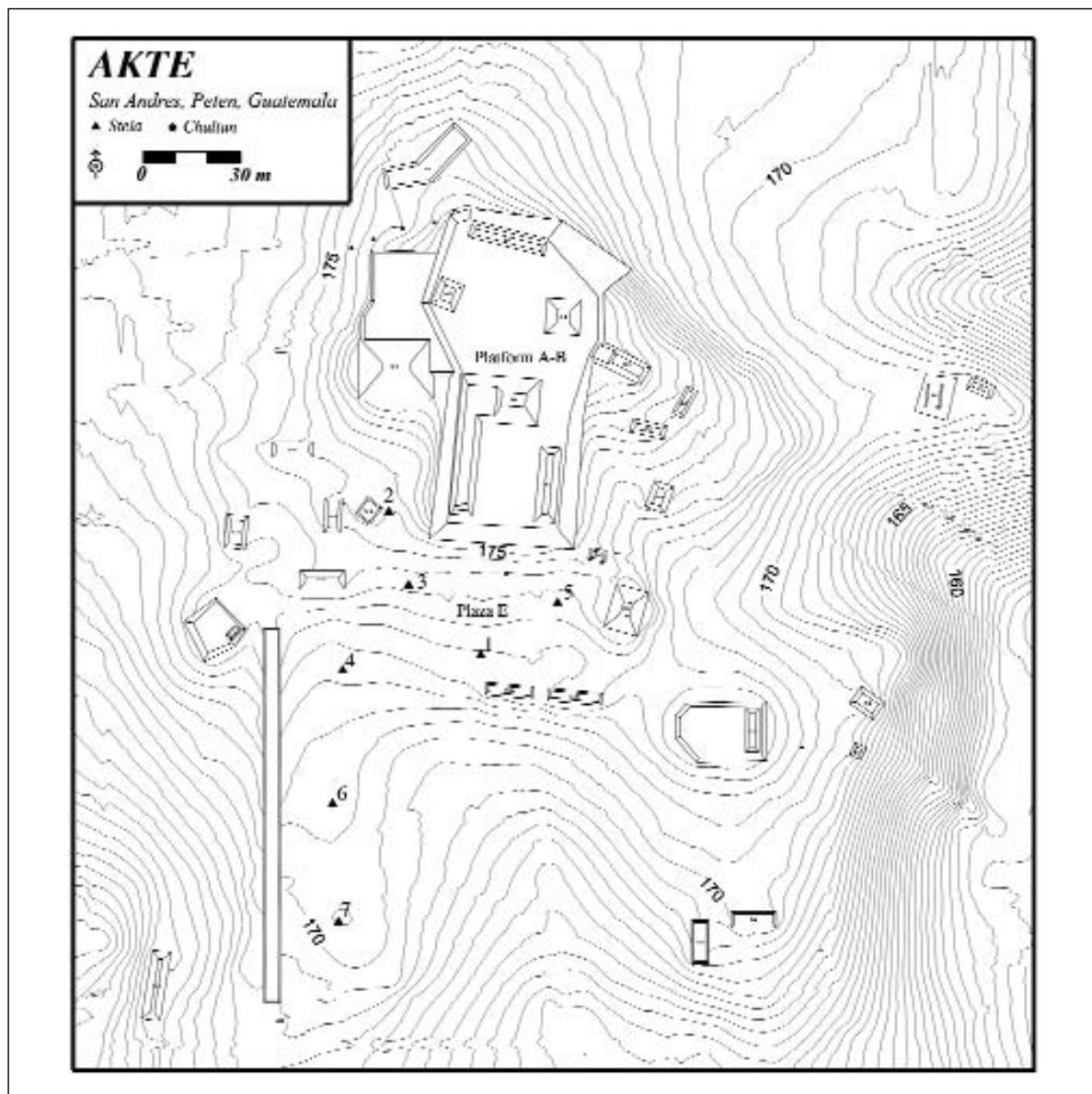


Figure 7. Provisional Map of Akte

organized around Plaza E, a small (*circa* 3,520 m<sup>2</sup>) plaza located directly south of Platform A-B. A small temple (now obliterated by looters) and a pair of low range structures form the eastern and southern boundaries of the plaza. A low (0.5 m high) causeway leads south for 100 m from a terminus near the west-

tern boundary of the plaza. Five of Akte's seven monuments are also located in Plaza E, including the best preserved monument at the site, Stela 1. Akte Stela 1 depicts a standing male individual holding a God-K scepter and dressed in the traditional accoutrements of rulership. A fragmentary calendar round above the



figure's right hand and a partial long-count date on the monument's reverse side suggest a 7<sup>th</sup> or mid-8<sup>th</sup> century AD date (Drapkin and Moriarty 2002; Moriarty and Yorgey n.d.). The remaining monuments are heavily eroded making it possible to recover only fragmentary details.

Our original hypotheses for Akte included the possibility that the site functioned as a rural administrative center for the Motul polity or as a possible outlying royal manor (see Taschek and Ball 2003). The close similarities between the Platform A-B group's layout and that of the Type VI «palaces» of Groups A and B of Motul, Akte's strategic location, and the presence of six chultunes in close proximity to Platform A-B all suggested such interpretations. The identification of five new monuments at the site during the 2001 and 2002 field seasons, in addition to the two identified by Ian Graham in the 1970s (Graham, personal communication, 2001), brought the total number of monuments at Akte to seven. The presence of seven monuments at a site of Akte's small size presents a number of interpretive problems, especially as one of the monuments is securely dated to the Late Classic. If the stelae are in their original positions, we must consider the possibility that Akte lies outside of the Motul de San José polity. Alternatively, the monuments may have been moved to Akte from another site after their original erection. As Akte is situated only about 1.5 km from the confluence of the  *río*  Akte and the  *río*  K'ánte't'u'ul, the range of sites at which these monuments could have originated is wide. To test this possibility, we excavated three of the monuments in 2003 (Moriarty and Halperin 2003). Although we were able to identify stela «postholes» near two of the monuments, all three had fallen from their final position or had been disturbed in the recent past. Thus, despite the fact that small quantities of Early Postclassic pottery were found in association with two of the monuments, we cannot say for certain whether Akte's stelae were erected during the Late Classic or moved to Akte at a later date. Thus, until we have completed further research we must consider Akte as possibly lying outside the territory encompassed by the Late Classic Motul de San José polity.

A third potentially important secondary site in the

Motul de San José area is Chächäkl'u'm, located 5.0 km east of the Motul de San José Main Plaza. Although MSJ Project investigations at Chächäkl'u'm have been limited to reconnaissance and surface ceramic collection, both George Cowgill (1963) and the Proyecto Maya-Colonial (Rice *et al.* 1996) conducted preliminary investigations at Chächäkl'u'm. The Proyecto Maya-Colonial, in particular, identified Chächäkl'u'm as a large secondary site, covering an area of approximately 2.0 km<sup>2</sup> and including more than 141 structures (Sánchez 1996: 166). Most of these structures form parts of small Type I, II, and V residential groups, although the site also includes a small ceremonial precinct with a possible E-group (see Sánchez 1996: 168). Chächäkl'u'm is most notable, however, for being situated within a distinct environmental niche, the savanna Chächäkl'u'm. Soils within the savanna consist primarily of the highly laterized soils of the *Chächäkl'u'm* class, currently regarded as marginal and highly risky for *milpa* agriculture. The density of settlement at Chächäkl'u'm, however, highlights the need for further research into the utilization of such soils and associated micro-environments by the ancient Maya<sup>10</sup>.

### Tertiary Sites in the MSJ Area

Of the two tertiary sites studied to date, Chäkokot appears to be most typical of small scale settlements in the MSJ area. Situated atop a 40 m high hill 2.0 km east of Motul's Plaza Principal and overlooking the intervening *bajo* (see Figure 3), Chäkokot is a small site, covering an area of 16 ha and including 60 structures. Most of the architectural groups at the site form Type I, II, and III residential groups that are widely dispersed across the flat hillcrest. Most of these groups are associated with one or more chultunes<sup>11</sup>. The stone disk lids for many of these chultunes were found *in situ* or adjacent to the chultun openings and, as none were perforated, a dry storage function is inferred (see Tourtellot *et al.* 2003: 102).

The central portion of Chäkokot is formed by a small plaza, covering an area of approximately 1200 m<sup>2</sup>, bounded to its north and east by formal and informal

<sup>10</sup> It is notable that surface collections from Chächäkl'u'm tend to be dominated by deep basins with incurved rims and slightly restricted orifices. Of 55 rims collected at Chächäkl'u'm in 2003 by the MSJ Project, the vast majority (n=45) pertain to the Chaquiste, Subin, and Cameron types, all incurved rim basins, dating to the Late Classic and Terminal Classic periods. Similar patterns hold in collections made by Cowgill (1963:59) and the Proyecto Maya-Colonial (Rice 1996: 248).

<sup>11</sup> A total of 14 chultunes were located at Chäkokot during survey in 2001 (Moriarty *et al.* 2001). Survey visibility at the site was, however, extremely limited by vegetation and fallen trees, and numerous additional chultunes were probably missed.

residential groups, to the west by a pair of low (*circa* 50 cm high) parallel structures of undetermined function, and to the south by an isolated 3 m high square platform. Just north of the plaza a large Type V group forms the principal residence at the site. The 7 m high temple or shrine on the east side of this group is the largest structure at Chäkokot and may have originally provided a view of the principal structures in the Motul de San José site center.

The presence of a large Type V group at the center of Chäkokot is typical of secondary and tertiary centers in the MSJ area. Type V groups with eastern temples or shrines form the principal residential groups at most of the secondary and tertiary sites we have seen to date including K'änte't'u'ul, Buenavista, Trinidad de Nosotros, and several others. Most of the tertiary centers are also situated within a range of 1.5-3.5 km of Motul's Main Plaza (see Figure 6). Although much greater regional reconnaissance will be needed before we can describe the distribution of these centers, those that we have investigated are notable for their positioning at cardinal and inter-cardinal directions from the Main Plaza at Motul.

Chäkokot's physical setting is also highly typical of satellite centers in the MSJ area. Soils at Chäkokot consist primarily of rich *Säkni'is* deposits that Itzaj Maya agriculturalists regard as highly suitable for *milpa* agriculture. Innovative carbon isotope research by Webb *et al.* (n.d.) has demonstrated that the ancient Maya were cultivating maize within intra-site areas at Chäkokot, and we suspect that similar land use was occurring at other satellite centers in the surrounding area.

The tertiary site of Buenavista-Nuevo San José, situated atop a series of hills 3.5 km S-SW of Motul's Main Plaza, probably originally covered an area comparable in size to that of Chäkokot with a similar number of structures. Most of the ancient Maya settlement at Buenavista-Nuevo San José has been, however, built over by the modern settlement of Nuevo San José and only the Buenavista Group, the principal residential groups at the site, has been studied. The principal structure in this group is a small eastern temple from which both Lake Petén Itzá and Motul de San José's Twin Temples are clearly visible. Castellanos and Guffey (2001) conducted clearing investigations in two of the group's thirteen structures and were able to outline a long history of occupation and use (see Foias 2003).

Like Chäkokot, Buenavista is located within a zone marked by relatively fertile soils and those portions of the site not covered by modern construction are currently utilized for *milpa* agriculture. Buenavista-Nuevo San José's function within the MSJ area may, however, be more closely tied to its proximity to its lithic resources. The hillsides surrounding Buenavista-Nuevo San José are rich in chert nodules and Castellanos and Guffey's (2001) excavations in Grupo Buenavista encountered extensive evidence for chert tool production. Several possible chert flake «dumps» were also identified by Scott Brian in Nuevo San José during reconnaissance in 2004 (Brian, personal communication, 2004).

Additional satellite centers in the MSJ area where we have conducted preliminary reconnaissance include the sites of Tikalito, K'änte't'u'ul, and Ox Ool. All are located 2.0-3.5 km from Motul's Main Plaza and are situated to the N-NW, NW, and S, respectively (see Figure 6). All share the same basic characteristics of upland setting, proximity to rich *Säkni'is* soils, and inclusion of a small eastern temple or large residential group of Type V classification. Although a considerable amount of future survey and excavation will be required before we can interpret and test these patterns, the close correlations between location, soil resources, and architectural arrangement may provide some clues to the integration of the area during the Late Classic peak of the Motul de San José polity.

#### PROVISIONAL SETTLEMENT CHRONOLOGY FOR THE MSJ AREA

Although MSJ Project ceramic analysis is still underway, most of the pottery from the 1998 to 2003 seasons has been analyzed to the type level. Small samples of surface collected materials from Chächäkl'u'm, Wakutal, and other secondary sites have also been analyzed. Although a preliminary regional chronology can be presented below, it should be regarded as highly provisional until ceramic analyses are complete<sup>12</sup>.

The MSJ area was first occupied during the late Middle Preclassic period (600-300 BC). Materials pertaining to the Mamom ceramic sphere constitute a small portion of ceramics recovered from most of our research sites. Middle Preclassic materials are rare at

<sup>12</sup> All dates given here are preliminary and rely on comparisons with the pottery complexes from surrounding regions, including Tikal, Uaxactun, Ceibal, Altar de Sacrificios, and others.

Motul de San José and it was probably a relatively small site at the time. The heaviest concentrations of Middle Preclassic materials are found at the two sites closest to Lake Petén Itzá —Trinidad de Nosotros and Buenavista-Nuevo San José. At Buenavista, Castellanos and Guffey (2001) encountered a series of Middle Preclassic platforms underlying later constructions (Foias 2003). At Trinidad, Middle Preclassic materials constitute an important part of ceramic assemblages but have only been located in two pure deposits, both situated directly atop bedrock. Both sites were probably small villages during the Middle Preclassic.

Both of these sites may have also been occupied somewhat earlier. Possible pre-Mamom early Middle Preclassic (*circa* 800-600 BC) materials were recovered from the deepest levels at Buenavista, beneath deposits securely dated to the late Middle Preclassic (Foias 2003: 21). A small sample of similar materials was also recovered from the deepest deposit at Trinidad de Nosotros (Moriarty *et al.* 2003). Early materials at both of these sites may pertain to the pre-Mamom Nix complex identified by Rice (1996: 256) at the nearby sites of Nixtun Ch'ich' and Ixlú or the early Eb complex at Tikal (Culbert 2003). Final assignment of complex and date for these materials will, however, have to await further analysis and comparison.

The first major peak in settlement in the MSJ area occurred during the Late Preclassic (300 BC-AD 300) period. Pottery pertaining to the Chicanel ceramic sphere constitutes a major component in ceramic assemblages from most of our research sites and several sites appear to have been sizable settlements by this time. Although the Late Preclassic settlement at Motul de San José has been difficult to delineate because of the overlying Late Classic architecture, it nonetheless appears that Motul first became a sizable settlement during the Late Preclassic. Chäkokot was first occupied during the Late Preclassic and most of the major constructions at Akte were first built in this period. Buenavista-Nuevo San José was, in contrast, only lightly occupied during the Late Preclassic. Probably the most significant Late Preclassic sequence comes from Trinidad which appears to have superseded Motul in size and importance during this period. During the Late Preclassic, Trinidad seems to have taken on much of its final form. All of the plazas tested in 2003 contained Late Preclassic construction episodes and most of the major Late Classic platforms at the site overly Late Preclassic constructions. The depth and complexity of Late Preclassic deposits at Trinidad will, in all likelihood, permit us to eventually

sub-divide the Late Preclassic into early and late facets.

The Early Classic (AD 300-600) period in the MSJ area is problematic in that very few Early Classic ceramics have been recovered during test excavations. Although Foias (Foias *et al.* 1999) encountered an Early Classic deposit in Complex D at Motul de San José, most of our Early Classic materials have come from mixed fill deposits dating to later periods and constitute a very minor portion of all ceramics recovered. The limited distribution of Early Classic pottery suggests that the MSJ area was largely abandoned during the Early Classic, Late Preclassic pottery continued to be produced during the Early Classic, or we have yet to identify the loci of Early Classic settlement. Interestingly, some of the best examples of Early Classic ceramics in the MSJ area have come from special contexts disturbed by modern construction or looting. During the recent construction of a language school facility near Trinidad de Nosotros, workers recovered several whole vessels pertaining to the Balanza Black and Dos Arroyos ceramic groups in presumably burial or cache contexts. Fragments of several large Aguila Orange basins were also recovered from a looted *chultun* at Wakutal in 2002.

The second major peak in settlement in the MSJ area occurred during the Late Classic period (AD 600-830). Most of the major architectural complexes at Motul de San José date to the Late Classic and it was during this period that the site expanded to its maximal extent which we estimate at approximately 4.18 km<sup>2</sup>. During the site's peak Late Classic occupation, it was probably one of the three principal sites in the Lake Petén Itzá area, comparable in size to Tayasal and slightly smaller than the site of Nixtun Ch'ich' (see Chase 1983; Rice *et al.* 1996). Comparable growth occurred at sites in the surrounding zone. Although Buenavista-Nuevo San José was only lightly occupied during the Late Classic, Chäkokot experienced its peak in occupation with most of the residential groups at the site being securely dated to this period. Of the secondary sites investigated to date, both experienced major construction episodes during the Late Classic period. At Akte, the Group A-B platform and causeway were both completed and the site's rulers may have erected several stelae. At Trinidad, the site took on its final form with many of the major architectural complexes, including the ballcourt, Plazas I-IV, and most of the major residences we have tested so far, being occupied. Trinidad's port facilities were also constructed at least as early as the Late Classic.

During the subsequent Terminal Classic (AD 830-950/1000) period, the MSJ area experienced a major decline in occupation and construction although neither the extent nor exact timing of this decline is currently well understood. Terminal Classic horizon markers, such as Fine Orange pottery, have some frequency in the MSJ area but appear to be largely confined to the principal sites of Motul de San José and Trinidad de Nosotros. Several of the major residential groups at Motul de San José, including Group D, continued to be occupied during the Terminal Classic and both of the Late Classic structures at Trinidad excavated in 2003 were modified during this period. In contrast, we have found comparably little evidence for Terminal Classic occupations at smaller tertiary sites.

The extent of the Postclassic occupation in the MSJ area is not currently well understood, although the area certainly had a modest occupation during the Early Postclassic period (ca. 950/1000-1250 AD). Early Postclassic period pottery and small constructions have been identified at all of our research sites, but are normally highly limited in number and distribution. Our best samples of Early Postclassic pottery come from the shores of Lake Petén Itzá at the site of Trinidad de Nosotros, which appears to have been a small village during the Early Postclassic. For the Late Postclassic period (*circa* 1250-1697 AD), we currently have little evidence of an occupation in the MSJ area. Although Trinidad may be the Contact period settlement of Xililchi visited by Martín de Ursúa after the conquest of the Itzaj capital of Noj Petén (Jones 1998: 17, 325), we have yet to identify materials or constructions securely dated to the Late Postclassic at Trinidad or elsewhere in the MSJ area.

#### CONCLUSIONS AND PROSPECTS FOR FUTURE RESEARCH

The Motul de San José Archaeological Project is in its early stages. Although the MSJ Project's principal goals will require a long-term commitment to regional investigations in the Motul de San José area, settlement and chronological studies to date constitute a critical first step. These studies have demonstrated a long history of occupation in the MSJ area, extending from as early as 600 BC to as late as 1250 AD, and identified some of the major centers of settlement within the Motul de San José hinterland. These studies have also highlighted some of the major factors affect-

ing long-term settlement strategies and patterns in site organization. The preliminary correlation between settlement and specific Itzaj Maya soil classes, for example, suggests the importance of soil quality in ancient Maya settlement planning and highlights the potential applicability of subsistence and land use models focusing on infield agriculture. The apparent patterning in the distribution of secondary and tertiary sites in the MSJ area, as well as the presence of large Type V residential groups at the centers of these sites, permits the formulation of some working models for how the Motul polity may have been integrated politically.

The second phase of MSJ Project research, scheduled to begin in 2005, will focus on testing these and other working hypotheses in the MSJ area. Field investigations will focus particularly on the secondary and tertiary centers identified during the last six field seasons. Investigations at Trinidad de Nosotros will focus on assessing the site's port function and how its operation may have been affected by the Late Classic development of Motul de San José as a political power. Research at Trinidad, Chäkokot, Buenavista, K'änte't' u'ul, Chähäkl'u'm, Ox Ool, and other secondary and tertiary sites will also focus on delineating patterns of craft production and consumption within the MSJ area. Comparison and assessment of results from these investigations will provide a broader outlook on the political and economic integration of the Motul de San José polity.

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