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INVESTIGATIONS IN MOUND 1 AT LA BLANCA, SOUTH COAST OF GUATEMALA

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The South Coast of Guatemala and Mexico is widely known as a key area in the development of complex societies in Mesoamerica. From the Early Preclassic chieftainships in Mazatan, Chiapas, to the polities of Tak'alik Ab'aj, Izapa and El Ujuxte, the settlements of the Preclassic period in the South Coast have always been recognized for being among the largest ones of Mesoamerica (Figure 1).

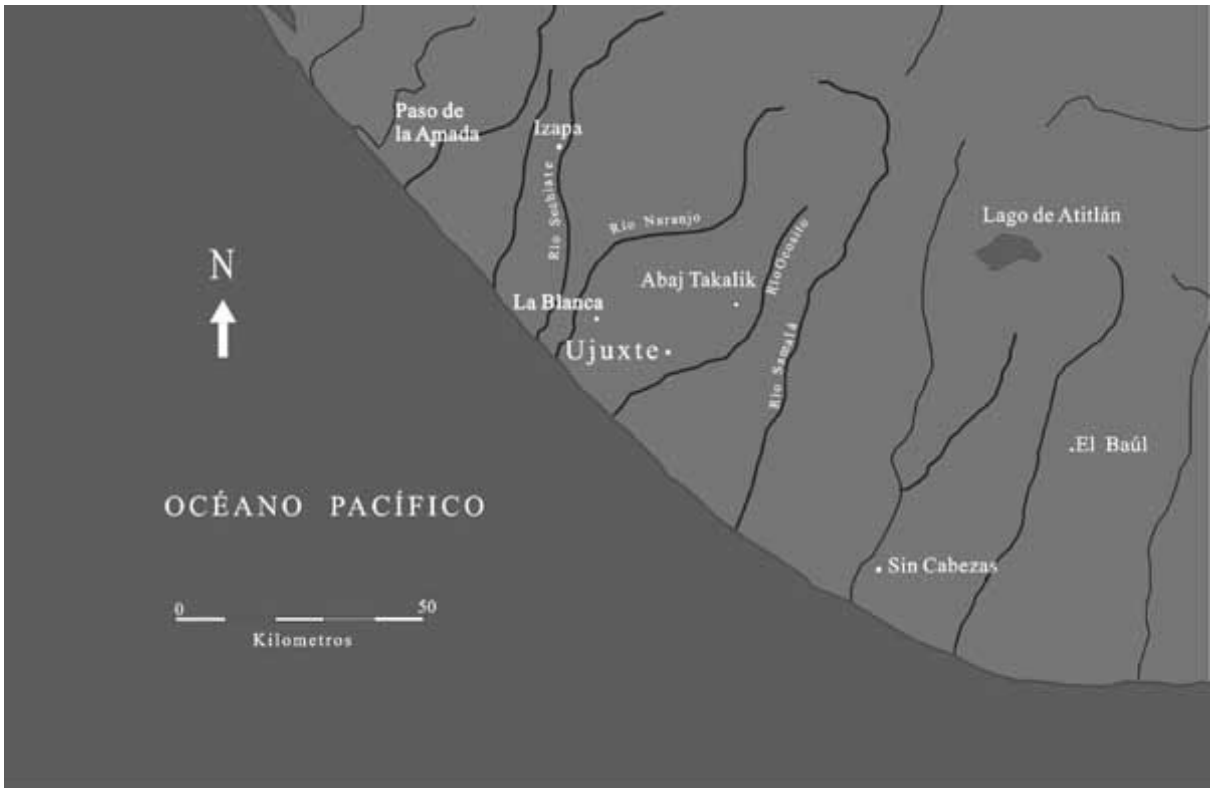

Figure 1. Archaeological sites of the west South Coast.

The development of complex societies in Preclassic times was approached in the form of a series of cycles characterized by periods of political integration alternated

with periods of decentralization (Love, Castillo and Balcárcel 1996; Love 2002a). These cycles exist within a general pattern that includes an increase in political centralization and populational growth. The dialectic relationship between integration and disintegration responds to several causes, one of them being the wish by the elites to consolidate their power and the resistance of other sectors of society against their aspirations. Likewise, natural factors such as events of droughts, as well as other demographic issues, also played an important role.

The Ujuxte Project, between 1993 and 2002, examined one of the political cycles of the west South Coast: the transition from the Middle Preclassic to the Late Preclassic period. The cycle began with the fall of La Blanca as a regional center around 600 BC, and reached its peak in the Late Preclassic period. Then, El Ujuxte turned into an early state and later on became one of the most powerful Late Preclassic polities. The data examined at El Ujuxte suggest that during the La Blanca/El Ujuxte transition, many social changes took place. Economy seemed to be more centralized, with control by the elite on the economic surplus and the exchange of long distance acquired goods. There were also ideological changes, made evident in the form of an almost complete interruption of domestic rituals and an increase in public rituals. At El Ujuxte, the vestiges of public rituals appear as a series of offerings in the central plaza, suggesting that changes in ideology as such, did in fact take place. In other words, during the Late Preclassic period, rituals were focused on the figure of the king, who was perceived like the *Axis Mundi*, and as such, was the one to preserve cosmological order.

The Ujuxte Project was intended to examine the differences between La Blanca and El Ujuxte, in an attempt to identify in what way the elite at that time managed to increase its power and to establish the institutions that were to guarantee the existence of social inequality. Initially, two proposals were presented, one of them related to economy, the other one related to ideology. Comparing the two sites is not an easy thing to do at this time, because the sample of El Ujuxte is much larger than that of La Blanca. While El Ujuxte includes samples from 16 residencies and two public areas, La Blanca has only provided information on three residencies, and there is no information available regarding public areas. Presently, it is uncertain whether the sample of La Blanca is in fact representative of all the residencies, or whether it should be attributed to a restricted social group.

As to economy, it would seem that the production and distribution systems of El Ujuxte were more centralized than those of La Blanca. However, it is probable that the sample was mainly originated in elite households, and this is the reason why for the moment we are not prepared to accurately establish the economic relationship between elite and non-elite sectors.

In regard to the ideological aspects of El Ujuxte, we have evidence of public rituals which have provided information on the nature of the *Ahau* institution in the Preclassic period, but we have assumed, for the time being, that such rites were inexistent at La Blanca. In fact, there is no evidence to support the fact that those rites ever took place at this site, as public areas at La Blanca were not systematically investigated until the work presented here was initiated.

LA BLANCA AND THE OLMEC PHENOMENON

The Olmec phenomenon is almost universally recognized as an important part of the development of complex society in Mesoamerica. However, there is abundant controversy on the nature of complexity at different times and on the relationships between different Mesoamerican areas where Olmec-style materials occur. The Pacific Coast is a key region to understand the Olmec manifestation outside the Mexican Gulf and also to evaluate the rival theories about the Olmec styles and their meaning. During the initial phase of this phenomenon -1200 to 900 BC-, the most politically complex settlements and the largest ones were located in the Pacific Coast of Chiapas, Mexico. However, the situation changed around 900 BC, when the political and demographic center shifted to the Guatemalan Coast.

During the Middle Formative period (900-600 BC), Tak'alik Ab'aj and La Blanca were the most important sites in the Pacific Coast linked to the Olmec phenomenon (Figure 1). Tak'alik Ab'aj is located at the piedmont, while La Blanca lies in the coastal plain, only 10 km away from the sea. In the Pacific coast of Guatemala, the presence of two large sites associated with the Olmecs and only 35 km apart one from the other, suggests a dynamic change between this region and the Mexican Gulf. Despite the Mexican Gulf was perhaps dominant during the Early Formative, by the Middle Formative the South Coastal region equaled the Gulf centers in economic power and levels of social complexity.

Among the Olmec centers in the South Coast of Guatemala, La Blanca is the one that offers the best evidence to understand the cultural and social factors involved in the Olmec phenomenon of the Middle Formative period. Although Tak'alik Ab'aj possesses an amazing *corpus* of Olmec sculptures from the Middle Formative, it has been difficult to find other Middle Preclassic materials. In contrast, La Blanca has visible and accessible residential and ceremonial constructions with Middle Formative surface materials. In addition, a regional reconnaissance has documented over 50 settlements contemporary to the Middle Formative of La Blanca. Thus, the possibility exists to reconstruct the regional settlement system for La Blanca, something that is not possible in the region of Tak'alik Ab'aj.

INVESTIGATIONS AT LA BLANCA

The first investigation at La Blanca took place in 1972, when a paved road was built from highway CA-9 to the coastal town of Tilapa. At that time, Edwin Shook conducted rescue operations, and the Institute of Anthropology and History of Guatemala (IDAEH) simultaneously put together a rescue project under the direction of Lic. Guillermo Folgar. None of the two projects was published. As a consequence of the road construction works, Mound 1 was almost completely leveled (Figure 2). Originally, this mound was 25 m high, with a base of 100 x 150 m. Love conducted research at La Blanca from 1983 to 1985. This work revealed that La Blanca was one of the largest settlements in the entire Mesoamerican territory during the Middle Formative period, and that it was a key site in the cultural and trade interaction network of the Middle Preclassic Olmec people (Love 1990, 1991, 1999, 2002).

Figure 2. La Blanca, Mound 1 in 1972 (Photo by Edwin M. Shook).

The new archaeological project at La Blanca represents one part of the La Blanca/Ujuxte Project (PROBLALUX), a multidisciplinary endeavor with researchers of different academic institutions. The purpose of the project is to understand the role played by La Blanca and El Ujuxte in the development of complex society in Mesoamerica, and in what way they were related with other sites of the Olmec world. It is also intended to examine how the Olmec style was used in the Pacific Coast of Guatemala, particularly the relationship between ritual and ideology with the power of the elites. In addition, the project aims at understanding the material base of elite power through the study of the organization of household economy. The project at La Blanca consists of three subprojects:

- The subproject of household excavations is intended to understand domestic variety, the economic grounds of inequality, and the use of Olmec-style articles in domestic rituals.

- The subproject of the ceremonial center, which is conducting excavations in Mound 1, one of the most ancient monumental constructions in Mesoamerica. The purpose of the excavations at the ceremonial center is to establish the construction sequence of Mound 1, to locate offerings and other types of evidence of ceremonial activity around the temple, and to investigate other evidence of rituals at the public areas of the site.

- The Late Classic subproject. La Blanca had a Late Classic occupation. This occupation has received no attention so far. Shook reported that north of the

site there was evidence of the manufacture of plumbate ceramics. In turn, Hector Neff conducted a reconnaissance in this area to more accurately locate the factory. Also, survey works were carried out with a cesium magnetometer to locate hearths associated with the plumbate factory.

Figure 3 shows those areas of the site where operations were conducted during the 2003 and 2004 seasons. The new project for La Blanca was initiated with an eight-week long field season during the months of July and August. The goals of the field season were three:

- The preparation of new maps for Mound 1 and Mound 3. While there was a map of Mound 1, the map of Mound 3 could not be correctly drawn due to the uncooperative disposition of the land owner. The significance of the relationship between Mound 1 and Mound 3 was made clear when it was discovered that they resemble the mounds of El Ujuxte and that they may have an astronomical meaning.

- To conduct a survey of Mound 1 using geophysical methods. The use of a cesium magnetometer and the analysis of electric conductivity was a major component of our efforts in 2003 (Figure 4). We were hoping that the survey would locate the wall remains of Mound 1, and indicate the possible presence of boulders and/or offerings at the core of the mound.

- To investigate the anomalies detected through the survey and to establish the sequence of the mound's construction through exploratory excavations.

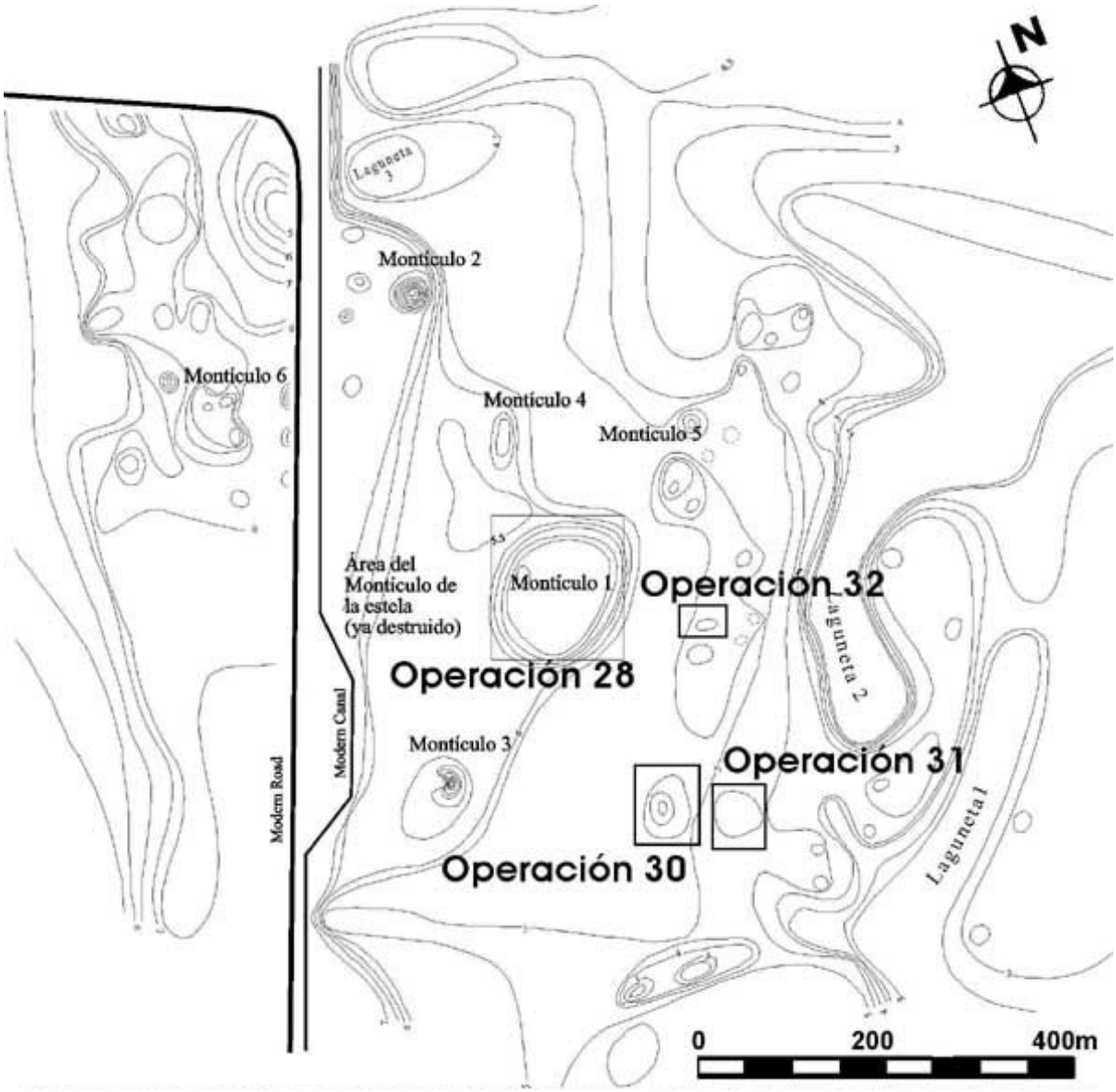

Figure 3. Location of main operations at La Blanca during the 2003-2004 season.

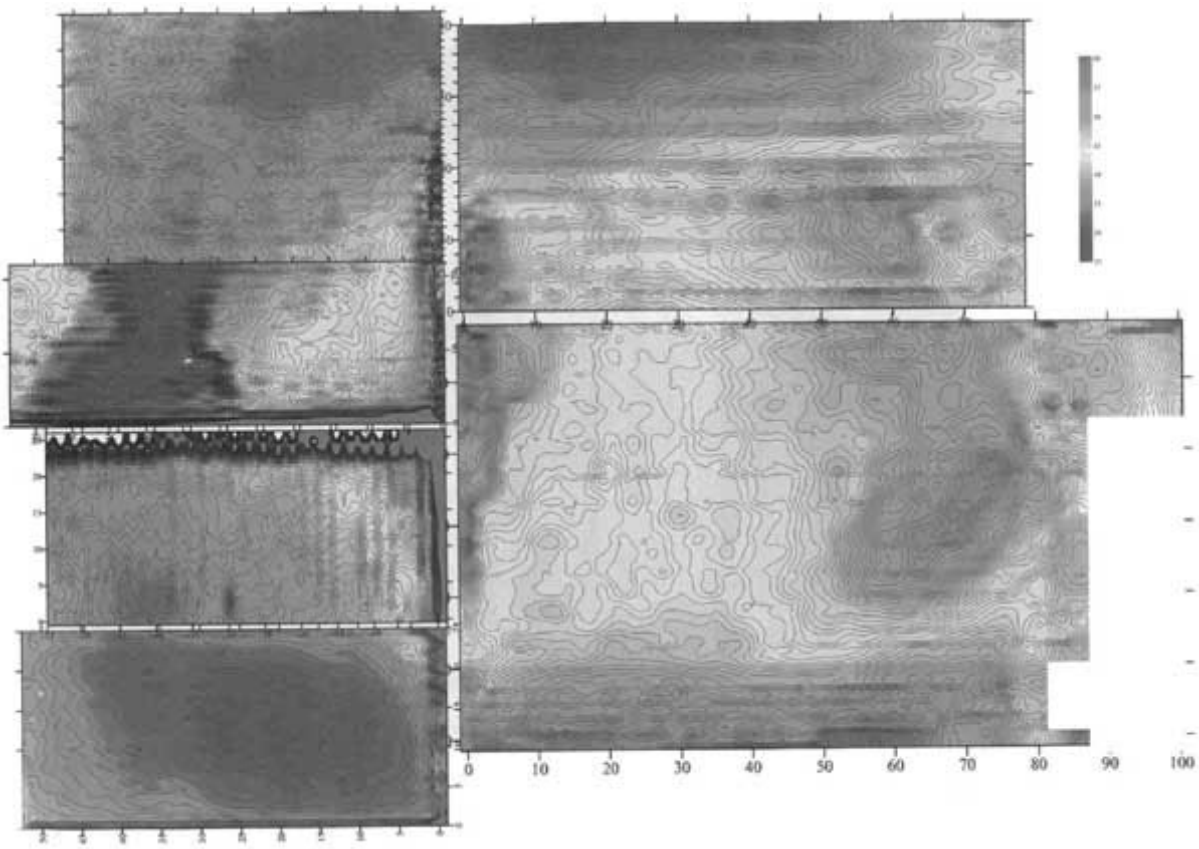

Figure 4. Conductivity in Mound 1.

TOPOGRAPHIC SURVEY

The survey data were collected using a theodolite and a stadia rod. The damage suffered by both structures in 1972 and 1973 cast a shadow on the relationship between Mound 1 and Mound 3. Mound 1 was almost completely destroyed, reduced from a height of 25 m to an elevation of approximately 2.5 m above the modern surface. Mound 3 was razed by construction machinery. Local inhabitants report that approximately 2 m were removed from the upper portion of Mound 3, and there is a visible trench on its west side. Despite the damage suffered by the mounds, they seem to present the same alignment of around 22º east of the magnetic north. The long mound at north of Mound 1 shows a similar alignment. The possible meaning of the astronomic alignment remains so far unknown.

SURVEY WITH THE USE OF GEOPHYSICAL METHODS

The survey of Mound 1 using geophysical methods was accomplished under the direction of Brian Damiata and John Steinberg, of the University of California at Los Angeles (UCLA). Instrument EM-31 was used, mainly, a device that monitors the apparent electric conductivity of the soil. A gradiometer was also used, an instrument integrated by two cesium magnetometers; however, this instrument was of no use. For this reason, the discussion that follows is focused only on the results of the electrical conductivity tests.

When approaching the mound, one may see that conductivity drops when moving from north to south. In general, the mound is less conductive than the surrounding environment, but the variety within the mound is higher than the surrounding areas. The conductivity drops again at the south of the mound, but it remains high and with less variation than that featured by the mound itself.

The edge of the ancient mound was clearly detected with the conductivity test, and we were able to distinguish the construction refill with the eroded matter of the mound's edge. Besides these indications, it is unclear whether the data are showing the presence of inner walls, construction events, or traits at the core of the mound.

TEST EXCAVATION AT MOUND 1

For a better understanding of the data collected through conductivity studies, a test excavation program was initiated. At the beginning, five units were placed on the mound (Operation 28, Sub-operations 1-5). Sub-operation 28-1 was expanded to 6 m when additional units were placed at east. Initially, the test excavation program was focused on finding out what was the nature of the construction, as of the electric records; in other words, we wanted to determine what type of soil corresponded to the high conductivity records, and which ones corresponded to the low conductivity records. For this reason, we devoted time to investigate anomalies in the records, that is to say, places with dramatic change in conductivity. Figure 5 shows the details of the eastern side of the mound, showing one of the anomalies indicated. The area in black represents conductivity higher than 55 ms/m, and the gray color, 35 ms/m. Inside of the mound five areas with anomalies were identified, so that five test units were placed in the corresponding locations.

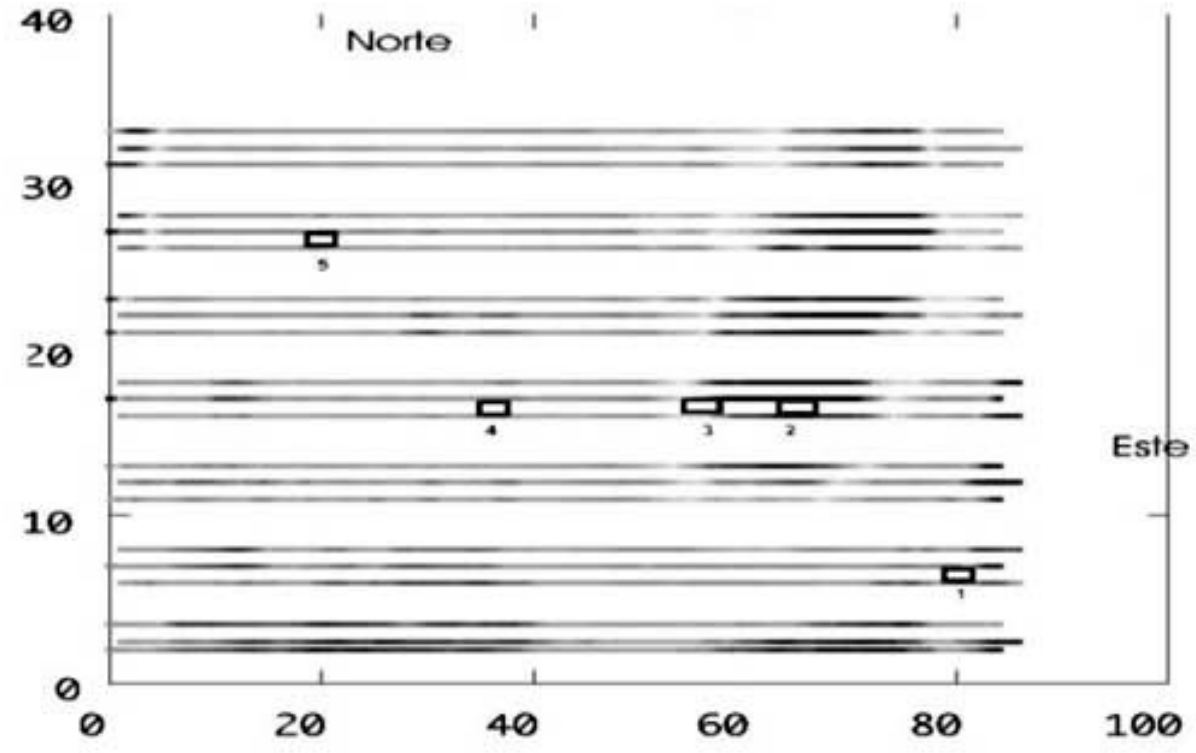

Figure 5. Detail of conductivity in the east side of Mound 1 and localization of test units.

Trench East 1 (Operation 28 Sub-operations 1, 6, 10)

At the end of line 6 of the conductivity study, Trench 1 East was placed on the eastern edge of the mound. It revealed an elevated, different and unexpected anomaly in a low conductivity area (Figure 6) at the end of lines 6 and 7 of the conductivity test. According to this, we suggested that this was an area where dirt had been removed by heavy machinery during the destruction of the mound in 1972, and that it possibly contained metal. A pit was excavated to prove this hypothesis, hoping to establish the eastern end of the mound construction.

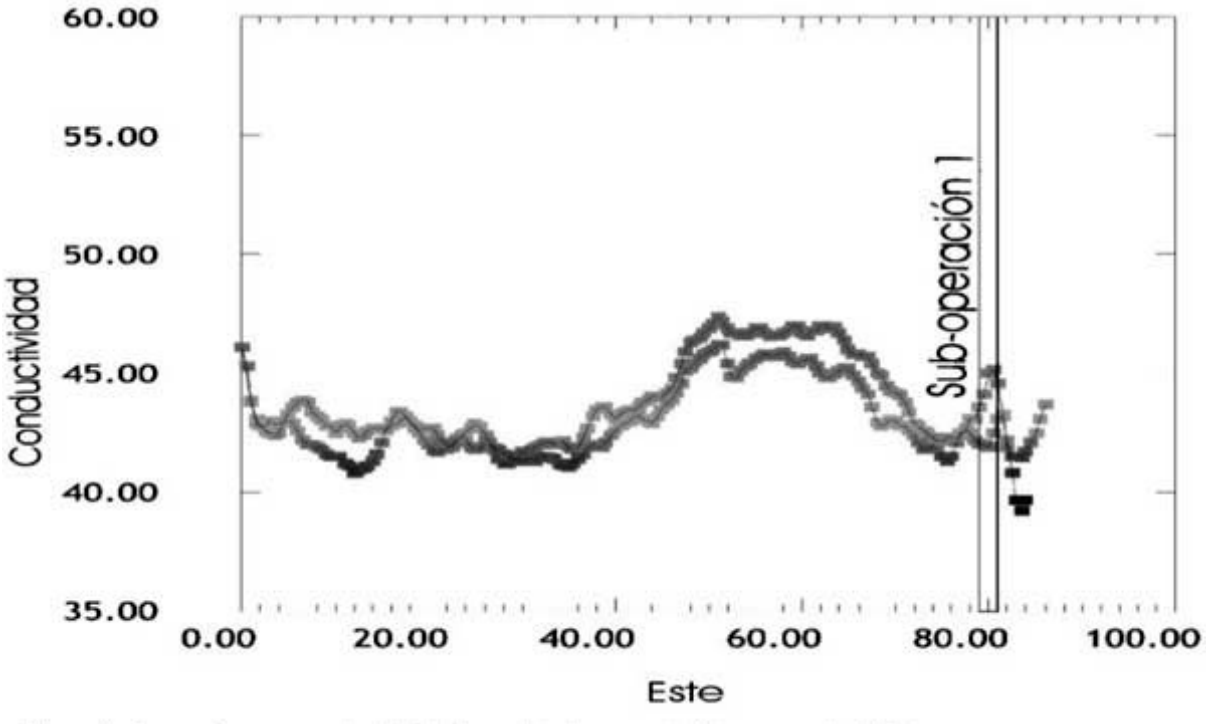

Figure 6. Anomalies in conductivity investigated through Sub-operation 28-1.

The stratigraphic profile of Trench 1 East suggests that:

- Stratum A is the humus that contains several roots and other organic materials. Like we have already mentioned, most of it consists of sandy loam, rich in organic matter.

- Stratum B consists of a finer, sandy, and non-compact loam. The nature of the layer suggests it was eroded from the surface of the mound.

- Stratum C is a dark brown loam, and again, unconsolidated. Stratum C contains several inclusions and stains possibly derived from recent activities. The stains of iron oxide are most significant. No doubt these stains caused the high conductivity noticed in the inspection of conductivity. Therefore, Stratum C is a historical one and it possibly represents material deposited when the mound was destroyed by heavy machinery in 1972. Below Stratum C there is a thick layer of light brown loam. Mud is characteristic of the site and was found in all domestic areas excavated in 1972. The stratum begins to turn heavier with depth, and it shows a high degree of clay, something also typical of domestic areas and probably caused by the distribution of water.

- Surprisingly, Stratum D contrasts with the refill material located at the center of Mound 1, and for sure it does not represent its earliest phase of construction. It resembles the final prehistoric levels located on the south face of Mound 1. Therefore, this may represent the final phase of the prehistoric construction of Mound 1.

Operation 28, Sub-operations 2, 3, and 4

Intensive research on lines 16 and 17 of the geophysics survey was conducted, as they seemed to represent a simpler example of the basic pattern of the area (Figure 7). The elevated records were examined in Sub-operation 28-2, hoping to identify the eastern end of the prehistoric construction. In Sub-operation 28-3 we examined the dramatic descent of the west side, in an attempt to identify the west end of the presumed wall. Sub-operation 28-4 was conducted to examine a low point which in our view was typical of the central part of the mound.

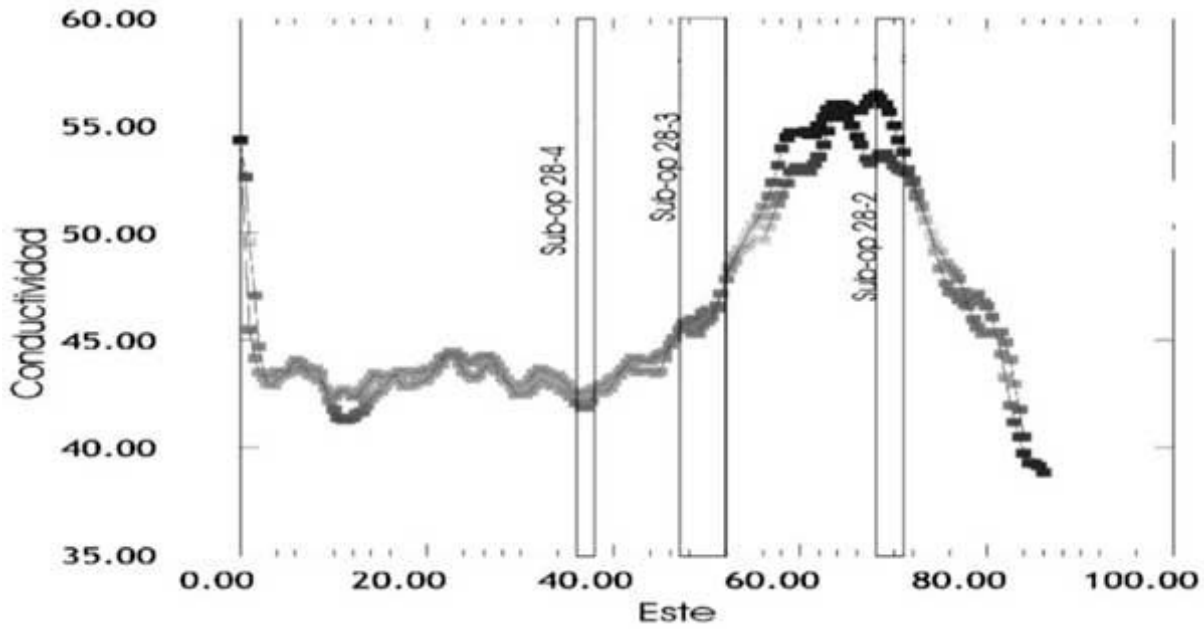

Figure 7. Anomalies in conductivity investigated in Sub-operation 28.1.

The stratigraphic profile of Sub-operation 28-2 shows a number of slanting strata composed of marl, sand, and packed clay. The outer wall of the structure, which apparently is located only 1 o 2 m to the east, was not found. Most strata of Sub-operation 28-2 consist of marl with inclusions of clay and mud. The layers do not show the laminar lenticles present in the test units placed farther west of lines 16 and 17. For this reason, we suspect that the deposits found through Sub-operation 28-2 may represent the temple mound expansion built after the first phase of construction. Due to time restraints in the field, it was not possible to expand the unit farther west to test this interpretation.

At a depth of approximately 3.50 m at the bottom of the construction layers, a floor was discovered. The floor consists of heavily packed clay and may represent a surface specially prepared to support the structure, or either the original floor of the plaza that was buried with the expansion of Mound 1. Time did not allow for additional excavations to solve this question.

In the stratigraphic profile of Sub-operation 28-3, all levels under the humus layer are well packed and clearly represent the construction refill. Many strata tilt from north to

south. These strata are not the outer walls of the structure, but instead, they could represent the inner walls built to retain the refill. The pit was not excavated down to the sterile soil, considering that the information collected was redundant with that of sub-operations 28-4 and 28-5.

The stratigraphy of Sub-operation 4 is very similar to that of Sub-operation 28-3. The major difference lies in the direction of the slant in the stratum. In Sub-operation 28-4, the stratum is tilted inward, towards the center of the mound, from southeast to northwest. It would seem that this incline supports the idea that the mound in fact has inner walls built internally to establish the structure. Sub-operation 28-4 was not excavated down to the sterile soil, but the drill revealed that the water table was approximately 50 cm below the point where excavations were interrupted.

Sub-operation 5 was put in place to investigate the most dramatic slant at the center of the mound (Figure 8). We thought that the higher portion located west of the line was a trait at the core of the mound. Sub-operation 28-5 was excavated down to a depth of 5.60 m below the datum of the unit. We reached the water table, without finding sterile soil; however, the amount of underwater material was scarce.

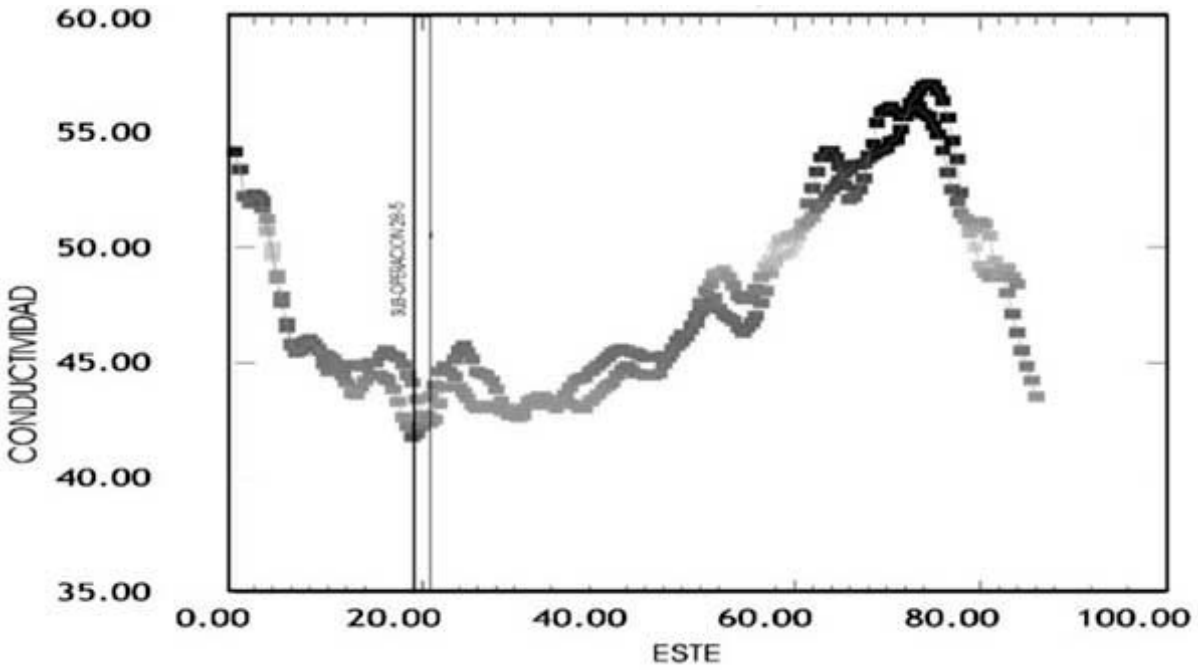

Figure 8. Anomalies in conductivity investigated in Sub-operation 28-5.

The unit's profile shows a large number of thin refill layers consisting of marl, sand and clay. All the lenticles were well packed. The refill was apparently stuffed with a great effort for consolidation and for enhancing the integrity of the structure. Despite the large number of individual layers, it seems that all represent one single construction event. The lower levels are the most important ones. The bore showed that under the phreatic level there was sand and then plastic clay, sterile the both of them. According to the stratigraphic sequence found in 1985, this stratum was expected to be found. However, what is missing is a layer of ancient buried humus, like the one found in 1985. The buried humus is a level of organic matter found in

Operations 25, 26, and 27. It is distributed throughout the site and can be found everywhere. The fact of finding buried humus suggests that it was probably removed by the ancient builders of the mound. This means that the construction surface was prepared for the complete removal of what at that time was humus, not stable for construction, until the stable mud surface was reached.

THE SOUTH TRENCHES

In order to test the conductivity data and to search for walls, stairways and other construction traits, two trenches were excavated at the south edge of Mound 1, in addition to the test pits.

Trench 1 South had measures of 2 x 10 m, and was excavated at the south end of the upper portion of Mound 1. Initially, a series of five units measuring 2 x 2 m were put in place; to begin with the exposure, three units (sub-operations 28-7, 28-8, and 28-9) were excavated, leaving unexcavated areas in-between for stratigraphic monitoring. The last two units were excavated to their full exposure, once we were sure that construction traits would be found there.

In the stratigraphic profile of Trench 1 South, Stratum A is a humus layer composed of sandy marl rich in organic material. Stratum B is marl and packed mud, and contains several historic artifacts. Stratum B is an intruder pit excavated shortly after the destruction of Mound 1 in 1973. Stratum C is a light brown sandy mud with a low plasticity when wet. Stratum D is brown marl. Stratum D is somewhat plastic when wet. Stratum E is a sandy light brown loam, not plastic when wet. Stratum F is a thin layer of dark brown marl which contains a moderate amount of clay. Stratum G consists of light brown sandy marl and is indistinguishable from Stratum E. Stratum H is a heavily packed dark brown layer mostly composed of clay. Stratum I consists of compact lenses of mud, clay and sand, similar to those of Sub-operation 28-5.

After the discovery of the outer wall of Phase 1, a second trench was put in place 10 m east of Trench 1 South. The trench measured 2 x 4 m and the profile **XXX (?)** The purpose of this trench consisted in discovering another section of the wall so that the temple orientation could be established. Trench 2 South was excavated only to the outer wall of Phase 1. Once the wall was exposed, the excavations at that unit were stopped. The trench showed no walls in association with subsequent construction phases.

CONSTRUCTION SEQUENCE OF MOUND 1

To fully reconstruct the complex history of the construction and destruction of Mound 1 at La Blanca, it is necessary to conduct more extensive excavations than those carried out in 2003. However, the excavations in 2003 established the general outline of its history. The first step in the construction of Mound 1 was the preparation of the site for construction. The existing humus layer was removed, and a solid clay base was built on the upper level. Earth was compacted as a basic construction technique, and the primary construction mortar was laid using this

method. The evidence of sub-operations 28-3 and 28-4 suggests that the inner division was placed with sloping walls or earth rings that consisted of small amounts of earth, clay and sand, deposited and packed.

The façade of the first construction, from now on called Phase 1, corresponds to Stratum H with the dark brown packed mud of the South Trenches. Phase 1 is well preserved and we were able to find the construction in the south end of Trench 1 South. Phase 2 is represented by Strata F and G of Trench 1 South. Stratum G is the refill used to expand Mound 1, while Stratum F consists of the eroded façade, seen in particular on the eastern wall of Trench 1 South. Phase 3 is observed in Strata D and E. Stratum E is the construction refill, and Stratum D is an eroded surface. Stratum C probably represents Phase 4, but its character could not be fully established as a consequence of the limited exposure of our trench.

Among the four construction phases documented in the excavations of Trench 1 South, Phase 1 is the best preserved one. The outer wall of Phase 1 is in good condition, and it will be possible to find the base of the mound and the floor of the associated plaza. As revealed by Trench 2 South, the wall of Phase 1 is also well preserved in other portions of the mound, and with a wider excavation, we will succeed in having the entire façade exposed. Phases 2-4 are not well preserved. These construction phases used a less compact refill, and for the outer walls, sandy loam was used instead of mud.

DATING OF THE CONSTRUCTION OF MOUND 1

The discussions in regard to the final dating of the construction sequence of Mound 1 will be defined at a later time, as the analysis of the excavation materials of 2003 has not yet been completed. However, we are in a position to offer several preliminary observations on Mound 1.

It is clear that all the construction events correspond to the Conchas phase (ca. 900-600 BC, uncalibrated). There is a small amount of Early Preclassic ceramics (with a predominance of the Locona and Ocos phases) in almost all units excavated, but none of them showed materials beyond the Conchas phase, except for some historic material found in the intruder pits at the South Trenches.

Table 1 shows the ceramic beads –rims only- from Sub-operation 28-5. This excavation, located at the mound's center, may be used to date the earliest phase of construction. Despite that we do not have all the ciphered data included in the information of the forms of vessels and their decoration, these beads provide interesting chronological insights. Like a prelude to the discussion, it should be noted that there are very few diagnostic characteristics of sub-phase Conchas A in this assemblage. Then, it was stipulated that the construction took place not before the beginning of sub-phase Conchas B. There neither is diagnostic ceramics of sub-phase Conchas D in Sub-operation 28.5. Then, the date of the first construction should probably be restricted to Conchas B or Conchas C.

At the mound center there are ceramic that in other contexts were considered as diagnostic of sub-phase Conchas C. The domestic excavations reported by Love (2002) showed an absence of the types Melendrez Red on White and Margarita Red on Fine White in contexts earlier than Conchas C. As noted at that time, the absence of one particular type does not necessarily reflect the absence of that population. According to the small samples recovered in the excavations of 1985, maybe it is not valid to infer that these objects were really absent during Conchas B. The ceramic sample of phase Conchas recovered in the excavations of 2003 is much larger than that of 1985, and may provide a different image of sub-phase Conchas B. With the low amount of diagnostic materials of Conchas C, the possibility that the first construction phase corresponded in fact to sub-phase Conchas B cannot be ruled out.

The data regarding the forms of vessels and their decorations will be crucial, but that information is not available at this time. We have seen decorative motifs presumably diagnostic of Conchas C, but these were rare. On the other hand, there were no examples of bowls with a composite silhouette, which are also diagnostic of Conchas C.

To conclude, evidence suggests that the first construction phase of Mound 1 took place during sub-phases Conchas B or Conchas C. The presence of several characteristics of Conchas C and the absence of others may suggest that the construction was executed sometime late in Conchas B or early in Conchas C. The radio carbon dates available for both Conchas B and Conchas C show an average of 935 BC to 810 BC, uncalibrated (Love 2002). Thus, it is possible that Mound 1 was built sometime prior to 800 BC, although a later date like 700 BC cannot be ruled out because of the variation errors that radiocarbon dating entails. The first construction phase was massive, and during its course, the primary volume of the mound was built. The subsequent enlargements were minor, compared to the original construction.

ACKNOWLEDGEMENTS

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TABLE 1

FREQUENCY OF CERAMIC VESSELS IN SUB-OPERATION 28-5 (RIMS ONLY)

Level 1	Melén-drez White	Meléndrez Black	Meléndrez Red on White	Ramírez White	Cuca	Álamo	Pérez	Ocós Specular Red	Margarita	Other /Eroded	Total
1	38	29	2		3	1				22	95
2	13	9	1		2	2			1	1	29
3	12	12	1		2	6					33
4	9	6			4					4	23
5	6	5	1		1	1			1		15
6	7	12	1		2	3					25
7	14	11			1	1					27
8	22	12	2	1	1	3	1	1		2	45
9	19	12	2		4	2				1	40
10	21	26	1			6		1			55
11	15	16			1						32
12	46	36	5		1	1					89
13	34	48	1	1	3	4	1	1	1	14	108
14	38	28			2	2		1		11	82
15	21	28				2		1		4	56
16	31	55	2	1	4	16	1		3	1	114
17	54	40	1		5	8	1	1	1	11	122
18	4	6	1		1	7				1	20
19	30	40	12	1	4	7				9	103
20	9	9			4				1	13	36
21	2	4			1						7
22	3	8				2				1	14
Totals	**448**	**452**	**33**	**4**	**46**	**74**	**4**	**6**	**8**	**95**	**1170**