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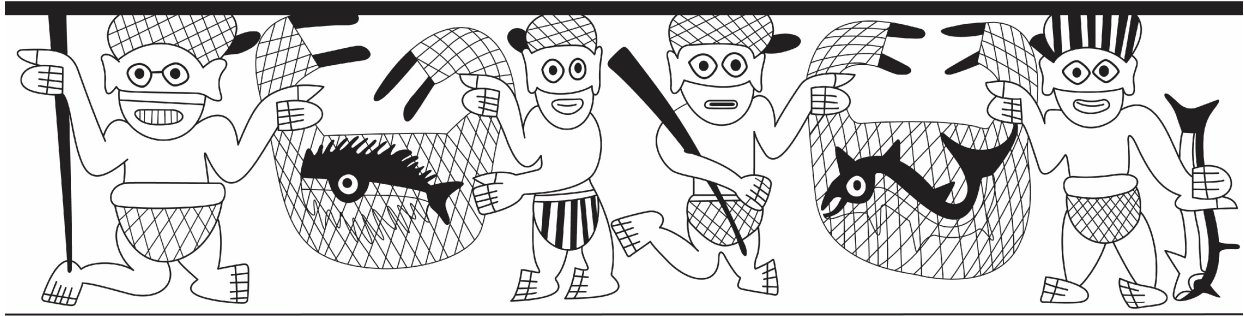
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ANDEAN PAST MONOGRAPH 3

PREHISTORY OF THE ICA-NAZCA LITTORAL, PERU

by **PATRICK H. CARMICHAEL**
late of Mount Royal University

2020



with a contribution by

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Cover photo: Desert landscape with the site of Carhua and the research vehicle in the foreground.
Title page design: after Lapiner 1976: figure 512.



*Dedicated to the memory of Alana Cordy-Collins (5 June 1944–16 August 2015)
archaeologist, scholar, friend
(photograph courtesy of Christopher B. Donnan)*



*Patrick H. Carmichael (23 November 1952–12 March 2020)
at El Arenal, Peru, 4 November 1989
(photograph courtesy of Elizabeth A. Carmichael)*

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EDITOR'S PREFACE

It is my honor to present the third in the *Andean Past* series of monographs, Patrick H. Carmichael's *Prehistory of the Ica-Nazca Littoral, Peru*. It reports the results of a survey he conducted in 1989 and 1990. At this time, GPS was just beginning to become available to civilians, and Google Earth did not yet exist. Most archaeological reconnaissance was done on foot, as was Carmichael's, and sites were located in reference to printed maps or aerial photos, usually taken from airplanes, not by satellites. It was not uncommon to rely on hand-held surveying instruments such as Brunton compasses, or on plane table mapping. Nevertheless, accurate and useful work can be done with these tools, and we have an example with this volume. It has, however, been augmented and updated with Google Earth images. Comparison of these with the Peruvian Instituto Geográfico Militar maps available in the 1980s is enlightening, and helps us interpret older archaeological work.

Before we could publish *Prehistory of the Ica-Nazca Littoral Peru*, we received word of the death of its author on 12 March 2020. For over thirty-five years, I counted Patrick Carmichael among my best colleagues and friends. He was always generous, yet was also a rigorous, dedicated, and creative scholar. I looked forward to seeing him at academic meetings, and value the time we spent together in Lima, in between his stints on Peru's South Coast, conducting the survey reported here.

In those days the Peruvian postal system was not reliable, and email had not yet emerged as a viable medium. He would often search out trustworthy people who were *en route* to North America and who could mail a letter from there to his beloved wife, Elizabeth. After retirement, Elizabeth learned computer graphics, so that she could assist Patrick with his publications. Some

of the results of her beautiful work are presented here. We extend our deepest sympathy to her on the loss of her husband. Although Patrick dedicated this monograph to the memory of his valued colleague, Alana Cordy-Collins, we hope that it will also serve as a fitting memorial to Patrick.

This monograph includes a report by Cordy-Collins on a visit she made to Carhua, one of the sites in Carmichael's survey. Carhua is said to have produced intriguing painted textiles in Chavín style. Cordy-Collins wrote her doctoral dissertation on their rich iconography (Cordy-Collins 1976). These textiles have often been cited as evidence for a territorially extensive Chavín horizon or interaction sphere. For reasons she explains in her report, Cordy-Collins doubted that the textiles were, in fact, recovered from Carhua.

As part of this monograph we are re-publishing Patrick H. Carmichael's article, "Local Traditions on the South Coast of Peru during the Early Intermediate Period", previously published in *Willay*, a now-defunct newsletter of Andean Research edited by Izumi and Melody Shimada (Carmichael 1992a: 4–6). Because *Willay* is available in very few libraries, and because of its relevance to the main body of this monograph, we are making an exception to our policy against republishing work in its original language and are including it here. The author wished to emphasize the early date at which he argued that all of the places in which Nasca pottery is found were not necessarily parts of a unified polity or culture. We thank Izumi Shimada for his kind permission for this republication.

This is Patrick Carmichael's third contribution to the *Andean Past* publications. In Volume

4 (1994) he published his oft-cited article, “The Life from Death Continuum in Nasca Imagery”. *Andean Past* 11 (2013) includes his “Regionalism in Nasca Style History”, a paper that touches on themes first set out in his *Willay* article.

For reasons beyond Carmichael’s control, his survey could not be published until now. Although we love to make new research available, the presentation of old work is also an *Andean Past* speciality. *Andean Past Monograph* 2, also published this year, is Carol J. Mackey’s and Andrew J. Nelson’s *Life, Death, and Burial Practices during the Inca Occupation of Farfán on Peru’s North Coast*. Mackey’s contribution is based upon excavations she directed from 1999 until 2004 and upon laboratory analysis conducted thereafter.

Our monographs are book-length publications. Within the pages of our journal, *Andean Past*, can be found now-classic shorter reports on work conducted a considerable time before publication. Among these are Richard E. Daggett’s reconstructions from newspaper reports of Julio C. Tello’s otherwise unpublished excavations. These include Cerro Blanco and Punkurí in Peru’s Nepeña Valley (*Andean Past* 1, 1987). Later, Víctor Falcon Huayta made further progress in rescuing Tello’s work at Punkurí by locating, in the stores of the Museo Nacional de Arqueología, Antropología e Historia del Perú, a shell trumpet found at the site. In *Andean Past* 9 (2009) Falcon reconstructs the excavation sequence of the dedicatory burial that included the trumpet. In *Andean Past* 4 (1994), in conjunction with an article by Daggett on the curation and study of the Paracas mummies found at the Great Necropolis of Wari Kayan, we republished, in English translation, Rebeca Carrión Cachot de Girard’s “Scientific Notes on Paracas Mummy Bundle No. 294”, that first appeared in Peru’s *El Comercio* newspaper (1956).

We are proud to announce that a new book-length work on Tello by Daggett has been accepted as *Andean Past Monograph* 4. This is entitled *Julio C. Tello and the Institute of Andean Research: 1936–1943*. It explores Tello’s pivotal role in the foundation of this association of prestigious Andean archaeologists, and reveals its activities during the late 1930s and early 1940s. As with his other works on Tello and his circle, Daggett relies on both academic articles and newspaper accounts. In *AP Monograph* 4 Daggett presents the results of his impressive research in several archives, drawing upon correspondence, to chronicle a day-by-day account of Tello and the IAR. As a newly elected member of the IAR, I find Daggett’s history of its early days to be compelling and revelatory of the deep history of this organization. It will expand upon Gordon R. Willey’s recollections of his work in Peru during 1941 and 1942, sponsored by the IAR, that we published in *Andean Past* 9. Daggett has contextualized these with an introduction.

To continue with this brief account of *Andean Past*’s publication of vintage fieldwork, in *Andean Past* 2 (1989) Thomas F. Lynch elaborated on excavations he had made at Chobshi Cave, in Ecuador, during 1972. In *Andean Past* 3 (1992) Michael E. Moseley re-evaluated his Maritime Hypothesis twenty-five years after he first proposed it.

Andean Past 5 (1998) includes the late Dwight T. Wallace’s analysis of his plan of the citadel of La Centinela in Peru’s Chincha Valley, based on fieldwork he did in 1957–1958. An obituary of Wallace by Daniel H. Sandweiss will be published in a future issue of our journal. Also in *AP* 5, Sergio J. Chávez describes ancient and modern corbel-vaulted sod structures that he had been observing during fieldwork he conducted with his late wife, Karen Mohr Chávez, beginning in 1968. In the same volume, we were also able to publish archaeomagnetic dates on

material from thirty-seven sites in northern and central Peru falling between A.D. 500 and 1500, that the late Daniel Wolfman had collected with Richard E. Dodson in 1982 and 1983.

In *Andean Past* 8 (2007) we published a report by the late Frances (Fritz) A. Riddell on fieldwork he did with Dorothy Menzel at the Inca site of Quebrada de la Vaca, Chala, Peru, in 1954. Also in *Andean Past* 8, Ellen F. Steinberg and Jack H. Prost analyzed the 1884 archaeological work done at Ancón, Peru by archaeologist Knut Hjalmar Stolpe, who was collecting objects for the Etnografiska Museet in Stockholm. Stolpe never reported his Peruvian work in any scientific journal, but he did publish news accounts and worked with photographers. Transcriptions of his reports are incorporated into their article.

In addition to the article by Falcon mentioned above, *Andean Past* 9 included recollections by Gordon R. Willey of his work in Peru during 1941 and 1942, sponsored by the Institute of Andean Research. Richard E. Daggett contextualized these with an introduction.

Andean Past 10 (2012) contains a research report I authored with Catherine Gaither, Robert A. Benfer, Jr., and the late Daniel E. Shea on a colonial human burial excavated by Shea in 1965 when he was a member of John Victor Murra's "A Study of Provincial Inca Life" project centered on Huánuco Pampa. Although I hesitated to say so then, comparison with similar Inca burials at Huánuco Pampa and at other highland Inca sites now inclines me to interpret Shea's find as a closure offering made at the time the Incas abandoned this important ritual site.

In *Andean Past* 11 (2013), Joel W. Grossman offered new chronometric dates for Waywaka, a site overlooking the city of Andahuaylas, in

Peru's Apurímac Department that has a three thousand year sequence. Grossman did the original fieldwork between 1969 and 1971. In the same issue, he published a research report on a modest Late Intermediate Period offering deposit he unearthed in 1971. I contributed a report on John L. Cotter's survey and excavations on the Pampa de Huánuco under the auspices of Murra's "A Study of Provincial Inca Life" project. In *Andean Past* 12 I described another unpublished aspect of this project, the excavation by Luis Barreda Murillo of the so-called "Unfinished Temple" and of the "Bath" at Huánuco Pampa.

The oldest fieldwork we have presented so far was accomplished in 1739 by Charles Marie de La Condamine, and consists of an architectural survey of the Inca site of Ingapirca near Cañar, Ecuador. This was published in full annotated English translation by David Fleming and myself (*Andean Past* 2, 1989).

In the 1970s, when I was first studying at the University of London's Institute of Archaeology (now part of University College, London), our teachers bemoaned the many major archaeological projects that had not been fully published, or even published at all. In some cases the backlog extended to the 1930s and beyond. A few of our teachers were among the contributors to it. There was always the forlorn hope that earnest students, probably women of limited ambition whose family obligations precluded fieldwork, would resolve the situation. Such work should be regarded as important, but, by contrast, it has always been a career-killer. Increasingly, young women have developed ambitions of their own and are not, for the most part, inclined to serve the needs of their predecessors.

We students felt certain we would not commit the professional sins of earlier archaeologists. Our instructors advised us to allocate three months for analysis and write-up for every

month of excavation, a ratio that has proven entirely inadequate. We were exhorted to secure funding for analysis, but where? Sadly, the backlog of unpublished sites has grown over the decades, not diminished. Although survey is not as destructive as excavation, if artifacts are collected, it shares excavation's imperative to curate permanently what has been accumulated. As John Murra put it, a collection is a library of objects that can be "read" to help us interpret the past. Note, though, that Carmichael did not collect artifacts, thus attempting to minimize disturbance and eliminating curation problems. Unfortunately, and through no fault of his own, his efforts were not always successful. Unbeknownst to him, his activities were sometimes observed by *huaqueros* who then dug up sites he had photographed, as one sees in Figure 43.

With *Andean Past* we try to alleviate the crisis of non-publication in what small ways we can. If archaeological work remains unpublished it is almost as bad as looting, because all subsequent work in sites and areas previously examined must, necessarily, remain somewhat incomplete. I hope that the readers of our journal and monographs appreciate the vintage fieldwork we often publish and make available to all through our open access website. Patrick Carmichael's Ica-Nazca littoral survey is a fine example.

Monica Barnes
in the City of New York
24 May 2020

AUTHOR'S PREFACE

Maritime resources played a significant economic role in the prehistoric coastal communities of Central and Northern Peru, and, prior to the current study, it was reasonable to assume that fishing and littoral gathering were equally important on the South Coast. In the 1980s, when this study was designed, South Coast researchers postulated that the Nasca culture of the Early Intermediate Period was a state-level society based on inland agriculture, but heavily augmented by aquatic foodstuffs gathered and processed at coastal settlements. I refer to this as the Nasca Maritime Hypothesis, which envisioned permanent, ocean front towns providing massive amounts of marine resources to inland centers, in exchange for agricultural produce. It was a logical argument, though never empirically tested. Several archaeologists had visited locales along the littoral south of the Paracas Peninsula, but reports were brief, and no systematic studies of the entire area were undertaken. The research reported herein was designed to test the Nasca Maritime Hypothesis by means of a systematic ground survey covering a fifteen kilometer wide strip back from the shores, stretching from the north end of the Bahía de la Independencia to the southern boundary of the Bahía San Nicolás, a two hundred kilometer straight-line distance more than doubled by the winding coastline, and covering all of the coastlands opposite the inland valleys of Ica and Nazca. In the process, sites from all time periods were recorded, and all ecological zones within the study area were sampled, providing the first comprehensive overview of human exploitation in this region through time.

Maps of the survey area and site locations are shown in Figures 1–11, and Figures 24 and 41. Moving from north to south, sites in the

Bahía de la Independencia are featured in Figures 2–4 and 18–31; Playa Lomitas in Figures 2 and 5; the mouth of the río Ica and the oasis of Monte Grande del río Ica in Figures 1, 2, 6, 7, and 26–35; the mouth of the río Grande and oasis of Monte Grande del río Grande in Figures 1, 2, 8–10, and 36–37; and the Bahía San Nicolás in Figures 1, 2, and 11. The geoglyphs encountered in this study are shown in Figures 61–65.

I have included a few references post-dating the original report where they are especially pertinent, but I have not attempted a comprehensive updating. The survey record is frozen as it was in 1991, as is the discussion of results. However, regarding Nasca use of the littoral, a later interpretation based on survey results combined with iconographic and isotope studies has been published (Carmichael *et al.* 2014). Though I use the traditional chronology proposed by John Rowe (1960) in this monograph, an updated version of the Early Horizon and Early Intermediate Period is provided in Carmichael 2019: Table 8.

The original survey report was submitted to the Instituto Nacional de Cultura, Lima (now the Ministerio de Cultura) in 1990, and to the funding agency, the Social Sciences and Humanities Research Council of Canada, Ottawa, in 1991. There are several unpublished versions of this report in circulation (Carmichael 1990, 1991, 1992b, 1998, 2013–2014).

The current monograph is the final iteration of work done long ago, but still of value as an archaeological record and historical document of survey in the last century. I am grateful to David Beresford-Jones and Dan Sandweiss,

founding editor of *Andean Past* for suggesting the *Andean Past Monograph* series. Study results are presented in the first part of this volume, and site descriptions are found in the Appendix. Two contributed studies which complement the theme of this work are also included. The late Alana Cordy-Collins provided an independent study of the Carhua Site, which was carried out a decade prior to my work. Carhua is frequently mentioned in the literature for the remarkable Chavín-style textiles reportedly found there, and Cordy-Collins provides the earliest detailed description and map of this site. In the second article, written in 1991 and reprinted here, I argue that Early Intermediate Period society on the South Coast was not a homogenous unit, but was composed of several independent cultural traditions. In view of ongoing debates among contemporary researchers, this article is of historical interest in that it is one of the first to articulate this position.

Patrick H. Carmichael

PART I: PREHISTORY OF THE ICA-NAZCA LITTORAL, PERU

ACKNOWLEDGMENTS

My survey was made possible by generous funding from the Social Sciences and Humanities Research Council of Canada, and was authorized under Resolución Suprema No. 396-89-ED, and conducted under the auspices of the Instituto Nacional de Cultura (INC), Lima (now the Ministerio de Cultura). I thank Fernando Cabieses, Carlos Guzmán, Isabel Flores, Miguel Pasos, and Rolando Paredes of the INC for expediting permit procedures. Kind assistance was also given by Carlos Elera of the Museo de la Nación, Rosario Abeo and John Newcomb at the Canadian Embassy, and Renate Millones of Lima.

The cooperation of Alejandro Pezzia, Liliana Huaco, and Susana Arce of the Museo Regional de Ica is gratefully acknowledged. INC representative Fernando Herrera was also most helpful in Ica. I am especially grateful to Luis Castro who provided a base of operations for this roving survey.

Access to restricted areas was kindly granted through the offices of Vice-Admiral Manuel Ramos Montoya, Comandante Walter Vera Tudela de la Gala, and Comandante Ederly de las Casas of the Peruvian Armed Forces; Jaime Savage Mariátegui of Hierro Perú; and Segundo Saldana Suárez of Pesca Perú.

I wish to thank Herminio Morales, President of the Cooperativa Coyungo, for providing access to cooperative lands, and Santos Anaya, mayordomo of Monte Grande, for his generous hospitality.

Special acknowledgment goes to my field assistant, José Pablo Baraybar, who expedited numerous official procedures, and was a most capable companion throughout this study. Thanks also go to project aide Francisco Cartegena, who not only served as driver and mechanic, but also proved to be a good carpenter, fisherman, and cook.

A number of researchers assisted with artifact identifications and comments. I wish to thank Anita Cook, Grace Katterman, Pat Lyon, Sarah Massey, Scott Raymond, Ann Rowe, Kathy Schreiber, and my late colleagues Alan Craig, Lawrence Dawson, and Richard Forbis. Any errors or omissions are the responsibility of the author.

Finally, my wife, Elizabeth A. Carmichael, redrafted all of the graphic art. Without her dedication this work would still be languishing in unpublished obscurity.

BACKGROUND TO THE STUDY (1991)

Introduction

Herein I present the results of my archaeological survey along the coast of southern Peru. The study region is located between the Paracas Peninsula and the Acarí Valley (Figure 1), extending from the north end of the Bahía de la Independencia (latitude S14°9'30") to the south end of the Bahía de San Juan (latitude S15°21'). The linear distance of some two hundred kilometers is more than doubled by the winding shoreline. Rapid ground survey in selected areas and air photos were used to examine a fifteen kilometer wide strip back from the ocean front. The purpose was to construct an inventory of archaeological sites for this region, to assess the nature of human utilization through time, and provide direction for future studies. Work was conducted from October 1989 to March 1990.

Sites from all time periods were recorded, but the specific focus was on maritime resource use in the Nasca¹ cultural tradition (Early Intermediate Period, c. A.D. 1–700). In contrast to the interior, the archaeology of the adjacent coastal zone has been largely neglected. Three sites were recorded in the Bahía de San Nicolas (Strong 1957: figure 1, table 1, pp. 4–6, 8–10; Vescelius and Lanning 1963), and a few are mentioned in the literature along the Bahía de la Independencia (Tello 1959:49; Dwyer 1979: 62–63), and at the mouth of the río Ica (Uhle 1924:123; Strong *et al.* 1943:25). Prior to the current work, Frédéric-André Engel was the only researcher to undertake a study of the entire region. His results are reported in two published volumes (Engel 1980, 1981). These

works were consulted in my survey, but differences in maps, recording procedures, and chronologies make it difficult to coordinate results.

Survey Objectives

The Ica and Nazca drainage basins are located forty to sixty kilometers inland, being separated from the ocean by a wide desert which effectively segregates maritime and agricultural pursuits. These activities are more integrated elsewhere in Peru where coastal valleys have flood-plains widening outward to the sea. The Ica and Nazca systems required different strategies to exploit the complementary resources of coastal and interior ecological zones.

The location, size, and nature of sites along the Ica-Nazca coastline reflect the forms of adaptation required in this unique environment, and bear on the relative importance of marine resources in the early, inland economies. The general findings for each period are summarized in a later section; here I will outline the specific set of questions pertaining to the Nasca culture which initiated this study.

Local informants told me of huge Nasca sites on the coast, but they were often vague about locations and, on further questioning, conceded they had not actually seen the sites in person. Nonetheless there are reasonable grounds supporting these rumors. Nasca iconography found at inland sites often exhibits a variety of marine motifs, especially in the early phases. Fishermen with nets, fish, shellfish, aquatic plants, and littoral birds are depicted, and several Nasca deities are based on marine creatures. Seashells are found throughout the interior regions, and piscine geoglyphs appear among the famous Nazca Lines on the Pampa Colorado some fifty kilometers inland. It is evident the Nasca were well acquainted with marine life and, given the tremendous food potential of ocean resources, it is reasonable to

¹ To prevent ambiguity Nasca will be spelled with an "s" when referring to the cultural tradition, and with a "z" when referring to the modern town, geographical region, or river of the same name.

hypothesize that the coastal zone played an important role in the regional economy (Carmichael 1988:34; Silverman 1986:11).

I began my survey hoping to find and document Nasca settlements in relation to the varied ecological niches of the Pacific littoral. A major concern was locating intact sites. The archaeological record in the inland valleys is seriously disturbed by agricultural expansion, and intensive looting has been underway since the beginning of the twentieth century. The thinly populated and more remote coastal areas offered hope for locating pristine deposits.

This study was designed in the fall of 1988 to address several issues current in Nasca studies at that time. According to some authors, during the fourth century A.D., Nasca influence spread rapidly over much of the South Coast, the result of an urbanized state-level polity centered in the Nazca Basin (Lanning 1967:121; Massey 1986:334; Proulx 1968:96). The state model was not universally endorsed, and while the debate was multi-faceted, two of the central issues involved low population densities in the Nazca Basin prior to the hypothesized state formation, and low capabilities of limited agricultural lands and unpredictable water supplies in the inland valleys to support large groups of people. In the absence of hard data from littoral regions, these questions could be easily brushed aside by invoking what may be called the Nasca Maritime Hypothesis, in which growing populations along the coast augment interior groups to supply the "critical mass" for state formation, and a reliance on stable marine resources supplements the inland subsistence base. The Nasca Maritime Hypothesis is tested in this study.

The question of foreign influence and its effect on Nasca society was another concern. On the basis of iconographic similarities Paulsen (1986; and more recently Proulx 1994) postu-

lated contact between North Coast Moche peoples and their South Coast Nasca contemporaries. Moche artifacts have been reported on islands off the coast of Chincha (Kubler 1948), though direct evidence further south was lacking. Searching for evidence of Moche landings on the South Coast was another objective of this survey.

Chronology

The chronological framework I use is the system of periods first defined by John Rowe (1960). This system is based on changes in ceramic styles of the Ica Valley. The time before the appearance of pottery in Ica is the Pre-ceramic. There are six ceramic periods, each of which is divided into epochs based on stylistic phases in the pottery sequence. The complete chronology is featured in the introduction to Rowe and Menzel's *Peruvian Archaeology: Selected Readings* (1973 [1967]). The version used in this study is presented below.

The utility of certain phase divisions has been questioned in recent years. The original seriations were largely constructed using whole vessels, and the divisions separating phases are often based on nuances of shape and design. It is understandable that field workers are frustrated when confronted with a few mediocre sherds and a fine-tuned chronology in which to fit their results. The seven phase divisions of the Nasca style, which correspond to the Early Intermediate Period, provide an obvious case in point. A major problem is that the entire sequence has never been published; hence, researchers have limited reference points and a wide margin for confusion. My own studies have satisfied me that the original seriation is basically sound, and that some features are so time-specific that a single sherd can be assigned confidently to a given phase when the diagnostic traits are present. However, the field worker often encounters less diagnostic sherds with

general features attributable to several phases; for example, Nasca Phases 2, 3, and 4 are easily confused in the absence of select features. In such instances caution is required. Once a site has been published as belonging to a given phase, the designation becomes embedded in the literature, and there is nothing more beguiling to an archaeologist than a neat series of dots on a map which appear to chart the tides of prehistory. I proceeded cautiously with chronological classifications, and where doubt existed, I readily admit the limitations of the data. This does not mean I have ignored the obvious. When I am entirely satisfied that specific phases can be identified at a site I have reported it; however, I refrain from assigning discrete phase designations when confronted with equivocal evidence, and employ a looser, relative phase system where necessary (early, middle, late).

Hereafter, only the abbreviations for the periods will be used. The dates listed below in Table 1 are anything but “absolute”. Most are estimates based on C¹⁴ evidence and contain a good margin for revision.

Relative Chronology	Abbreviation	Time
Late Horizon	LH	AD 1476 - 1534
Late Intermediate Period	LIP	AD 1000 - 1476
Middle Horizon	MH	AD 700 - 1000
Early Intermediate Period	EIP	AD 1 - 700
Early Horizon	EH	700 BC - AD 1
Initial Period	IP	1800 - 700 BC
Preceramic Period	PCP	prior to 1800 BC

Table 1. Periods.

Although some have misgivings concerning the above system, the relative sequence for the South Coast is demonstrably sound. Though not employed in this report, an updated version of

Rowe’s chronology for the EH and EIP has been published (see Carmichael 2019: Table 8).

Early Horizon and Necrópolis

The EH (c. 700 B.C.–A.D. 1) was divided into ten epochs on the basis of pottery styles (Menzel, Rowe, and Dawson 1964), though researchers now prefer to eliminate phases 1 and 2 and begin the EH sequence with Ocucaje 3 ceramics (Paul 1991). In the current confusion of terminology the epochs of the EH are listed as EH 3–10. The term “Necrópolis”, adapted from the Paracas Necrópolis Site, covers EH 10 to EIP 2 (Paul 1991). This overlap between the EH and EIP appears warranted in the Paracas Peninsula region where strong continuity is observed, and the EIP 1–2 remains (especially textiles) do not find exact correlates with contemporary sites in the río Grande Basin to the south. Finds reported in the literature suggest that Necrópolis, as a regional expression, is applicable to occupations in the Bahía de la Independencia immediately south of the Paracas Peninsula, and the term is therefore employed here to refer to a localized expression (phase) within the broader contexts of the EH and EIP. García Soto and Pinilla Blenke (1995) provide an excellent overview of EH-Necrópolis remains in the Paracas Peninsula and Bahía regions.

Nasca Phases

I have dealt with the Nasca phases as follows:

NASCA STYLE	
Discrete Phases	Relative Phases
7 6	Late
5	Middle
4 3 2	Early
1	Proto-Nasca

Table 2. *Nasca Phases.*

A full explanation of the relative phases must await separate publication. Suffice it to say here that they are based on Strong (1957) and Sawyer (1966). The ceramics of each relative phase are believed to be sufficiently distinct so that sherds can be attributed to one or another with a high degree of confidence. This does not eradicate all potential sources of error, but it does loosen the sequence to allow a more general treatment. The line beside “Middle” in the preceding table acknowledges that it may be difficult to separate sherds from late Phase 4 and early Phase 5, and between late Phase 5 and early Phase 6; hence a degree of overlap is allowed.

While I use discrete phases whenever possible, the system of relative phases is employed to accommodate ambiguous dating evidence from

some sites. It is not advanced as a repudiation of the discrete phase system; rather, it is intended as an adjunct device to be used concurrently when warranted. Initially, Lawrence Dawson—author of the Nasca stylistic sequence used here—identified nine Nasca phases (Rowe 1956: 146), though Phase 9 was recognized as a MH contemporary (Rowe and Menzel 1973 [1967]: Introduction, chronological table). Accumulating C¹⁴ evidence and stylistic analysis has led to a growing consensus that Phase 8 also belongs in the MH, thereby reducing the Nasca phases and epochs of the EIP to seven. Researchers have now begun to replace Nasca 8 with the term “Loro”, after the type site of Huaca del Loro excavated by Strong (1957:36). As such, Loro denotes the indigenous ceramic tradition of the Nazca Basin during the early MH. For convenience it might also be applied to the Ica region, although future studies will undoubtedly identify local expressions in Ica and Nazca which warrant separate nomenclature. The two papers in the Contributed Studies section of this volume refer to Nasca 8, an artifact of the time at which they were written. (For an updated view of South Coast relative chronology see Carmichael 2013:227; 2016:57.)

ENVIRONMENTS AND RESOURCES OF A COASTAL DESERT

Geoenvironmental Setting

Craig and Psuty (1968) have described the geomorphology and ecology of the study area. This masterful work covers the coast from Pisco to the río Ica. However, general observations are equally applicable farther south.

Coastal Peru is a hyperarid desert. This is due to complex meteorological factors which cause precipitation to be released at sea over the cold Peru Current before reaching the shoreline. Along the South Coast, average precipitation is on the order of 40–50 mm per year, with wide

variations. Moisture between June and October takes the form of thick fogs which occasionally condense into fine drizzles. Mean annual temperatures fluctuate around 19°–22° Celsius, with average monthly variations of less than 8°, but again, marked variations do occur (*ibid.* 1968:80–85).

In southern Peru, the coastal desert reaches its maximum width in the regions of Ica and Nazca. In this area the rivers which flow from the Andes merge inland, and only the ríos Ica and Grande continue to the sea (Figure 1). The lower reaches trace much of their route through deep, narrow gorges (Figure 17) which occasionally widen into small, verdant oases in the midst of a desert landscape (Figures 32, 33). Away from the rivers the terrain is open, rolling country, characterized by stony pampas with large rock outcrops punctuating the horizon (Figure 12).

Near the ocean, a range of hills marks the proximity of the Pacific shores. In places this range continues to the sea, terminating in steep, rocky cliffs. Between these cliffs a narrow plain with variable topography follows the shoreline. High bench lands (Figures 14, 15) and low crescentic bays (Figure 16) are both common in these regions. In places, tectonic uplift has left sheer rock faces fronting the ocean and beaches are forming at the base of some of these uplifted areas. The beach sands vary considerably in texture, grain size, and color, depending on the composition of the adjacent headlands from which they derive (*ibid.*:8).

Shifting eolian deposits are ever-present features of the sea-plain. Veils of windblown sand migrate across the landscape, collecting in the lee of relief features, and occasionally forming linear dunes of one to three meters in height. In most areas these transitory features are limited, and set well apart, so that the hard surface of the sea plain is not extensively ob-

scured. The major exception is the fully developed La Yerba dune field, which blankets the coast between the río Ica and Punta Caballos (Figure 28).

There is little variability in atmospheric conditions along the coast. Skies are hazy during most of the year. Cloudy conditions and thick fogs are common from July to September. During the remainder of the year the constant breeze off the ocean keeps air temperatures moderate, but solar radiation can heat sand and rock to searing temperatures by midday. The early mornings are cool. Sunrise is not an event; rather, the sky gradually lightens as the sun emerges from behind the coastal hills and remains obscured in a hazy sky throughout the day. Strong winds, known locally as *paracas*, (from the Runasimi [Quechua] word *para-ako*, meaning “sand falling like rain”; Paul 1991:1), begin to blow off the sea in the late morning and reach gale-force by mid-afternoon. Vast quantities of fine particles are whipped through the air, and visibility can be reduced to twenty meters. All human activity ceases during a *paracas*, so the day’s work must be accomplished in the morning. These winds change the morning calm of the foreshore to heavy surf, forcing fishermen ashore or into the lee of islands.

Coastal Environs and Resources

Eight resource zones are found within the study area:

1. desert
2. lomas
3. riverine
4. river oases
5. estuaries
6. sandy littoral
7. rocky littoral
8. islands

Of these, the river oases, estuaries, and littoral environments provide the richest habitats for human subsistence.

1. *Desert*. The desert provides few natural resources for human sustenance, but the soils are often capable of supporting crops if water is provided. Traditional agricultural systems of the inland Ica and Nazca areas include sunken fields excavated close to the water table (Soldi 1982, and below surface aqueducts (Schreiber and Lancho 1995), but these methods were not employed in the coastal zone, where agriculture depended solely on flood-plain farming in the oases.

Evaporation of seawater has left widespread deposits of salt along the shoreline of the coastal desert. There is no evidence of organized, pre-historic mining operations. Salt is useful in cooking, or for preserving fish and meat, and may have been an opportune trade item in ancient times.

The open desert allows unhindered movement in any direction. Travelers avoid the narrow river bottoms, and cross the pampas for direct routes between localities. Informants at the oasis of Monte Grande del río Grande state that the journey by foot to the town of Palpa (a distance of more than fifty kilometers) takes twelve hours, and the town of Nazca can be reached in fourteen hours. These sobering facts make the impression of an isolated coastline more apparent than real.

2) *Lomas*. There has been much confusion in the literature caused by the generic use of the term lomas. The word generally applies to coastal vegetation which grows on hills and ridges close to the ocean, and is supported by fog-derived moisture. In most areas it appears between June and October, and lies dormant during the remainder of the year (Figure 13). The term lomas is applied by specialists in

different disciplines to various plant regimes found in a variety of environmental niches along the coast. According to Shozo Masuda (1985: 245) Mikio Ono has classified five types of lomas communities, each with its own plant complex.² The fields within the study area are *Tillandsia* lomas.

It has been argued that lomas resources played an important role in early economies, providing fuel, edible seeds and root plants, and forage which attracted deer and guanacos (e.g. Lanning 1967:10; Moseley 1972:27). These observations are based primarily on the lush herbaceous lomas of the central coast, but are just as applicable to the even richer herbaceous lomas in the Atico-to-Ilo area of the Far South Coast. As stated above, only *Tillandsia* lomas are found within the study area, and these present a different plant regime (See Masuda 1985 on lomas distributions, and Beresford-Jones *et al.* 2015 for a more recent and thorough review of lomas fields in the study area).

Craig (1985:28–30) raised several pertinent questions concerning the economic importance of *Tillandsia* lomas. He noted that the low, slow growing vegetation would be rapidly depleted if relied upon for fuel, and suggests that dried seaweed would have provided a more available and reliable source. In addition, the presence of root plants, such as wild potatoes, has not been verified in a widespread pattern and few, if any, herbal medicines are derived from these locales. Craig also argues that not many plants in *Til-*

² *Editor's note:* Ono's classification of the Peruvian lomas vegetation was published in 1986, the year after being mentioned by Masuda. His *Taxonomic and Ecological Studies on the Lomas Vegetation in the Pacific Coast of Peru* was issued by the Makino Herbarium of Tokyo Metropolitan University. The only copy listed in WorldCat is at in the Borchardt Library at the Melbourne Campus of La Trobe University in Australia, making this potentially valuable study effectively inaccessible to Peruvian and North American researchers.

landsia lomas would be of interest to grazing animals, and it would be difficult to stalk deer or guanacos in this low vegetation. Engel (1981: 27) reports a number of prehistoric encampments with shell remains in the Lomas de Marcona, east of San Juan and San Nicolás at the south end of the study area. Few of these sites contained lithic artifacts, and only one had associated ceramics (Engel 1980: Map XX-A, 1981: 56). Engel considered the sherds to predate the MH (“pre-Tiahuanacoid”). He suggests that the area was frequented by migrating herdsmen. *Tillandsia* lomas do provide browsing for domestic animals, and herein lies their main economic importance. We made several trips into the Lomas de Marcona, but located no prehistoric sites.

3) *Riverine*. The ríos Ica and Grande are intermittent flows dependent on runoff from the Andes. Meltwater and rain-fed torrents usually reach the coast at the beginning of the year, and recede in April. Aside from gradually evaporating residual pools, the river beds are dry during the remainder of the year. Riverine ecology is dependent on these yearly floods, and hardships fall in years when the waters fail to arrive. Periodically, consecutive years of drought plague South Coast inhabitants.

A few small springs emerge along the banks of the ríos Ica and Grande, and in their lower reaches ground-water lies within five meters of the channel surface during the dry season (ONERN 1971a:212, 1971b:199). This provides a source of potable water, even in drought years. However, the Grande is one of the driest and least predictable rivers on the entire Pacific coast (ONERN 1971b:197). The amount of ground-water in the lower courses has decreased in recent years as a result of hydraulic pumping upstream to irrigate fields.

The rivers follow narrow courses bounded by steep banks and rock cliffs (Figure 17). Native

flora includes grasses, reeds and trees used for construction and fuel, and some edible plants. Small mammals and reptiles also inhabit this environment. *Lisa* (*Mugil* sp.), a small fish that spawns in the sea, can be found several kilometers upstream from the river mouths, and shrimp are also taken along the river banks.

4) *River Oases*. Occasionally the river valleys widen, allowing small oases with flood plains to form. The flora and fauna of the riverine environment are concentrated in these settings. Open ground provides pastures for grazing animals, and the annual flooding supports flood-plain farming (Figures 32, 33). As flood waters recede, the land is prepared in March and April, and is seeded in May. Crops include cotton, gourds, maize, beans, and squash. Harvesting takes place in February and March. Riverine resource concentrations and farming potential make the river oases especially favored zones for human settlement. Although subject to periodic drought, sufficient ground water for human and animal subsistence can always be found below the river channel.

On both the ríos Ica and Grande, there is a small oasis located a few kilometers inland from the sea. Both are known as Monte Grande, a name referring to the lush vegetation which grew there in former times.

5) *Estuaries*. The estuary of the río Ica is little more than one hundred meters in width at its widest point, and a kilometer in length (Figures 26, 27). Bushes and reeds choke its shallow, braided channel, which is dry for most of the year. The estuary of the río Grande is half as large, and is bounded on its south side by sheer rock cliffs (Figure 36). Neither locale is conducive to agriculture. These limited areas provide potable water, and concentrations of riverine flora and fauna in proximity to marine resources.

6) *Sandy Littoral*. The waters off Peru and Chile support one of the world's richest biomasses. Constant upwelling of the cold Peru Current keeps nutrients close to the surface, resulting in a teeming ecosystem in which plankton, fish, birds, and sea mammals are abundantly represented in the food-web. Combustible and edible seaweed, and dead fish and sea mammals, are washed up on the sandy beaches, which also host a variety of edible shore birds (Figure 21). Fishing from sandy beaches is less profitable as the surf breaks well out from the shore, but some small fish such as *trambollo* (*Lambrissomus* sp.) and *borracho* (*Scartichthys gigas*), and occasionally a large *linguado* (*Paralichthys adspersus*), can usually be taken. If watercraft are used, larger fish can be caught by net or line in deeper waters beyond the breakers.

Among the most important resources of the sandy littoral are molluscs, which occur in vast beds near shore at depths of 0.5 to 1.5 meters. *Macha* (*Mesodema donacium*) can be particularly abundant. These bivalves are taken in great quantities by fishermen at the mouth of the río Ica. The shells are gathered by hand, and steamed open to remove the meat, which is laid out to dry in the sun for two or three days. Preserved, they are then gathered in sacks and transported inland for sale, where they are considered a delicacy. *Macha* fishing can produce large, storable surpluses. No special equipment is required beyond some means of steaming the shells open, and the entire family can take part in the harvest and preparation. As a dietary supplement, dried shellfish may have been an important trade item in prehistoric times. However, they would be virtually impossible to detect at inland sites, because only the meat was transported from the coast, and this is entirely consumed. The great shell accumulations at ancient settlements such as El Chucho (Site 2) and Carhua (Site 6) reveal a heavy reliance on *macha* and other molluscs of the

sandy littoral. That commercial shellfish gathering does not occur in the immediate vicinity of these sites today indicates the beds are exhausted, and this may have been a factor in site abandonment.

7) *Rocky Littoral*. The rocky littoral constitutes the richest resource zone of all coastal environments. Nesting grounds of sea birds and sea mammal rookeries are located along the steep cliffs, and deep water fish are drawn close to the coastline. Molluscs which attach themselves to rocks are plentiful. Among these are *choro* (*Aulacomya alter*) and *cholga* (*Choromytilus chorus*) which thrive in large colonies. A list of shellfish identified during this study is given in the Appendix. A type of edible seaweed known as *cochayuyo* (*Porphyra columbina*) also grows in these rocky environments. Masuda (1985) discusses edible seaweeds along the Peruvian coast, and Marcus (1987:12) provides an excellent chart listing rocky littoral resources.

Cooperative labor is not required to harvest the resources of the rocky littoral. Gathering can be undertaken by any family member, but the steep cliffs washed by billowing waves are dangerous, and gatherers are sometimes swept away (Masuda 1985:237). A circular cast net (*atarraya*) is thrown from precipices when schools of sardines (*Sardinops sagax*) and anchovies (*Engraulis ringens*) approach the rocks, and on days when rock dwellers such as *chita* (*Anisotremus scapularis*) are especially numerous. *Atarraya* use is illustrated in Marcus 1987:17. Lines are also used to fish for *chita*, *lorna* (*Sciaena deliciosa*), and *mero* (*Alphesthes* sp.) from rocky ledges.

8) *Islands*. Many small "islands" dot the coastline. Most of these are tiny rock outcrops, close to shore, which provide roosts and rookeries for water birds and sea mammals. Jagged rocks and billowing waves make these areas dangerous to approach. The only island in the

study area of sufficient size to allow potential encampments is Isla la Vieja in the Bahía de la Independencia. Most of the island is bounded by steep rock cliffs, but a few beaches at the south end provide landings and shelter. Isla la Vieja is a guano preserve controlled by the Peruvian government. A station for harvesting the guano every four or five years is maintained at the extreme south end. Visiting requires a special permit, and is strictly monitored by a guard. We did not find any evidence of prehistoric activities. The guard, who has been at the station for twenty years, states that there are no potable water sources and artifacts have never been found on the island.

Isla la Vieja and the smaller islands may have been exploited in the prehistoric era for birds and eggs, and perhaps for guano, but if so there are no traces left of human passage. These and other primary resources can be found along the shoreline without recourse to watercraft and dangerous landings. The islands apparently played a minor role, if any, in the coastal economy.

Seasonality and Exploitation Patterns

Littoral resources are available throughout the year, but October through March is the favored time to work the shores because the ocean is calmer, and more sun penetrates the coastal haze. Shellfish gathering along the sandy littoral is at its height in December and January, when maximum sunshine assures rapid drying of mollusc meat. Other resources follow a different schedule. For example, some fish such as *pejerrey* (*Odontesthes regia regia*) school in June and July, while *conchayuyo* (seaweed) gathering is best in September and October.

Today, fleets of deep-water boats set out each morning from the fishing villages of Laguna Grande and Punta Caballas. From these locales, individual boats sometimes make two- or three-

day excursions up and down the coast. The beaches flanking the mouth of the río Ica are the favorite place for clam gathering. In recent times there have been no permanent villages at the river mouth. The present pattern, and that which probably obtained throughout much of prehistory, is for small teams of men from inland areas to set up temporary camps for durations of a few days to a few months. Their families often join them during the height of the sunny season. Many of these people also tend small plots of land in the interior valleys, where crops are seeded in May and harvested in February and March.

Potable Water

Fresh water is scarce along the coast. The people who farm the oasis of Monte Grande del río Grande rely on fresh water trucked down from Coyungo, their parent community. There are two springs in the oasis, and water can be taken from the river throughout the year (from sink holes when the riverbed is dry), but this water is not “sweet”, and is used only for animals. The abundant prehistoric remains in the oasis demonstrate that local water once supported many households. A similar situation is found at the fishing village of Laguna Grande in the Bahía de la Independencia. Informants report a spring in the vicinity, but again the water is not “sweet”, and residents truck in all of their water from Ica. The nearby ancient village of Laguna Grande, a massive shell mound, indicates that prehistoric tastes were less discriminating.³

The small, independent farmsteads in the oasis of Monte Grande del río Ica rely on the river for their water supplies. During the dry

³ *Editor's note:* The chemical composition of the groundwater may have changed, which is possible over a long span of time in an earthquake zone.

season water is obtained from sink holes in the riverbed. This water is also somewhat saline, as on the río Grande, but is sufficient for the farmers and their livestock.

Fishermen who camp along the beaches at the mouth of the río Ica have located another source in addition to the river. A buried lens containing potable water lies at right angles to the river channel, and continues for almost a kilometer on either side of the river mouth. It is approximately two hundred meters back from the shoreline, and one meter below the surface. Small seep holes are dug to tap this source. The water is not pure, but is usable. The lens probably lies within an ancient swale, now covered by sand, and may have been left from a wet year when there was high discharge from the river (Alan Craig, personal communication, 1991). Such a flow could have occurred at any time, but the substantial village remains of La Yerba (Site 21) near the river mouth indicate sufficient water was present in the area at the time of occupation.

Fossil water supplies can be limited and subject to over-use. The location of many prehistoric sites far from present water may in part be explained by this phenomenon. Ground-water sources away from the rivers have been reported elsewhere in the study area. Strong (1957:8) mentions possible evidence of fresh water near El Conchal (Site 63) on the Bahía San Nicolás, and Engel (1981:28) noted a small seep hole near Carhua (Site 6) in the Bahía de la Independencia. Once abandoned, pits dug to tap ground-water fill rapidly with sand leaving few, if any, surface traces. If ground-water is sufficiently near the surface, the presence of plants can reveal such locations. It is quite possible that ground-water was once available within a few kilometers of many coastal sites.

The absence of nearby water does not determine site location, since water was available

within a day's walk. A relay system may have been established, and made increasingly effective after the introduction of domesticated camelids. Craig and Psuty (1968:100) suggest that potable water could have been transported from the river mouths along the coast by raft. Although laborious by modern standards, the potential yields of food which can be secured along the coast warrant the effort, while purity standards and required amounts were certainly less than those of modern societies. On further reflection, it appears the potable water "problem" is mainly of our own creation.

PREHISTORIC ADAPTATIONS

Introduction

The size and distribution of sites in the coastal zone reflect the importance of this region in terms of human carrying capacity and regional economies. The littoral is rich in marine resources which have the potential to generate large, storable surpluses, but the arid, desert shoreline does not support agriculture. This limitation must be met by transhumance or exchange mechanisms. The prehistoric remains we encountered reflect changes through time in human responses to these challenges.

The seventy-one sites recorded during this survey are described in the Appendix; here I provide an overview of findings.

Resource Zones and Site Distribution

Sandy littoral environments in proximity to rocky areas were the favored locales for villages along the ocean front. Potable water and shelter from wind must have been considerations in site location, but sandy beaches for launching and landing watercraft, and, perhaps most importantly, for harvesting abundant shellfish with low risk, favored these settings for base camps and settlements. The rocky littoral is an equally

rich environment, but billowing waves and sharp rocks pose potentially fatal threats to watercraft, divers, fishermen, and cliff-gatherers. Midden remains demonstrate the rocky littoral was exploited, but it is fair to assume this activity was limited to adults unencumbered by infants. Beaches provide a more benign environment, and even small children can dig for clams. The site of Carhua (Site 6) presents a partial exception in that it is on a rocky peninsula, but it is flanked by sandy beaches from which the majority of shells composing its mounds derive. Morro La Gringa (Site 20) and La Yerba (Site 21) at the mouth of the río Ica are located within a long stretch of sandy beaches many kilometers from sea cliffs, but some shell remains from rocky littoral environments are present in the middens. In these instances, potable water and access to estuary, riverine, and oasis resources offset the disadvantage of distance from rocky shores.

Sites located on top of sea cliffs and in rocky littoral environments tend to be small and shallow, and frequently lack pottery. This pattern suggests temporary encampments. Canastones (Site 3), a small mound in the Bahía de la Independencia, is an exception, but it is located within a few kilometers of the beaches at El Chucho and Carhua.

At the three largest sites in the study zone—El Chucho (Site 2), Carhua (Site 6), and La Yerba (Site 21)—the middens are primarily composed of *macha* clam shells and the remains of other inhabitants of the sandy littoral. Shellfish are not spread uniformly along the coast, but occur in colonies of various sizes. Vast beds of clams in shallow water surely played a role in determining the location of these large villages, and influenced their occupational histories. Similarly, midden composition at a PCP village near the mouth of the río Grande excavated by Engel (1981:21) is dominated by *macha* clam shells (also see Beresford-Jones *et al.* 2015). The

site fronts a sandy beach, but is immediately beside an estuary and sea cliffs. Though shellfish of the rocky littoral are present in the village debris, they are less common. Exhausted clam beds may have been an element in the eventual demise of all these sites.

In terms of site predictability, sandy beaches close to a second zone (estuary or sea cliffs) were the preferred locations for base camps and villages. My data show no correlations for the smaller encampments found in rocky littoral areas. Their placement may have been dictated by ease of access to transitory or quickly exhausted resources.

Estuaries are favored locations, providing potable water, reeds for building, and a riverine plant and animal regime close to ocean resources. Both of the estuaries in the study zone had PCP and LIP occupations, but remains at the mouth of the río Grande are limited in comparison with those at the mouth of the río Ica. The río Grande estuary is smaller, but the marked difference in the extent of occupation must relate more to marine resource availability—a factor not recognizable from maps or air-photos. One might assume that contiguous sandy littoral, estuary, and rocky littoral environs made this an extremely rich locale, but the record of human occupation again demonstrates that marine resources are not uniform along the coastline, though geological formations appear similar.

Local informants say the fishing village of Santa Ana at the mouth of the río Grande—which still appears on maps, but has been abandoned for decades—was built in the 1940s (Figure 37). Though buildings show a considerable investment in wooden walls and cement floors, the settlement was short-lived. Were it economically viable, even for the subsistence of a few squatter families, the location would be inhabited today. The prehistoric and historic records

are in accord: this stretch of coastline, referred to by locals as *costa brava*, where the air is cooler and the waters rougher, does not provide sufficient resources to sustain long-term or extensive occupations.

As with the estuaries, the two river oases in the study zone have different occupation histories. Monte Grande del río Ica is larger in total area than Monte Grande del río Grande, and is closer to the sea (five kilometers *vs.* nine kilometers) but sand flats cover much of the oasis bottom. The amount of land available for cultivation is, therefore, reduced, and habitation sites are correspondingly limited in number and size (Figures 6, 32, 33 and see Cook 1994). Conversely, though Monte Grande del río Grande is smaller in total area, almost the entire oasis bottom is open to cultivation. Prehistoric sites are numerous, and include several comparatively large settlements, in addition to a ceremonial center and many cemeteries (Figure 8). Modern occupation of these two oases mirrors the prehistoric record. Though the residents of Monte Grande del río Grande are part of the Cooperativa Coyungo, the cooperative finds it economically rewarding to keep up to two dozen families farming this lower oasis. At Monte Grande del río Ica there are only one or two families in permanent residence today.

Shellfish remains occur at prehistoric sites in both oases. Clearly the ancient inhabitants visited the shores, but their choice of dwelling in the fertile oases demonstrates a primary focus on agriculture.

The various zones of the coastal environment represent facets of a single system. Considering the relatively short distances between locales, coastal dwellers had access to a range of resources. The modern fishermen and oasis farmers I met thought nothing of walking twenty kilometers a day, and were entirely prepared to walk three times that distance to obtain scarce

materials and goods, or just to visit. The resources of desert, lomas, riverine, river oasis, estuary, sandy littoral, rocky littoral, and island environs are all within a day's journey. Theoretically, ancient coastal inhabitants had access to all of these zones and may have used them seasonally, while situating their habitation sites adjacent to primary subsistence resources. Village location, therefore, reflects the essential economic basis of these societies.

Seasonal and Year-round Strategies

Surface survey cannot definitively answer the question of seasonal occupation *vs.* permanent residency at a given locale, but ocean front sites which contain a complete artifact assemblage including coarseware and fineware pottery, stone foundations and other enduring architectural features, imported domestic plants, and associated cemeteries are strong candidates for permanent, year-round occupation. Food plants and cobbles must be carried some distance to the shores. There is no evidence in the Monte Grande oases of pottery production, indicating these heavy and fragile containers had to be imported from inland valleys. The amount of pottery, food plant remains, and cobbles at a site represent relative investments of energy. Some settlements, such as the EH villages of El Chuchcho (Site 2) and Carhua (Site 6), and the LIP villages of Laguna Grande (Site 1) and La Yerba (Site 21), evidence high investment, reflecting the importance of the resources gathered in their vicinities. Elsewhere, tiny sites consisting of only shell and charcoal scatter signal low investments, and probably represent the remains of transitory fishing and gathering expeditions.

Modern fishermen provide ethnographic analogues for prehistoric use of the coastline. The seasonal fishermen and their families who gather *macha* at the mouth of the río Ica for a few months each year live in temporary shelters. They do not bring their fine tableware with

them. Since everything must be hauled from the inland valleys, necessities are kept to a bare minimum—one or two cooking pots, a few bowls and spoons. At the nearby LIP village of La Yerba (Site 21, Figures 29–31) is found a full ceramic assemblage, from large, coarseware urns to fine, polychrome bowls. The energy invested in carrying heavy, delicate goods across the desert hardly seems warranted for temporary encampments, where a cooking pot and some gourd bowls might do just as well. At larger prehistoric sites such as La Yerba, the remains of maize and other food plants demonstrate non-local contributions to the subsistence base, which would have helped sustain permanent residents. The probability of year-round occupation at some ocean front villages appears high.

However, if permanent residency did occur at some locales, this was not the pattern throughout prehistory. Littoral sites from the EIP and MH were not identified. It appears that temporary fishing encampments fulfilled inland needs during these periods, and there were few, if any, coastal dwellers.

Coastal Population Size

Any population estimates based on surface evidence are, of course, speculative, and beg the question of whether deposits represent large groups of people for short periods, or small groups over long periods, and the possibility of episodic site abandonment and re-occupation always remains open. Engel (1981:29) suggests that, on the basis of “pure archaeological intuition”, up to two thousand people may have lived at El Chucho, a figure which my archaeological intuition finds extremely liberal. However, I sympathize with Engel in trying to convey a reasonable population estimate to readers who have not visited these coastal sites. Site remains demonstrate that the two periods of greatest activity along the coast were during the EH-Necrópolis in the Bahía de la Independencia,

and during the LIP throughout the study zone. My own guess is that a total population of two thousand coastal dwellers during either period could easily account for the remains seen today, and is probably on the high side. For the intervening periods for which we have no evidence of ocean front villagers, the figure must be considerably less, and refer to transitory visitors. Oases dwellers, even during the EIP at Monte Grande del río Grande, need not have exceeded a few hundred. Excavation may yet revise these figures, but on the basis of what is visible today, it is premature to hypothesize the presence of dense coastal populations at any time in prehistory. Kroeber’s (1944:25) assessment of the prehistoric coastal population between Pisco and Lomas remains viable:

The population must always have been of the sparsest—probably a few fisherman or seasonal residents. These types of local occupations would have to account for the giant “shell mounds” near the mouth of the Ica.

Geoglyphs

On the South Coast of Peru geoglyphs are giant ground drawings formed by sweeping aside coarse gravel to expose lighter soil, leaving mounded ridges outlining a straight line, trapezoid, rectangle, or biomorphic figure. Geoglyph fields are well known in the inland regions of Palpa and Nazca, some forty to sixty kilometers inland from the ocean, but prior to the current study they had not been documented close to the ocean shores.

The distribution of these enigmatic features is now extended into the extreme lower reaches of the Ica and Grande Valleys. Six geoglyph sites were recorded during this study (Sites 16, 26, 41, 51, 61, 62: see Figures 61–65). They are concentrated in the river oases within five to nine kilometers from the sea. No cultural remains were found in direct association. They are

primarily trapezoid configurations. As with other sites encountered during this rapid ground survey, the dimensions reported herein are estimates; it is hoped that maps and detailed studies can be undertaken in the future.

Ceramic and Aceramic Sites

In several instances, small sites could only be classified on the basis of whether or not ceramics were present. When pottery was present it consisted of a few sherds so exfoliated that temporal affiliation was impossible to assess. Nonetheless, the simple presence of pottery places these sites within the last 3,800 years of prehistory. The absence of pottery does not necessarily mean that activities took place in the PCP; only that ceramics were not observed during our survey. The temporal affiliation of aceramic sites therefore remains open.

Ceramic Sites: 3, 8, 22b, 29, 42, 48a, 48b, and 49b

Aceramic Sites: 4, 5, 9, 10, 11, 12, 13, 18, 19, 27, 28, 38

Preceramic and Initial Periods

Only three Preceramic sites were identified in the study zone, and for temporal placement I rely on the assessments of other researchers. Engel excavated a small PCP village near the mouth of the río Ica (Morro La Gringa, my Site 20; also see Beresford-Jones *et al.* 2015:205, 208, 211 on the Preceramic La Yerba occupations) and another (my Site 37) near the mouth of the río Grande (Engel 1981:19-21). Strong (1957:8) and Vescelius and Lanning (1963) discuss PCP mounds at El Conchal (my Site 63) on the Bahía San Nicolás. Aside from reestablishing the locations of these sites and reporting on their current condition, my study adds little to these earlier findings. Future excavation may yet determine whether some of the smaller sites

classified here as aceramic are in fact PCP. (For recent work on the coastal pre-ceramic and lomas fog oases see Beresford-Jones *et al.* 2015).

I did not identify any Initial Period sites, though I do not regard this as demonstration of their absence. They may be represented among the aceramic and ceramic sites, or lie buried beneath later occupations.

Early Horizon and Necrópolis

Only three ocean front sites in the study area are attributed to EH and Necrópolis times, and all three are located in the Bahía de la Independencia; south of the Bahía we encountered no evidence of EH or Necrópolis occupations along the shoreline. The three Bahía sites are El Chucho (Site 2), Carhua (Site 6), and Morro Quemado (Site 15). El Chucho and Carhua are large villages composed of multiple linear mounds with subterranean dwellings, while Morro Quemado is a small village with traces of artificial terraces and stone foundations. The three sites are spaced roughly equal distances apart, with El Chucho at the northern end of the Bahía, Carhua in the middle, and Morro Quemado at the southern end (Figure 25). All three are situated to exploit sandy and rocky littoral environments, though shellfish from the sandy littoral predominate in their middens, and maize cobs and other agricultural plants are also present. The relation of these sites to one another, and with contemporary sites on the Paracas Peninsula and along inland valleys, is discussed in an excellent study by García Soto and Pinilla Blenke (1995). Paul (1991:18) lists textiles reported to be from these sites which suggest contemporaneous occupations in the EH 6–7 range. The same listing identifies additional textiles claimed to be from Carhua which date to EH 3–4 and 9. Engel (1981:28–29) states that Necrópolis remains are also present at El Chucho and Carhua.

South of the Bahía de la Independencia, EH occupations are limited in size and confined to the oases. Those identified in this study all date to the late EH. Monte Grande del río Ica supported a single, small EH village (Site 31), while at Monte Grande del río Grande there are two small EH habitation areas (Sites 52, 54) and a minor EH component at an EIP village site (Site 60).

Early Intermediate Period and the Nasca Maritime Hypothesis

With the exception of the Necrópolis sites discussed above, no EIP sites were identified along the ocean front. Nasca iconography demonstrates that fishing took place, but evidently this did not necessitate establishing long-term settlements.

In the oasis of Monte Grande del río Ica only a cemetery (Site 34) and a small habitation site (Site 35) could be positively dated to the EIP (Figures 6, 32–33). Scattered elements such as a trophy skull at the Morales site (Site 32) and two geoglyphs (Site 26) also likely pertain to the EIP, but, on the whole, it can be stated that there was no significant occupation in this oasis at any time during the EIP.

The EIP is well represented in the oasis of Monte Grande del río Grande, where materials from Nasca Phases 1–7 are encountered (Figure 8). The sites include a small habitation (Site 43), four villages (Sites 45, 46, 57, and 60), four cemeteries (Sites 49a, 56a, 56b, and 58), and a ceremonial area with burials (Site 44).

A key objective of my study was to test the Nasca Maritime Hypothesis, which postulates that growing settlements along the coast augmented inland groups to form the population density required for state formation, and that marine resources played a major role in stabilizing the subsistence base of this expanded soci-

ety. The first part of this hypothesis can now be rejected—there is no evidence of large populations along the coast at any time during the EIP. The absence of Nasca sites on the ocean-front does not support a major reliance on marine resources. The EIP sites we located are in the oases, indicating a primary focus on agriculture. However, it may still be argued that small groups visiting the shores for brief periods can generate large surpluses, as demonstrated by the *macha* camps at the mouth of the río Ica today. Based on this analogy, I suggest the Nasca likely came from the inland valleys at certain times of the year and camped in temporary shelters. December and January are the best months for sunshine and calm waters, and crop harvest does not begin until February and March.

As iconography demonstrates, the Nasca did engage in some fishing and harvesting of marine resources; the question is the extent to which their subsistence economy relied on marine input. The meat from fish and shellfish can be preserved by sun-drying, and carried inland where it is entirely consumed, leaving no trace in the archaeological record. The vital question of maritime food input to the inland subsistence base has been addressed elsewhere (Carmichael *et al.* 2014).

I did not find any evidence of North Coast Moche presence in the study area. The hypothesized Moche-Nasca contact is based on stylistic similarities, and does not rely on direct or continuous interaction (Proulx 1994:92), though tangible evidence would greatly enhance the theory. To this debate I can only add our negative evidence.

Another objective of this survey was to locate undisturbed Nasca sites, but none were found that had escaped looters' shovels. Nonetheless, several sites in the oasis of Monte Grande del río Grande warrant further investigation. Maps should be made of Sites 44 (Ped-

regal), 45 (Arenal), and 46; they still hold promise of intact areas. These fragile resources are rapidly disappearing. In November of 1989 I estimated that 30–40 percent of the habitation area at Arenal was still undisturbed. By March of 1990, I had to reduce this estimate to 20 percent. Looters were plundering the Monte Grande sites even while we camped in the oasis (Figure 48).

Middle Horizon

Evidence of the MH is confined to riverine and oasis settings: MH artifacts were not identified along the ocean front. No imperial Wari material was found, and the MH is represented by local styles only.

The Morales Village Site (Site 32) in the oasis of Monte Grande del río Ica contains ceramics which appear to date from the late MH into the LIP. In the river valley below the oasis we located a small habitation (Site 25) which has tentatively been assigned to the Loro Phase (Figure 6, and see Cook 1994).

At the oasis of Monte Grande del río Grande a small, MH cemetery (Site 47) was encountered. Elsewhere in the oasis MH pottery was noted at Sites 44 and 45, where it likely derives from looted burials and does not represent MH habitation. The southeastern sector of Arenal (Site 45; see Appendix) may have been the source of the MH mummy bales studied by Dorothy Menzel (1964:63) and Ann Rowe (1986). The major MH occupation of the region is a large village (Site 40) in the river valley, approximately one kilometer below the oasis (Figures 8–10).

Late Intermediate Period

Remains from the LIP are encountered throughout the study area, and represent a more extensive use of the shoreline than any previous

period in prehistory. In the Bahía de la Independencia the major LIP village was at Laguna Grande (Site 1) where a huge midden accumulated. Moving southward, the ancient village sites of El Chucho (Site 2) and Carhua (Site 6) were re-occupied, though not extensively, and Yaparejo B (Site 7b) and Site 14 were established in the lower Bahía (Figure 4). South of the Bahía a LIP occupation occurs at Punta Lomitas (Site 17; Figure 5).

Two LIP villages flank the estuary of the río Ica, Morro La Gringa (Site 20) and La Yerba (Site 21). La Yerba is the most extensive LIP site in the study area. The nearby LIP burial place of Cementerio La Yerba (Site 22a) likely corresponds to the La Yerba habitation (Figure 6; also see Cook 1994 on the río Ica estuary and oasis sites).

In the oasis of Monte Grande del río Ica LIP presence is represented by a cemetery (Site 33), a small habitation (Site 30), and the village site of Morales (Site 32) which appears to date from the late MH into the LIP. Remains are far less extensive than at the river mouth.

The only LIP site at the mouth of the río Grande is the small village of La Boca (Site 39). Within the oasis of Monte Grande del río Grande, LIP ceramics appear at nine sites, none of which are extensive. The principal village site is Site 55a, and smaller occupations occur at Sites 43, 55b, and 59. The LIP cemeteries are Sites 50, 53, and 55c, and there are LIP burial areas at Sites 44 and 45 (Figure 8).

At the south end of the study area there is a single LIP village, La Pedregosa (Site 64), on the Bahía San Nicolás.

Burial practices during the LIP included both the creation of individual graves and multiple interments in large, linear tombs. Collective tombs of the latter type are present in

both oases. At Monte Grande del río Ica, Site 33 consists of several LIP linear tombs on a terrace overlooking the oasis. They have been looted, and what remains today are depressions approximately ten meters in length by three meters in width, with great amounts of plain cloth, raw cotton, and human skeletal remains littering the surface. The same pattern obtains at the predominantly EIP site of Pedregal (Site 44) in the oasis of Monte Grande del río Grande, where one area (Point F; Figure 41) contains linear depressions with heaps of cloth, cotton, and human remains. A few roof logs were still in place when we first recorded this site in October 1989, but the cooperative residents subsequently removed them for firewood.

Late Horizon

No imperial Inca material was encountered during this study. Late Horizon components are indicated at a few sites on the basis of incised, blackware sherds. These sites are Site 7b in the Bahía de la Independencia, Site 17 at Punta Lomitas, Sites 21 and 23 along the estuary of the río Ica, and Site 53 in the oasis of Monte Grande del río Grande. Site 53 is a cemetery with two forms of burial. The traditional seated, tightly flexed type is present, but a number of individuals were placed in rectangular graves in a fully extended position. The latter may represent missionary influence in the early Colonial era.

The local LH and LIP pottery can be difficult to distinguish when sherds are fragmentary, and it is possible that more LH components are present at the LIP sites.

Historical Period

The modern fishing village of Puerto Caballas abuts an earlier, historic occupation (Site 36). Here can be seen the remains of reed walls and great quantities of thick sherds from large

jars, many with a black deposit coating their interior surfaces. I leave it to the historians to determine the date of occupation.

General Trends through Time

Frédéric-André Engel remains the published authority on the PCP along the South Coast (see bibliography in Silverman 1996), to which this study adds only a status report on three of his sites (also see Beresford-Jones *et al.* 2015). Following the PCP, the survey results indicate two periods when energy was being invested in permanent or semi-permanent settlements along the ocean front: during the EH-Necrópolis in the Bahía de la Independencia, and during the LIP. The absence of durable remains from the intervening periods (or our inability to recognize them) need not imply that the shores were totally abandoned. The Pacific littoral is only a one day walk from inland valleys and, barring sociopolitical or religious proscriptions for which we have no evidence, it is likely that maritime resources were seasonally harvested by small groups living in temporary shelters. If this was the case, the question to be answered is why, at some points in time, people found it advantageous to establish sea-side villages (high energy investment), while at other times they made do with temporary shelters (low energy investment). The eventual answer to this question may incorporate any or all of the following: 1) flourishing clam beds in favored locales which later became exhausted; 2) subsistence pressure on inland areas, perhaps as a result of extended drought or population increase; 3) warfare. These speculations are the best that can be offered on the basis of the current evidence (and see Carmichael *et al.* 2014).

Another pertinent question which cannot be answered with the survey data alone concerns the importance of marine resources in the diet of inland, farming peoples. As noted previously, large food surpluses can be generated by small

teams working the shoreline for a few weeks or months from temporary encampments. The flesh of fish and shellfish is preserved by sun-drying, and when transported inland and consumed leaves no traces. It can be argued that even seasonal exploitation of marine resources from temporary camps could make substantial contributions to inland diet.

However, in recent years several studies using stable isotope analysis of Nasca skeletal remains from inland sites all reached the same conclusion: marine resources constituted a minor part of the regular diet (Cadwallader 2013:187; Carmichael *et al.* 2014:13–17; Horn *et al.* 2009:192; Kellner and Schoeninger 2008: 236; Webb *et al.* 2013:133–135). While littoral foods would have provided variety, and could have become more important during prolonged droughts, they never played a significant role in the Nasca dietary economy.

PART II: CONTRIBUTED STUDIES

SURVEY REPORT FOR THE ARCHAEOLOGICAL ZONE OF CARHUA, PERU

Alana Cordy-Collins

INTRODUCTION

The site of Carhua came to my attention in 1972 when I first saw and photographed a number of textiles with designs painted in the style of Chavín de Huantar. These textiles were said to have come from a site on the South Coast of Peru called “Karwa” (spelled thus in Tello 1959 and in Cordy-Collins 1976), or “Carowa” (Sawyer 1972), or “Carhua” (Cordy-Collins 1979), near the city of Ica, Peru. I visited Ica that same year and spoke with Duncan Masson, a native of Ica, who first visited Carhua in 1930. He informed me that the site was already looted when he first visited it. I also spoke with the director of the Regional Museum of Ica, Alejandro Pezzia. Neither Mr. Masson nor Mr. Pezzia had heard of a Chavín textile discovery in Ica, nor had they ever seen a textile like those in the photos I had taken of the painted Chavín textiles.

When I returned to the United States in 1972, I carefully studied 117 Chavín textile fragments said to be from Carhua, which are now in the collections of The Textile Museum in Washington, D.C. These became the focus of my Ph.D. dissertation (Cordy-Collins 1976). Afterward, I maintained an intense interest in the problem of their origin. I saw more textiles of the same type in the years thereafter, and learned that the looting at Carhua had continued.

It was still not known if these textiles came from Carhua or not, but the site was quite important in its own right. Therefore, in 1979, I applied for financial support to explore the site

and to conduct a surface survey. I received a grant from the National Endowment for the Humanities to carry out the project. I submitted a proposal to the Peruvian National Institute of Culture (now the Ministerio de Cultura) to effect the survey and, in 1980, it was carried out. What follows is a report of that investigation.

CARHUA

Ica, which is 308 kilometers south of Lima, is the closest city to Carhua (Figures 3–4, Site 6). To get to Carhua it is necessary to follow a somewhat circuitous route: from Ica one proceeds north on the Pan-American Highway some fifty kilometers (to a large, rectangular cement sign board), and from there one continues west forty-two more kilometers to Carhua. This last is driven over an unimproved road. There are kilometer markers for the first forty kilometers; the last two are not marked, but the road does continue across the sand and through the site.

Carhua is an area of barren desert. The site is located on a promontory which juts into the Pacific Ocean. Carhua is not completely isolated; temporary fishing camps are often erected along the beaches to the north and south of the site.

The Carhua survey, conducted under the auspices of Credential No. 080-80-DTCPMC, used a three-person team to investigate the layout of the site and map it. In addition to the field survey made on foot, we surveyed it from a small plane, shooting photos at various angles.

Carhua is composed of at least three sections: two are midden mounds—one made up mainly of shell. The third section is a wide midden containing a looted cemetery. Although the survey did not include excavation, it appears that the site is shallow outside the area of the mounds. The mounds themselves are wide and deep.

MOUNDS

It seems that originally there were six principal mounds, and two minor ones. However, due to the cutting of the roadway, the site is bisected and appears to have ten major mounds. On Figure 24, the mounds are labeled alphabetically A-I, beginning south to north, then west to east.

Each mound is laid out parallel to the others and, as a group, all are oriented to the cardinal directions. The exact coordinates are 270/90° west by east (determined with a Brunton pocket theodolite, set to a 6°30' east declination). The widths of the mounds have been measured west to east (measurements are provided in Table 3).

The mounds conform to a two-type pattern. To the west, the midden consists of decomposed organic material, human and marine animal bone, seaweed, textiles, and a very small amount of shell. Everything is mixed with sand and salitre. In addition, there are sherds, but due to the salitre penetration, all examples noted in 1980 had eroded surfaces. Therefore, no sherd collection was made. In 1990 the site was visited by Patrick Carmichael (see Site 6 in Appendix) and, because of new looting, he was able to photograph sherds with extant surfaces (Figure 23). Lamentably, the textiles on the surface exhibited neither color nor design. All appeared to be simply woven and lacked visible ornamentation. Sun, combined with salitre, has removed all indication of cultural affiliation. On the summit of mound E, a small quantity of unmodified quartz crystals was encountered—the most unusual objects seen in the survey.

In contrast, the eastern mounds were composed almost completely of assorted marine shells. There was no evidence of cultural material. It was quite easy to distinguish the two types of mounds in the aerial survey (Figures 19–22).

The large size of mounds, combined with their number, indicates that the site was occupied for a long time, or by a large number of people, or both. Looting is limited to the bases of the mounds, but because the pits have caved in, it is difficult to determine the mounds' composition without excavation. Actually, the only stratigraphic "profile" of the midden comes from the road cut. Nonetheless, this limited view definitely shows that there are distinct levels in the mounds.

CEMETERY

The cemetery was discovered in the process of mapping. As stated, it had been looted, and bleached fragments of human bone were visible, indicating that the clandestine excavations were done years prior to 1980. The burial area (approximately 14°13'S; 76°10'W) measures 200 meters by 150 meters. It is in the northeast area of the site (see Figure 19).

It appears that the tombs were simple ones, little more than cavities in the sand; however, there are dried plant remains which—possibly—were used in the construction of the tombs. Although the exposed areas of the bones were bleached and desiccated, protected areas still had skin and hair adhering. This indicates that preservation conditions at the site were not that poor, in spite of the salitre.

It was not possible to say if the cemetery pertained to a single culture or more than one; there were few human remains on the surface. One individual was in a flexed position. The few

crania—or fragments thereof—exhibited dolichocephalic deformation.

CONCLUSION

Because of the two mound types at Carhua, the stratification of one kind, and the nearby cemetery, it is possible to reconstruct something of the prehistoric cultural situation. Although, without excavation it is not possible to ascertain absolutely, it seems probable that the ancient population of Carhua—doubtless fisher-folk—inhabited an area where, after decades (perhaps centuries), cultural debris built up into stratified mounds. The other mound type, with only shell, would have resulted from the occupational processing of shellfish. In this reconstruction, the cemetery grew in size with the deaths of members of Carhua's ancient society.

In my opinion, there is no evidence to support the idea that Carhua was the source of the Chavín textiles. There are two lines of evidence for this reasoning: first, the salitre is concentrated on all the cultural remains that I have seen (the result of Carhua's location on a promontory where the constant wind carries sea salt inland which adheres to everything). The Chavín textiles did not have salitre and, while there is the possibility that they could have been washed by the discoverers, I find this doubtful because of the likelihood that washing would cause the painted designs to run. Second, I spoke with fishermen in the area, asking them not if Chavín objects had come from the area, but rather what type of things had been discovered at Carhua. All description was of indigenous South Coast ceramics and textiles. Also, neither Mr. Masson nor Mr. Pezzia of Ica had heard of the robbery of a Chavín tomb—a very improbable situation in that small region. Patrick Carmichael, on his visit to Carhua ten years later, made the same observation of the climatic situation and its impact on cultural material (personal communication, 1990). In

addition, the ceramic remains which he photographed were completely dissimilar to the sherds said to have been found with the textiles (compare Figure 23 this volume with Cordy-Collins 1976: figure 32). But it is curious that Richard Burger (1988:117) relates he was informed that the Chavín textiles did indeed come from a deep tomb at Carhua. Neither Carmichael nor I saw evidence of a large pit resulting from such looting. And it is certain that looters never fill in their pits. Perhaps the discovery of the textiles' point of origin awaits another investigator in the future.⁴

Measurements of Carhua Mounds (in meters)			
Mound	Length (S–N)	Width (W–E)	Height
A	43	10	3.76
B	204.8	46	2.98
C	184	47	5.10
D	228	41	2.86
E	164	28	6.10
F	134	42	4.02
G	234	43	3.20
H	31	20	.92
I	66	26	1.70

Table 3. Measurements of Carhua Mounds (in meters).

⁴ *Editor's note:* Based on the spins and weaves of the textiles, Stone (1983:53–54) and Wallace (1975, 1979:32, 48) were skeptical that the famous painted cloths were produced on the South Coast.

LOCAL TRADITIONS ON THE SOUTH COAST OF PERU DURING THE EARLY INTERMEDIATE PERIOD

Patrick H. Carmichael

INTRODUCTION⁵

Andeanists associate the Early Intermediate Period (hereafter EIP) on the South Coast of Peru with the Nasca culture which was centered in the río Grande Drainage Basin. The extent of Nasca influence has been placed as far north as Chincha, and Acarí is frequently cited as the southern Nasca boundary. One may receive the impression that, during the EIP, the entire coast from Chincha to Acarí was a homogeneous cultural unit ruled by a centralized Nasca authority from the río Grande Basin. This image is an historic artifact of research priorities. The Nasca culture was identified at the beginning of this century and remains the most studied, published, and widely known indigenous culture of the prehistoric South Coast. Conversely, the EIP record for Chincha, Pisco, and Acarí is less well known and comparatively little has been published. There has been a tendency to define these areas on the basis of the better documented río Grande data, and treat them as subordinate partners in the Nasca culture. Mounting evidence now suggests that the

Nasca culture was more geographically restricted than previously thought, and was only one of several local traditions along the South Coast during the EIP.

The elevation of Nasca to pan-regional status is largely due to its early and still dominant position in South Coast studies, where it has become a generic term for all EIP remains.

GENERIC TRAIT DISTRIBUTIONS

It is not surprising that contiguous groups in similar environments frequently share a range of generalized traits. On the South Coast we may cite trophy heads, skull deformation, conical adobes, low-sided gambreled bowls, artificial mounds, and geoglyphs as examples of widespread cultural features during the EIP. In the past, such traits have been taken as diagnostic features of Nasca culture; however, a valley-by-valley comparison reveals local variations more indicative of regional autonomy than homogeneous unity. Taken on a general level of classification, such generic features might be used to characterize a South Coast co-tradition in which a series of independent groups participated.

CHINCHA-PISCO AND OTHER REGIONS

Many South Coast scholars have long recognized Chincha and Pisco as independent entities during the EIP, although this fact is seldom explicitly mentioned and is poorly documented in the published literature. Nasca "influence" in these valleys is limited to

⁵ This paper was originally presented at the California Institute for Peruvian Studies Round Table held in Sacramento, August, 1991, and later published in the newsletter of Andean research *Willay* (Carmichael 1992a:4-6). It is reprinted here with the kind permission of Izumi Shimada, editor of *Willay*, to make it available to a wider audience. Given the contemporary ongoing debate over the nature and distribution of South Coast EIP society, the early date of this article is notable.

trade pottery: the indigenous EIP wares are called Carmen and Estrella. They are similar to, but distinct from, Nasca pottery of the Ica-Grande region. Early references to “Nasroid” pottery in Pisco may have led some writers to include Pisco in the geographical range of Nasca culture. The large EIP site of Dos Palmas in Pisco is also sometimes listed as a Nasca center for similar reasons, but all indications point to an indigenous Pisco tradition.

The separation of Chíncha-Pisco from the Nasca cultural sphere suggests the possibility that geographical subdivisions along the South Coast may have coincided with regional traditions. The South Coast from Chíncha to Camana is not a uniform environment. For immediate purposes it may be divided into three distinct regions: 1) Chíncha and Pisco, being comparatively wide valleys which funnel outward to the sea; 2) the Ica and Grande systems, being effectively separated from the sea by a wide desert plain, and with limited agricultural lands along the Grande tributaries; 3) Acarí to Camana, being narrow valleys with small floodplains, and including the extensive and extremely lush lomas in the Atiquipa-Chala areas.

In the following discussions it will be understood that my grouping of valleys from Acarí to Camana is preliminary, and that Acarí will be the focus of concern. For now the valley groupings suggested here serve to emphasize the point that separate geographical regions are present, and that cultural boundaries can be envisioned in a similar manner.

NASCA POTTERY AGAIN

Any discussion involving Nasca inevitably returns to the pottery. While pure Nasca pottery is reported in Pisco and Chíncha, and Carmen and Estrella vessels have been found in the Ica and Grande systems, such occur-

rences are recognized as trade wares moving between contiguous areas. The argument for a Nasca presence in Acarí has, in part, been based on the presence of Nasca pottery in the valley. My examination of Acarí sites and the California Institute for Peruvian Studies (CIPS) collections archives indicates that true Nasca sherds are not as common as one might assume from the literature. The limited number of Nasca sherds documented are easily accounted for by trade vessels. Indigenous Acarí wares of the EIP are abundant. These share some similarities with río Grande and Pisco wares of this time period, but are sufficiently distinct to be easily recognizable. On the whole, I would say that the EIP wares of Acarí have less in common with Nasca than Nasca has with Carmen and Estrella.

The Nasca pottery which has been found in Acarí dates to Nasca Phases 3–4, and 7–8, indicating the times during which there was some interaction between regions. The most intensive points of ceramic similarity correspond to Nasca Phases 7 and 8. In the current view, the apparent absence of Nasca Phase 5 and 6 pottery need not indicate that Acarí was abandoned as suggested by some, but rather, that trade relations were not operative. Eventually Nasca 5 and 6 sherds may be identified.

The immediate problem is sorting out the local Acarí ceramic sequence for the EIP. In a manner analogous to the Carmen-Estrella sequence for Pisco, I suggest an initial EIP classification for Acarí as follows: Amato corresponding to EIP 1–2; Monte Grande corresponding to EIP 3–5/6; and Chaviña corresponding to EIP 7–8 (if Nasca 8 is still included in the EIP).

Equally noteworthy as the paucity of Nasca sherds in Acarí is the absence of many traditional Río Grande motifs and vessel

shapes. Double-spout bottles are exceedingly rare, if present, and were never part of the Acarí ceramic complex. Other early Nasca shapes such as head jars and vases are also absent. On the other hand, a number of distinctive Acarí shapes and designs can be identified. The Amato and Monte Grande Phases are characterized by large, open bowls which become progressively deeper, with subconical bottoms, and crude, simple lines painted on their exteriors. A variety of plain-ware vessels dissimilar to those of the río Grande area were also in use at this time. Distinctive vessels in the Chaviña Phase include Acarí face jars; a squat jar form with interior decoration on a flaring rim; and large, undecorated side-spout jars.

THE “FORTIFIED” SITES OF ACARÍ⁶

Surveys in the 1950s identified a series of EIP sites in Acarí with rounded, linear mounds demarcating their boundaries (these range from 1–2 meters in height on average). It was suggested that these mounds represented walls which had served for defense and, as such, may document a Nasca “invasion” of Acarí. None of these peripheral mounds has been excavated to determine their internal construction; however, proceeding on the assumption that they are, in fact, walls, their purpose remains open to speculation. There are no surface indications of parapets, impressive moats, or caches of sling stones to indicate a defensive function. Most of these sites appear to have been villages, although Amato, located in a low, sandy area beside the river, may have been a religious shrine. I suggest that these walls may have

served various functions at different sites including: separating cultural space from open pampa; providing a line of support for dwellings built along their interior faces; keeping animals out; and providing protection from the strong afternoon winds which sweep the valley. These speculations do not negate the fortification hypothesis, but until hard data from excavations are available, they provide equally plausible alternatives. In short, the fortification theory should not be regarded as established fact until more data are forthcoming. What can be stated at this time is that enclosed sites of this nature are not found elsewhere on the South Coast during the EIP. They are unique to Acarí where they represent an indigenous settlement pattern.

EIP OCCUPATION AT TAMBO VIEJO

Tambo Viejo is the largest site in the Acarí Valley. Its many components date from the EIP through to the Colonial era, but the times of peak activity were during the EIP and Late Horizon. The principal remains consist of agglutinated architecture (now reduced to barely visible foundation outlines) and some artificial mounds.

The literature identifies Tambo Viejo as a Nasca site which contained 8,000 rooms. In the current view, Tambo Viejo was not a Nasca settlement. It was built and occupied in the EIP by the indigenous Acarí inhabitants during the Amato and early part of the Monte Grande Phases. The term “room” may be misleading if these are thought of as habitations. A map of the EIP foundations shows a considerable range in the size and shape of enclosed spaces, many of which appear to have served as patios, small domestic storage units (?), and passageways. Limited excavation has not located extensive remains of domestic activity, but it is reasonable that some spaces did serve as habitations. Re-

⁶ Lidio Valdez has since completed many field seasons surveying and excavating Acarí sites, and is the published authority on Acarí archaeology. His views on fortifications are different from those expressed in my 1992a article (see bibliography in Valdez 2014).

cently, a CIPS team completed mapping the EIP area. The new, enlarged map doubles the area shown in Riddell and Valdez (1988:131). A liberal counting of wall segments and regular depressions on this map suggests a maximum figure of around 1,000 enclosed spaces. The overall layout could be interpreted to represent 20–30 groupings or blocks, each with 10–20 internal divisions of various sizes (including passageways, patios, and domestic storage bins (?), in addition to “rooms”). If such blocks are present, they may represent family groups. Whether or not all of these areas were contemporaneous is a matter of speculation.

A more reasonable estimate of 800–1,000 enclosed spaces in the EIP area of Tambo Viejo is still an impressive figure, even if they were not all being employed at one point in time. By EIP standards Tambo Viejo was a large settlement. The extensive agglutinated architectural pattern may have been comparable to the now destroyed EIP site of Dos Palmas in Pisco, but similar configurations have not been documented in the río Grande area. The agglutinated EIP architecture of Tambo Viejo represents another unique feature of the Acarí tradition.

NEW DIRECTIONS

Much of what has been presented here remains speculative and subject to ongoing research. However, I believe that the concept of independent local traditions participating in a generalized cultural pattern holds some merit for future study. As knowledge accumulates we are beginning to recognize significant regional variations. The ideas outlined here account for the known facts in an equally satisfactory manner as the alternative view of an all-encompassing Nasca formation. The implications for reconstruction of Nasca society are immediate. In the current perspective Nasca culture was restricted to the Ica-Grande region, and it would not be surprising if these two valley systems are separated in the future. More excavation and ceramic analysis will be necessary to clarify the relationship between Acarí and río Grande, but with many regional surveys recently completed we are moving towards a new era of study which requires re-evaluation of traditional models.

APPENDIX

ICA-NAZCA LITTORAL SURVEY REPORT

Patrick H. Carmichael

INTRODUCTION TO THE RECORDING SYSTEM

Each site has been numbered (1–64) to facilitate location on the accompanying maps (Figures 1–11, 24). In instances when small sites are situated less than one hundred meters apart they are identified by lower-case letters (*e.g.* 7a, 7b). UTM map coordinates are provided with the site descriptions, and the name of the site (if any), site type, period, and environmental setting are noted.

The UTM coordinates (Zone 18 S) were updated in 2017 using the Provisional South American Datum, 1956 (PSAD56). Earlier unpublished versions of this monograph used other systems for calculating UTM locations. The current UTM positions are accurate within the limitations of 1977 topographic maps at a scale of 1:100,000.

The maps used in this study were obtained from the Instituto Geográfico Nacional in Lima. They are 1977 editions (Instituto Geográfico Militar: 1:100,000). Each map is identified by name and sheet number (*e.g.* Palpa: Hoja 30-m).⁷

⁷ *Editor's note:* digital facsimiles of these maps are available at <https://legacy.lib.utexas.edu/maps/topo/peru/>. Search by sheet name: Lomitas (Sheet 1741, updated to 1996), Palpa (Sheet 1841, updated to 1996), Punta Grande (Sheet 1642, updated to 1999), and San Juan (Sheet 1840, updated to 1996).

SITE DESCRIPTIONS

Distances between sites, site dimensions, and feature size are all estimates based on surface observations and air photo and map interpretations. Distance and size are therefore not precise measurements but provide the reader with an informed order of magnitude. The current descriptions pertain to surface observations made in 1989/90; some sites may be partially reburied or further exposed. Site content descriptions and temporal affiliations are subject to the same qualification. Continued *huaquero* activity at some locations required descriptive revisions while the fieldwork was still in progress.

ACCESS

At the time this survey was done most sites, or their immediate areas, could be accessed by rugged vehicle. The sites on the Bahía de la Independencia were approached by regular vehicle, but farther south four-wheel drive was required.

COLLECTIONS

I did not make any collections during this study. At each site a list of artifacts was made, and photographs were taken in the field of representative materials using a macro lens. This method of recording was entirely satisfactory given the nature of this work—a rapid surface survey designed to produce a regional site inventory. Artifacts were therefore documented

and left near their original surface context to insure minimal site disturbance.

LITTORAL RESOURCES

Arthropoda/crustacea

Crabs—any of a variety of edible species (*i.e.* *Platyxanthus orbigny*; *Cancer polyodon*; *Cancer porteri*).

life zone: sandy and rocky sublittoral

Echinodermata/echinoidea

Erizo marino or sea urchin—of the family Arba-
ciidae, particularly *Stronglyocentrotus albus*

life zone: rocky sublittoral

Mollusca

Almeja or clam (bivalve)—*Donax peruvianus*,
Semele corrugata

life zone: intertidal or sandy sublittoral

Caracol or snail (gastropod)—*Thais chocolata*

life zone: rocky sublittoral

Chanque (gastropod)—*Concholepas concholepas*

life zone: rocky sublittoral

Cholga or *Choro zapato* (bivalve)—*Choromytilus*
chorus

life zone: rocky sublittoral

Choro (bivalve)—*Aulacomya ater*

life zone: rocky sublittoral

Concha de Abanico or scallop (bivalve)—*Argo-*
pecten purpuratus

life zone: rocky littoral

Lapa or keyhole limpet (gastropod)—*Fissurella*

spp.

Macha or clam (bivalve)—*Mesodesma donacium*

life zone: sandy sublittoral

SITE REPORTS⁸

Site 1

Period: LIP

Site Type: large shell midden

Setting: sandy littoral

Name: Laguna Grande

Location: Carta Nacional Punta Grande;

Hoja 29-k; 1:100,000

UTM: 364,899E–8435,612S

Located at the western base of Cerro El Fron-
tón, above the village of Laguna Grande, Bahía
de la Independencia (Figures 1–4). The road
from Ica to Laguna Grande cuts through the
site.

Description: The midden measures c. 100 meters
N–S by 30 meters E–W, and at its maximum is
c. 8 meters in height. A bed of seaweed (c. 50
meters long by 1–2 meters deep) is located on
the upper side of the roadcut. The precise
function of this feature could not be deter-
mined, but it may represent the fill of a large
platform. The midden area below the road is
primarily composed of molluscs (*almeja*,
caracol, *cholga*, *concha de abanico*), and the
remains of *erizo* and crab with some sea lion
and whale bones, and a few possible camelid
bones are also present. There are several
concentrations of rounded cobbles and
charcoal on the south slope of the mound,
possibly a domestic area. Fragments of
nets and pottery are scattered over the
site. Engel (1981:71) also recorded this site.

⁸ The UTM coordinates given will allow readers to locate these sites on Google Earth. They do not correspond to the map grid reference numbers on Peru's Carta Nacional which follows a different convention relevant only to South America.

Site 2

Period:	PCP, Necrópolis (Engel), EH (Massey), LIP
Site Type:	village mounds with shell middens
Setting:	sandy littoral adjacent to rocky littoral
Name:	El Chucho
Location:	Carta Nacional Punta Grande; Hoja 29-k; 1:100,000
UTM:	367,574E–8435,444S

On the ocean front at the east end of Playa El Chucho, Bahía de la Independencia (Figures 1–4).

Description: Engel (1981:126) provides a sketch map of the site showing eighteen linear mounds. The mounds begin on the ocean front and continue in a series back along the east side of a relict embayment (Figure 18). One large mound is on a high terrace to the east, on top of the 50 meter contour line. The total dimensions of the site are c. 200 meters N–S by 800 meters E–W. There is considerable variation in mound size. Some of the larger ones are estimated to be 100–150 meters long, 20 meters wide, and 2–4 meters high. They are composed of habitation refuse and shell, with thick salitre deposits in many areas. Alignments of large, rounded cobbles along the eroded sides of some mounds were possibly parts of subterranean structures. A spring has been reported on Cerro El Frontón.

Shell remains are primarily *macha* but *almeja*, *caracol*, *chanque*, and *concha de abanico* are also present. Surface debris includes hearths and charcoal scatters, whale bone, pieces of coarse cloth and netting, and coarseware sherds. The only diagnostic pottery we observed was a small LIP jar; however, Sarah Massey has identified late EH sherds (Ocucaje 9) at El Chucho (personal communication 1990). Engel (1981:29)

dates the main occupation to the Necrópolis Phase (EH 10–EIP 2).

Huaquero probes have been made into most of the mounds, and there is evidence of bulldozer activity. The most northerly mound is badly looted, and the abundance of human remains on the surface indicates that it served as a cemetery at some point. These burials appear to have been quite poor, as bits of coarse cloth were the only material associated with them. There are few human bones on the surface elsewhere at the site.

Site 3

Period:	prehistoric, ceramic
Site Type:	shell midden
Setting:	rocky littoral
Name:	Canastones
Location:	Carta Nacional Punta Grande; Hoja 29-k; 1:100,000
UTM:	370,868E–8432,380S

This small mound is at the base of a slope located toward the north end of Playa Canastones, Bahía de la Independencia (Figures 2–4).

Description: The mound measures c. 25 meters N–S, by 5 meters E–W, by 1.5 meters in height. Constituents include *almeja*, *chanque*, *cholga*, *caracol*, *lapa* (limpet), crab remains, bird and sea lion bones, and plainware sherds. Abundant charcoal and cobbles indicate that structures were present.

Site 4

Period: prehistoric, aceramic
 Site Type: small shell scatter
 Setting: rocky littoral adjacent to sandy littoral
 Name: Playa Tunga 1
 Location: Carta Nacional Punta Grande; Hoja 29-k; 1:100,000
 UTM: 373,073E–8429,154S

The site is on top of a cliff overlooking the sea at the north end of Playa Tunga, Bahía de la Independencia. It is near the Carhua road.

Description: A scatter of shell covers an area of four square meters. Its contents and general description are similar to Site 5 (see below).

Site 5

Period: prehistoric, aceramic
 Site Type: small shell scatter
 Setting: rocky littoral adjacent to sandy littoral
 Name: Playa Tunga 2
 Location: Carta Nacional Punta Grande; Hoja 29-k; 1:100,000
 UTM: 373,214E–8429,117S

The site is situated on top of a small, rocky peninsula with steep cliffs which projects out from the north end of Playa Tunga, Bahía de la Independencia (Figures 2–4). It is close to the Carhua road.

Description: A scatter of shells covers an area of 12 square meters, but accumulation is not high enough to constitute a true mound. Shells include *almeja*, *chanque*, and *cholga*. No pottery was observed. The remains of two hearths were noted, but it was not possible to determine whether they were contemporary with the weathered shell debris.

Site 6

Period: EH, Necrópolis (Engel), and LIP
 Site Type: village mounds with shell middens
 Setting: rocky littoral adjacent to sandy littoral
 Name: Carhua (Karwa)
 Location: Carta Nacional Punta Grande; Hoja 29-k; 1:100,000
 UTM: 374,523E–8428,177S

The site is situated on a small, rocky peninsula which separates Playa Tunga from Playa del Morro, Bahía de la Independencia (Figures 1–4, 19–24). There are roads leading to the site.

Description: Alana Cordy-Collins provides an independent, detailed description of Carhua in her 1980 report (see Cordy-Collins, this volume; also see Engel 1981:28–29, Figures 48a–d).

The site consists of a series of linear mounds with E-W orientations (Figures 19–20, 24). The mounds range from 30 meters to 200 meters in length, 10 meters to 50 meters in width, and stand 2 to 6 meters in height. Scattered debris continues for another 100 meters to the east, beyond which a small habitation area (30 by 30 meters) is located on a hilltop overlooking the main site area. A large cemetery is situated to the NE of the mounds.

In the late 1950s Engel watched looters opening tombs at Carhua, which he identified as belonging to the Paracas Necrópolis Phase (EH 10–EIP 2). He also reports finding “classic Chavín pottery” at the site, large numbers of obsidian points and knives, and a localized LIP occupation (Engel 1981:28–29). Cranial trauma was apparently common at Carhua, and spear throwers and numerous projectile points scattered across the site (including one still lodged in an arm, see Engel 1966:212) suggest the

settlement witnessed fierce fighting (Engel 1981:28). A seep hole is reported nearby (*ibid.*).

Since Cordy-Collin's work in 1980, looting has continued along the north side of the northern mound, and in this area a few incised sherds dating to the late EH were observed (Figure 23), Ocucaje 9, identified by Lawrence Dawson, personal communication 1990). Fragments of coarse cloth, gourds, and basketry were noted. Loose cobbles and blocks of salitre may have been used in tomb construction. Graves appear to have been quite poor. Cordy-Collins made similar observations on the main cemetery located just to the northeast of the habitation mounds.

The western habitation mounds are composed primarily of organic matter mixed with sand and salitre. The eastern mounds have a much higher shell content which makes them visible at a distance. Approximately 75 percent of the molluscs at Carhua are *macha*, but *chanque*, *cholga*, *concha de abanico*, *lapa*, and crab remains are also present. Sea lion and whale bones are among the debris, in addition to maize cobs and charcoal, bits of netting, and coarse cloth. Undiagnostic coarseware sherds are also found over the site.

There is no evidence of large, impressive structures or deep tombs at Carhua. The site appears to have been a fishing village, and may have been sporadically occupied throughout much of prehistory. Fishermen continue to camp around the mounds today. After examining the site, it is difficult to imagine that the spectacular "Carhua" textiles were unearthed here.

Site 7a

Period: unknown
 Site Type: stone buildings
 Setting: sandy littoral adjacent to rocky littoral
 Name: Yaparejo A
 Location: Carta Nacional Punta Grande; Hoja 29-k; 1:100,000
 UTM: 378,203E-8424,285S

The site is situated on the ocean front at the south end of Playa del Morro, Bahía de la Independencia (Figures 2-4). It is approximately 300 meters south of Quebrada Yaparejo.

Description: Eight stone structures are located in an area c. 40 by 50 meters on the open beach front. The buildings are about 6 meters long by 3 meters wide with a central transverse partition. The walls are 70 centimeters thick and 0.5 to 1.5 meters high. They are constructed of granite boulders with seaweed, caliche, and whale bone chinking.

Modern trash litters the surface but weathered, plainware sherds, and tiny maize cobs are also present. Molluscs include *almeja*, *macha*, *concha de abanico*, *caracol*, *chanque*, *cholga*, and *choro*.

Site 7b

Period: LIP-LH
 Site Type: shell midden
 Setting: sandy littoral adjacent to rocky littoral
 Name: Yaparejo B
 Location: Carta Nacional Punta Grande; Hoja 29-k; 1:100,000
 UTM: 378,205E-8424,165S

The site is situated on the ocean front at the extreme south end of Playa del Morro, Bahía de

la Independencia (Figures 2–4). It is c. 40 meters south of No.7a.

Description: The mound measures c. 60 meters N-S by 35 meters E-W, and attains a height of about 8 meters on the west side. The molluscs which compose most of the mound are fragmented and weathered in comparison with the shells at Yaparejo A. Debris includes *concha de abanico*, *macha*, *lapa*, *cholga*, *caracol*, *chanque*, and *erizo*. Charcoal, small maize cobs, bits of netting, and weathered sherds, including a few thick blackware pieces, are scattered over the surface. Hearth remains, layers of charcoal, and lines of cobbles are exposed along the western side, indicating domestic structures. The mound is cut by a trail which leads down to the beach from a high terrace on the south side.

Site 8

Period: prehistoric, ceramic
 Site Type: shell midden
 Setting: rocky littoral sea cliffs near sandy littoral
 Location: Carta Nacional Punta Grande; Hoja 29-k; 1:100,000
 UTM: 378,090E–8423,293S

The site is situated on a high, broad marine terrace c. 500 meters south of the Yaparejo sites (sites 7a and 7b), just beyond the south end of Playa del Morro, Bahía de la Independencia (Figures 2–4). The road to Morro Quemado passes above the site.

Description: The entire site covers an area 30 by 50 meters, but the area of high shell and charcoal concentration is 20 by 20 meters, and 50–100 centimeters high. Several hearths were observed amid remains of *almeja*, *chanque*, *cholga*, *concha de abanico*, *erizo*, *lapa*, and *macha*. A few whale bones were also present. Several weathered sherds were observed on the surface. From the terrace edge there is a straight 20

meter drop to narrow, rocky beaches below. The site is covered with *huaquero* test holes, none of which yielded human remains.

Site 9

Period: prehistoric, aceramic
 Site Type: shell scatter
 Setting: rocky littoral sea cliffs
 Location: Carta Nacional Punta Grande; Hoja 29-k; 1:100,000
 UTM: 379,422E–8420,922S

Situated on the ocean front along the top of a steep marine terrace with a sheer drop of 15 meters to the ocean below (Figures 2–4).

Description: A thin layer of weathered shells from both sandy and rocky environments; a charcoal scatter continues over an area 70 meters by 15 meters at the cliff edge. No other remains were observed.

Site 10

Period: prehistoric, aceramic
 Site Type: shell middens
 Setting: rocky littoral sea cliffs
 Location: Carta Nacional Punta Grande; Hoja 29-k; 1:100,000
 UTM: 379,608E–8420,580S

The northern edge of this site is c. 200 meters south of Site 9. It stretches along the edge of a steep marine terrace with a sheer drop of 10 meters to the ocean below (Figures 2–4).

Description: The site continues along the terrace for 120 meters and extends 20 meters back from the edge of the precipice. Within this area there are a series of roughly circular shell concentrations, c. 5–8 meters in diameter and set 5–30 meters apart. Midden debris varies from 10–100 centimeters in depth. There are three main high density areas or low mounds. The central

mound has a vertical cement marker on top of it. Weathered shells from both sandy and rocky environments occur with charcoal scatters and traces of hearths.

Site 11

Period: prehistoric, aceramic
 Site Type: large shell midden
 Setting: sandy and rocky littoral ecotone
 Location: Carta Nacional Punta Grande;
 Hoja 29-k; 1:100,000
 UTM: 379,895E-8420,279S

Situated on the ocean front at the north end of a relict embayment located at the SE end of Bahía de la Independencia, immediately north of Morro Quemado (Figures 2-4). A road cuts through the east face of the mound.

Description: Total site dimensions are c. 120 meters N-S by 25 meters E-W. The mound measures c. 70 by 20 meters. It is c. 1.5 meters in height on its east side and 4 meters high on the west, where it spills down a relatively gentle slope to a sandy beach. Molluscs from both sandy and rocky environs are present, in addition to charcoal and hearth remains. A whale bone and a human humerus were noted on the surface.

Site 12

Period: prehistoric, aceramic
 Site Type: shell midden
 Setting: sandy and rocky littoral ecotone
 Location: Carta Nacional Punta Grande;
 Hoja 29-k; 1:100,000
 UTM: 380,329E-8419,716S

A few hundred meters south of the large mound at Site 11, the road cuts through a deposit of shell and charcoal (Figures 2-4, 25).

Description: Site dimensions are c. 110 meters N-S by 30 meters E-W. The road cut has exposed a layer of shell with charcoal scatter c. 15-20 centimeters thick.

Site 13

Period: prehistoric, aceramic
 Site Type: small shell midden
 Setting: sandy littoral, near rocky littoral
 Location: Carta Nacional Punta Grande;
 Hoja 29-k; 1:100,000
 UTM: 380,964E-8415,688S

Situated beside the road along the base of the northern slopes of Morro Quemado, Bahía de la Independencia. The mound is c. 200 meters east of Site 14 (Figures 1-4).

Description: The mound is c. 5 meters long by 2 meters wide and 1.5 meters high. Its contents are similar to those at Site 14, although ceramics were not observed.

Site 14

Period: LIP
 Site Type: large shell midden
 Setting: sandy littoral, near rocky littoral
 Location: Carta Nacional Punta Grande;
 Hoja 29-k; 1:100,000
 UTM: 380,607E-8415,390S

Located at the base of the northern slopes of Morro Quemado, Bahía de la Independencia (Figures 1-4). A road cuts through the mound (Figure 25). The site is c. 200 meters to the east of Morro Quemado (Site 15).

Description: The mound measures c. 70 meters E-W by 50 meters N-S, by 4 meters in height. It is primarily composed of *almeja* and *cholga* shells, although *chanque*, *concha de abanico*, *erizo*,

lapa, and crab remains are also present. Other constituents include sea lion and camelid bones, maize cobs, and net fragments. Plainware and painted sherds pertaining to the LIP were observed on the surface.

Site 15

Period: late EH to EIP 1 with possible later use
 Site Type: village
 Setting: sandy littoral, near rocky littoral
 Name: Morro Quemado
 Location: Carta Nacional Punta Grande; Hoja 29-k; 1:100,000
 UTM: 380,306E–8415,469S

The site is on the lower north slopes of Morro Quemado, at the south end of Bahía de la Independencia (Figures 1–4, 25).

Description: There are three distinct areas of architectural remains which are best described separately (see Figure 25). Area A consists of a narrow platform which was leveled at the base of the slopes. There are three rectangular stone buildings aligned in an E–W orientation along this platform. They are parallel to the access road which cuts through the site. These structures are c. 7 meters long by 3 meters wide. The walls stand to a height of one meter. They are constructed of angled stones set in a mortar of clay and seaweed. Weathered sherds are present in their immediate vicinity, but no chronologically diagnostic material was encountered. One of these structures is still used by fishermen today.

Area B is on the sandy slopes above and to the east of Area A. Small platforms and retaining walls constructed of rounded stones were built into the hillside. Some of these may represent rooms. A dense accumulation of midden debris reaching one meter in depth is associated with

these structures. Midden constituents include *caracol*, *cholga*, *choro*, *concha de abanico*, *lapa*, *macha*, crab, seaweed, and other plant remains, and whale and sea lion bones. A superposition of structures separated by layers of debris is evident in some *huaquero* probes. Coarse, undecorated sherds are abundant. A rimsherd from a plate-like vessel with blunt, linear incisions was noted, indicating a late EH or EIP 1 occupation.

Area C is adjacent to the access road, on its north side. It lies to the east of the previously described areas, and is closest to the large shell mound at Site 14. Low, agglutinated stone walls define five rooms, each measuring c. 5 by 2.5 meters. Undecorated coarseware sherds were seen in the vicinity, but chronologically diagnostic material was not encountered.

Considering locations and construction techniques, there appear to be two and possibly three or more components to this site. Area B is the earliest occupation. The temporal affinities of Areas A and C remain uncertain.

Site 16

Period: prehistoric
 Site Type: geoglyph
 Setting: peninsula
 Location: Carta Nacional Punta Grande; Hoja 29-k; 1:100,000
 UTM: 381,631E–8414,361S

Situated on a flat towards the north side of the saddle area between Morro Quemado and Cerros de Palo Vento (Figures 1–4). Accessible by foot up the major ravine on the north side of Morro Quemado (marked “road” on map).

Description: Immediately east of the heights of Morro Quemado, a series of tilted stone layers with E–W orientations are exposed and weathering on the surface. A pair of these

natural formations was artificially modified by the placement of additional stones at intervals along their lengths (Figure 61). The area between (c. 30 meters) was cleared of loose stones and pebbles. The south line is c. 37 meters long while the north line can be traced for c. 60 meters. There is no associated cultural material.

Site 17

Period: LIP-LH (Engel 1980 identified EH, EIP, and Post-Tiahuanaco remains)
 Site Type: shell middens
 Setting: sandy littoral adjacent to rocky peninsula
 Name: Punta Lomitas
 Location: Carta Nacional Lomitas; Hoja 30-I; 1:100,000
 UTM: 408,720E-8373,196S

Situated along the northeast edge of the peninsula of Punta Lomitas, immediately behind the modern houses (Figures 2, 5, 16). The west end of Punta Lomitas is a guano preserve, and off-limits.

Description: The site is c. 180 meters long by 20–40 meters wide. Within this area there are four principal middens ranging from 10 by 20 meters to 60 by 40 meters, and spaced 10–30 meters apart. Mollusc remains are primarily *caracol*, *chanque*, and *lapa*, but *almeja* and *macha* are also present. The weathered shells are embedded in thick, black matrices of carbon, ash, and decomposed organic matter. Whale and sea lion bones are also present. A number of loose cobbles may have been part of structures. In some areas the debris is superficial, but dense deposits in excess of 30 centimeters were noted. Fragments of weathered plainware pottery are present, and a thick blackware sherd attributable to the LH was noted. Pieces of coarse textiles and maize cobs were also observed, but the amount of modern trash scattered over the

area made it difficult to differentiate between some prehistoric and recent materials.

According to Engel's map symbols (1980:XXIV-A) components belonging to Chavín, Paracas Necrópolis, Nasca, and Post-Tiahuanaco times were identified at Punta Lomitas. Engel (1981:66) states that water was available at the time of his visit. The current residents do not recognize any water sources in the vicinity today.

Site 18

Period: prehistoric, aceramic, possible preceramic
 Site Type: shell midden
 Setting: rocky littoral, near sandy littoral
 Name: Playa Lomitas
 Location: Carta Nacional Lomitas; Hoja 30-I; 1:100,000
 UTM: 415,659E-8369,312S

Located at the south end of Playa Lomitas, a few hundred meters north of Pozo de Los Chilenos (Figures 2, 5), along the edge of the first marine terrace. At this point, the narrow, rocky beach and first terrace meet. The terrace rises steeply to a height of 15 meters.

Description: The site follows the terrace edge for some 40 meters and is 10–15 meters wide. It consists of highly weathered shell, primarily *chanque*, and carbon remains to a depth of 20 centimeters. No other surface remains were observed. This site may have been occupied prior to coastal uplift.

Site 19

Period: prehistoric, aceramic
 Site Type: shell scatter
 Setting: rocky littoral, sea cliffs
 Location: Carta Nacional Lomitas; Hoja 30-I; 1:100,000
 UTM: 418,303E–8367,819S

The site is c. 2.5 kilometers south of Pozo de Los Chilenos, next to a small, dry quebrada which runs from the coastal hills down to the ocean (Figures 2,5). It is situated along the edge of a high terrace overlooking a small, rocky embayment some 15 meters below.

Description: The site extends along the terrace edge for 20 meters and is 10 meters wide. It consists of a thin scatter of weathered shell (mainly *chanque*) and charcoal remains.

Site 20

Period: PCP and LIP
 Site Type: village mound with shell midden
 Setting: sandy littoral adjacent to estuary
 Name: Morro La Gringa
 Location: Carta Nacional Lomitas; Hoja 30-I; 1:100,000
 UTM: 439,118E–8356,421S

Situated on the north side of the Boca del río Ica on the edge of the first terrace, c. 0.7 kilometers back from the ocean front and 1 kilometer south of Cerro La Gringa (Figures 2, 6, 7). At the time of recording a small shrine with a cross was located on the edge of the same terrace, and was clearly visible from the road leading to the river mouth.

Description: The mound traces the terrace edge and is roughly oriented N–S. It is c. 200 meters in length and rises 3–4 meters above the terrace

plain on the east side, and 10–12 meters above the beach plain on the west side. The north end of the mound is 20–50 meters wide and composed of dense shell midden. Mollusc remains are primarily *almeja* and *macha*, but some shells from rocky environments are also present. The southern mound area is 40–80 meters wide and contains all architectural and artifact remains, including weathered coarseware sherds. A small, looted cemetery, c. 40 by 40 meters, is located on the terrace plain about 70 meters east of the southern end of the mound.

Engel (1980, 1981) excavated at the site, and identified three separate areas with a series of occupations. He has published an account of this work with lists of recoveries (Engel 1981:19-20). These include large numbers of stone tools—some of obsidian—and finely worked projectile points. A date of 6470 BP±110 was obtained from the lowest stratum of the northern shell midden area. No stone tools were observed during our study. At the south end Engel (*ibid.*:19) describes a series of dwellings encircled by posts held in place by split rocks and cobbles, with walls formed by mats. Remains of these structures could still be seen on the surface in November, 1989. Engel also uncovered part of a raft in the southern area which provided a date of 870 BP±80 (*ibid.*). We located the following materials in the southern area which are absent from Engel's lists: a rimsherd with red slip, coarse textile fragments and sections of net bags, several pieces of cut spondylus shell.

Site 21

Period:	LIP and LH
Site Type:	large village mounds with shell midden
Setting:	sandy littoral adjacent to estuary
Name:	La Yerba
Location:	Carta Nacional Lomitas; Hoja 30-1; 1:100,000
UTM:	440,234E-8355,862S

Situated c. 0.5 kilometers south of the Boca del río Ica, and c. 0.7 kilometers in from the ocean beaches, at the northern end of La Yerba dune field (Figures 1, 2, 6, 7, 26–31).

Description: The site covers two large, white hills connected by a low saddle. The white coloring derives from massive shell accumulations which contrast with the sandy, dun-colored landscape, making the site clearly visible from a distance. These hills also represent the first significant rise behind the beach on the south side of the Boca del río Ica (Figure 26). The larger of the two prominences faces the ocean, and is transected along its summit by an elongated depression in which architectural features are found. The smaller adjoining hill presents a similar configuration. Continuous refuse covers an area c. 200 meters long by 50–120 meters wide, and reaches a height of 15–20 meters.

On the two hills, and in the connecting saddle, are found sections of reed walls and foundation segments of silt-stone blocks and crude adobes with mud plaster. Dwelling configurations are not clear, but intact remains are likely preserved just below the surface (Figure 27).

The great majority of shells are *almeja*, *concha de abanico*, and *macha*, but *cholga*, *chanque*, *lapa*, *caracol* and crab remains are also present. In addition to molluscs, the midden deposits contain thick, rich organic layers full of charcoal

and the remains of hearths. Maize cobs and gourd fragments are plentiful. Sea lion, whale, camelid, and canine bones are present. Pieces of coarse cloth, string, and netting are among the surface debris. On the smaller, eastern mound, part of a hat and a halter, both made of camelid fiber, were observed.

Fragments of large cooking and storage vessels are found over the entire site, as are thin, painted fineware sherds (Figures 29–31). Sherd thickness, paste, and temper sizes show gradations from very thick, coarse, storage and cooking vessels, to large, plain bowl and jar forms, to fine polychrome wares. Most of the fineware pottery is LIP, but several incised blackware sherds from the LH were also noted (Figure 31e). Engel (1981:20–21, 64) gives a brief description of the site and provides a date of 1510 AD ± 100.

Because of the continuous distribution and uniformity of debris over both hills and the adjoining saddle, this locale was recorded as a single site. However, earlier researchers tended to record each hill separately (Engel 1980, 1981; Strong 1957).

A few human bones were observed on the surface, but no major burial areas were identified. Looting consists primarily of shallow *huaquero* probes which produced only habitation refuse and were quickly abandoned. It appears that most of the site is intact. La Yerba dune field is gradually encroaching on both hills. Small pockets of exposed cultural debris were noted at different levels among the dunes bordering the site (Figure 28). It is possible the occupation extends some distance to the south beneath the shifting dune formations. Site 22a appears to be the main cemetery corresponding to the LIP occupation at La Yerba, and Site 23 may represent the associated LH cemetery.

Site 22a

Period: LIP
 Site Type: cemetery
 Setting: riverine
 Name: Cementerio La Yerba
 Location: Carta Nacional Lomitas; Hoja 30-I; 1:100,000
 UTM: 440,143E-8356,893S

Situated on the north bank of the río Ica c. 1.65 kilometers from the river mouth (Figures 6, 7), and 0.5 kilometers below the last major curve in the river channel. The site is adjacent to vegetated sand dunes on the north flank of the channel.

Description: This is a badly looted cemetery concentrated in an area measuring c. 80 by 80 meters, although a few small clusters of looted graves are found outside this area. Plain cloth, pottery, and human remains occur on the surface in abundance. At the time of recording a large sand dune had formed across the cemetery, effectively dividing it into northern and southern halves. A whale rib was also present on the surface. Sections of large urns were noted at the north end of the site. Painted fineware pottery is common and shows affinities with ceramics at La Yerba (Site 21). This site appears to be intrusive into the general area defined as Site 22b.

Site 22b

Period: prehistoric, ceramic
 Site Type: shell scatters
 Setting: riverine
 Location: Carta Nacional Lomitas; Hoja 30-I; 1:100,000
 UTM: 440,143E-8356,893S

Situated on the north side of the río Ica c. 1.5–1.7 kilometers from the river mouth (Figures 6, 7). The site begins just below the last major curve in the river channel, at the point

where the channel begins to widen into a small flood plain. It lies on the north side of a series of vegetated dunes which flank the north side of the channel. Site 22a is within this area.

Description: This site follows the north side of the river channel for c. 200 meters, and extends some 300 meters back from the banks. It is composed of a series of small (1–2 meters diameter) shell concentrations, set 5–25 meters apart, with no apparent spatial patterning. Some are primarily composed of *chanque*, while elsewhere *macha* are predominant. *Caracol* and *lapa* are also present in addition to occasional sea lion and bird bones. Sherds are plain coarseware. Looters' probes around Site 22a have also exposed organic deposits up to 20 centimeters thick just below the surface. A few small terrace-like areas cleared of stones are on the sides of low hills some 200–300 meters back from the river channel. There may have been some small occupations in this area. For current purposes it is regarded as a general region of temporary encampments.

Site 23

Period: LH
 Site Type: cemetery
 Setting: riverine
 Location: Carta Nacional Lomitas; Hoja 30-I; 1:100,000
 UTM: 440,293E-8357,020S

Situated on the north bank of the río Ica c. 1.8 kilometers from the mouth. The site is at the base of a hill at the last major curve in the river, c. 150 meters north of Site 22a (Figures 6, 7).

Description: This small, looted cemetery measures c. 20 by 30 meters. Heavily weathered human bones are scattered on the surface. A few LH blackware sherds and a clay bead or spindle whorl were noted.

Site 24

Period: prehistoric
 Site Type: stone cairns
 Setting: desert
 Name: Los Montónes
 Location: Carta Nacional Lomitas; Hoja 30-I; 1:100,000
 UTM: 439,811E–8357,667S

Situated on the north side of the río Ica, beside the entrance road to the beach, c. 2.2 kilometers from the river mouth (Figures 6, 7). The site is south of the road and is visible from it. Cerro La Gringa lies immediately to the north.

Description: There are two clusters of small stone cairns, set 10 meters apart. One group has six cairns and the other has eight, although at the time of recording the latter was being buried by a sand dune. Within each cluster the cairns are c. one meter in diameter by 30–50 centimeters high. They are composed of two or three types of split rock. The cairns, possible burials, are undisturbed, and there are no artifacts visible on the surface.

Site 25

Period: MH Loro (tentative)
 Site Type: small habitation
 Setting: riverine
 Location: Carta Nacional Lomitas; Hoja 30-I; 1:100,000
 UTM: 440,561E–8359,089S

The site is on the north side of the río Ica in a small sandy embayment, bounded on the north by a steep hill. It is on the south side of the first major curve in the river below the oasis of Monte Grande del río Ica (Figures 6, 7).

Description: A light scatter of shell, charcoal, and weathered sherds was found dispersed over an area c. 50 by 100 meters. There are no major

middens, but several concentrations were noted. The clearest example is a raised area, 30 centimeters high by 6 meters long, by 1.5 meters wide, which may be the remains of a house floor. The site appears to have been a farmstead of short duration. Chronological affiliation is tentatively assigned on the basis of a single polychrome rim sherd from a cumbrous bowl.

Site 26

Period: prehistoric
 Site Type: geoglyphs
 Setting: river oasis
 Location: Carta Nacional Lomitas; Hoja 30-I; 1:100,000
 UTM: 441,322E–8359,513S

Situated on a gravelly slope at the southeastern corner of Monte Grande del río Ica. Must be approached on foot from the west side of the oasis (Figures 6, 7). From this site the linear distance to the ocean is approximately 5 kilometers.

Description: A trapezoid shape c. 300 meters long extends from the edge of the oasis up a gentle, gravel strewn slope. The widest end (17.5 meters) is at the oasis edge, while the point is marked by a low stone cairn 2.5 meters in diameter. A second trapezoid shape is c. 10 meters to the west. This feature is 112.5 meters long, 15 meters wide at the west end, and 10.5 meters wide at the east end. To the eye it appears more rectangular in shape. Both of these geoglyphs were formed by sweeping the loose surface gravel aside. Their edges are marked by low, pebble ridges. No artifacts were seen in their vicinity (Figures 62, 63).

Site 27

Period: prehistoric, aceramic
 Site Type: small cemetery
 Setting: river oasis
 Location: Carta Nacional Lomitas; Hoja
 30-I; 1:100,000
 UTM: 441,196E–8360,483S

Situated on the east side of Monte Grande del río Ica, on a sandy slope c. 50 meters back from the edge of the oasis (Figures 6, 7).

Description: A cluster of *huaquero* holes in an area measuring 10 by 10 meters. Large sections of plain, coarse cloth, and two pieces of cut spondylus shell were observed on the surface. Sherds and human bone were absent. The *huaquero* holes are barely visible due to shifting sand, and the looting appears to have taken place some time ago. The location, limited size, and cloth (shrouds?) indicate a small cemetery.

Site 28

Period: prehistoric, aceramic
 Site Type: unclassified
 Setting: river oasis
 Location: Carta Nacional Lomitas; Hoja
 30-I; 1:100,000
 UTM: 441,385E–8360,726S

Situated along the southeastern side of Monte Grande del río Ica, on a hillside c. 30 meters back from the edge of the oasis (Figures 6, 7).

Description: The following items were observed eroding from a sandy hillside in an area measuring 20 by 20 meters: several sections of cane, a few pieces of string and cotton, some charcoal, a scatter of shell, and three pieces of cut spondylus shell. No pottery or concentrated midden deposits were observed. Surface remains are equivocal. This may represent a small farmstead, or undisturbed cemetery.

Site 29

Period: prehistoric, ceramic
 Site Type: small cemetery
 Setting: river oasis
 Location: Carta Nacional Lomitas; Hoja
 30-I; 1:100,000
 UTM: 441,554E–8361,214S

Situated on a sandy plain bordering the east side of Monte Grande del río Ica, some 50 meters back from the oasis margin, and roughly opposite Site 35 (Figures 6, 7).

Description: A few weathered sherds and fragmented human bones were noted amid a cluster of eroded *huaquero* holes in an area measuring 10 by 10 meters.

Site 30

Period: LIP
 Site Type: small habitation with burials
 Setting: river oasis
 Location: Carta Nacional Lomitas; Hoja
 30-I; 1:100,000
 UTM: 441,387E–8361,521S

Situated on a raised, sandy area within the oasis of Monte Grande del río Ica, close to the east side, on a flat beside a small hill which had a cross on top at the time of recording (Figures 6, 7).

Description: Within an area of 15 by 50 meters are found the remains of cane walls with adobes, charcoal, sherds, and shells scattered on the surface. Several painted fineware sherds place the site in the LIP. The site was looted and human bones are among the surface remains. It appears to have been a small habitation with human interments. Local tradition identifies it as the residence of a chief.

Site 31

Period: EH (Ocucaje 8)
 Site Type: small village
 Setting: river oasis
 Location: Carta Nacional Lomitas; Hoja
 30-I; 1:100,000
 UTM: 441,489E-8361,900S

Situated on the side of a long hill which marks the northern end of Monte Grande del río Ica (Figures 6-7, 32). The hill is within the oasis bottom and has an E-W orientation, almost blocking the entrance of the río Ica. The site covers the southern slope.

Description: The site covers an area c. 100 meters long by 10–15 meters wide. It is pock marked with looters' holes which turned up a scatter of charcoal, pottery, and shells (*macha*, *almeja*, *lapa*, *chanque*, *caracol*). Several human bones, probably representing one individual, were observed in a localized area towards the eastern end of the site. Most of the pottery fragments are from large, coarseware jars; some have thick carbon deposits on their exterior surfaces. Several incised fineware sherds were noted (Figure 34).

Site 32

Period: Late MH-LIP
 Site Type: village
 Setting: river oasis
 Name: Morales
 Location: Carta Nacional Lomitas; Hoja
 30-I; 1:100,000
 UTM: 441,120E-8362,234S

Situated on a sandy slope at the northwestern edge of Monte Grande del río Ica (Figures 6, 7, 32). Accessible in a rugged vehicle by following the upper western margin of the oasis.

Description: A high concentration of shells makes the site visible at a distance, appearing white against the dun-colored hills. The site is some 400 meters in length, and continues from the oasis margin for 30–60 meters up the slope. Surface debris consists primarily of sherds, charcoal, and shells (mostly *almeja* and *macha*, but *chanque*, *choro* and *lapa* are also present). Fragments of cloth, string bags, maize cobs, and camelid bones were also noted. Human remains were seen in a few localized areas; however, the abundance of domestic refuse clearly establishes this site as a habitation area. A trophy skull with centrally pierced frontal bone was found loose on the surface. The presence of this typical EIP trait may be fortuitous. Diagnostic ceramics indicate a local MH to LIP occupation (Figure 35), but a late EIP component could be present.

While the site is extensive, surface debris is not thick, consisting mainly of refuse exposed and moved by wind action. Several flattened areas with deposits 10–20 centimeters thick identify house or activity areas. Cane wall foundations are visible at the far west end of the site.

This is the largest site in the oasis of Monte Grande del río Ica. Abundant ceramic remains include both coarseware and finer polychrome wares. The site appears to be largely intact. *Huaquero* probes are infrequent, and most of the damage has been caused by natural agencies.

Site 33

Period: LIP
 Site Type: cemetery
 Setting: river oasis
 Location: Carta Nacional Lomitas; Hoja
 30-I; 1:100,000
 UTM: 440,147E-8361,384S

Situated on a natural terrace overlooking the western margin of Monte Grande del río Ica, towards the north end of the oasis (Figures 6, 7,

32). The site is immediately beside the western access road.

Description: A series of linear, collective tombs continue for c. 120 meters along the terrace edge. They have been completely looted. The tombs are c. 3 meters wide by 10 meters long, and are set 20–30 meters apart. Vast amounts of plain cloth, cotton, and human bones are piled along the sides of these trenches. No examples of skull deformation were observed. Coarseware and fineware sherds are present, but not abundant.

Site 34

Period: middle to late EIP
 Site Type: cemetery
 Setting: river oasis
 Location: Carta Nacional Lomitas; Hoja 30-I; 1:100,000
 UTM: 440,088E–8361,046S

Situated on the west side of Monte Grande del río Ica, immediately beside an entrance road, and clearly visible from the road above (Figures 6, 7, 32). The site appears as a cluster of holes when seen from a distance. It is situated c. 150 meters back from the oasis margin in an open, sandy area. At the time of recording, a modern cane building was located on the valley edge directly in front of the site.

Description: This looted cemetery covers an area measuring c. 100 meters E–W by 50 meters N–S. The looting appears to have taken place a long time ago. Human bones are bleached and fragmented, and all surface remains are heavily weathered. Coarse cloth and sections of large, plainware jars are scattered over the surface. Polychrome sherds are present but badly weathered. The decoration on a figurine fragment indicates the site was probably used during EIP 5 or 6. Loose cobbles and poles on the surface suggest that some of the tombs may have been

stone-lined with wooden roofs. Crania include both deformed and natural shapes.

Site 35

Period: early EIP
 Site Type: small habitation
 Setting: river oasis
 Location: Carta Nacional Lomitas; Hoja 30-I; 1:100,000
 UTM: 440,112E–8360,771S

Situated on the west side of Monte Grande del río Ica in a low, sandy area adjacent to the oasis margin, and c. 200 meters southeast (basically south) of Site 34 (Figures 6, 7, 33).

Description: A light surface scatter of shells, charcoal, and heavily weathered sherds is spread over an area measuring c. 120 meters N–S by 10–30 meters E–W along the edge of the oasis. Several looters' probes have revealed a concentration of the same materials just below the surface. A few human bones were noted, but there are no indications that this was a formal cemetery. Badly weathered sherds include both coarseware and fineware. This may have been a farmstead with several buildings, and was occupied for a short period of time.

Site 36

Period: historic
 Site Type: village/port
 Setting: sandy and rocky littoral ecotone
 Name: Puerto Caballas
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 4467,809E–8348,074S

Situated on the steep slope immediately behind the modern buildings at the fishing village of Puerto Caballas, at the south end of Bahía de Caballas (Figure 2).

Description: A 30–40 centimeter thick layer of midden deposit begins 10 centimeters below the surface on the steep slope behind the modern buildings. The midden contains sections of cane walls lying in a horizontal position, and great quantities of sherds from large ceramic jars. The sherds have a thickness of 1.5–2.5 centimeters, and most have a thick, black deposit coating their interior surfaces. The site is estimated to be 150 meters in length, and continues for c. 40 meters upslope. The remains of a house floor with vertical cane foundations was observed at the west end of the site. No cultural remains were found on the flat peninsula area above.

Site 37

Period: PCP (Engel)
 Site Type: shell midden
 Setting: sandy littoral near estuary and rocky littoral
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 450,850E–8342,943S

Situated c. one kilometer north of the Boca del río Grande, some 50 meters back from the edge of the first marine terrace (Figures 8, 9, 36).

Description: The site consists of a low, linear mound oriented roughly N–S. It is c. 100 meters long, 20–40 meters wide, and rises to a modest height of 0.5–1.5 meters above the terrace plain. Scattered shell concentrations continue for another 40 meters toward the east. The mound contains dense concentrations of a variety of shells, but *macha* predominate. Other surface remains include charcoal scatter and hearths, sea lion bones, pieces of gourds and totora reeds, and retouched quartzite flakes. Several *huaquero* probes reveal narrow lenses of sand and organic matter within the shell deposits, indicating a series of occupations over time. Dense salitre layers are also visible at depths of 20–50 centimeters below the surface.

Engel (1981:21) excavated a cane structure and a burial at this site. He reported a C¹⁴ date of the burial of 4720 BP ± 120.

Site 38

Period: prehistoric, aceramic
 Site Type: cemetery
 Setting: riverine, estuary
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 451,055E–8342,606S

Situated on the north side of the Boca del río Grande, on top of the hill immediately behind the abandoned fishing village of Santa Ana (Figures 8, 9, 36, 37).

Description: *Huaqueros* have cut holes through thick salitre deposits to expose several burials in an area measuring c. 15 by 20 meters on top of this hill (first prominence back from the beach front). The few human bones on the surface are heavily weathered; large amounts of plain white, coarse textiles are scattered on the surface together with some shell remains. Ceramics are absent.

Site 39

Period: LIP (Engel)
 Site Type: small village
 Setting: riverine, estuary; near sandy and rocky littoral ecotone
 Name: La Boca
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 451,183E–8342,893S

Situated on the north side of the Boca del río Grande on a high, sandy flat adjacent to the north side of the hill which rises behind the abandoned village of Santa Ana (Figures 8, 9, 36).

Description: The site consists of a scatter of habitation refuse over a general area measuring c. 90 by 90 meters. Within this area, *huaquero* probes have revealed two zones of dense refuse 10–40 centimeters thick. The largest of these measures 30 by 35 meters, the other, located 20 meters to the west, is 15 by 20 meters. Surface remains include a *batán* (pounding stone), several pieces of striped cloth, totora reeds, maize cobs, sea lion bones, *erizo*, and shells from rocky and sandy beach environments (*chanque*, *lapa*, and *macha*). A human femur was also noted. Eroded sherds are present but not plentiful. One sherd retained traces of white, black, and red slip. Engel (1980, 1981:21) identified this site as LIP.

Site 40

Period: late MH
 Site Type: village and cemetery
 Setting: riverine
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 453,890E–8846,884S

Situated on a sandy slope along the north side of the río Grande, c. one linear kilometer below the southern end of the oasis of Monte Grande (Figures 8, 9, 10). It is located at the point where the steep rock cliffs which border the north side of the valley give way to sandy slopes, and the valley bottom widens to over 300 meters. When water is not flowing in the río Grande, access to the site is possible by driving along the valley bottom in a rugged vehicle.

Description: Surface remains extend for 150 meters along the valley margin, and continue 50 meters upslope. There is a strong possibility that sub-surface deposits continue in both directions. The eastern end of the site has been badly looted, exposing cane walls and vertical posts set in foundations of adobes covered with white plaster (Figure 38). The adobes are loaf-shaped

(plano-convex) with typical measurements being 25–35 centimeters in length, 20–25 centimeters wide on the flat side, 10–15 centimeters in height, and 15 centimeters in diameter on their domed surfaces (Figure 39). Many looted burials are also present in this area. Some crania exhibit deformation. One skull showed both porotic hyperostosis and auditory osteomas. Surface debris includes coarse textiles, maize cobs, gourd fragments, junco and totora reeds, charcoal, a few whale bones, and molluscs from both rocky and sandy environments (*i.e. macha* and *lapa*). Ceramics are not plentiful and consist primarily of sections of large, plainware storage jars. Several decorated sherds with thin, faded slips in two or three colors were also noted.

Site 41

Period: prehistoric
 Site Type: geoglyph
 Setting: river oasis
 Name: Bennett Trapezoid
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 454,540E–8347,185S

Situated on top of a flat promontory which marks the south end of Monte Grande del río Grande, where the Quebrada Huaricangana enters the southeastern corner of the oasis (Figures 8, 10, 46).

Description: This is a trapezoidal geoglyph some 370 meters in length, c. 40 meters wide at the base and 15 meters wide at the narrow end. It is oriented roughly E–W, and was made by sweeping away loose surface stones and piling them along the sides. There are no associated artifacts. This feature was first drawn to my attention by Peter Bennett in February 1990.

Site 42

Period: prehistoric, ceramic
 Site Type: small habitation
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 455,061E-8347,414S

Situated on the lower slopes at the south end of Monte Grande del Río Grande, near the entrance of Quebrada Huaricangana (Figures 8, 10).

Description: The remains of a small structure have been exposed by *huaquero* probes in an area measuring c. 20 by 50 meters. Three posts remain upright and sections of fallen cane walls are visible. Surface debris includes a few plain sherds, some camelid bones, and the remains of *erizo*, *lapa*, *almeja*, *macha*, *cholga* and *chanque*. The site appears to be mostly intact.

Site 43

Period: early EIP (Phases 2 and 3), LIP
 Site Type: small habitation(?) with platforms
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 455,331E-8347,548S

Situated on the lower slopes at the southeastern end of Monte Grande del río Grande, at the location marked “Hacienda Monte Grande” on the map (the hacienda no longer exists). An access road cuts through the site (Figures 8, 10).

Description: The site covers an area measuring c. 100 meters N-S by 30 meters E-W. The access road, which cuts through the site, has exposed a section of platform c. 25 meters long and at least 50 centimeters high. Only the front of the platform is exposed. As it is located on a slope

and covered with sand, the width could not be determined. It is composed of compact bundles of plant material (maize stalks, reeds, etc.). A second platform of similar construction is located below the road. There is a light scatter of plain and decorated sherds in addition to charcoal, camelid bones, the remains of *erizo*, and molluscs (*almeja*, *chanque*, *cholga*, and *lapa*). In the lower area, *huaqueros* uncovered a few tombs, and human remains can be seen on the surface. The ceramics from the burials appear to be LIP. Much of this site is intact.

Site 44

Period: early EIP (Phases 2–4), with reuse in the MH and LIP
 Site Type: ceremonial center with cemetery areas
 Setting: river oasis
 Name: Pedregal
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 455,342E-8348,211S

Situated on the flat of a prominent plateau jutting out from the southeastern end of Monte Grande del río Grande (Figures 8, 10). Buildings of the Cooperativa Coyungo are located just below the northeast corner of the plateau (Figure 40). The cooperative is accessible by rugged vehicle, but the plateau must be reached on foot.

Description: The site covers a large V-shaped plateau. Maximum dimensions are c. 250 meters N-S by 200 meters E-W. The western end is about 60 meters wide. The surface of the plateau is composed of a hard, gravel matrix with eolian sand deposits along the eastern side, particularly in the southeastern corner. A semi-formal architectural layout is evident in Figure 41. Ceramic associations and construction techniques indicate that most of the architecture dates to the early part of the EIP. The

southeastern sector was reused in the MH and LIP.

Diagnostic architectural features consist of conical adobes, and artificial linear mounds constructed with layers of maize stalks and husks, and refuse mixed with gravel. Solid walls were built with adobes set in vertical and horizontal positions, mixed with cobbles and mud mortar (Figure 42). A few walls are solid cobble constructions, and some retain traces of mud plaster. The conical adobes at Monte Grande are compressed mud balls with unsmoothed surfaces, and tend to be flattened on one side (Figure 45).

The reader is here referred to the sketch map in Figure 41. The north end of the site is marked by a low boundary wall (M) constructed of conical adobes. Today this wall is c. 50 centimeters high, and is covered by 20–40 centimeters of loose stones and sand. A layer of refuse is present below the foundation of this wall. Looters' probes have revealed several walls of similar construction abutted to the south face (L). The area north of the boundary wall (N) is a relatively clear, open space, with no surface evidence of constructions, activity areas, or major cemeteries.

To the south of the boundary wall, a large open plaza area is encountered (J). The plaza surface is clear of cultural debris and *huaquero* holes. The area to the west of the plaza (K) has been thoroughly looted, and a number of tombs were evidently present because human remains are scattered across the surface. The pottery in this area all dates to the early part of the EIP.

Several artificial mounds were examined in the southwestern sector (Figure 41). In the following description the term "debris" refers to a mixture of loose sand, gravel, and small cobbles, interspersed with a light scatter of shells, sherds,

and other cultural material. The term *chala* refers to maize stalks and husks.

(A) A mound constructed of debris and layered *chala* fill. The west end and north sides are delimited by a plastered adobe wall. The foundations of other adobe walls are visible around the structure. The mound is 15–18 meters in length, 9–12 meters wide, and is c. one meter high. There are no burials exposed in this area.

(B) A mound constructed of debris and layered *chala* fill. A capping of mud and adobes (15–20 centimeters thick) was observed in the profile of a *huaquero* hole. It is uncertain whether this covering extends over the entire mound, is localized, or represents a collapsed wall. The mound is c. 40 meters long, 10 meters wide, and 1–2 meters high. Looters' probes did not encounter burials at this location.

(C) This mound was primarily constructed with very thick layers of *chala* fill. Vertical posts visible along its north side may represent adjoining rooms or retention walls. The mound is 60–70 meters in length, 10–25 meters in width, and 2–3 meters in height. *Huaqueros* encountered a few burials in this mound.

(D) A mound constructed of refuse and layered *chala* fill. It is c. 70 meters long, 5–8 meters wide, and 0.5–1.5 meters high. Looters' probes have exposed a section of a cobble and mud retaining wall.

(O) This mound is constructed with debris, thick layers of *chala*, and the stems of cotton plants. The top of a cobble wall has been exposed in the interior. The mound measures c. 50 meters in length, 10–15 meters in width, and 1–2 meters in height.

Traces of other mounds, now barely visible due to *huaquero* activity and bulldozer cuts, were noted in the vicinity of mounds B and D. A

classic Nasca trophy head was found in the area between, and to the west of, mounds B and D (Figure 44).

A series of small, agglutinated rooms enclosed by a cobblestone wall have been exposed in the southeastern sector at Point E. Typical room dimensions are 2 by 2 meters and 1.5 by 3 meters. The walls are constructed of cobbles, silt-stone slabs, and plano-convex adobes (Figure 43) set in mud mortar. Traces of white plaster were noted on one wall segment. Each room appears to have a circular (looted) tomb in the interior. Early EIP and MH sherds are scattered over the surface. The associations in this area are not clear. The adobe forms and white plaster are similar to architectural remains at Site 40 (MH), while the circular tombs appear to be EIP. The room complex may have been built over an earlier cemetery.

Point F in Figure 41 is an area of heavily looted LIP burials. These were large, linear, collective tombs. Great amounts of cotton, coarse cloth, and human remains lay scattered on the surface. These tombs were roofed with huge logs, but the last of these were being removed for firewood by members of the local cooperative at the time of recording.

Point G at the south end of the site is an open area with clusters of shallow, undiagnostic burials.

Point H locates a series of post-EIP burials along the edge of the slope overlooking Pedregal.

Point I is a narrow terrace along the east side of the site. A number of looted Nasca burials are located here. Shallow refuse deposits (c. 10 centimeters thick) containing sherds, molluscs, and plant remains are also present.

The refuse scattered across the surface of the site includes maize cobs, lima beans, camelid

bones, *erizo* and crab remains, and *almeja*, *caracol*, *lapa*, *chanque*, *choro*, and *cholga* shells. These food items are widely scattered and present in limited quantities. Aside from the shallow refuse deposits mentioned above at Point I, there are no domestic middens. Plainware and painted fineware sherds are widely scattered across the site (Figure 53). One *antara* (panpipe) fragment was also noted. Surface evidence does not indicate a large resident population. Primary site function appears to be related to ceremonial activities. The amount of food remains present could be accounted for by burial offerings and/or periodic gatherings. Evidence suggests that Sites 45 and 46 are the habitation areas related to this ceremonial complex.

Site 45

Period:	EIP (Phases 1–7), MH, LIP
Site Type:	large village and cemetery
Setting:	river oasis
Name:	Arenal
Location:	Carta Nacional Palpa; Hoja 30-m; 1:100,000
UTM:	455,753E–8348,378S

Situated along the southeastern side of Monte Grande del río Grande, on an elevated sandy area above and behind the modern cooperative buildings (Figures 8, 10, 46–48, 54). The site covers a crescent-shaped area behind a prominent white rock outcrop (Figure 46). The cooperative is accessible by rugged vehicle, but the site must be approached on foot.

Description: The site is c. 320 meters N–S by 200 meters E–W. The area around the large rock outcrop has been badly looted, but the tops of cane walls exposed on the gentle, sandy slopes to the east hold promise for intact habitation deposits. A few Proto-Nasca sherds (EIP 1) were observed (Figure 51), but most of the surface pottery is early and middle Nasca (EIP 2–5). Some late Nasca sherds were also noted (EIP

6–7: Figure 54). The MH presence is largely inferred from architectural features described below. Large collective tombs and some decorated sherds represent the LIP.

Dense, black midden deposits within and near cane walled structures are associated with EIP ceramics. Some of these middens are 60 centimeters thick. Early and Middle Nasca tombs have been looted across the site indicating burial contemporaneity with the main occupation. In addition to coarseware and painted fineware pottery, domestic refuse includes maize cobs, varieties of beans, camelid bones, and molluscs (*almeja*, *chanque*, *choro*, *caracol*, and *macha*).

In the northeastern area, a complex of small rooms with walls constructed of conical adobes lies exposed (Figure 47). Cobbles and mud mortar were also incorporated into these walls. Associated material consists of habitation refuse and early Nasca pottery. Human remains are also scattered in this area, but it could not be determined whether the rooms were originally constructed for burial or for domestic use, and later reused for tombs.

In the southeastern sector, deep looting has exposed a series of adobe walls; however, here the adobes are plano-convex, approximating rectangular and circular forms (25 by 25 centimeters). Traces of white plaster remain on some exterior surfaces (Figure 48). A whale bone and a lump of *yeso* (gypsum) were also noted in this area. No sherds were directly associated with these walls, but the adobe forms and white plaster are very similar to construction materials used at the MH village (Site 40). At Arenal, these walls are not associated with domestic refuse. They are deeply buried (2–3 meters below the surface) and may have had a special ceremonial/mortuary function. It is possible that the MH mummy bales discussed by Menzel

(1964:63) and Ann Rowe (1986) were discovered in this area.

On the eastern slopes overlooking Arenal, a scatter of cobbles and shells (*almeja*, *chanque*, *choro*) was observed in an area some 20 meters in diameter. A few weathered sherds were also present. These remains do not appear to be domestic in nature and may represent a small shrine.

A massive concentration of camelid bones is located at the northeastern end of the site. Cane walls and habitation refuse are associated with this accumulation and, with the exception of two LIP sherds, all of the pottery in this area is early Nasca. Unfortunately, the area has been bulldozed. The camelid remains represent well over one hundred individuals ranging from very young animals to full adults. All skeletal elements are present in addition to pieces of hide and sections of fused vertebrae. There is no evidence of burning or bone splitting indicative of domestic consumption. This feature remains enigmatic.

Site 46

Period: early and middle EIP (Phases 2–5)
 Site Type: village with burials
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 456,024E–8349,1165S

Situated on the east side of Monte Grande del río Grande, on a sandy elevation adjacent to the margin of the oasis, c. one kilometer north of the modern cooperative buildings (Figures 8, 10, 49, 55).

Description: The site measures c. 180 meters N–S by 40–70 meters E–W. It begins on the north side of a prominent rock outcrop which

separates it from Site 45, and is probably an extension of the Arenal occupation. The remains of small terraces are visible on the lower slopes of the rock outcrop. This area has been looted. A second area of intensive looting is located 50 meters to the north (Figure 49). Surface remains indicate that the site continues between and beyond these looted areas, and intact deposits are likely to be present on the sandy slopes to the east and north.

Architectural remains exposed by the looting include sections of cane walls with mud plaster, conical adobes, blocks of siltstone, and large cobbles. Small bundles of grass are also present and may have been used for fill.

Surface refuse consists of shells from rocky and sandy environments, maize cobs, *chala* and reeds, sea mammal and camelid bones, charcoal, and a few small *batans*. Coarseware sherds are plentiful, and sections of large jars with carbonized exteriors are scattered across the site (Figure 55). Polychrome sherds all pertain to phases 2–5 of the EIP. Human remains are exposed on the surface in the looted areas. These burials appear to be contemporary with the occupation. A classic Nasca trophy head with pierced frontal bone was present. Another skull showed auditory osteomas.

Site 47

Period: early MH
 Site Type: small cemetery
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 456,116E–8349,317S

Situated on the east side of Monte Grande del río Grande, on a steep, sandy slope c. 100 meters back from the edge of the oasis (Figures 8, 10, 49). The site appears as a pockmarked area

against the smooth slopes. It is clearly visible immediately to the north and just above Site 46.

Description: This is a small, looted cemetery measuring c. 40 by 40 meters. At the time of recording, the looting appeared to be quite recent, perhaps within the previous months. Well-preserved human remains were scattered on the surface. These retained a great deal of tissue and hair. Surface material also included much coarse cloth and a few fragments of colored textiles, reeds, and small posts—which appear to have been used in tomb construction—and a small amount of pottery.

Site 48a

Period: prehistoric, ceramic
 Site Type: small cemetery
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 455,994E–8349,519S

Situated on the east side of Monte Grande del río Grande, on a flat, sandy terrace, c. 30 meters back from the edge of the oasis (Figures 8, 10, 49).

Description: This is a small, looted cemetery measuring c. 10 by 20 meters. Surface debris includes human remains, weathered sherds, a few small poles, and reeds.

Site 48b

Period: prehistoric, ceramic
 Site Type: small cemetery
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 455,922E–83490,584N

Description: 40 meters north of Site 48a, on a flat terrace and 10 meters back from the edge of

the oasis, this looted cemetery area is c. 10 by 10 meters. Surface remains consist of human bones and a few weathered sherds (Figures 8, 10, 49).

Site 49a

Period: early EIP (Phase 4)
 Site Type: cemetery
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 455,870E–8349,735S

On the east side of Monte Grande del río Grande, at the edge of a flat terrace c. 100 meters north of Site 48b (Figures 8, 10, 49). A major irrigation ditch, which transects the oasis, terminates here.

Description: A series of circular tombs cut into the gravel base follow the terrace perimeter for 20 meters, and extend back 15 meters from the edge. The remains of several tombs were seen eroding out of the terrace face. Surface remains consist of human bones, weathered sherds, and a few shells.

Site 49b

Period: prehistoric, ceramic
 Site Type: small habitation
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 455,924E–8349,767S

Description: situated at the base of a sandy slope c. 50 meters behind site 49a, a few *huaquero* test probes turned up shell, reeds, charcoal, maize cobs, and several plainware sherds in an area measuring 4 by 4 meters (Figures 8, 10, 49). There is a possibility of deeply buried, intact habitation deposits along the base of this slope.

Site 50

Period: LIP
 Site Type: small cemetery
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 455,730E–8350,374S

At the far northeastern end of Monte Grande del río Grande, on a sandy slope c. 80 meters back from the edge of the oasis (Figures 8, 10, 49).

Description: Looting within an area of 10 by 10 meters has left a surface scatter of small poles, human bone, a few shells, maize cobs, and several plainware sherds corresponding to LIP utilitarian forms.

Site 51

Period: prehistoric
 Site Type: geoglyphs
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 455,070E–8350,350S (south end of geoglyph complex)

At the northwestern end of Monte Grande del río Grande, on a wide, sandy plain which traces the western margin of the oasis. The geoglyphs are at the base of the hills which descend from the pampa above (Figures 8, 10, 65).

Description: Several large trapezoid forms overlap and extend for over a kilometer along the western side of the plain. The UTM coordinates above mark their point of highest density. The trapezoids were constructed by sweeping aside loose gravel and sand. Their edges are marked by low ridges. Several small, rock cairns occur within the cleared areas, and short lines of stones (5 meters long) can be seen at the base of the hills, and along their lower sides. A number

of low, stone cairns are present on the hilltops overlooking the site.

Site 52

Period: late EH
 Site Type: small habitation
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 455,422E–8350,497S

At the northwestern end of Monte Grande del río Grande, on a slump-bank at the oasis edge below the pampa margin (Figures 8, 10).

Description: On a narrow ledge below the pampa margin, traces of a small, square adobe structure and associated adobe walls were observed. The adobes are oblong in shape, being 18–20 centimeters long, 14–16 centimeters in diameter and 6–10 centimeters high. These were set in a thick mud mortar, and the exterior surfaces were covered with mud plaster. A few carbonized pottery fragments and a sherd with an incised circle-and-dot motif were noted, in addition to clam shells and a carbon and ash lens 2–5 centimeters thick. A layer of sticks and brush eroding from the bank may have been part of a roof. *Huaquero* probes have scattered the remains of a single individual on the surface. This may represent an intrusive burial. There are no cultural remains on the pampa above, nor along the banks below.

Site 53

Period: LIP and LH
 Site Type: cemetery
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 454,966E–8349,955S

On a stony pampa along the northwestern side of Monte Grande del río Grande (Figures 8, 10). The site is c. 100 meters back from the edge of the oasis, and 100 meters out from the geoglyph concentration at the base of western hills (Site 51).

Description: This is a looted cemetery c. 60 meters long by 15 meters wide. Organic preservation is exceptional; human tissue is well-preserved, and several exposed bodies are fully articulated. A number of complete gourds and much cloth lie scattered on the surface. Large sections of plainware vessels, painted LIP pottery, and LH incised blackware are present (Figure 57).

There are two forms of burial at this cemetery. Circular tombs along the east side are associated with the traditional seated, tightly flexed, form of interment. In the second form, the body is fully extended on its back. The corresponding tombs are rectangular in shape. This latter type of burial is unique at Monte Grande. Infant burials were wrapped in small, cane mats.

Site 54

Period: late EH
 Site Type: small habitation with nearby burials
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 455,107E–8349,607S

Situated along the edge of a stony pampa at the northwestern end of Monte Grande del río Grande (Figures 8, 10).

Description: The site consists of a primary midden deposit eroding from the pampa edge. A thin lense of refuse occurs 25 centimeters below surface, but the dense midden debris begins at 40 centimeters, and is greater than 20 centime-

ters in thickness. These cultural deposits are visible for some 20 meters along the slope. Midden constituents include maize cobs, totora reeds, shellfish (*almeja, chanque*) *erizo* remains, and plainware sherds. One fineware incised sherd with post-fire resin paint was also observed (Figure 50).

There is a small depression on the pampa immediately behind the site measuring c. 20 by 20 meters. Several looted graves are evident in this area. Weathered human bones, a few plainware sherds, and pieces of reeds and shells are visible on the surface. No diagnostic material was observed. It is unclear whether these burials were associated with the EH occupation or were a later phenomena.

Site 55a

Period: LIP (a few EIP and early historic sherds also present)
 Site Type: village with associated burials
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 454,916E–8349,498S

Situated on the west side of Monte Grande del río Grande, in a curve along the pampa edge (Figures 8, 10). The site extends down a gentle slope from the pampa margin, and continues for some 30 meters into the oasis bottom.

Description: The site is c. 100 meters long by 50 meters wide. The whole area has been looted and bulldozed. Traces of vertical cane walls are visible on the slope, and 30 meters out in the oasis bottom several collapsed adobe walls are still present. The adobes in these walls are rectangular, being 60 centimeters long by 15 centimeters high (width unknown). Habitation refuse includes maize cobs, shellfish, totora reeds, and plainware sherds. Diagnostic pottery is primarily LIP, but two EIP sherds and several

fragments of early historic jars were also present. A series of looted graves was noted in the habitation refuse scattered along the slope. The size of this site, and the presence of substantial adobe architecture, indicates that this was the major LIP occupation at Monte Grande.

Site 55b

Period: LIP
 Site Type: small habitation with burials
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 454,939E–8349,660S

Description: The site is located in an elongated, natural depression in the pampa surface on the pampa along the west side of Monte Grande del río Grande, c. 50 meters back from the pampa edge, between Sites 54 and 55a, and at the wide end of a trapezoidal geoglyph. The depression is c. 50 meters long (N–S) by 30 meters wide. Small concentrations of shells occur around the edges and are scattered within the depression (*almeja, chanque, cholga, macha,*). Other surface remains include charcoal, *erizo*, maize cobs, splinters of totora reeds, pieces of coarse textiles, and sherds from plainware vessels. The remains of several looted burials with bodies in the seated-flexed position are also present.

Site 55c

Period: LIP
 Site Type: cemetery
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 454,843E–8349,508S

Description: This is a small, looted cemetery covering the sides of a low, natural mound on the pampa (c. 25 meters N–S by 15 meters wide) c. 30 meters west of Site 55a. Surface remains

include human bones, coarse cloth, rope, cotton, small poles, some totora, a few shells, and some large maize cobs. Sections of carbonized plainware vessels and polychrome sherds are also present (Figure 58).

Site 56a

Period: early EIP (Phase 3/4)
 Site Type: cemetery
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 454,841E–8349,322S

Situated beside a prominent, weathered rock outcrop at the edge of the pampa along the west side of Monte Grande del Río Grande.

Description: This is a small, looted cemetery on the north side of a weathered rock outcrop at the edge of the pampa. The looted area begins 5–10 meters back from the pampa margin, and covers an area 30 meters long by 10 meters wide. The few surface remains are heavily weathered; these include human bone, a few shells, fragments of *chala* and totora, and several exfoliated sherds. Two polychrome sherds correspond to early Nasca (Phase 3/4).

Site 56b

Period: early EIP (Phase 3)
 Site Type: cemetery
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 454,844E–8349, 296S

Description: A scatter of looted graves is located along the edge of the pampa on the west side of Monte Grande del río Grande, c. 50 meters south of Site 56a and within 10 meters of the pampa margin, in an area 50 meters long (N–S) by 10 meters wide. Surface remains include a

small amount of weathered human bone, a few shells and reeds, pieces of coarse cloth, several exfoliated sherds and three polychrome sherds corresponding to EIP 3. The tops of two vertical poles were just visible on the surface, indicating that intact tombs may still be present. One skull exhibited porotic hyperostosis.

Site 57

Period: early EIP (Phases 1–4)
 Site Type: village with burials, terraces, and an artificial mound
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 454,659E–83489,975S

Situated on a low, gradual slope along the pampa margin on the west side of Monte Grande del río Grande (Figures 8, 10). A road was cut through the site, and the whole area is bulldozed.

Description: Cultural debris is found over an area c. 150 meters long (N–S) by 40 meters wide (Figures 8, 10). A road cut along the pampa edge transects several artificial terraces and a mound. Low terraces were constructed by placing layers of *chala* over natural rock formations to provide level areas. An artificial mound is clearly visible by the roadside. It is c. 3 meters in height and constructed entirely of layered *chala*.

A gradual slope begins on the east side of the road cut, continuing 30 meters out to the edge of the oasis with a drop in elevation of 3 meters. Most of the artifacts were found along this slope, including some vertical poles, scatters of *chala* and reeds, maize cobs, charcoal, large amounts of shell, and a few human bones. Plainware sherds are plentiful. Diagnostic polychrome sherds are early Nasca, and one incised Proto-Nasca sherd was also noted. Some early

historic sherds with black deposits on their interior surfaces are also scattered over this lower area. No intact midden deposits were found. Because the site has been bulldozed, the cultural debris probably has been spread over a larger area than originally occupied.

Site 58

Period: EIP (Phase 3/4)
 Site Type: small cemetery
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 454,526E-8348,836S

Situated on the west side of Monte Grande del río Grande, at the bottom of the entrance road which winds down the steep hillside from the pampa above (Figures 8, 10). The site is located at the corner where the road veers east across the oasis towards the cooperative buildings.

Description: This is a small, looted cemetery 5 by 10 meters in area. Surface remains consist of a few scattered poles, some human bone, and several sherds pertaining to EIP 3/4.

Site 59

Period: LIP
 Site Type: small habitation
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 454,444E-8348,673S

Situated c. 190 meters south of Site 58, along the edge of the oasis (Figures 8, 10). The site is transected by a road and an irrigation ditch.

Description: A road and parallel irrigation ditch, which run along the western margin of the oasis, have cut through a small habitation area. Cultural debris is scattered over an area 80

meters long (N-S) by 10 meters wide. Surface remains consist of reeds, maize cobs, charcoal, shell, and plainware sherds. A few decorated sherds place the occupation in the LIP. No undisturbed midden deposits were located. The linear distribution of debris is probably due to recent construction activities.

Site 60

Period: late EH, early and middle EIP (Phases 3-5)
 Site Type: village with burials
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 454,426E-8348,389S

Situated on a lower slope at the SW end of Monte Grande del río Grande (Figures 8, 10). The road which transects Site 59 terminated at Site 60 at the time of recording.

Description: The site is c. 110 meters in length (N-S) and extends 35 meters upslope from the oasis edge. This area has been looted and bulldozed; however, small areas of dense, intact midden deposits up to 50 centimeters thick are still present. Surface remains include quantities of charcoal, maize cobs, junco grass fill, shell, sea mammal and camelid bones, and human remains. One skull exhibited porotic hyperostosis. Plainware sherds are abundant. Diagnostic polychrome sherds relate the primary occupation to Phases 3 and 4 of the EIP, but a few sherds trending into Phase 5 were also noted (Figure 56). Two resist-painted sherds with a diamond design indicate an initial use of the area towards the end of the EH.

Site 61

Period: prehistoric
 Site Type: geoglyphs
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 454,454E-8347,880S

The site is situated on a high bluff at the southwestern end of Monte Grande del río Grande, overlooking the last major area of cultivation before the valley narrows as it descends to the sea (Figures 8, 10, 65). The site must be approached on foot, but is within 300 meters of the access road which descends to the oasis. It is just below Site 62.

Description: The entire site area is c. 150 meters long by 40 meters wide. Within this area are three narrow trapezoids in a row, transected by a fourth trapezoid. These features were constructed by brushing aside loose surface debris. Two small circular features and an L-shaped feature are in close association with the trapezoids.

Site 62

Period: prehistoric
 Site Type: geoglyphs
 Setting: river oasis
 Location: Carta Nacional Palpa; Hoja 30-m; 1:100,000
 UTM: 454,212E-8348,073S (approximate; coordinates could not be identified precisely on Google Earth)

Situated on a high bluff at the southeastern end of Monte Grande del río Grande, close to the road, which descends to the oasis (Figures 8, 10).

Description: A cleared area in which loose surface material has been brushed aside is c. 18

meters wide by 60 meters long. This may represent part of a trapezoid, but the edges are no longer distinct. A weathered rock outcrop and a small stone cairn occur within the cleared area. There are faint outlines of a trapezoid running west from this feature.

Site 63

Period: PCP and ceramic
 Site Type: shell middens
 Setting: sandy littoral near rocky littoral
 Name: El Conchal
 Location: Carta Nacional San Juan; Hoja 31-m; 1:100,000
 UTM: 476,260E-8317,172S

Situated at the south end of Playa El Conchal in the Bahía San Nicolas, between the shore and the 25 meter contour line (Figures 11, 59). The area lies c. 300 meters beyond the end of the beach road marked on the 1977 IGM map edition.

Description: This region contains numerous shell mounds in an area c. 600 meters long by 80 meters wide. Some of the mounds cover natural rock outcrops, while others appear to be solid shell refuse 2–3 meters in height. Dimensions vary from 5 by 60 meters to 10 by 10 meters. The mounds are composed primarily of *almeja*, *caracol*, *chanque*, and *choro* shells. Surface debris includes charcoal scatters and hearth remains, whale and other sea mammal bones, a few human bones probably representing a single individual, and several weathered sherds scattered over the general area. No cloth or plant remains were observed. A series of occupations is likely to be represented at this locale.

These mounds may correspond to Engel's sites 45, 50, and 55 (1981:59). They are the mounds described by Strong (1957:8, site 55), and discussed by Vescelius and Lanning (1963). No lithic artifacts were observed during our study.

Site 64

Period: LIP
Site Type: village with shell midden
Setting: sandy and rocky littoral ecotone
Name: La Pedregosa
Location: Carta Nacional San Juan; Hoja 31-m; 1:100,000
UTM: 476,260E-8317,172S

Situated at the south end of Bahía San Nicolas, along the edge of the first terrace, c. 150 meters NE of the modern village of La Pedregosa (Figures 11, 60).

Description: Dense habitation debris (50–100 centimeters thick) covers an area c. 70 meters long by 40 meters wide along the terrace edge. The entire site is bulldozed, but short alignments of large cobbles indicate that structures were present. Surface remains include large amounts of shell (primarily *almeja*, *caracol*, *cholga*, and *choro*), sea mammal and camelid bones, maize cobs, fragments of coarse cloth, plainware and polychrome sherds. This site was noted by Strong (1957: site 53).

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Figure 1. Map of Study Area.

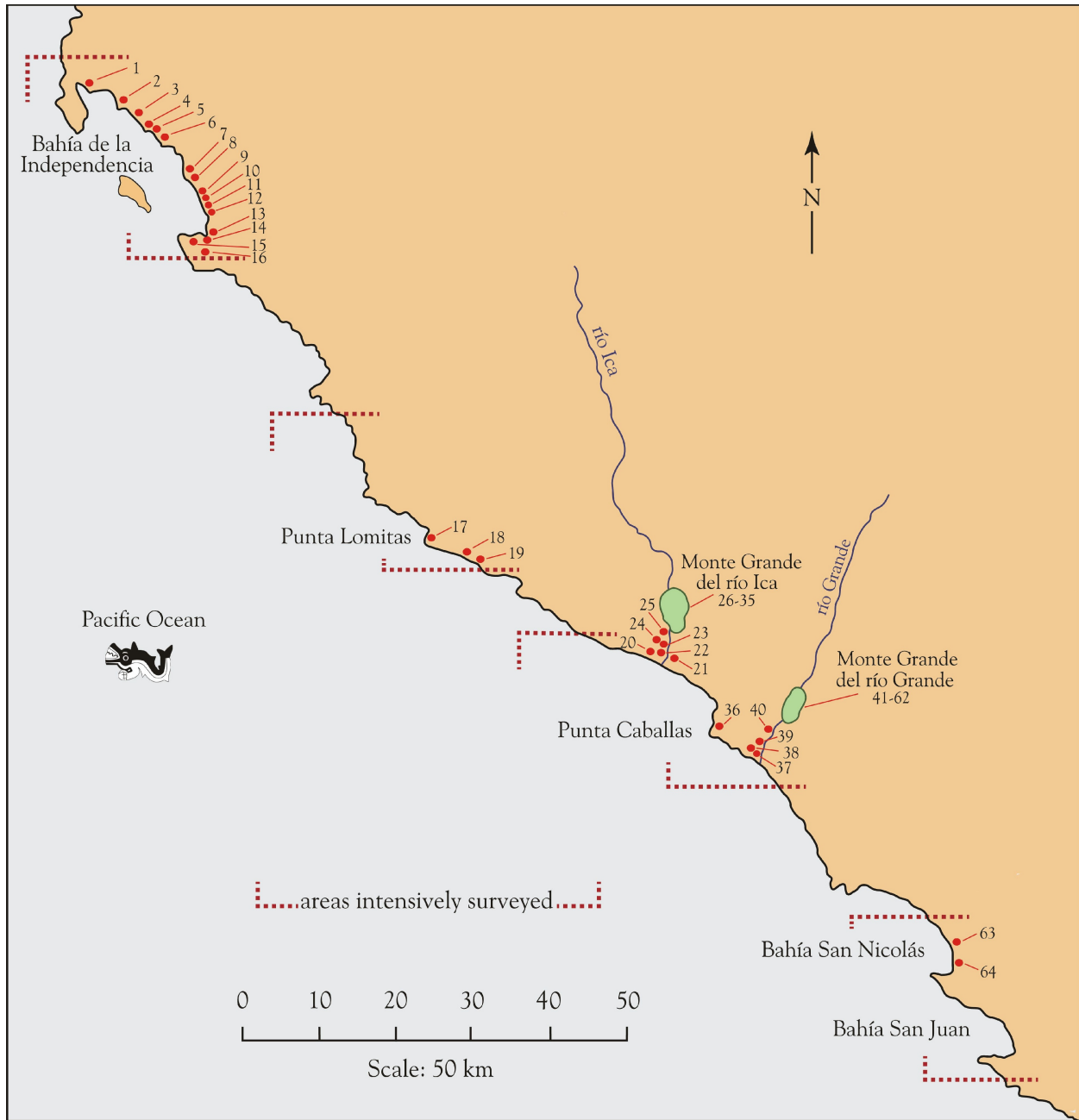


Figure 2. Site Locations Overview.

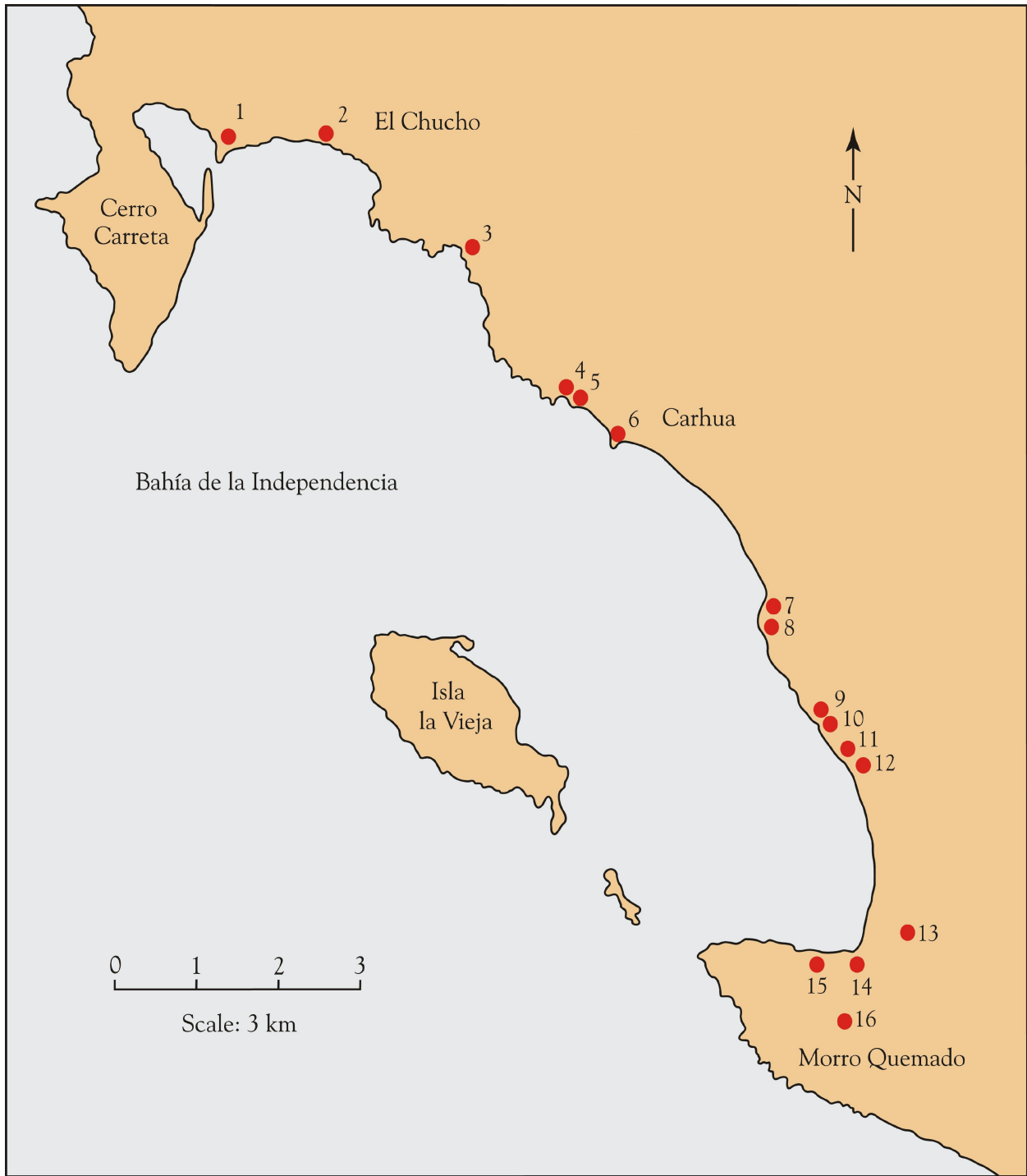


Figure 3. Sites 1–16, Bahía de la Independencia.



Figure 4. Sites 1-16, Bahía de la Independencia, I.G.M. (Peru) topographic map, 1977, 1:100,000.



Figure 5. Sites 17–19, Punta Lomitas, I.G.M. (Peru) topographic map, 1977, 1:100,000.

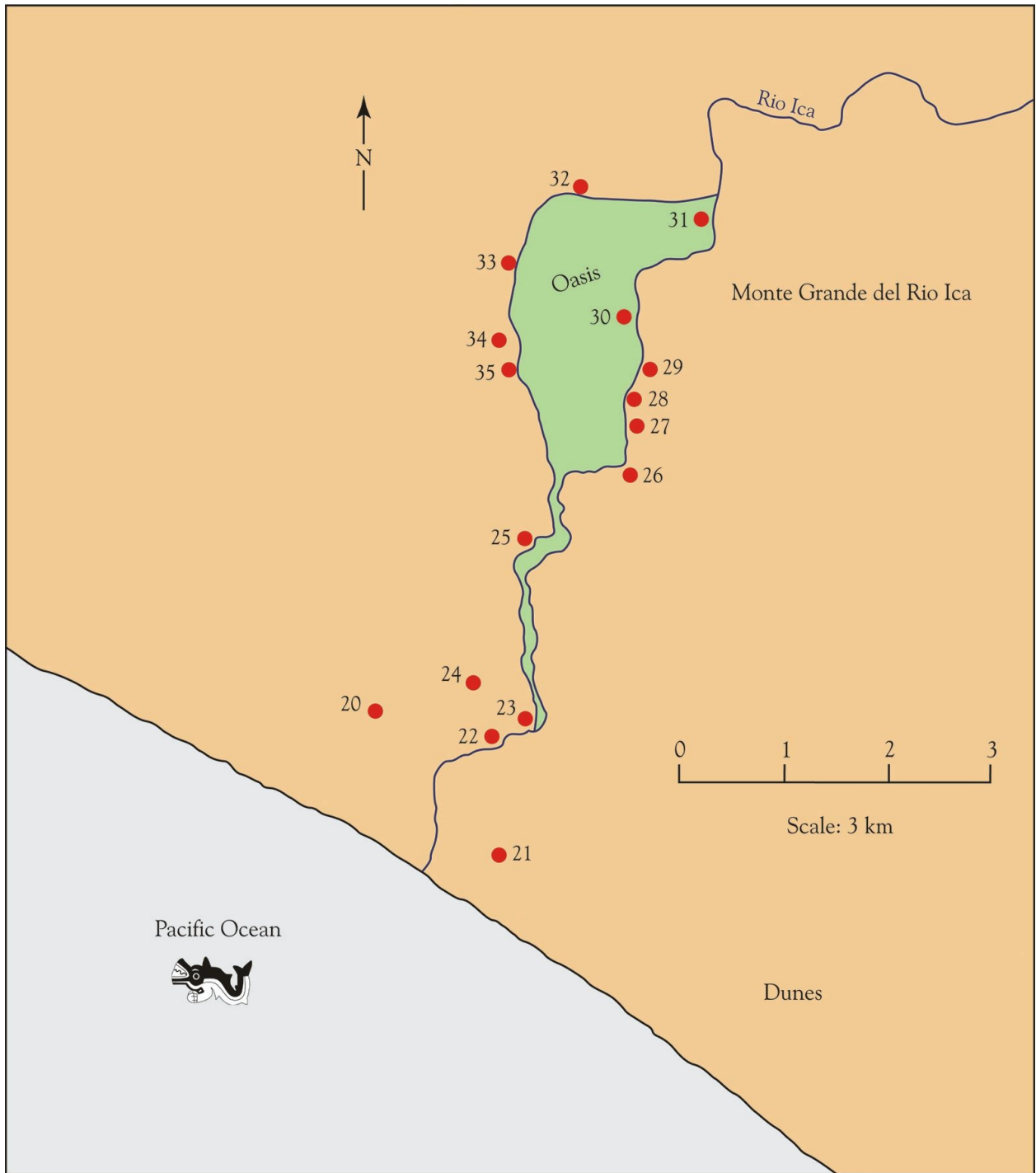


Figure 6. Sites 20–35, Boca del río Ica and Monte Grande.

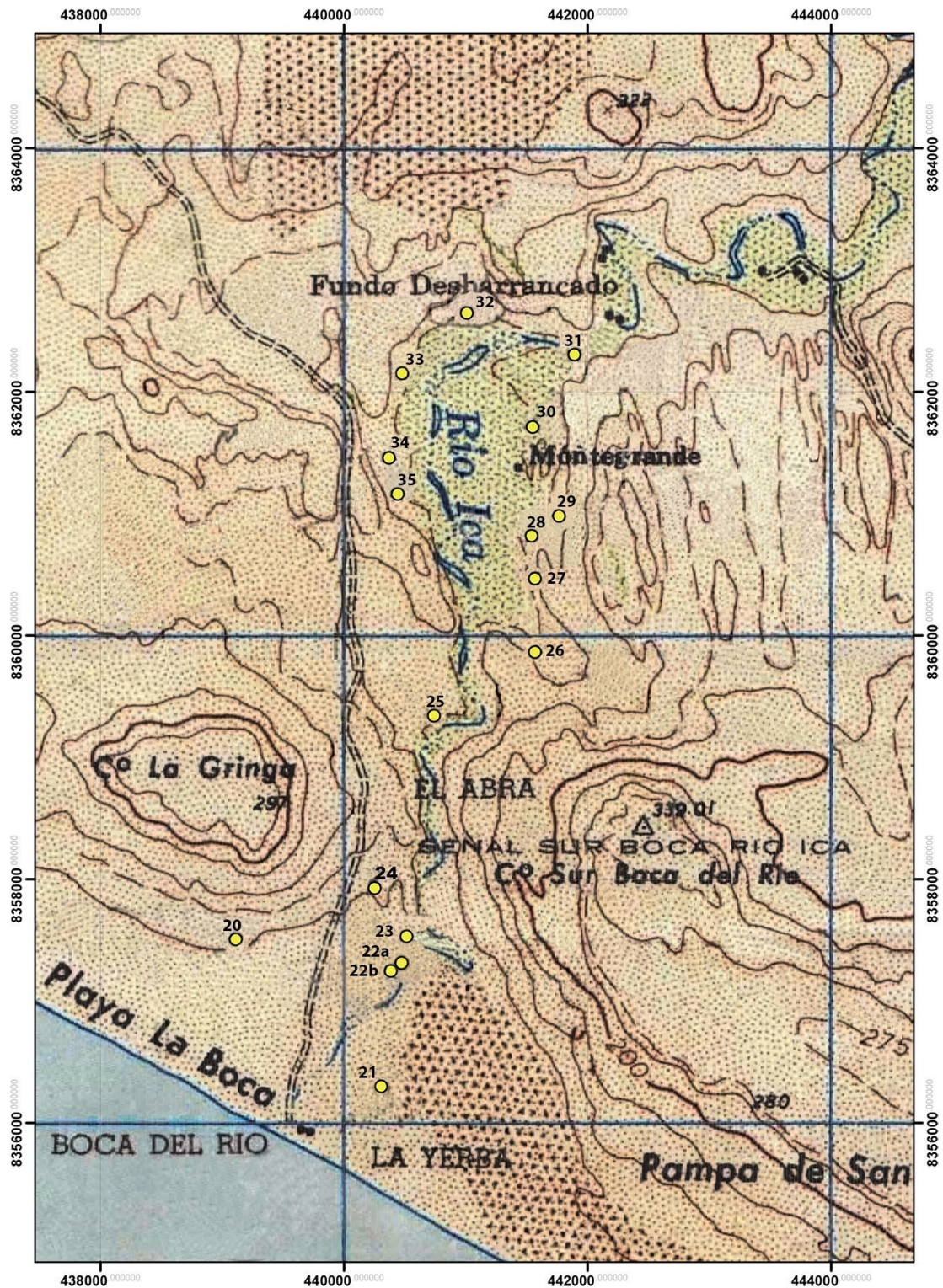


Figure 7. Sites 20–35, Boca del río Ica and Monte Grande, A.G.M. (Peru) topographic map, 1977, 1:100,000.

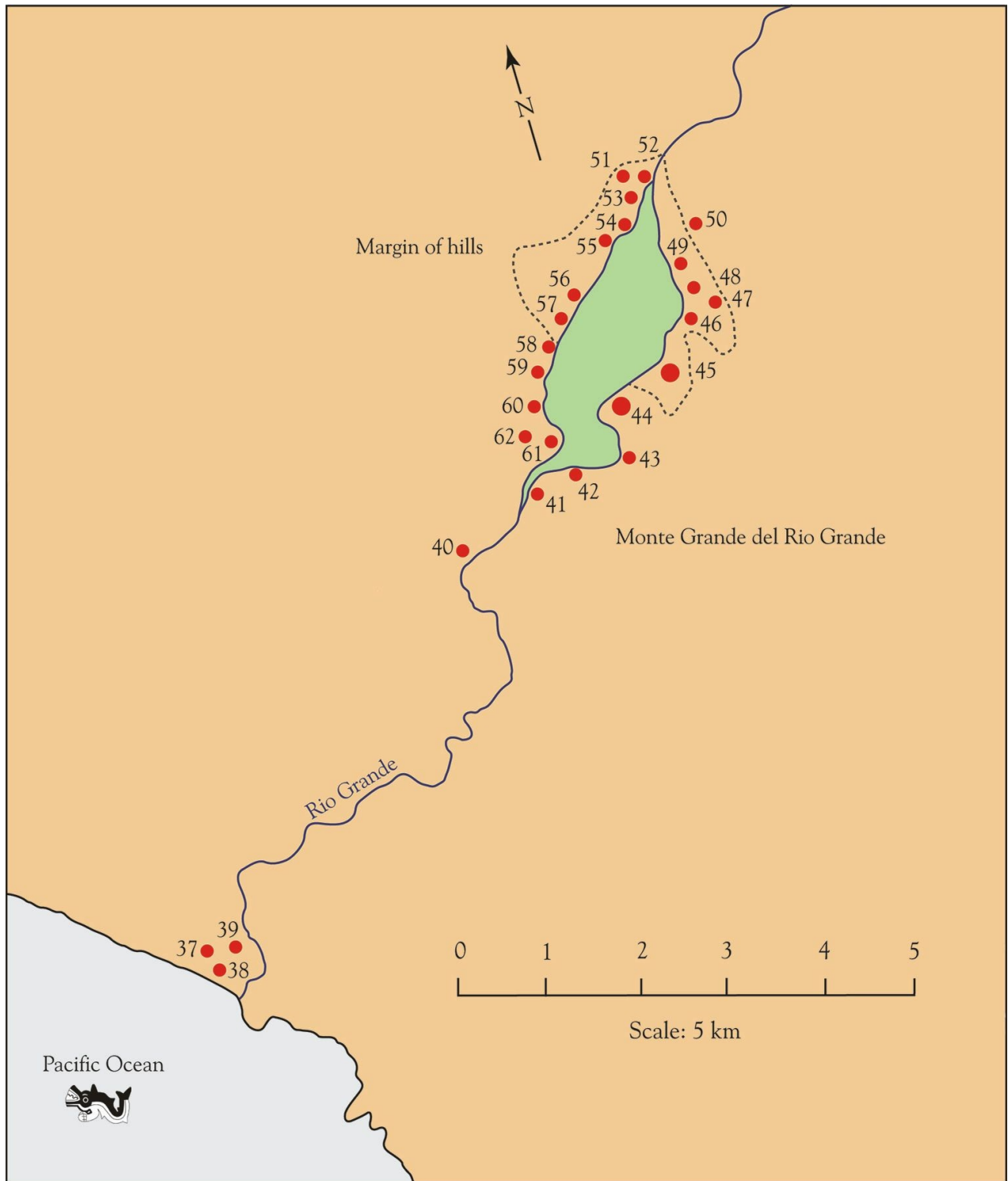


Figure 8. Sites 37–62, Boca del río Grande and Monte Grande.

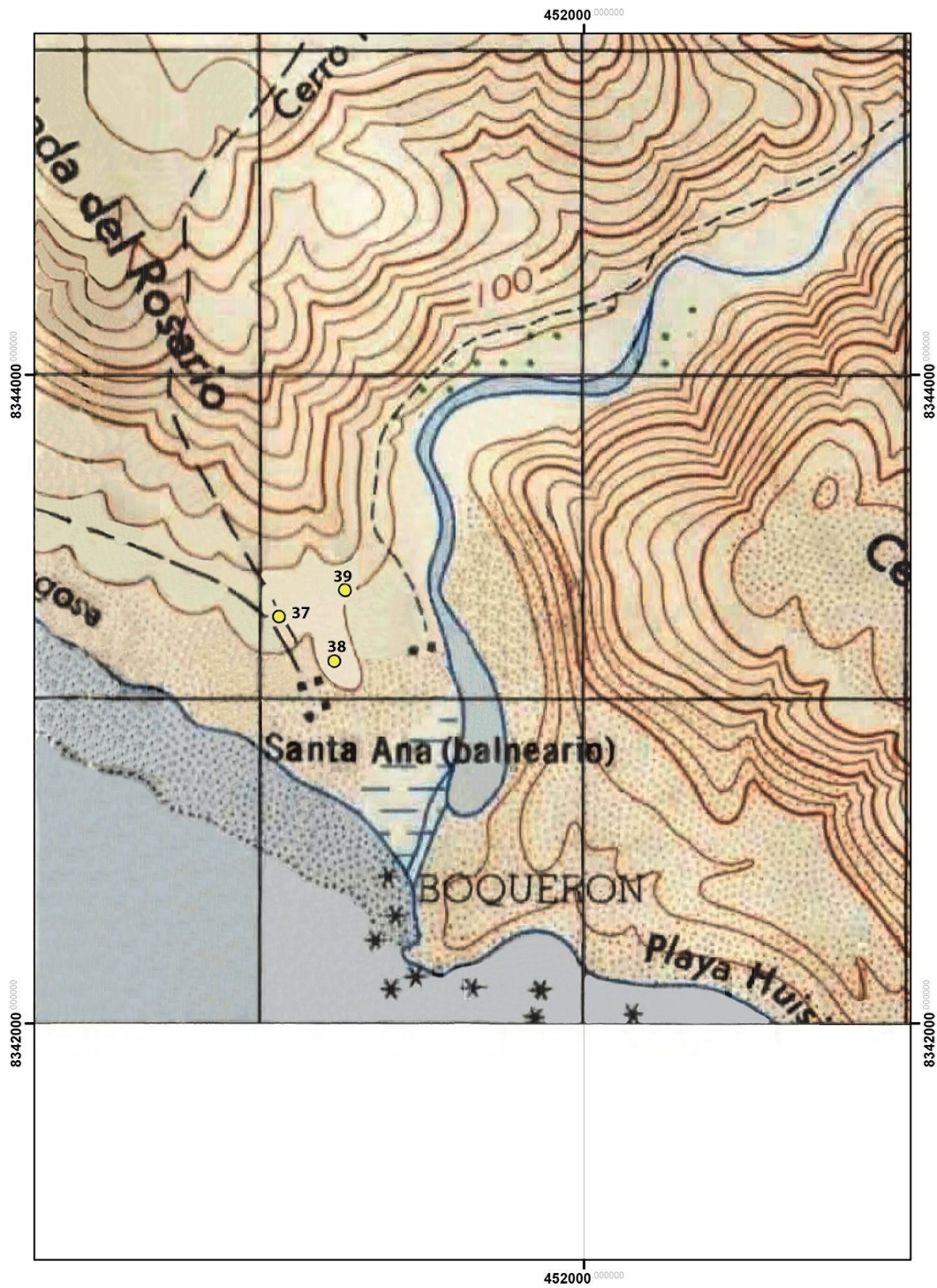


Figure 9. Sites 37–39, Boca del río Grande, I.G.M. (Peru) topographic map, 1977, 1:50,000.

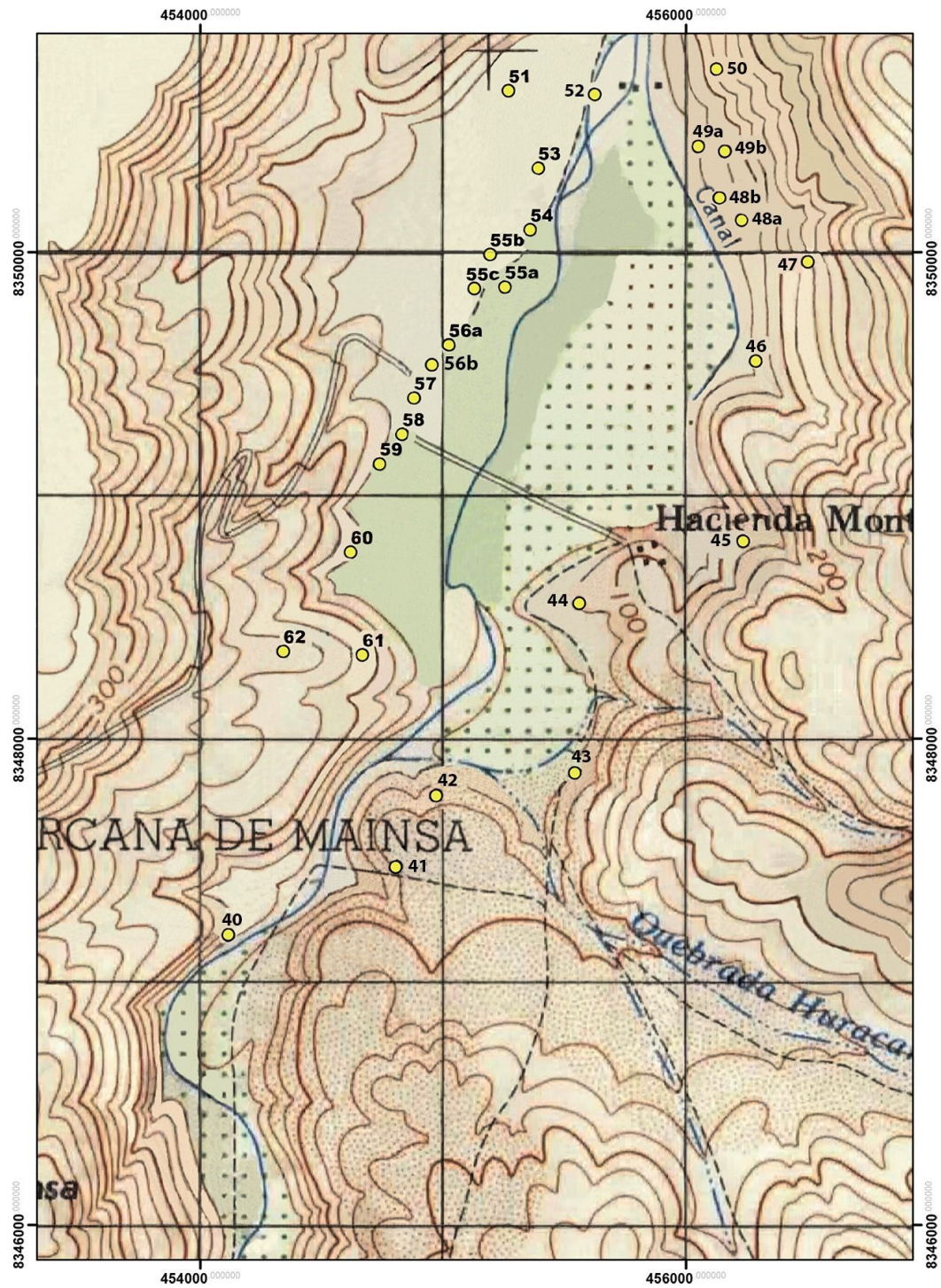


Figure 10. Sites 40–62, Monte Grande del río Grande, I.G.N. (Peru) topographic map, 1977, 1:50,000.

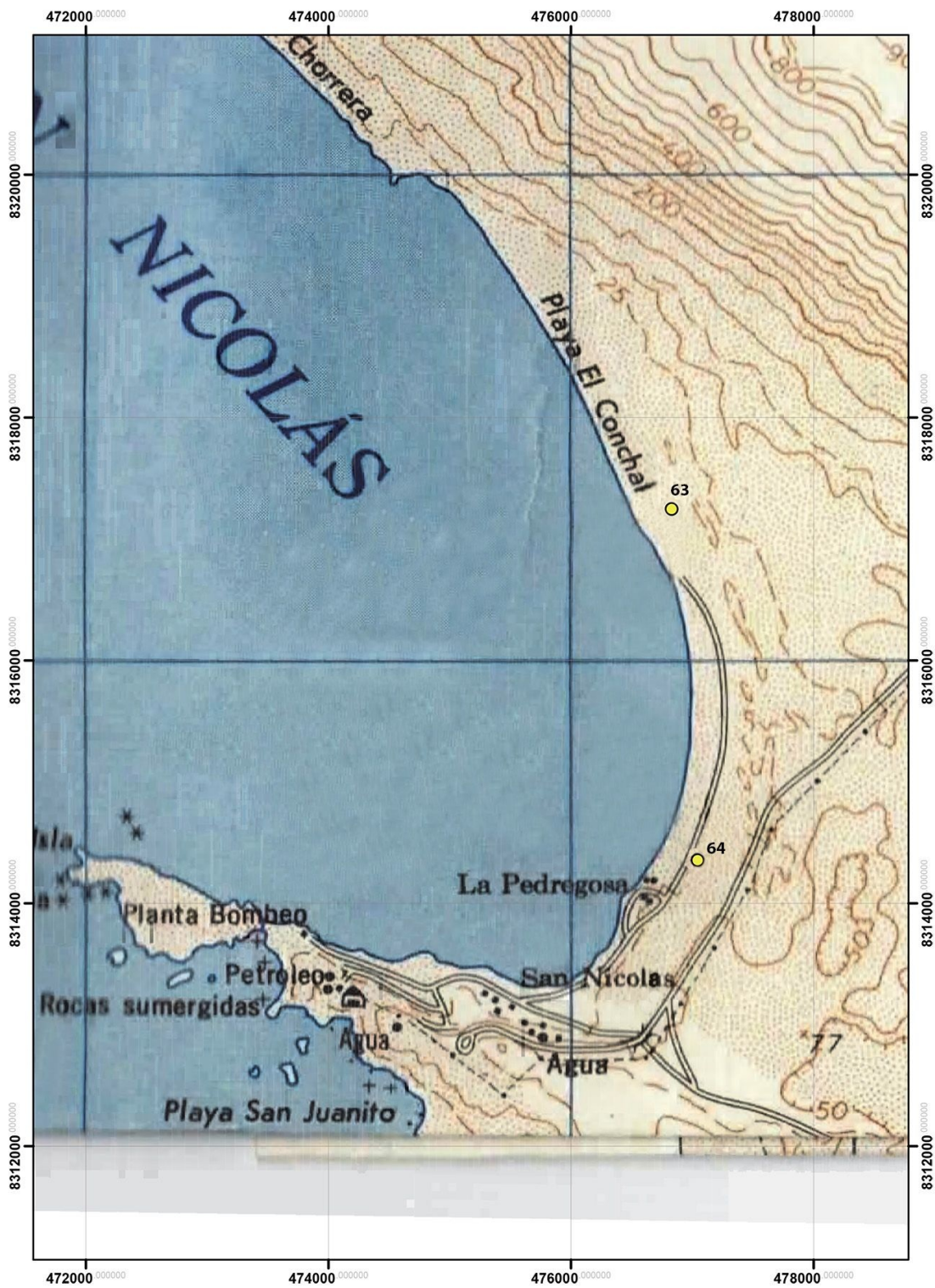


Figure 11. Sites 63–64, Bahía San Nicolás, I.G.N. (Peru) topographic map, 1977, 1:100,000.



Figure 12. Desert landscape east of Laguna Grande.



Figure 13. Lomas de Marcona during the dry season.



Figure 14. Site 18 and high coastal plain south of Punta Lomitas.



Figure 15. Well-developed beach below Site 18.



Figure 16. Site 17, low coastal plain at Playa Lomitas.



Figure 17. Lower course of the río Ica.



Figure 18. Site 2, mounds of El Chucho.



Figure 19. Site 6, Carhua, aerial view, Site 6, Google Earth.



Figure 20. Site 6, Carhua, aerial view, photo by Alana Cordy-Collins.



Figure 21. Carhua surface view looking north, showing rocky peninsula with mounds and sandy beach with fishing boats in middle distance.



Figure 22. Shell middens at Carhua, Land Rover center for scale.

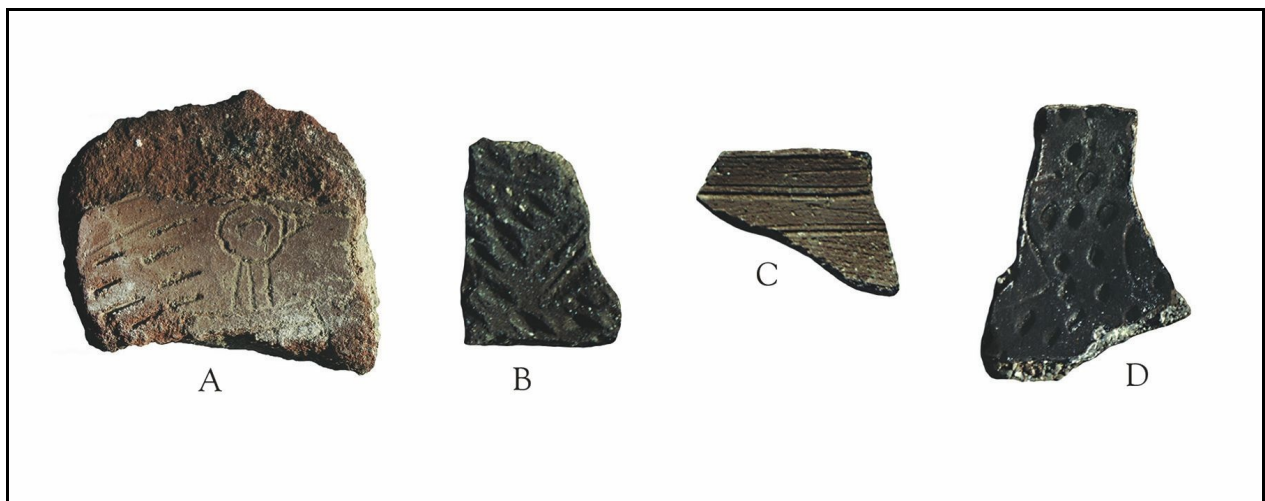


Figure 23. Carhua Early Horizon sherds.

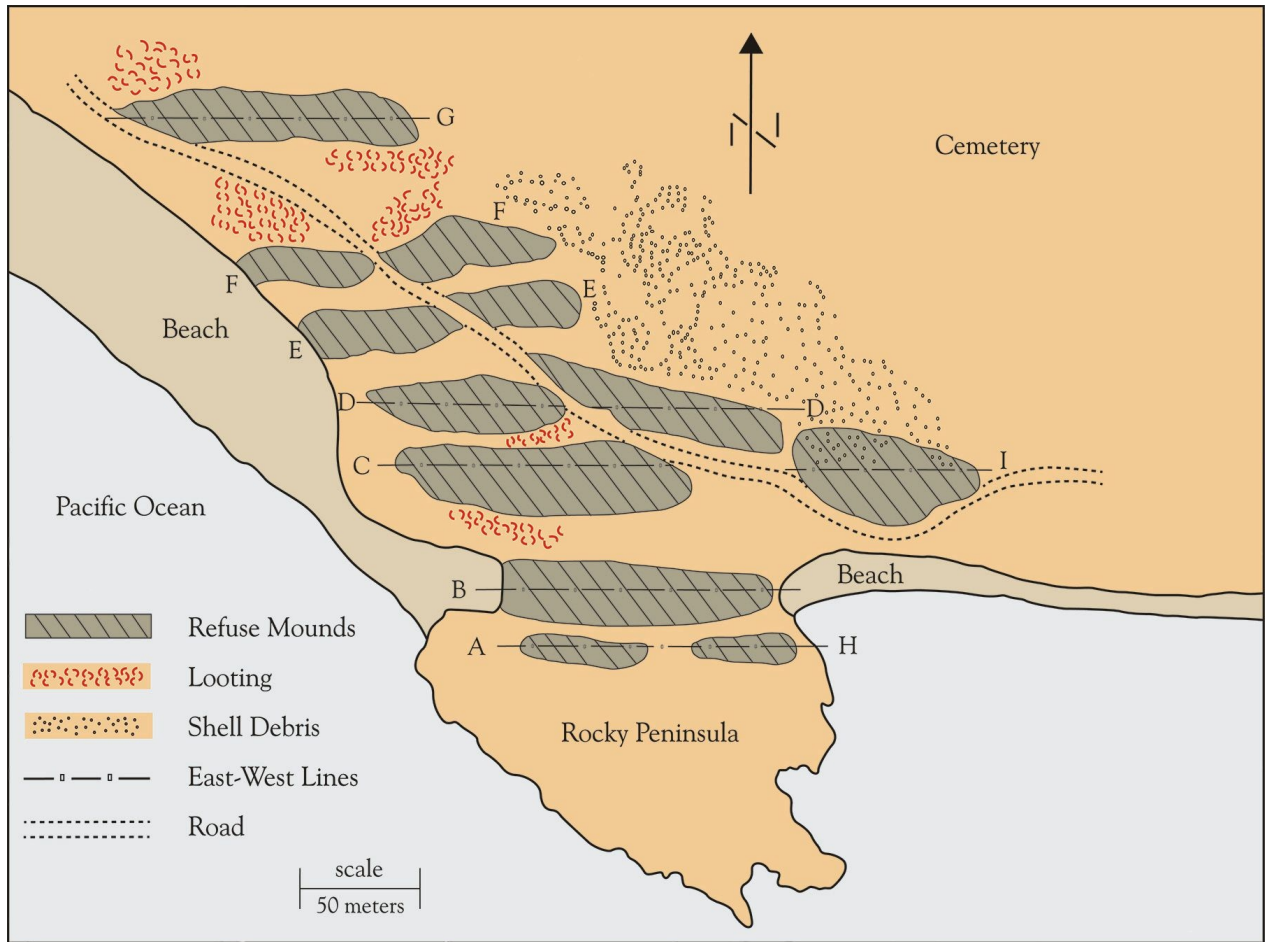


Figure 24. Site 6, Carhua site map by Alana Cordy-Collins (re-drafted).

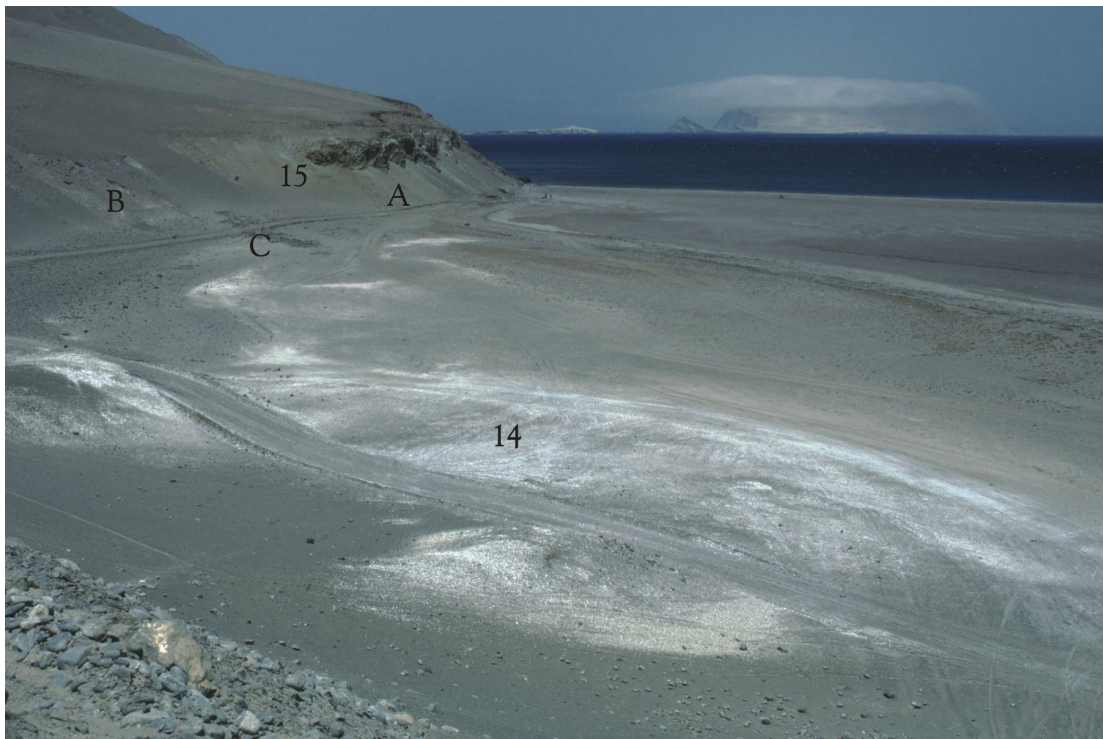


Figure 25. Sites 14 and 15, Morro Quemado.



Figure 26. Site 21, view from La Yerba to mouth of río Ica.



Figure 27. Site 21, La Yerba, Quincha walls.

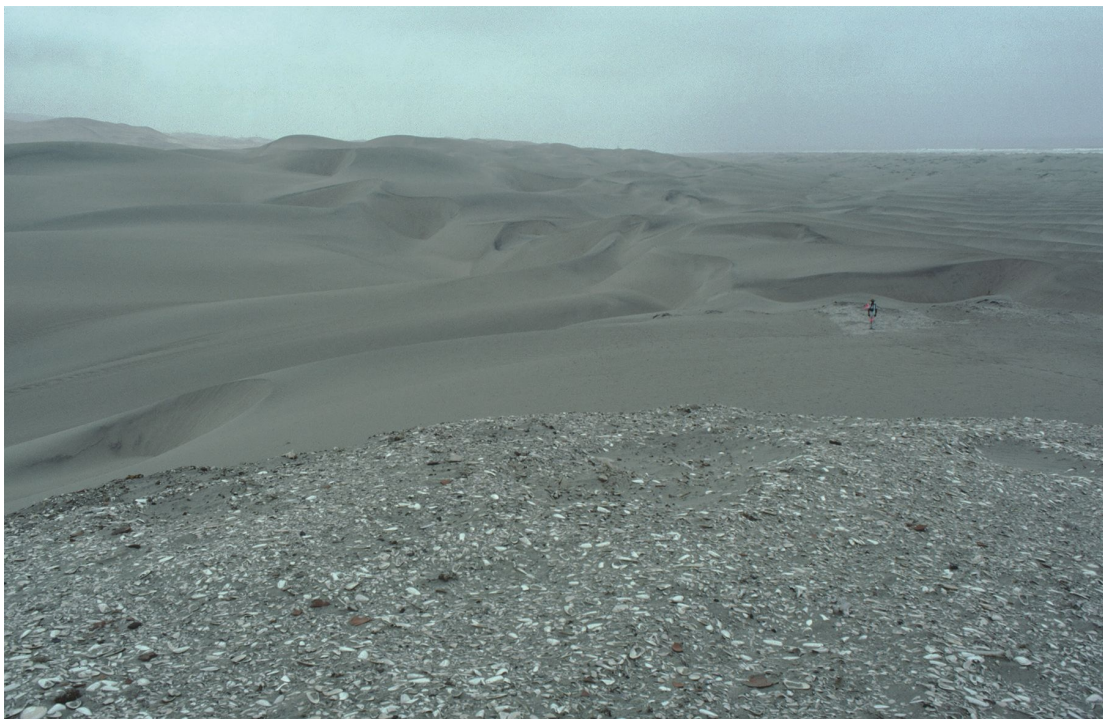


Figure 28. View of La Yerba dune field, figure at center right for scale, white line at top right represents breakers on the Pacific shore.

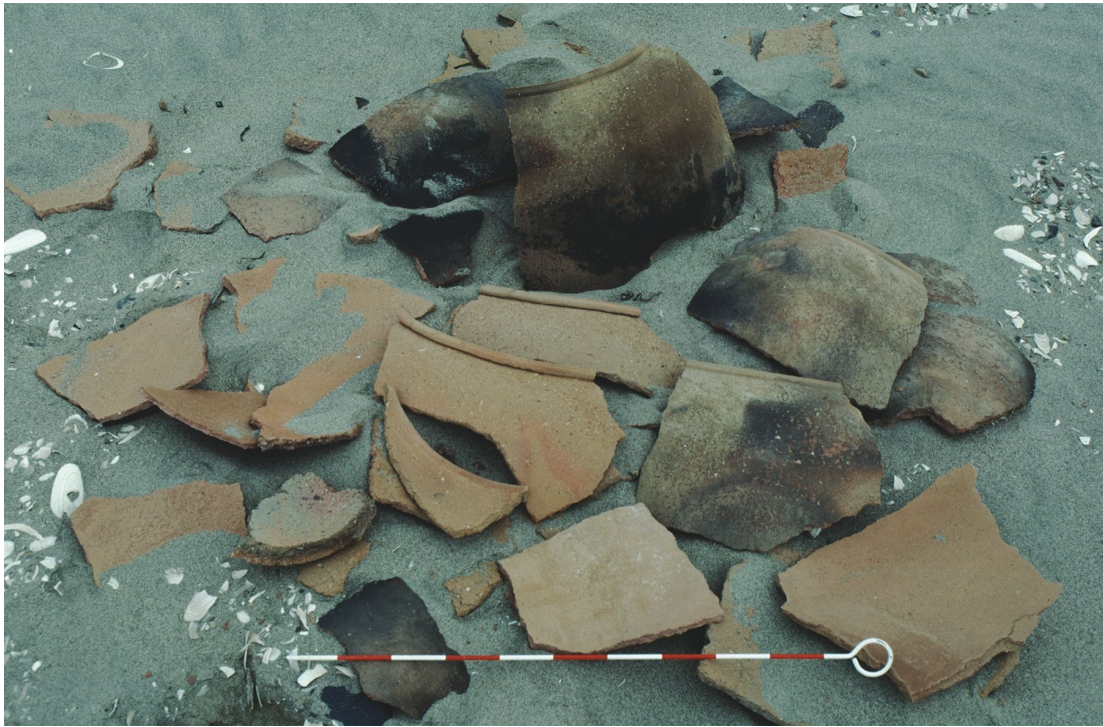


Figure 29. Site 21, La Yerba, coarseware storage jars.

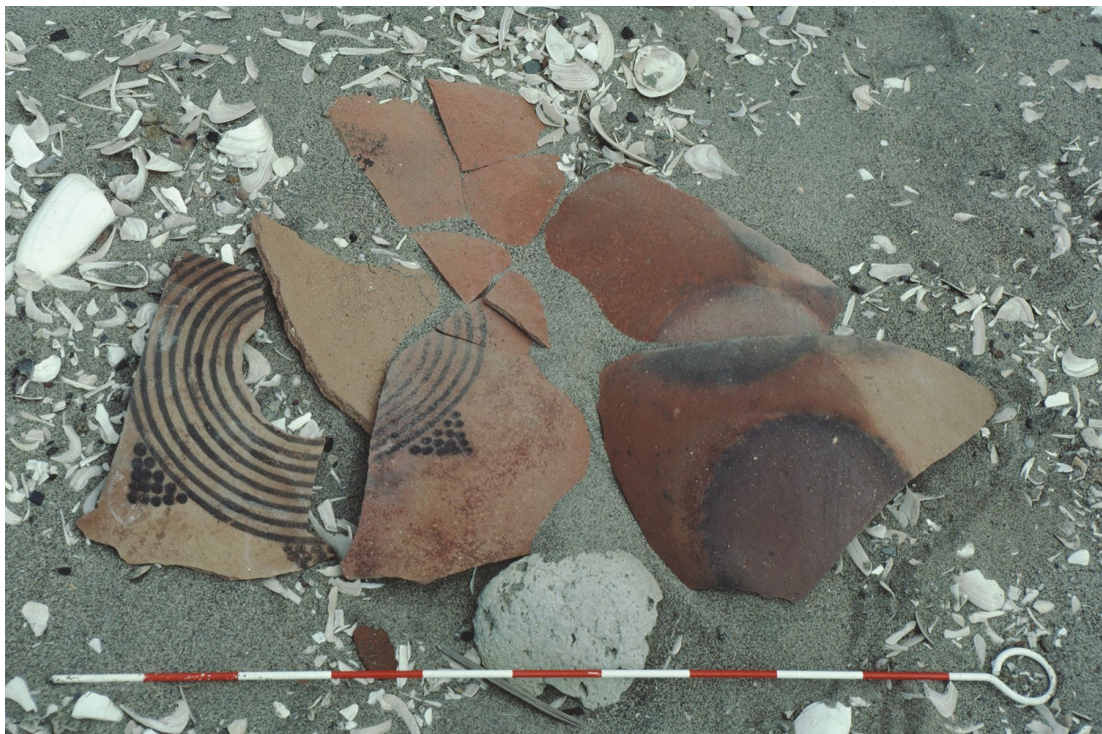


Figure 30. Site 21, La Yerba, partially painted jars at La Yerba.

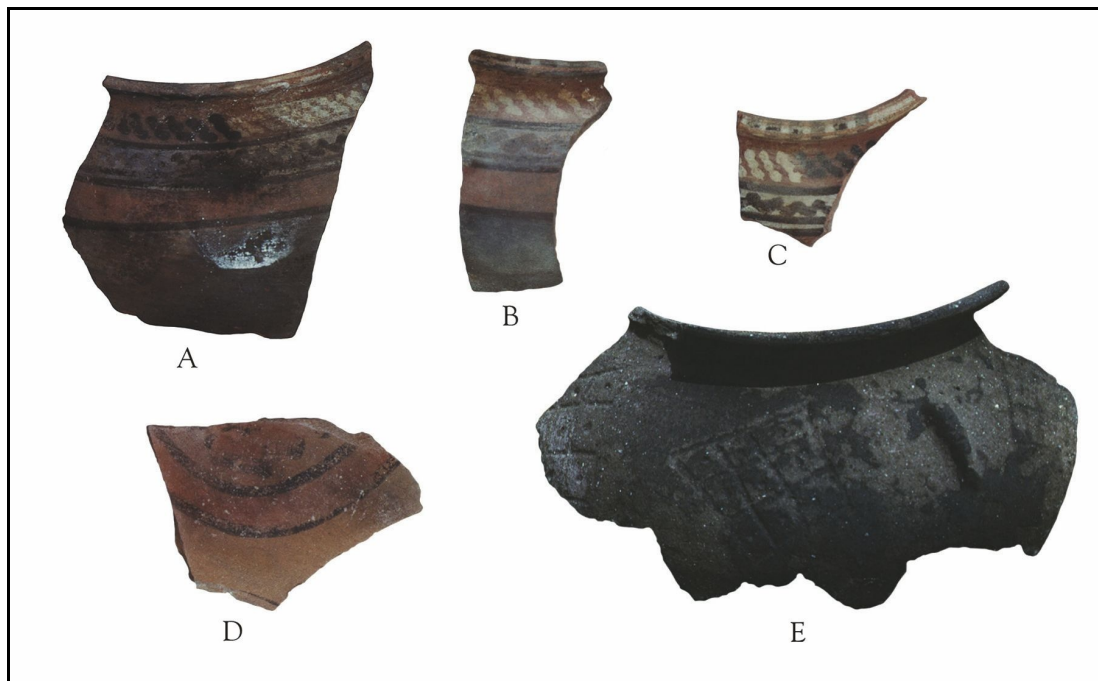


Figure 31. Site 21, La Yerba, LIP and LH sherds.



Figure 32. Sites 31–34, Oasis of Monte Grande del río Ica.

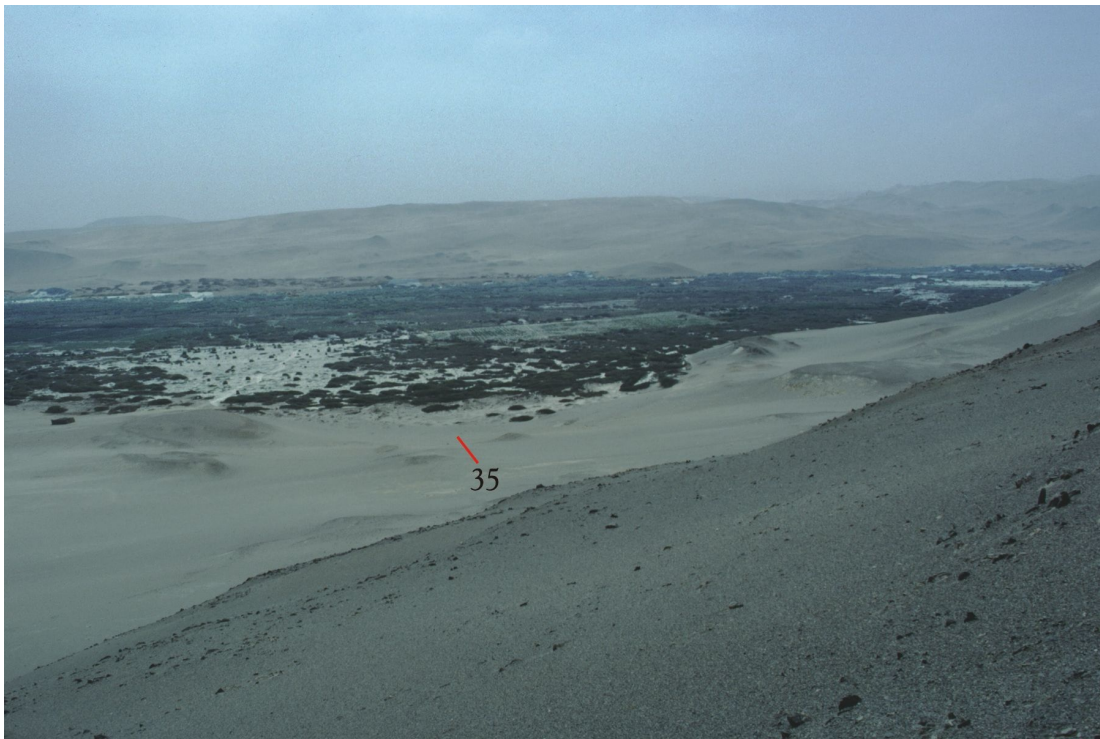


Figure 33. Site 35, Oasis of Monte Grande del río Ica.

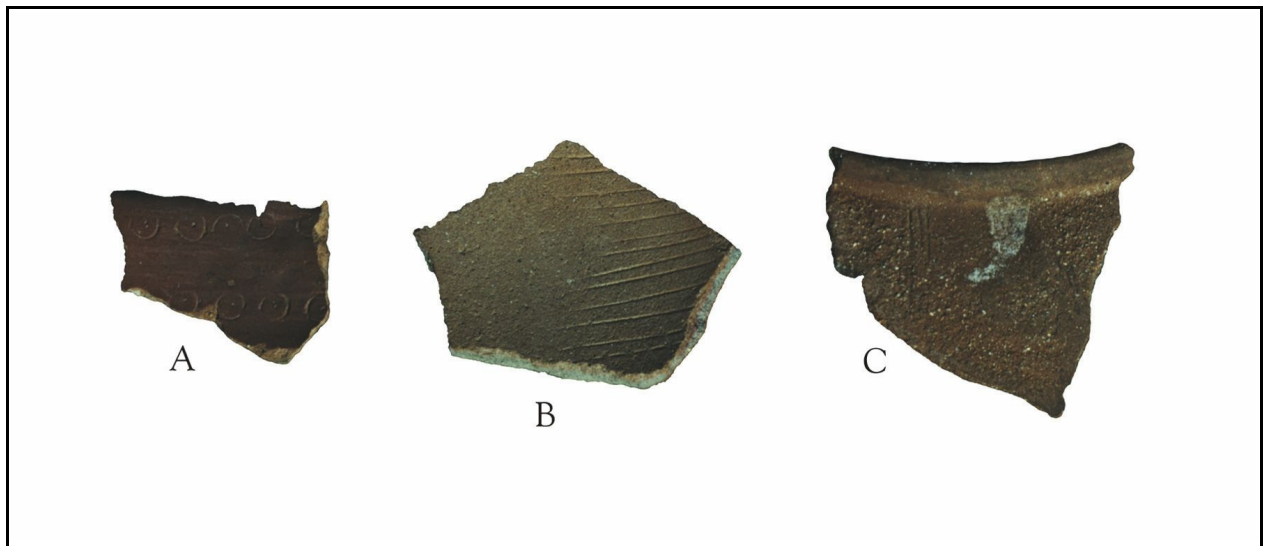


Figure 34. Site 31, Early Horizon sherds.

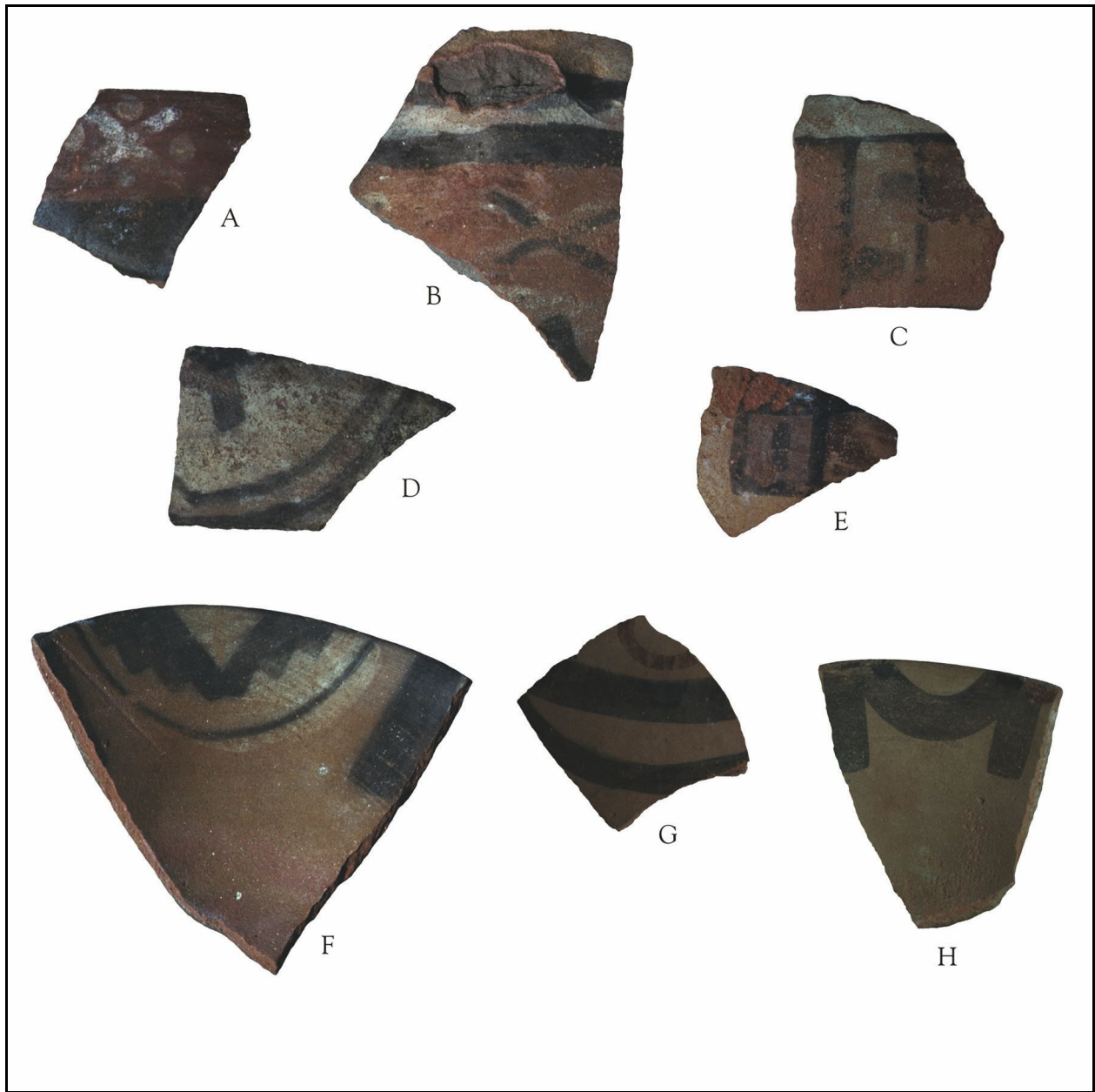


Figure 35. Site 32, Late MH-LIP sherds.

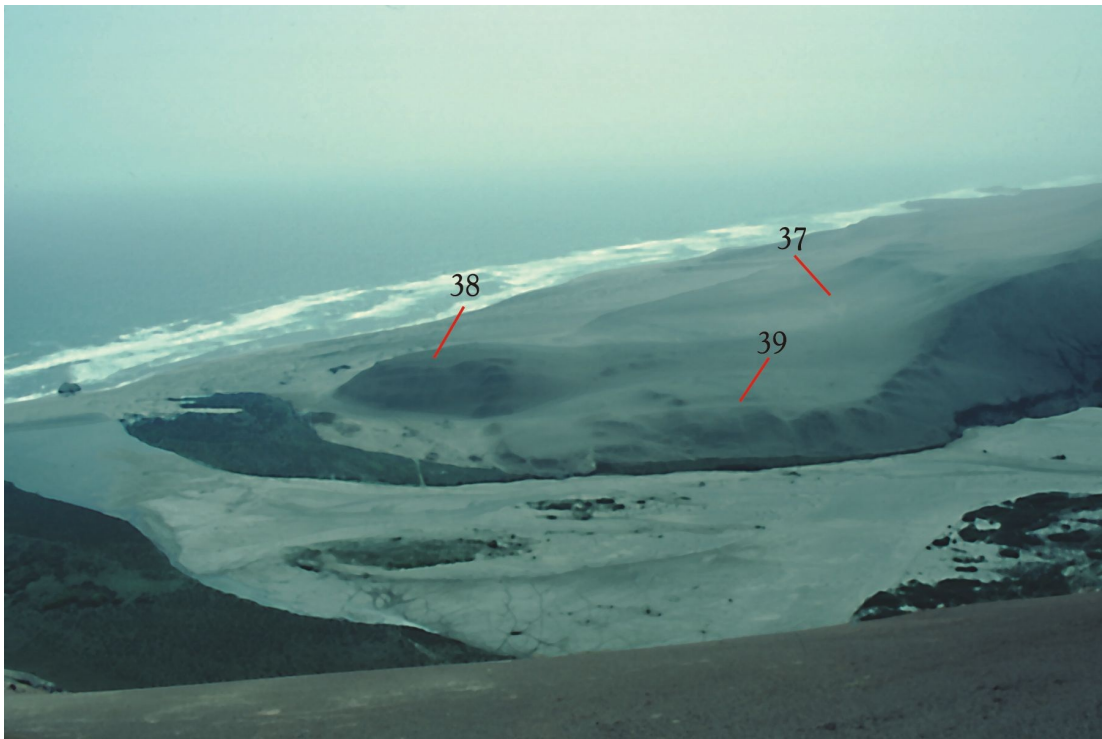


Figure 36. Sites 37–39. Mouth of the río Grande.



Figure 37. Fishing village of Santa Ana, mouth of the río Grande.



Figure 38. Site 40, vertical posts and quincha walls.



Figure 39. Site 40, Middle Horizon artifacts.



Figure 40. Site 44, Pedregal.

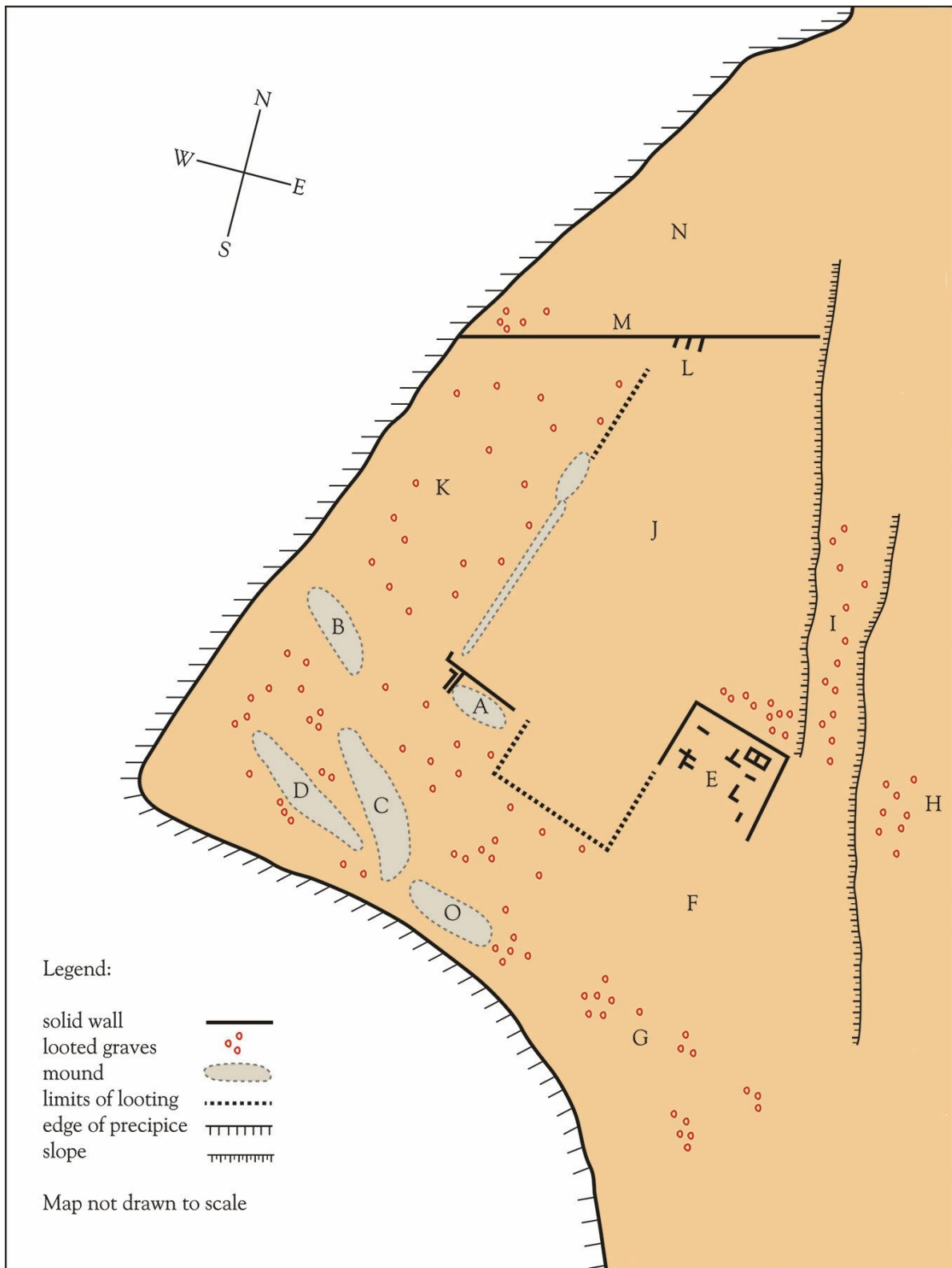


Figure 41. Site 44, Pedregal sketch map.



*Figure 42. Site 44, Pedregal, Conical adobes set vertically in wall.
Chaining pin is marked in 5 cm. intervals.*



*Figure 43. Site 44, Pedregal, MH plano-convex adobes.
Chaining pin is marked in 5 cm. intervals.*



Figure 44. Site 44, Pedregal, EIP trophy head, frontal and profile views.



Figure 45. Site 45, Arenal, EIP conical adobes at Arenal.

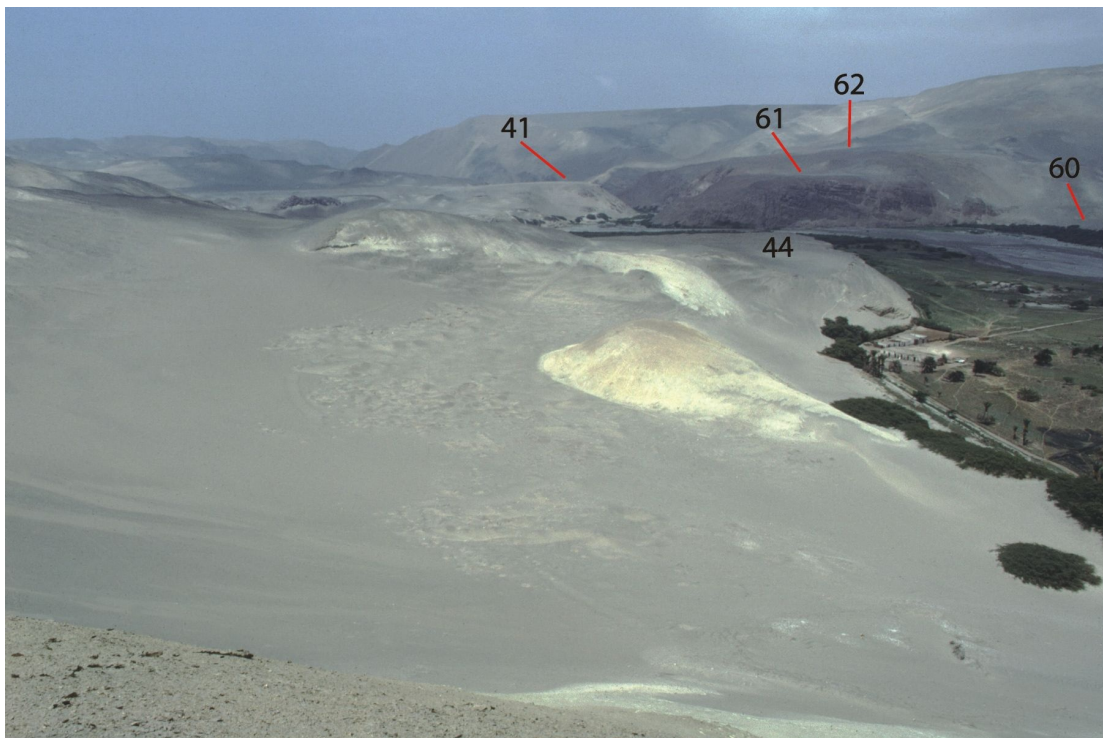


Figure 46. Site 45, Arenal and Sites 41, 44, 60–62.



Figure 47. Site 45, Arenal, conical adobes laid horizontally in wall.
Chaining pin is marked in 5 cm. intervals.



Figure 48. Site 45, Arenal, plastered adobe wall with niche (MH); A) as found; B) same wall after it was destroyed by huaqueros. I did not know I was being watched when I studied the site. Looters came that night and dug up every spot I photographed. Chaining pin is marked in 5 cm. intervals.

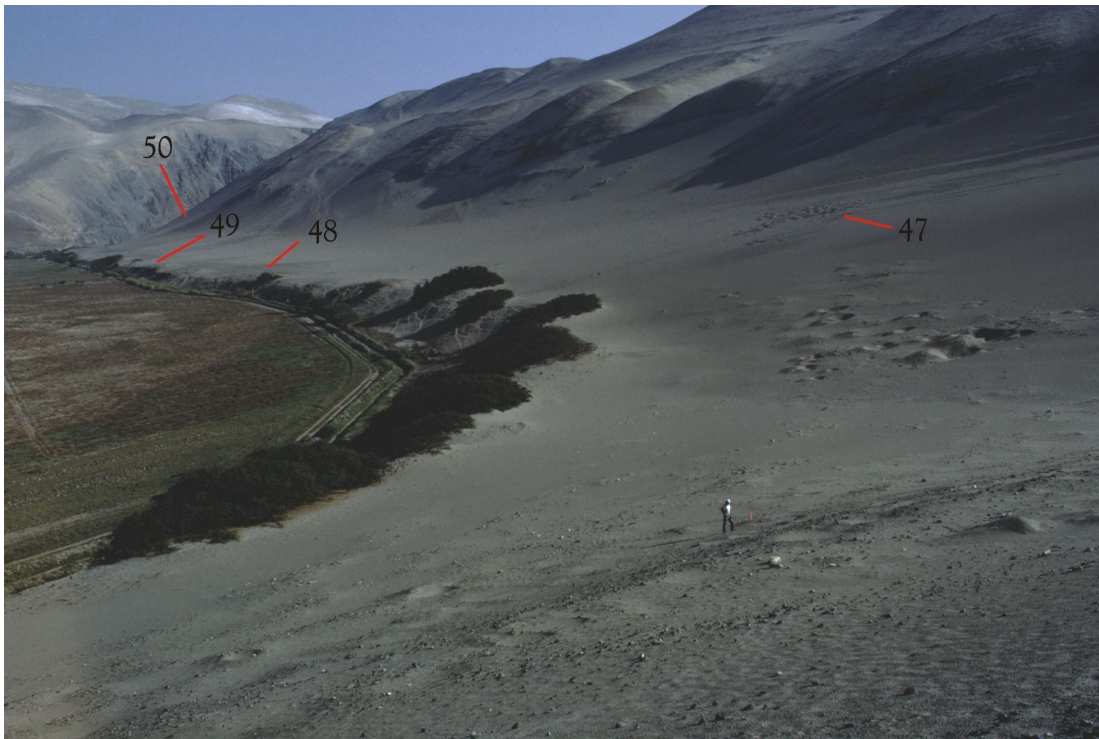


Figure 49. Site 46 (foreground) and Sites 47–50.



Figure 50. Site 54, EH incised, post-fire resin painted sherd.



Figure 51. Site 45, Arenal, incised EIP 1 sherds.



Figure 52. Site 43, fragment of EIP 2 bowl.

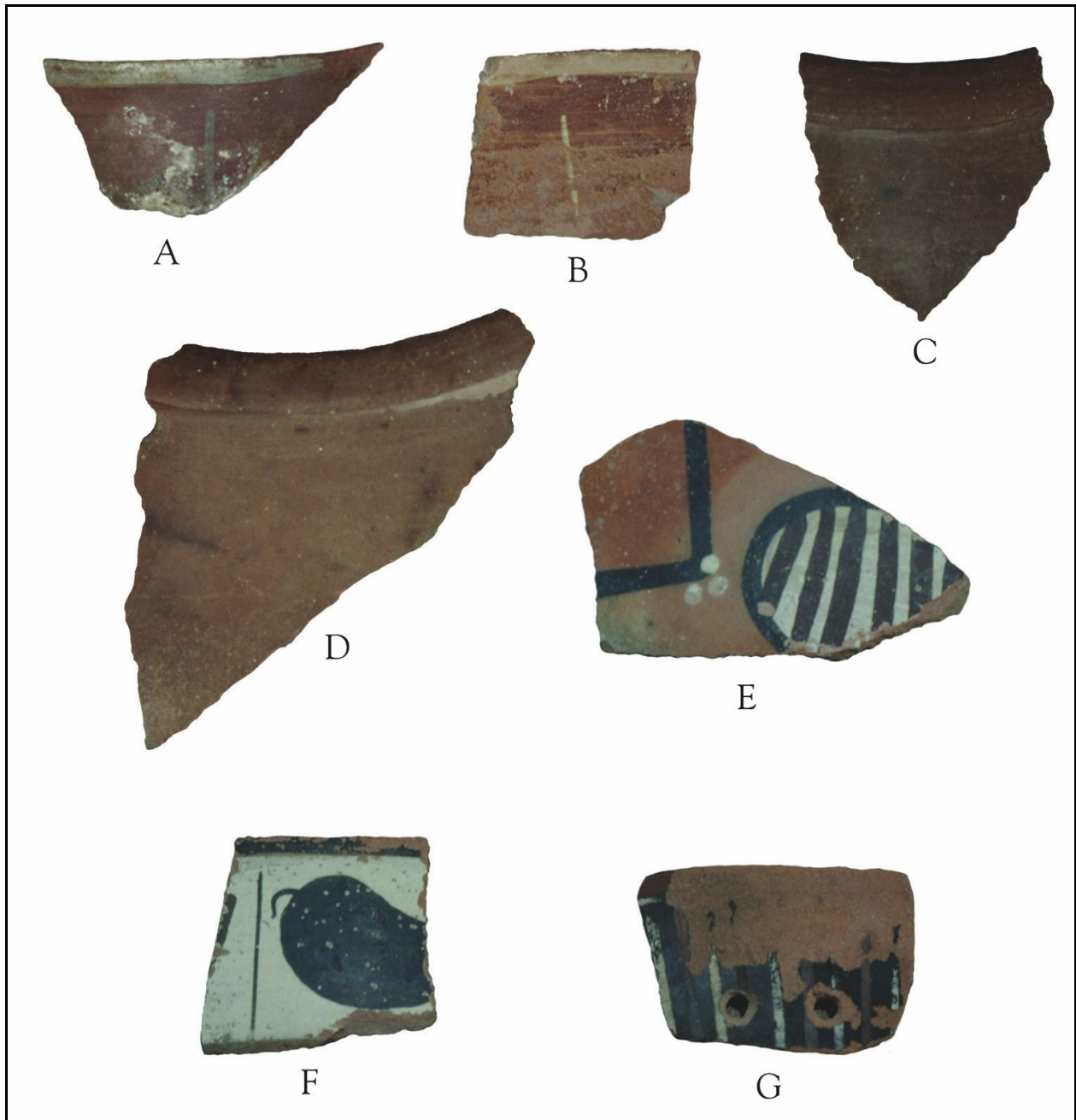


Figure 53. Site 44, Pedregal, Early Nasca sherds.

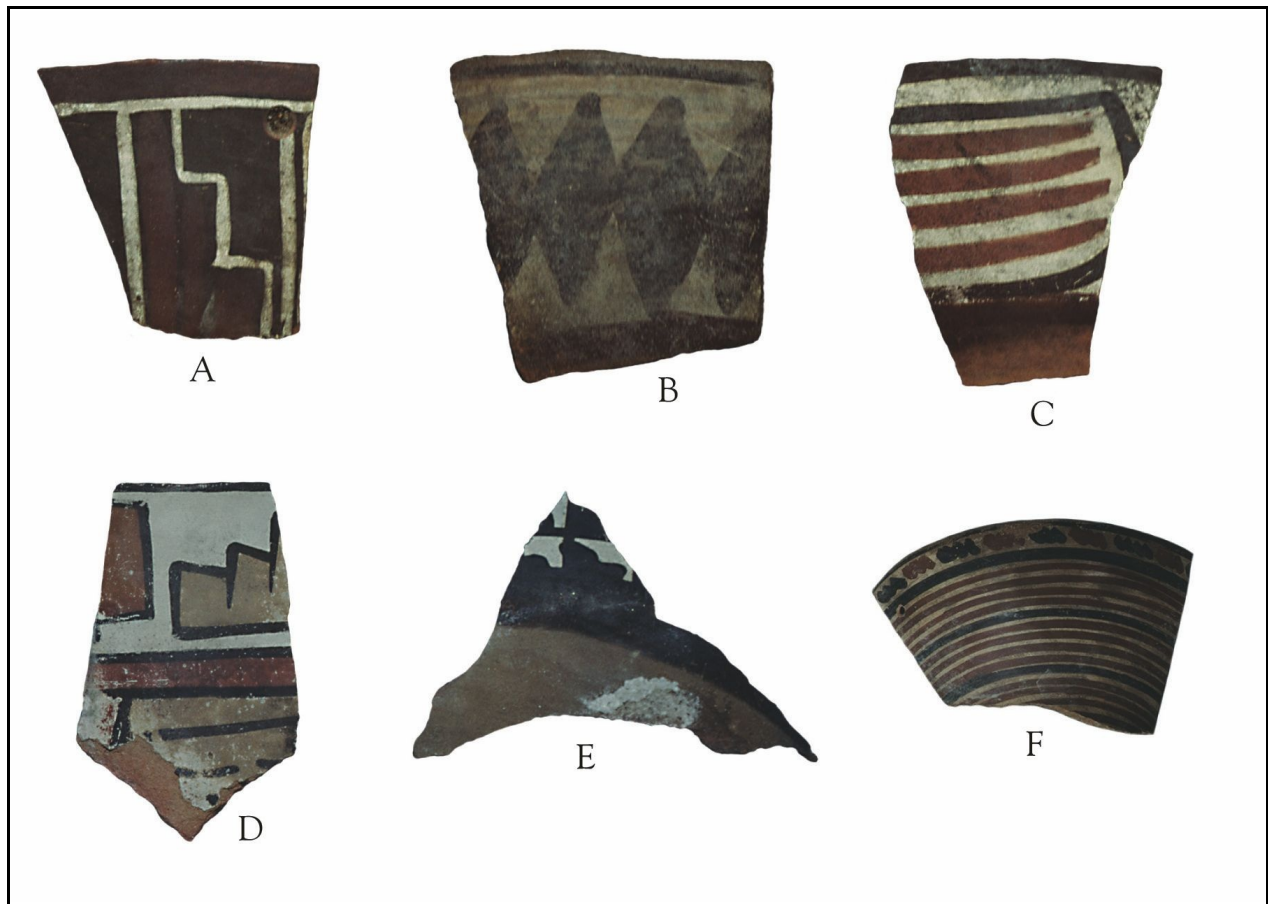


Figure 54. Site 45, Arenal, Nasca sherds.



Figure 55. Site 46, Early Nasca storage jars. Chaining pin is marked in 5 cm. intervals.

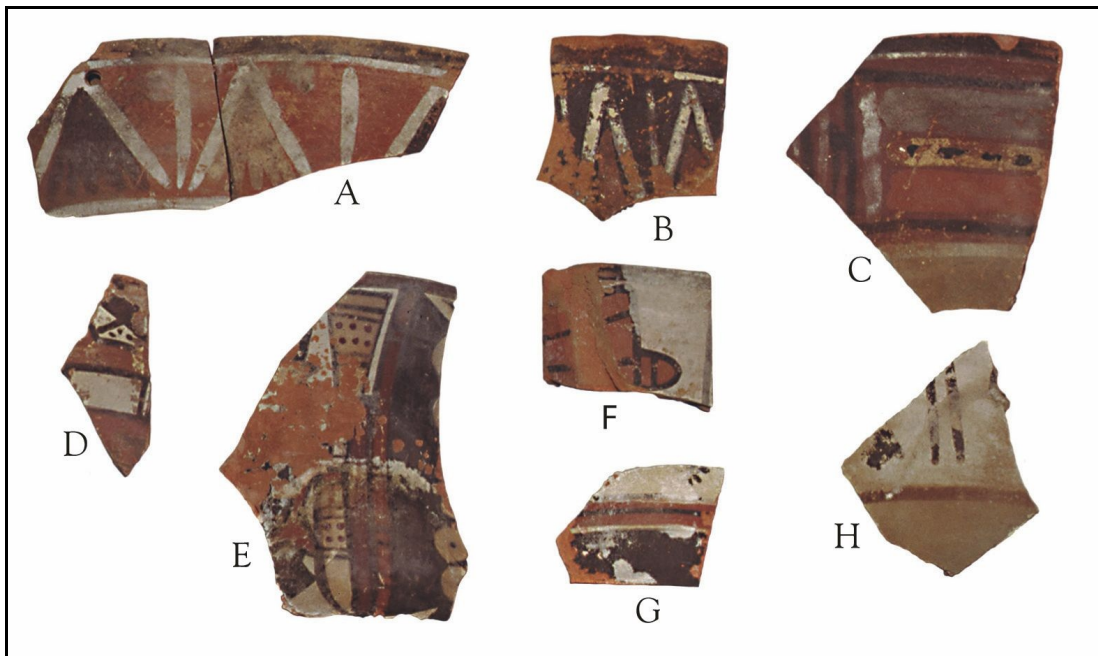


Figure 56. Site 60, Nasca sherds.



Figure 57. Site 53, LIP and LH vessels.

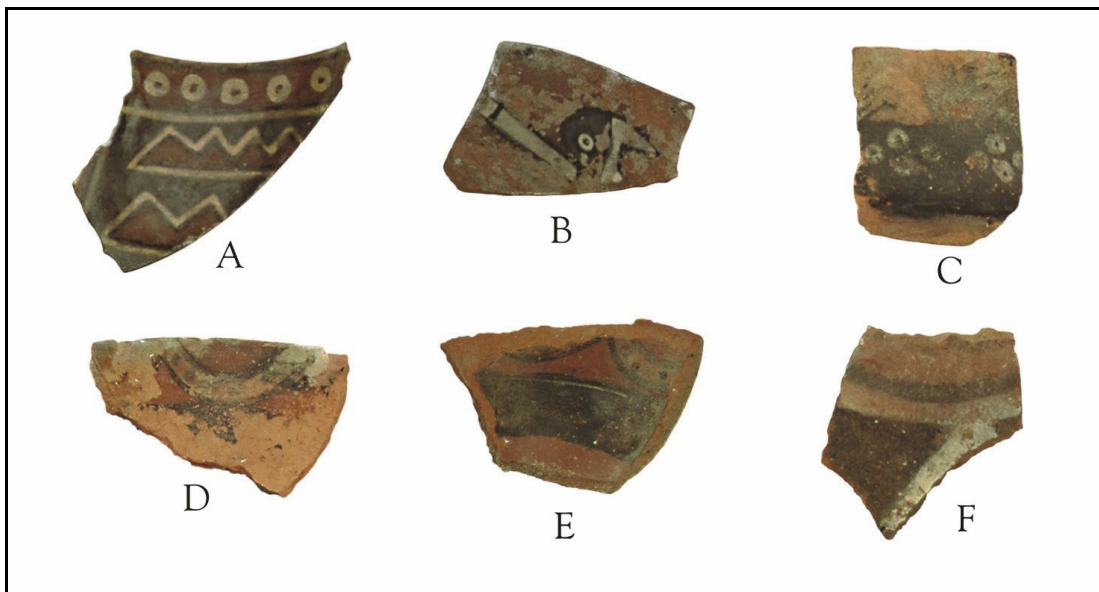


Figure 58. Site 55c, LIP sherds.



Figure 59. Site 64, El Conchal, shell mounds.



*Figure 60. Site 63, Pedregosa, LIP village.
Modern fishing village of La Pedregosa in background. See Figure 11.*



Figure 61. Site 16, Morro Quemado, geoglyph.



Figure 62. Site 26, Monte Grande del río Ica, geoglyphs.



Figure 63. Site 26, Monte Grande del río Ica, view down the longest line with man standing half way for scale.



Figure 64. Site 51, Monte Grande del Río Grande, geoglyphs. Men stand on either side of a trapezoid.



Figure 65. Site 61, Monte Grande, geoglyphs.

