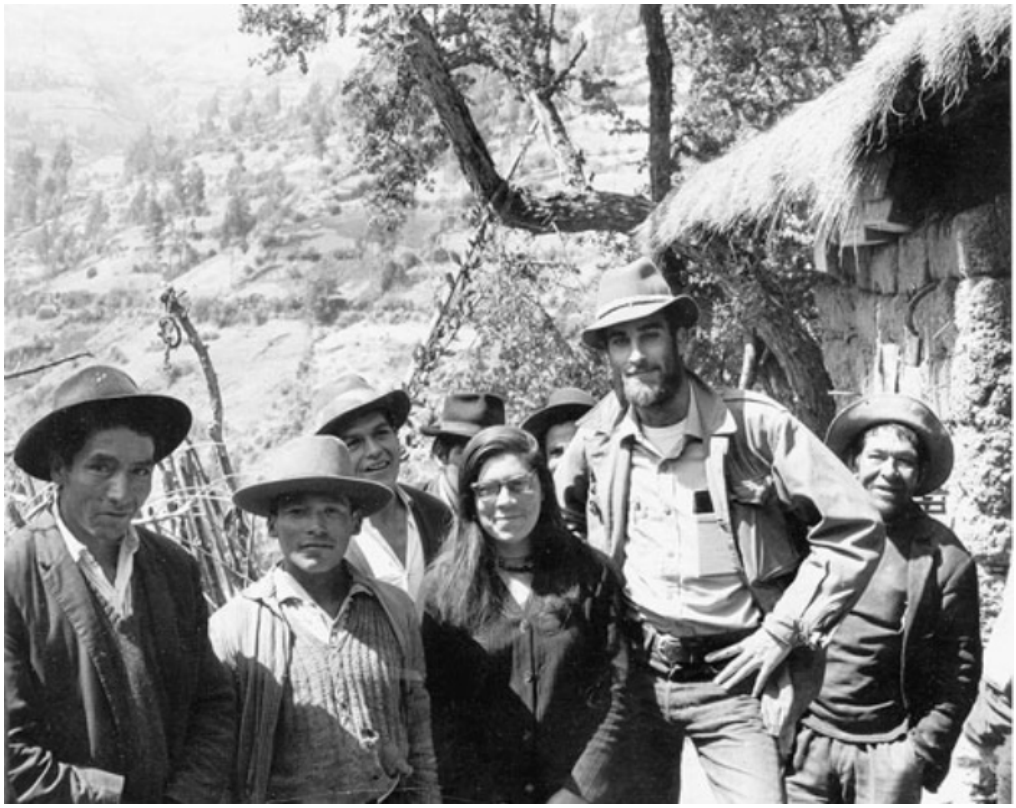
Grossman, Joel W.

1972 Early Ceramic Cultures of Andahuaylas, Apurimac, Peru. Unpublished Ph.D.Dissertation. Department of Anthropology, University of California, Berkeley.



Joel W. Grossman in Andahuaylas, Apurimac Peru, 1970 *Photo By: Joel W. Grossman, 1970*

Preface Note by the Author 2014: Since 1972, this dissertation was earmarked for restricted distribution by the Department of Anthropology of the University of California at Berkeley in an effort to protect the Peruvian archaeological site of Waywaka. At the time, the sensitivity of the site derived from its documented 3000 year long stratigraphic sequence of pre-Inca cultural deposits and the presence of very early pottery. It was also of concern because of the recovery of dozens of thin flakes of gold foil, found in association with a gold worker's tool kit dating to the second millennium BC. The concern was real. The site was vandalized by grave robbers during the 1970 field season.

The 2014 decision to distribute the dissertation as a digital pdf file was based on five considerations: 1) The site and its contents is now well known and widely discussed in professional and public venues, 2) The site is now designated and protected as a public park with a brass monument commemorating the discoveries there, 3) a number of colleagues have expressed an interest in seeing the dissertation in publication quality format, 4) it has come to my attention that multiple, very poor quality, Xerox copies of the original dissertation exist in Peru and the U.S., and 5) the findings, although forty years old, are of relevance to the ongoing research by new generations of scholars, both Peruvian and international, in the south-central highlands.

The original 1972 document was scanned in 24 bit Color at 400 dpi and then compiled into a searchable pdf document in accordance with Library of Congress standards by Hudson Archival of Port Ewen, New York.

Joel W. Grossman, Ph.D.
Bronx, New York
jwgnyny@gmail.com
www.GeospatialArchaeology.com

Grossman, Joel W.

1972 Early Ceramic Cultures of Andahuaylas, Apurimac, Peru. Unpublished Ph.D. Dissertation. Department of Anthropology, University of California, Berkeley.

Early Ceramic Cultures of Andahuaylas, Apurimac, Peru

By

Joel Warren Grossman

A.B. (University of California) 1967

DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Anthropology

in the

GRADUATE DIVISION

of the

UNIVERSITY OF CALIFORNIA, BERKELEY

Approved:

John Howland Rowe .....

Dorothy Menzel .....

James J. King .....

Committee in Charge

.....

PREFACE

This study is based on field work carried out on two separate occasions. The first, involving a preliminary survey of various sites in the Province of Andahuaylas, was conducted during a three month period in the summer of 1969. This project was sponsored by a Ford Foundation Traineeship from the Archaeological Research Facility, Department of Anthropology, University of California at Berkeley. The second, which lasted for 12 months in 1970-1971, involved the specific excavation and analysis of materials recovered in the immediate environs of Andahuaylas, at the site of Waywaka. The more extensive research period was made possible by grants from several sources. I was sponsored primarily by the Comisión Fulbright de Intercambio Educativo de Perú, in the form of a Fulbright Fellowship. A critical supplementary Dissertation grant was supplied by the National Science Foundation (GS-3085), and the generous support of both is acknowledged with gratitude.

The writing of the report was made possible by a continuing Special Career Fellowship from the Universite of California at Berkeley for the academic year of 1971-72. Furthermore, support for the cost of typing was made available through a grant from the Cen-

ter for Latin American Studies at the University of California, Berkeley. This facility also made it possible for me to discuss this research with colleagues in other parts of the country when funds were made available for participation in a symposium at the annual meeting of the Society for American Archaeology in May of 1972.

I also wish to express my special gratitude to Dr. James F. King, Dean of the Graduate Division and recent director of the Center for Latin American Studies, for his unfailing support in every conceivable way while I was in the field and after my return.

Finally, I wish to thank the staff of the Lowie Museum of Anthropology, especially Lawrence E. Dawson and Frank A. Norick, for making the facilities of the Museum available to me while conducting the research, and for their advice on matters both technical and general.

Of the many people who guided me through the research and writing of this report, I am most grateful to John H. Rowe, who not only gave generously of his time and energy throughout all phases of this project but also during the course of my career in graduate school. Not only does this research represent one aspect of a continuing program in the Andahuaylas area by Berkeley personnel, but it was John Rowe who

set me on course and originally suggested Andahuaylas as an area for fruitful research. He graciously supplied me with the full spectrum of his knowledge regarding the problems of Andahuaylas prehistory, and also the results of his extensive and careful records of the sherd materials and field notes collected during his previous field seasons in Peru. He, together with Dorothy Menzel and Patricia Lyon, generously gave guidance in all matters of the analysis and preparation of this archaeological material.

In addition, numerous other colleagues both in this country and in Peru made it possible for me to draw upon a broad fund of knowledge without which this report could not have been written. Special thanks is offered to the following: Christopher B. Donnan, Junius B. Bird, Gary S. Vercelius, Michael M. Moseley, Donald W. Lathrap, Thomas C. Patterson, and Clair C. Patterson. In Peru I am especially indebted to Oscar Núñez del Prado, Luis G. Lumbreras, Rogger Ravines, Luis Barreda, and Mario Benavides. All of these individuals not only gave unfailingly of their knowledge and advice but also opened the doors of their respective facilities to aid in my research.

For their support while I was in Peru I would especially like to express my appreciation to the

following gentlemen: Dr. Eduardo F. Indicochea, Executive Director of the Fulbright Commission in Peru, and his staff, for consistently lending the support of their good offices and advice at innumerable times throughout the project; Edward Purcell, Chief of the Cultural Affairs section at the American Embassy, and his associate, Jackie Portal, for their kind assistance whenever I hit a bump or a tough spot while doing my research.

Special thanks are offered to Todd R. Olson of the Department of Paleontology, University of California, Berkeley, for providing the analysis of the faunal material from Waywaka.

Finally, there were a number of other people who significantly contributed to the success of the project. Among these I would like to express my gratitude to the Fathers of the St. James Society presently working in Andahuaylas, who saw to it that my house and laboratory were stocked with basic utilities and much-needed table space for analyses; to Roque Cizneros, my foreman and dear friend, for his comradeship and commitment to the total success of the project - without Roque there would have been no project; to my fellow graduate students and friends, especially Gobi Stromberg, Rick Cantor, and Karen Bruhns, for their moral support and concrete aid in typing and

editing some of the original drafts of this report; to Laurie Levin who participated not only in the original excavations but saw to the efficient operation of the laboratory during the fieldwork, and for her patient assistance throughout the term of field work; and to my parents, Mr. and Mrs. Milton Grossman, for their encouragement and understanding, not only during the field work itself but throughout my graduate career. To all these people I extend my sincere thanks.

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

Purpose:

Excavations conducted by the author during the 1970-71 field season at the site Waywaka in the Province of Andahuaylas, Department of Apurímac, Peru, revealed in a deep refuse deposit a long sequence of probably discontinuous cultural refuse which span over three thousand years of Andean culture history.

Occupation refuse from six distinct periods of occupation at the site were encountered. It is the analysis of the earliest of these ceramic cultures, called Muyu Moqo, which concerns us here. Clear stratigraphy in the lower portion of the deposit, coupled with internal changes in ceramic style, permitted the subdivision of the Muyu Moqo culture into three phases with the likelihood that further refinement of the sequence will be possible in the future.

It is the purpose of this report to describe this early cultural tradition - probably the earliest ceramic tradition encountered in the south-central highlands. In addition to the ceramics, I shall discuss the human and non-ceramic material remains which were recovered as well. I will examine the implications of the new data and offer some comments as to how it

alters our general understanding of Peruvian culture history.

Before delving into the substance of this study, it would be helpful to make a few preliminary comments to place the region and what was found there into a sharper perspective.

The archaeological past:

During the first half of the fifteenth century, shortly before the Incas developed a powerful empire, they were attacked and nearly defeated at the gates of Cuzco by a large army of Chanka troops who poured out of the north from what is now the Department of Apurímac, in which Andahuaylas is one of six provinces. Despite the importance of these people, next to nothing is known about them or their homeland. It is no exaggeration to say that the only available information about Chanka prehistory is in the form of a few fragmentary, quasi-historical, accounts passed on to us by colonial chroniclers. Not only was there no archaeological evidence defining their physical culture, such as their occupation site or ceramics, but there existed no basic chronology for the entire region of Apurímac. This area represented a blatant historical and geographical gap in Andean studies. I mention these people because it was the lure of the illusive Chankas which originally drew me to Andahuaylas.

The first problem-oriented work which was aimed at defining ancient ceramic styles and developing a chronology for this area was undertaken in 1954 by John H. Rowe. In a cooperative effort between the University of California and the University of Cuzco, a concept of cooperation which I may add continues to the present day, Rowe and Oscar Núñez del Prado conducted a two week surface survey for new sites, primarily in the Chumbao valley, the site of modern Andahuaylas, in the north-eastern part of the Apurímac. They made collections from fifteen sites in the area and were able to define three new ceramic styles. The first, Qasawirka [named after the site where it was found, Ap2-1], seemed related to derived Chanapata material, and based on this was placed before the Huari style in time. The second, Waywaka, showed resemblance to and was found in association with small amounts of pure Huari sherds which identified it as the local imitation or derivative of the Huari style.

Finally, at a site called Muyu Moqo, Rowe and Núñez del Prado recovered a distinct style which they named after the site. From a few sherds which they had found it appeared at that time that there was some relationship between the Muyu Moqo and Qasawirka styles, and Rowe then suggested that the former might represent a regional variant of the latter. However, the avail-

able information was minimal, and Rowe had no strong basis for arguing one way of the other, given the lack of any stratigraphic context.

Prior to the 1954 survey several disconnected studies are known and will be mentioned primarily for their value as historical notes. In 1942 Hugo Pesce, a Peruvian medical doctor with wide interests and abilities, published a list and locations of seventeen sites he had visited in Apurímac. His descriptions are limited, and he makes no mention of any surface pottery which may have been associated with each of his sites. Fortunately, Pesce's site locations are detailed and are usable for future work.

The only account of early work in the region of Andahuaylas which has come down to us is in the form of a letter addressed to Oscar Núñez del Prado from César Zanabria in 1946 [a copy of which was made available to me by Rowe]. Zanabria, a former resident of Andahuaylas and a student of Rowe at the University of Cuzco, described a three hour excavation in 1941 of a three meter trench at the site of Qasawirka. In addition he mentions two earlier forays to the same locality, the first in 1929 by the then subprefect, and the second in 1935 by a local school teacher. Zanabria's collections are no longer available, but Dr. Rowe managed to have most of the important pieces drawn while they were still accessible.

Finally, the site of Waywaka has received mention on numerous occasions in contemporary or recent publications dealing with Andean prehistory, aside from Rowe's comments on the site [Rowe 1956:43-44, and 1963:15]. The most extensive, but still minor treatment of the site was made by Izumi [1960:470] after a passing visit as part of the preliminary survey in 1958 of the University of Tokyo expedition to the Andean area. Aside from this note, the only other references I know of are those of Lumbreras [1959] and Casafranca [1960:325].

From 1954 to the present the prehistory of Andahuaylas has remained at the point to which Rowe brought it in 1954.

Present-day Andahuaylas:

The modern city of Andahuaylas is one of three communities in the 11 km. long valley of Chumbao, in the Province of Andahuaylas. The ends of this valley are the communities of San Jerónimo and Talavera. The valley itself forms a thin oval depression, contrasting in its greenery and population density with the high mountains on all sides. The floor of the valley, at an elevation of 2,900 meters above sea level, forms a narrow drainage for the Río Chumbao flowing through its center from east to west.

Andahuaylas is important today as a main waysta-

tion for travelers and cargo moving between the capital of Lima and Cuzco on the Central Andean Highway, a 15-foot wide dirt road.

Based on the 1961 census, the population within the valley and its immediate environs is today somewhere in the order of 15,000 to 20,000 people.

Two aspects of the geography and climate stand out as being important for an archaeological perspective. One is the presence of numerous and continuous low-level ridges or hills which project into the valley from all sides as extensions from the mountains above. The second, which strikes all travelers upon their arrival in the area by its overall beauty, is the presence of a sharply defined band of green, lush, vegetation ringing the valley from its floor to a height of approximately 180 meters. It is the belt of vegetation which reflects the greatest density of modern population; the hilltops coinciding with its upper boundaries, the most favored areas for ancient occupation.

Of the seventy sites which I recorded as a part of this research project, the vast majority was found concentrated within this zone. In fact, I cannot think of a single hilltop ridge or ridge bordering the valley without some sign of ancient habitation. Just why this may be the case is difficult to say.

However, it is interesting to note that on the green slopes below most of these hilltop sites maize is grown as well as other crops of medium to low elevation. Immediately above these localities, and coinciding with a transition to a barren puna environment, the main staples are ones derived from root crops, such as potato and oca. If the pre-Inca peoples of Andahuaylas were not living on these boundary points because of the picture-window view from most of the sites, then, perhaps they were looking for a place to live which would offer an equal access to the two agricultural zones.

CHAPTER II

THE EXCAVATION OF WAYWAKA

The site:

Waywaka is a large habitation site about the size of a football field atop a long shoulder directly above the modern city of Andahuaylas. The site is at an elevation of 3060 meters and rises approximately 180 meters above the level of the town plaza. The crest of the hill is circumscribed by the Andahuaylas-Huancabamba road. Between 1 and 2 meters of refuse are exposed by the road cut, and sherds can be collected below it almost to the bottom of the hill. However, below the road the hill slopes steeply, and it is doubtful if the original occupation extended much beyond 10 or 15 meters below its edge. A modern ditch, 1.5 meters wide, seems to delimit the extent of the ancient refuse along the south-western side of the site. The ditch apparently functions to prevent rain water from washing down onto the road below. The site measures 164 by 265 meters within these boundaries. The crest of the site varies in height between 7.5 and 9 meters above the road cut.

The surface of Waywaka is nearly bare, the cover

consisting of a few weeds and bushes interspersed with patches of tough crabgrass called locally "gramalote" and "kikuyu." Portions of the site are placed under cultivation in late October and November. Plowing is done with a cattle-drawn wooden plow tipped with steel. Because a compact clay layer underlies the surface humus, plowing did not exceed 12 to 15 cm. in depth.

Waywaka is important today as the location of the antenna and power equipment of Radio Andahuaylas. The transmitter and watchman's quarters are located within a 6.25 by 12.35 meter cement brick building resting on a cement foundation. This permanent structure provided a convenient reference point for surveying.

The antenna caused some complications when I began to excavate. Radiating out on all sides of it were numerous 1/8" copper wires. While I was told that these were buried at a depth of over 1 meter, I encountered none any deeper than 15 cm. While they may have been intended to be deeper, I suspect the hardness of the second compact clay layer prevented the workmen from achieving that goal. Although the wires were not an important factor in mixing strata, they did affect the physical operations of the excavations. First, several pits had to be relocated

because they exposed two or more of the wires at one time, which, if not broken, would have made excavation difficult. Second, in their function as ground wires, they turned the site into a primary target for lightning bolts. It took us only one or two rain storms to realize that if lightning was going to strike in the area, then it would strike Waywaka. We learned quickly; the minute storm clouds began to form we would leave as soon as possible and spend the rest of the day in the Laboratory. After one departure, we discovered that a bolt had struck Waywaka just a few meters from where we had been excavating ten minutes before.

Excavation technique:

I had set up two criteria for selecting a site for excavation: first, I was looking for a multi-component deposit, and second, I was looking for a site where the problem of fill and reverse stratigraphy due to massive architecture would be minimal. Waywaka was ideal on both counts. Sherds from different periods and styles were collected on the surface. The road cut showed a deep deposit with the promise of revealing clearly distinct strata representing different periods of occupation.

The general placement of the excavation units

was determined by 1) the desire to find deep stratified refuse, and 2) the desire to characterize the extent of the refuse for each phase of occupation.

A central datum point was selected that would be near the center of the site and easy to relocate in the future. The most permanent feature at the site was the rectangular cement building. The central datum point was therefore placed 16.25 meters upslope from the south-east corner of this building, directly in line with its eastern wall.

As I wanted the excavation units to transect the slope of the site, a datum line was laid out 25° east of magnetic north. While this line actually ran north-east - south-west, its two extensions on either side of the datum will be referred to from here as "east" and "west". The perpendicular to this main datum line, which coincided with the long axis of the hill top, is referred to as "north" and "south".

The basic unit of excavation was a 1 by 2 meter unit with the long side of each pit oriented along the central datum line. Seven areas were ultimately excavated across the site. Five consisted of 1 by 2 meter units, one a 1 by 1 exposure extension off a previous unit (Unit D, W27 S1), and finally one was expanded to 2 by 3 meters (Area F - W45 N0). Each unit was designated both with its metric position

relative to the central datum point, and with a letter of the alphabet coinciding with its order of excavation as shown on the site map (fig. 4). The levels of the excavation were numbered from the top down. Artifacts were numbered first with the site number, Ap2-2, and then with the letter of the unit and level. For example, an artifact from the first level of the first unit was marked Ap2-2, A-I.

All refuse was screened through 1/4" mesh wire screen and all evidence of human activity, including chips of bone and stone were recovered to be washed and sorted in the laboratory.

The basic rule of excavation was to define natural strata by following natural breaks in color or compaction whenever possible. However, in those cases where a deep stratum revealed no internal variation with depth, it was broken into arbitrary 15 cm. levels.

The excavation lasted from October 8, 1971 to December 21, 1971, with five days off the site for rest and rain. The size of the crew varied throughout between 2 and 4 men. Towards the end of the fieldwork, gold was discovered in the form of a few small flakes, and for reasons of security I continued on with only my most reliable helper.

The Individual Excavation Units

The first area selected for excavation was on the eastern edge of the site. Two units were excavated in this area. Here, the road cut revealed both a 1.80 cm. deep deposit and a sand lens separating the refuse into at least two distinct strata. Although time consuming, the two units excavated in this portion of the site proved to be of limited value. The first, Unit A (E68 S5), revealed a shallow deposit of mixed refuse, and the second, Unit B (W75 S5), only demonstrated what was already known. In Unit A, a 90 cm. thick stratum of mixed overburden was found above pure Qasawirka refuse. No refuse predating the Qasawirka occupation was found in either of these units. Because of the importance of the material in the subsequent excavations it was not possible in the time available in the field to analyze the contents of these first test pits, and they will not be described in this report.

It was not until I moved my operations to the very crest of the site that I was rewarded with both deep deposits and clear superposition of refuse with distinct ceramic styles. Here we found a thin surface lens with Waywaka style pottery superimposed over a compact clay stratum containing Qasawirka

style sherds. This stratum was followed by a deep deposit of friable refuse containing Muyu Moqo style pottery. Clear stratigraphy in the lower levels permitted the subdivision of this early Muyu Moqo style into three phases, designated Muyu Moqo A, B, and C-D.

The first test pit on the crest, the third in the excavation, Unit C was placed 27 meters west of the central datum point along the datum line. Because of the important stratigraphy found within it, two other units, Unit D (W27 S1), and Unit G (W29 NO), were opened adjacent to it. Unit D consisted of a small 1 by 1 meter pit immediately to the south of Unit C. This pit was opened to expose an intrusive stone-filled pit that was visible in the southern profile of Unit C extending down from the Phase C-D Muyu Moqo refuse into the strata below (figs. 20-21). Unit G was opened at the end of the season to increase the sample of early ceramic material and to clarify the stratigraphic context of the gold foil and stone beads that were found associated with the remains of Burial 4 in Unit C.

Two other areas were test-pitted to the east and west of this central group. These two units, designated Unit E and Unit F, were important for not only increasing the sample, but also delimiting the hori-

zontal extension of the early habitation refuse across the central portion of the site. So as to save repetition, rather than describe each unit in its order of excavation, I will first describe the three pits, Units C, D, and G that were excavated on the crest together, and then follow with a discussion of what was found to the east and west in Units E and F.

Unit C (W27 NO):

Level I: Throughout the site this first level consisted of a shallow, 10 to 12 cm. deep layer of chunky brown soil with a high humus and root content. Both the surface of the site and the soil of Level I held large amounts of the local crabgrass. The density of this grass cover and the root system below it made excavation difficult and screening tedious.

This first level contained large amounts of small, thumbnail-size, Waywaka style sherds. While an average of 600 to 800 pieces came out in Level I in each of the excavation units, generally fewer than 20 indicated shape or diameter of the original vessels from which they came. Because of the poor quality of the sample, this material remains almost as poorly understood as before. With these Waywaka style pieces were a small number of Inca style sherds. However, their scarcity argues against their representing

an actual period of Inca habitation at the site of Waywaka. An informant in Andahuaylas reported that some Inca tombs had been found when the road was being built. If this is the case, the few Inca style sherds found in Level I more than likely represent the debris from looted tombs.

Level II: The beginning of this next level was marked by a definite change to a dark compacted clay stratum which extended from a depth of 10 to 40 cm. below the surface. While a few Muyu Moqo C-D phase sherds were found in this level, the majority of the ceramics pertained to the Qasawirka style. The boundaries of the dark clay were clear cut, and it is not entirely clear what this mixture may have resulted from.

Level III: Beneath this dark clay the refuse changed to a light yellow sandy refuse, extending from 40 to 50 cm. This friable material marked the beginning of pure Muyu Moqo refuse. No Qasawirka style sherds were found in it.

Level IV: At 50 cm. in depth there was an abrupt change to dark brown friable refuse. Although no color changes were discerned while excavating in this level, once the unit was complete a subtle band of slightly yellowish color could be seen extending for

a meter out of the eastern end of the unit. However, since only Muyu Moqo C-D style sherds were found within Level IV, it is doubtful if this thin truncated band in the refuse reflected a distinct unit of occupation in the refuse.

Level V: At 70 cm. below the surface the dark refuse was found to overlay a yellowish-white stratum of compacted sandy refuse. Although this same sandy material extended to 90 cm. in depth, a thin lens of refuse in its center permitted Level V to be excavated in separate upper and lower sections. Although too thin to be removed as a separate stratum, the thin lense of dark refuse appears to coincide with the lower limits of the Phase C-D occupation. The lower half of the thick sand stratum revealed only Phase B sherd material.

Level VI: Underlying the thick sand of Level V was a dark brown friable refuse which extended down to sterile subsoil at 155 cm. with no significant internal variations in color or compaction. However, at 103 cm. in depth, an oval area of ash was encountered in the eastern end of the unit. A break was made at this point and the remainder of the unit was cleared off to the same depth. This division proved to be a valid one, because only Phase B sherds were

found within Level VI.

Level VII: This next level was taken down from the base of the ash lens to 127 cm. in depth. The break was made at this point, because a small area of yellow clay chunks was encountered in the western end of the unit. Although no clear pit outline was visible, when the next level was begun, these chunks were recognized as the beginning of the fill for Burial 4. Both Phase A and B Muyu Moqo sherds were found mixed in Level VII of Unit C.

Level VIII: This next arbitrary level extended from 140 cm. to sterile subsoil, between 155 cm. and 165 cm. below the surface. Only Muyu Moqo A phase sherds were found within this level also.

A concentration of 34 small field stones was found extending into the sterile subsoil in the northeast corner of the unit. With these stones were numerous bits of wood charcoal, some fragments of animal bone, and one diagnostic Muyu Moqo A rim sherd. Two of the bone fragments were identified as belonging to a juvenile deer (Odocoileus) and an adult camelid. This association, designated as Unit C - Feature 1, yielded a large radiocarbon sample which dates the beginning of the Muyu Moqo A occupation at Waywaka.

Unit G (W29 NO) (figs. 10 and 11)

As was expected, this last unit demonstrated the same order of deposition and the same major breaks in strata as was found in Unit C. There were, however, some differences which deserve comment.

First, a double element field-stone wall, designated Structure 4, was encountered running across the south-western end of Unit G (figs. 10, 11, and 12). The wall varied between 55 and 60 cm. in width and ranged between 10 and 55 cm. below the surface. It had fallen into disuse before the Waywaka refuse in Level I was deposited, and although its base extended into the Muyu Moqo C-D occupation debris in Levels III and IV, it appears to have been built either during or shortly after the time that the Qasawirka refuse in Level II was deposited. The wall was constructed with a clay mortar and could represent either the surviving second and third courses of a higher field-stone wall or the nearly intact foundation of a wall with a superstructure of a different, more perishable, material, such as adobe brick or wattle and daub. Because no concentration of loose field stones was found adjacent to the wall, suggesting fall from an upper segment of the wall, the latter suggestion seems the more probable of the two. While possibly only a reflection of the small area that was exposed near the

wall, I also did not find a peel line of compaction in either of the upper levels which could have been interpreted as an associated floor.

Although its stratigraphic context permits only a general placement in time, the discovery of a distinctive sherd in the clay mortar in the center of the wall suggests a more specific temporal placement. This sherd, the tongue-shaped tip of a spoon handle, has a fine grain tan paste, and thin watery orange slip. It is very distinct from the Qasawirka pottery and, although undecorated, is closest in style to Ocros and Chakipampa B spoon fragments which are common in Middle Horizon 1B refuse deposits in the Ayacucho region (Menzel 1968, fig. 54; Benavides 1965, Lam. XIX, foto 10A-E). As this fragment had to be lost in the clay mortar when the wall was being built, it follows that at least this one wall of the four that were exposed at Waywaka post-dates Epoch 1B of the Middle Horizon.

While Levels I and II were identical in content and composition to those in Unit C, some combinations and divisions of the other levels were necessary. The 10 cm. thick layer constituting Level III in Unit C thinned out to a mere lens and was included with the underlying Muyu Moqo refuse as part of Level III. The dark friable refuse beneath, which had been exca-

vated as Level IV in Unit C, was separated into three parts, Levels III, IV, and V, by a wedge of sandy yellow refuse (Level IV).

Levels III, IV, and V of Unit G, therefore, corresponded to Levels III and IV of Unit C. Despite the stratigraphic divisions found within this upper Muyu Moqo C-D refuse, a comparable subdivision of the style does not seem warranted at this time. A comparatively small sample size coupled with considerable variation among single aberrant sherds makes consistent subdivisions within this phase difficult to support. The use of a double letter, (C-D), designation for this phase reflects my belief that it will be possible to subdivide this phase in the future.

Level VI in Unit G corresponds to the thick sand stratum from 70 to 90 cm. which was labeled Level V in Unit C. Although both Muyu Moqo C-D and B phase sherds were found within it, this clear color difference does serve to separate the Upper Muyu Moqo phase material from the earlier Phase A and B Muyu Moqo pottery found buried beneath it.

Below the thick sand stratum the refuse was a uniform dark friable brown with no visible changes throughout. Because of this uniformity, I chose to subdivide it into arbitrary levels corresponding to the breaks in Unit C. Level VII extended from the

bottom of the yellow sand stratum to 103 cm., and Level VIII was broken off at 127 cm. in expectation of finding burial pit outlines.

Level VII contained both Phase A and B sherds while Levels VIII and IX contained only Muyu Moqo A sherds.

Four large stones were exposed in the east end of the unit in Level VIII. While they probably related to one another in some way in antiquity, they did not appear to be meaningfully associated with either Burial 4 or Burial 15, which were found near them. It is significant that the majority of the beads and foil recovered from Level VIII in the loose refuse came from this end of the unit in the vicinity of the stones.

Level IX extended from 127 cm. to sterile, which varied in depth from 130 cm. in the western end of the unit to 145 cm. in the eastern end.

This gradual decrease in overall depth of the refuse towards the west along the datum line suggests that the Muyu Moqo A and B refuse probably petered out somewhere halfway between W29 and W45 along the datum line.

Two pits were found cut into the sterile subsoil upon completing Level IX. The first, labelled Pit 1, extended to 218 cm. below the surface and the second,

labelled Pit 2, extended to 194 cm. Each pit had a respective depth of 62 and 52 cm. below the beginning of sterile subsoil. Only a few Muyu Moqo A sherds were recovered from each, and nothing in their construction or contents indicated what their function might have been aside from the obvious one of storage pits.

Unit D [W27 S1] (Figs. 20-21)

In the southern profile of Unit C the end of an intrusive pit could be seen cut down from the top surface of the thick sand stratum (Level V) down into the earlier Muyu Moqo Phase A and B refuse below. While excavating Unit C, care was taken not to mix any of the fill from this intrusive pit with the refuse from below.

Unit D was excavated in five levels down to the top of the thick sand layer and intrusive pit at 70 cm.

While Levels I and II coincided with those in the previous Unit C, a double layer of field stones between 34 and 55 cm. in depth caused me to divide this part of the refuse into two levels. Level III ran from 34 to 43 cm. below the surface, from the base of the compact clay in Level II to the bottom of the first layer of stones. Level IV measured from

43 cm. to the bottom of the second layer of stones at 55 cm. below the surface. These two levels did not correlate with what was found in Unit C in terms of depth or content. Apparently the presence of the stones reflected some ancient disturbance, because Muyu Moqo C-D and Qasawirka sherds were found mixed in Levels II through IV. Level V, from 55 to 70 cm., corresponded to Level IV in Unit C. It consisted of the same dark refuse and contained only Muyu Moqo C-D phase ceramics.

The mouth of the offering pit appeared with the beginning of the thick yellow sand stratum at 70 cm. below the surface. The opening of the pit formed an oval and measured 85 by 110 cm. across. When cleared the pit extended to a depth of 120 cm. below the surface, giving it an actual depth of between 50 and 55 cm. below the lip. The cavity itself was nearly circular in shape with a maximum width of 125 cm. No lining was visible.

The entire pit was filled with medium to large field stones and massive amounts of sherds. While most of the stones measured between 15 and 20 cm. in diameter, a few reached up to 50 cm. in length.

Loose sandy refuse lay between the stones. Because it was thought that this pit might belong to a human burial, I cleared the rock and the intervening

refuse in two portions, upper and lower, labeled Fill VI and Fill VII. The separation, however, proved to be unnecessary. Sherds from the lower half of the pit were repeatedly found to join ones from the upper half. The contents of this intrusive pit represented a single unit of contemporaneity. It was also contemporary with the Muyu Moqo C-D level above the thick sand layer.

The high yield of sherds from the pit fill proved to be important for our understanding of the variations in the Muyu Moqo C-D phase. Although the ceramics were consistent with what was found in the general refuse, numerous large sherds permitted a more accurate reconstruction of some of the new vessel forms and techniques of decoration that occur in this latter Muyu Moqo phase.

After clearing out the pit, the remainder of the unit was cut down to sterile at 130 cm. Although little refuse remained in this unit after the pit was excavated, only Muyu Moqo A phase sherds and a single Phase A point were recovered.

This pit may have been an offering pit, although it clearly differs in content from the later Middle Horizon 1 and 2 pottery filled offerings. During the Huari Empire offerings of whole pots which were smashed and then covered over were made on the coast

and the sierra (Menzel 1968:49-52). In these cases, all of the sherds found in the offering pits could be glued together into whole vessels. This was not the case at Waywaka. While a large portion of the sherds seemed to belong to only three or four large, flat-bottomed, narrow-necked jars, others did not. Some formed incomplete vessels, and others represented only a single fragment of a vessel. If this mixture was intended to represent an offering, then it was of a very different sort than the Huari deposits.

A clarification of this apparent ambiguity came from speaking with Edgardo Cayón, a Colombian anthropologist who had spent two years studying modern campesino communities around Andahuaylas. Cayón relayed to me the information that in the village of Kakiabamba the people make an offering of pottery when a house is being built. The ceremony takes place after the floor area has been laid out but before the walls have been raised. A pit is dug in one corner of the house, pottery is thrown in and then covered up before the construction is continued. In this case, the source or state of preservation of the pottery included seemed to make little difference. A few whole pots were included, but the offering was not limited to complete vessels. The building party also made a random collection of individual sherds lying

about on the ground in the immediate vicinity and threw these in as well. Cayón even suspected that a collection of sherds from surrounding households may also have been included in the offering.

I am not implying that the Muyu Moqo pit was part of such a house dedication; indeed, it probably was not. However, the modern example from Kakiabamba does provide an alternative model for our understanding of the nature of offering pits in the Andahuaylas area. In other words, the presence of individual sherds from incomplete vessels in the Muyu Moqo pit does not exclude it from being an offering pit of some sort.

Unit E (E3 N0) (figs. 8 and 9)

Datum southwest corner

This fifth unit was placed downslope to the east of Unit C in the hopes of being able to better define the extent of the Muyu Moqo refuse on the crest of the site. Unit E showed the refuse to be shallower in this portion of the site and the A and B phases of the Muyu Moqo style to be represented by a single stratum in the bottom of the deposit. The unit proved to be important for providing a large Muyu Moqo C-D sample and for pushing back the advent of stone architecture at Waywaka to the Qasawirka phase

of occupation. Seven distinct strata could be defined. Because each of these natural strata both sloped and varied in thickness throughout the unit, depth measurements will refer only to the situation against the northern profile.

Level I: This first stratum was identical in content and soil composition to its counterparts in the previous units.

Level II: Like the second levels in the units on the crest this level consisted of a dark compacted clay stratum which ranged between 10 and 25 to 32 cm. below the surface. Level II contained predominantly Qasawirka sherds with a few pieces of Huari-like sherds mixed in. The top of a double element stone wall was encountered in the western end of the unit. Large numbers of loose field stones were found throughout this level. Presumably, these represented the fallen upper portions of the wall. If so, then the wall was in decay before the Waywaka refuse in the first level was deposited.

Level III: Beginning at between 25 and 32 cm. below the surface the deposit changed abruptly to a friable dark gray-brown ashy refuse. This level varied in thickness between 15 and 20 cm. and extended to a

maximum depth of 52 cm. below the surface. In it were about equal numbers of diagnostic Qasawirka and Muyu Moqo C-D sherds. As can be seen in the northern profile, this mixture resulted from lower refuse being brought up when the foundation for the wall was originally dug. A dark column of thin refuse could be traced from the base of Level III, against the wall, down into the top of the lowest stratum, Level VII.

Level IV: Although as distinct as the break between the previous two levels, the change to Level IV was indicated by the appearance of a yellow factor in the refuse. Out of a total sample of 40 diagnostic sherds in this level, all but two were Muyu Moqo C-D in style. The two Qasawirka sherds probably represent mixing from the previous level during excavation due to the lack of a distinct break between the two strata.

Level V: At 70 cm. below the surface a compact yellow sand was encountered. Although a single 10 cm. stratum against the northern profile, this level was interspersed with two thin lenses of dark refuse against the southern profile. Although clearly separated in the profile after the unit was completed, their points of separation proved impossible to trace while excavating, and both the sand layer and the two

lenses of refuse between were cleared as a single unit. Only Muyu Moqo C-D sherds were found in Level V, and it appears that the mixing did not obliterate any subdivisions in ceramic style.

The column of dark refuse extending down from Level III showed that these floors were not associated with the field-stone wall.

Extending out of the northern profile and visible on the surface of Level V was a semicircle of reddish earth (figs. 23 and 25). The edge of this pit was bordered with a thin red fire line indicating that a fire had occurred within it. A large fin-shaped stone was found within this shallow pit (see Chapter V, p.145 below for description). Although no diagnostic sherds were found with it, this pit and the stone coincide with the deposition of the refuse in Level IV and therefore date to the C-D phase of occupation at the site.

Level VI: Below the compact yellow floors of Level V was a 13 to 15 cm. thick stratum of soft yellow sandy refuse. Although representing a distinct change in color and compaction, it is difficult to interpret in terms of the upper and lower strata. Level VI contained sherds from the three A, B, and C-D phases of the Muyu Moqo style.

The small circular grave of a poorly preserved infant burial (Burial 12) was found cut down through the top of Level VI and beneath Level V. The fill of this grave and the burial within it were cleared as a separate unit from the remainder of Level VI. Although Burial 12 contained no associated ceramics, the fact that it was cut into a stratum containing Phase C-D ceramics indicates that it dated to this phase as well.

Level VII: In this last level there was an abrupt change to dark brownish-gray friable refuse. Although rich in color the level was poor in yield. Only 20 diagnostic sherds were recovered out of a total sample of 115 sherds. This total was less than 50% of the amount found in any of the previous levels. While both Phase A and Phase B rims were found in this stratum, there was no indication that they were distributed in any way superimposed as was the case on the very crest of the site. Because of the paucity of the sample in Level VII, Unit E probably corresponded with the easternmost extension of the earliest Muyu Moqo occupation on Waywaka.

Structure 3 (Area F) (figs. 16-19)

After testing the eastern and central portions of Waywaka, a sixth unit, designated Area F, was laid

out between West 45 and 47 along the east-west datum line. This area was selected to define the western extent of the lower Muyu Moqo refuse. The refuse was shallow in this portion of the site and only a few Phase C-D sherds were encountered before hitting sterile subsoil at 40 cm. below the surface. However, in the western corner of this unit a curve of stones was encountered which, as I suggest below, represented the edge of a subterranean stone-lined cistern. Once this line of stones was recognized as a definite feature, the original unit was expanded to encompass a two by three meter rectangle extending between W45 and W48, three meters along the datum line and two meters north of it.

Three levels were excavated outside of the structure. These levels were marked F-I to F-III so as not to confuse them with the fill of the cistern.

F-I was the same as that throughout the site. It consisted of a thin layer of humus-rich soil containing Waywaka sherds.

F-II ranged in depth from 10 to 25 cm. above and outside of the structure and was ended once the inside and out of the circular structure could be clearly defined. As was found on the crest of the site, F-II consisted of a compact clay-rich dark brown refuse. Only Qasawirka style sherds were found in it.

F-III was only cleared in the eastern, uphill side of the exposure. This level was also a very compact clay which gradually grew lighter in color until yellow sterile decomposed granite was encountered at 44 cm. below the surface. This third level, F-III, contained both Qasawirka and Muyu Moqo C-O sherds.

West of the stone circle a dense layer of randomly positioned field stones was hit in the second level. The stones were very difficult to clear off, because of the hardness of the clay. These stones were found above and in this stone formation.

In the south-west corner of the excavation, the eastern face of a separate double-element stone wall was found. It appears likely that the layer of field-stones between the stone circle and the wall constituted the fallen debris from either of these two structures, most likely the wall.

The top of the circle of stones began between 20 and 22 cm. below the surface, well within the Qasawirka stratum. It was therefore contemporary with the Qasawirka occupation at the site.

The fill within the circle of stones was excavated separately from the refuse outside of it. Five arbitrary levels between 25 cm. and 120 cm. below the surface were cleared but with no cultural significance.

Once the sherd material had been washed and marked, I found repeated examples of sherds from the bottom of the fill with edges matching sherds from the top. The fill, therefore, represented a single unit of contemporaneity, and the distinctions between the fill levels were meaningless. The sherds and artifacts from these levels were marked as St3-III and St3-VIII.

Although the fill was a single unit of contemporaneity, there were some changes in the refuse within it. At 40 cm. below the surface, the fill became darker and softer. At this point it was possible to excavate with a hand trowel instead of the heavy pick that we had used for the compacted clay above. Then, at 108 cm., an oval area of small stones was found lying flat within the fill. These might either have represented portions of the cistern's wall or more simply field stones that had been thrown in as the cistern was being filled. Their context did not indicate any particular functional relationship to the cistern itself. Between 10 and 20 cm. of refuse fill separated the floor of the cistern from these stones.

The probable function as a cistern of this Structure 3 became apparent while it was being excavated. On December 9 while the fill was being cleared, a heavy rain left Structure 3 full of water. I waited two days for this water to seep out, but it did not.

Finally on the third day I had to bail the rest out with buckets. If Structure 3 retained water this well in antiquity, and it probably did, then it would have served as an ideal cistern.

The cistern was lined in its upper sides with a single layer of field stones in clay mortar. These stones extended to between 70 and 80 cm. below the surface. The lower half of the cistern consisted of bare sterile light yellow decomposed granite. This subsoil was very hard, and as my experience with the rains demonstrated, quite impervious to water.

A portion of the cistern wall was removed, and a thin vertical band of dark refuse was found behind it. This refuse apparently served only as a backing for the stone lining as the cistern was being built.

If my evaluation of this feature as a cistern is valid, then several other features associated with the structure can be explained. A double line of fieldstones was uncovered on the up-slope side of the cistern in Level II. They joined its edge at the rim where the curve of the stones made a slight angle in the wall. Although the upper extent of the double line of stones was not followed out, they appear to represent a conduit to bring rain water into the cistern from the crest of the site.

The cistern also was provided with a step, so

that the water could be dipped out with greater ease. This step was in the form of a single thin stone which projected out some 15 cm. beyond the rest below the rim and beside the mouth of the conduit.

Aside from revealing a nice solution to the problem of supplying water to a hilltop community, the excavation of this cistern provided a large and repetitive sample of Qasawirka sherds. 5122 sherds were recovered from the fill alone. Of these, 593, or more than 10%, were diagnostic rim and decorated pieces. Not only were many of these sherds large and well preserved, but a large sample of animal bones was recovered as well. Five copper or copper alloy artifacts were also found in the fill.

Out of the entire sample only a handful of sherds belonged to different styles. Two Muyu Moqo C-D phase, a neckless olla rim and a bottle spout, were recorded. These, however, represent ancient mixture when the cistern was filled and do not affect the primary association of the cistern with the Qasawirka phase of occupation at the site.

Ten sherds with fine grain light tan paste and a thin watery orange slip were also found in the fill. Several of these were decorated with simple designs consisting of wavy red lines outlined in black. When decorated, lips had red lines with borders in

black. Like the base orange slip, the red slip was also thin and watery. Two rims belonged to small closed spherical bowls between 12 and 13 cm. in diameter.

These examples from the cistern fill are almost identical in paste, slip, and vessel form to the Ocros style that occurred in the Ayacucho and Nazca regions during Middle Horizon 1 times. (Menzel 1968, figs. 14 and 16, and pp. 62-63).

If this identification of these aberrant sherds as belonging to the Ocros style is valid, then the cistern was abandoned and filled in during or shortly after Huari influence during Epoch 1 of the Middle Horizon.

Summary and discussion:

Thus, in all, seven areas were excavated across the top of Waywaka in line with the "east-west" datum line. Although the distribution of the refuse from each of the phases of occupation can not be determined for the long axis of the site, it is clear that there was a marked increase in settlement size through time.

As the Phase A and B Muyu Moqo refuse was isolated in a single relatively thin stratum in Unit E and not found in Area F on the western side of the

site, the earliest Muyu Moqo peoples appeared to have lived in a settlement little larger than 40 meters across on the crest of Waywaka.

The settlement appears to have been slightly larger during the C-D phase, since Muyu Moqo C-D material was found just above sterile outside of the Qasawirka cistern 45 meters west of the central datum point.

The Qasawirka occupation at the site covered an area at least four or five times as large. Qasawirka refuse was found throughout the 164 meters across the site along the datum, from the road cut to the ditch on the western side of Waywaka. Qasawirka sherds were also found beneath Waywaka sherds in the road cut at either end of the long axis of the site.

Associated with this extensive Qasawirka refuse were the first stone buildings. Double-faced field stone walls with clay mortar were found in stratigraphic association in four of the six units, Units B, E, F, and G.

These finds suggest that the entire site was covered with stone architecture at this time. Furthermore, because all of the walls showed a similar alignment, it is even possible that building activity at Waywaka may have been centrally planned or controlled. This conformity in alignment together

with the stone-lined cistern presents a good case for arguing that, at least by Qasawirka times, there was a large planned settlement with rectangular buildings.

Finally, the architecture at Waywaka during the Qasawirka phase of occupation might explain the reason for the compact clay that contained the Qasawirka sherds in Level II over most of the site. Although it is clear from the rock falls found next to these walls that there had been some decay, the original stone portions may not have been too much higher than they are today. If this was the case and these field stone foundations had been capped with adobe upper walls, then the clay of Level II might represent material weathered from these adobe buildings.

CHAPTER III

MUYU MOQO BURIAL PRACTICES

The sample:

Fifteen human burials were exposed in the lowest Muyu Moqo refuse levels at Waywaka. All were found concentrated in a small area on the crest of the site. Burials 1 through 9 were found in Unit C, Burials 10 and 11 were found in Unit D, and Burials 13 through 17 were in Unit G (figs. 10, 11, and 12-15). Only one burial, Burial 12, was found in Unit E (figs. 8 and 26). This unit was 30 meters to the north of the other three on the crest, and appears to be outside of the area of the most concentrated Muyu Moqo cemetery, where 14 graves were found clustered in an area of 5 square meters. No human graves corresponding to the later Qasawirka occupation were found at the site.

While the burials were numbered 1 through 17, one of these, Burial 1, was that of a ceremonially placed deer skeleton, and another, "Burial 3," contained no human or animal remains at all. "Burial 3" was first seen as an intrusive shaft in the eastern profile of Unit C. I designated the profile as Burial 3 and left its exposure until after the completion of Unit C. However, before I had an opportunity to open up

Unit D in order to investigate the intrusive pit in the profile, six graves were exposed in Unit C, designated Burials 4 - 9. Thus, the actual number of human burials exposed, discounting B-1 and "B-3", was only 15.

An additional grave was found barely protruding from beneath the stone wall in Unit E, but this portion of the unit was not excavated and the burial remained unexposed. The bones were well developed and apparently those of an adult.

Of the fifteen human burials, two (Burials 2 and 12), were poorly preserved infants (figs. 26-27), and one, Burial 13, contained only the amputated forearm of a child or young adolescent. The remaining graves contained complete skeletons in various states of preservation which in most cases could be aged and sexed.

Stratigraphic context:

All but three of the human burials were found below 127 cm. in depth in the lower refuse levels containing Muyu Moqo Phase A pottery. The three exceptions were Burials 2, 13 and 14. Burial 2 was encountered at a depth of 124 cm. slightly higher than the majority of the graves, and Burials 13 and 14 extended down into the lower refuse from the top

of the thick sandy stratum (Level VI in Unit G). Both of these latter burials were contemporary with the C-D phase of the Muyu Moqo style. One other Phase C-D burial was found in the excavations, and that was Burial 12 which was located immediately beneath the floor in Unit E (Level V).

Of these burials in the lower Phase A levels in Units C and G, none showed any evidence that their original grave pits had been dug down from above 127 cm. in depth. The first traces of the uppermost of these burials (Burial 4), appeared as a few chunks of hard yellow clay at 127 cm. below the surface in one end of Unit C. In fact, the grave outlines were so faint in most cases that I had to rely on slight differences in compaction in order to determine the outline of each grave. I poked an icepick into the ground in the area of a suspected grave and afterward each level was cleared off in search of the ancient grave outline. Where one was subsequently found, the point of the pick would consistently sink deeper into the area of grave fill than it would into the surrounding refuse. Nevertheless, there were three cases, Burials 5, 6, and 9, for which no clearcut grave outline could be defined.

No pit extended more than 36 cm. from top to bottom, maximum (Burial 14), while most averaged

around 20 cm. in depth. As can be seen in the pit profiles, the upper portions of grave pits 8, 10, and 11 had been obliterated by later burials or pits. The bases of the graves in the lower refuse levels, however, were either resting on, or cut into the sterile clay at depths of between 140 and 169 cm. below the surface.

Because all of the burials lacked diagnostic ceramic associations, it is not entirely clear from the stratigraphic contexts if the lower graves were buried during the Muyu Moqo Phase A or Phase B periods of occupation at Waywaka. The highest portion of any of the graves, excluding 13 and 14, began beneath Level VII in Unit C which contained predominantly Muyu Moqo Phase A but also a few Phase B sherds, leaving the status of the lower burials in doubt. Whatever the case, they were definitely buried no later than the B phase of occupation. While it is also possible that they were buried in A phase refuse by Phase A peoples, there is insufficient stratigraphic evidence to reach a conclusion.

General features of the burials:

Eleven of the complete individuals had been placed in shallow oval pits in flexed positions. They were positioned either on their right or left sides with their knees drawn up against their chests. Burial 7

was exceptional in containing a child who appeared to have been thrown into the grave. This individual appeared not to have been carefully arranged in any way but instead simply left where it fell.

Grave offerings, consisting of stone beads, gold foil, and in one case a bone spatulate, were the exception rather than the rule. Muyu Moqo pottery, which consisted primarily of utility ware, was never included as a mortuary offering. Anything organic had long since decayed, leaving no evidence that the bodies may have been dressed or wrapped at death. No evidence of cremation or post-interment burning was evident.

Although the examples are nowhere near equal in number, and the burial practices were extreme in their simplicity, there does seem to be a distinction in the mode of interment between the earlier burials in the Phase A or B contexts and the few that were recovered from higher Phase C-D associations (Burials 12, 13, and 14). While all were buried in a flexed position, the later Phase C-D Burial 14 appears to be less flexed than those found in earlier refuse (figs. 13 and 24). Furthermore, all of the Phase A or B burials had at least one, and some as many as five, small to medium-sized field stones. No such stones were found with the three later C-D burials. It should be pointed out that the association of the stones with the earlier graves

appears to have been a purposeful one. Some, but not many, field stones were recovered in the general refuse. The number was much too low, however, to account for the consistent association of field stones with the graves. In other words, I do not think that these stones, though unworked, were only accidentally associated. Instead, it appears that they were purposefully placed.

This situation is interesting, in the light of some modern burial practices in the region of Andahuaylas. During his stay in the community of Kakiabamba, some 15 km. from Andahuaylas, Edgardo Cayón observed modern campesinos throwing field stones into graves in order, as they explained, to keep the spirit of the dead in its place.

There appeared to be no simple rule for burial orientation. While nine of the burials were aligned northeast-southwest, three were aligned at right angles to these. For twelve burials for which sex and age could be estimated, there was no consistent correlation with grave alignment or body orientation. Five males were buried on their right side and two on their left. Two females were on their left and four on their right sides.

Neither was there any simple relationship between the presence of grave goods and the side of orientation

or sex. Small bits of gold foil and beads of lapis lazuli as well as other beads of various materials were found in four burials. As summarized in Table I, three were males and one was female. The two richest graves belonged to an adult male buried on his right side and to an adult female on her left side.

The length and width of each burial, where determinable, was measured from the highest point of the grave pit, where determinable. Since it appears that the Muyu Moqo people dug graves only large enough to hold the flexed bodies, these measurements are at most a few centimeters greater than the dimensions of the bent skeletons. The longer axis of the adult graves was between 69 cm. and 85 cm. and averaged 79 cm. Widths varied between 38 and 55 cm., the average being 47.5 cm.

Thus, the Muyu Moqo peoples seemed to conform to only a few simple rules when burying their dead. All were placed in apparently shallow oval pits, on their sides or at least with the legs lying to one side (cf. B-16) with little in the way of durable grave offerings. Some, but only a few, of the adults were buried with beads or flakes of foil. During the A phase all individuals were tightly flexed with field stones on and around the body in no detectable pattern. During the C-D phase, the custom of throwing in stones

was no longer practiced and there appears to have been less of a flex applied to the body when it was interred.

General comments on analysis:

All observations of age, sex, and paleopathology were made by the author in the field laboratory while in Andahuaylas. I used Brothwell (1965) and Sussman (1965) as my references. Specific pathological conditions on certain bones were photographed and compared with other sources and discussed with various persons upon my return from the field. There are two reasons why the analysis of each of these skeletons should be viewed with considerable caution. First, as yet none of my determinations has been checked by an expert. I am not an expert in the field of skeletal analysis, nor have I had extensive laboratory training in this area, beside what I have picked up over the years as a result of extensive field work. For this reason, while I believe it important to try to record as much as possible, even if the job is less than perfect, I also recognize the limitations of my identifications. Second, some features indicative of age and sex vary greatly among populations, so estimates of age or sex should always be treated as probable and not as absolute. I attempted to describe any features suggesting ancient diesease, which even for a specialist is a dif-

ficult matter. Only in one case, that of Burial 17, could the cause of death be suggested with any assurance. In other cases, however, it was generally possible to identify conditions which very likely caused discomfort or infirmity while the individual was alive. Whenever this was the case, I have offered tentative suggestions as to what the possibilities may have been.

Exposure of the burials was unusually difficult and time consuming. Not only were the bones damp and soft to begin with, but daily rains made them even more so. Usually it was necessary to expose each skeleton over a two day period. The upper portions of the bones would be exposed one day, left to dry (for a day) and then completely exposed the next. It was necessary to keep a small portable plastic tent available in order to protect the drying bones from dampness. After the bones had been brushed free of dust, they were hardened while still in situ with a matte "pastel" spray which would impregnate without making a heavy surface coating. After drawing and photographing each burial in place, the bones were marked with a felt pen indicating right or left sides, wrapped in tissue paper and tin foil and removed to dry several days in the laboratory before they were washed and marked with india ink.

In order to have as complete a record as possible, all bones indicating sex or age were photographed in

color and black and white with a close-up lens for later study. Any bones showing signs of disease were also photographed at close range. The entire collection of osteological material was turned over for further study to Dr. Jorge Sánchez Farfán, a physical anthropologist, at the Laboratory of Archaeology, National University of Cuzco, Peru.

Stature could be computed for the seven adult males out of the sample of fifteen. These estimates were based on Trotter and Gazer's regression equations for adult mongoloid males as presented in Brothwell (1965: Table 4, p. 102). No formulas are available for adult mongoloid females. Within the limits of the technique, all of the figures seem acceptable save for that from Burial 9. This was based on a single complete radius which does not provide reliable data for an estimate. The stature for this individual, 169 cm., appears too high and probably should be discarded. Excluding Burial 9, the height of males ranged between 155 and 162 cm., the average being 158.5 cm.

At best, these figures are only rough estimates. As Wells points out, the Trotter and Glazer formulas, while the best available, are only about 95% accurate (Wells 1970: 456). This means that actual height could range anywhere between 8 and 9 cm. above and below the calculated height of each individual. In

other words, with an average height estimate of 158.5 cm. for the Muyu Moqo skeletons, the actual heights could have been anywhere between 149 cm. and 167 cm. A range of variation such as this wreaks havoc with any attempts to make comparisons of height among ancient populations. Taken at face value, these estimates of male height among the ancient Muyu Moqo peoples do not appear to be much different from my impressions of adult stature of the modern adult campesinos in Andahuaylas.

In the descriptions of the individual graves that follow, the number of the burial is the same as the field number. At the beginning of each field description are stated the dimensions in centimeters of each burial (length, width, and depth) and if determinable, the alignment, orientation, sex and, age of the individual. In addition to a description of its location and context, the vertical and horizontal placement of each grave in the refuse is illustrated in figures 8, and 10-15. Associations and any pathological conditions are discussed together with the individual burial.

Burial 1 (figs. 10, 12, and 22)

55 X 40 X 21

In the uppermost Muyu Moqo C-D refuse was the burial of a deer, probably a ritual interment. The

top of the burial pit began 55 cm. below the surface and its deepest part was 76 cm. The original surface into which it had been dug was 15 cm. below the beginning of Phase C-D refuse, and the grave was clearly not associated with the overlying Qasawirka refuse. Several Muyu Moqo C-D sherds lying flat on what appeared to be an ancient surface were found near the lip of the grave at 55 cm.

The body was found doubled up on its back with the snout facing southeast. Its legs were missing, its cranium was disarticulated and found to the side, and the spine appeared to have been cut in at least two places. That this burial of a deer was probably an offering is indicated by a 1.5 cm. chunk of unworked turqoise or chrysocolla that had been placed in its lower mandible.

While at first this burial was thought by the author to be a small llama or guanaco, the skeleton was positively identified as that of a white-tailed deer, Odocoileus virginianus, by Todd A. Olson of the Department of Paleontology, U.C. Berkeley.

Burial 2 (figs. 11 and 27)

Directly beneath the location of Burial 1, at 124 cm. below the surface, were the poorly preserved remains of an infant burial. No burial pit could be defined, and it appears likely that the body was dis-

posed of with as little effort as possible, possibly simply thrown into the refuse and covered up. A single rootless molar cap recovered in the fragments of cranium indicated that the infant could have died anywhere between birth and six months of age. The remains were found 34 cm. below the bottom of the thick sand layer in Muyu Moqo B phase refuse and probably were contemporary with this phase. No grave goods were found with this small grave and no field stones had been placed over the bones.

Burial 3

This "burial" turned out to be a large bell-shaped pit filled only with large stones and pottery (see discussion of Unit D).

Burial 4 (Figs. 11, 14, and 30)

80 X 38 X 17?

Northeast, right, male, adult

This individual was lightly built but clearly an adult male. He had a well developed mastoid process, a marked nuchal crest, and an acute sciatic notch. The man was buried in a flexed position on his side with his head bent downward facing his knees. His left arm lay across his chest and lower spine and the left hand rested behind his pelvis. His right arm was stretched under his torso so that both hands crossed

in back. Four field stones were placed in the grave. One stone was between his knees, a small one was on his rib cage, and two were stacked in front of and above his jaw.

Dental caries were present in three molars. In the lower left mandible the left premolar and M1 and M2 were missing, with closure of the root canals and some alveolar recession. There was also tooth loss and extensive alveolar recession in the area of the right upper canine and incisor, with recession of the root canals. The lower right mandible also lacked the second and third molars. Recession and regrowth had completely obliterated the third molar socket. The alveolar recession and root canal regrowth indicate that periodontal disease was more than likely a problem for him.

The cranium was quite spongy and thick in some areas, measuring 8.6 mm. at the coronal suture. This spongy thickening as well as the lightness of the long-bones, compared to the rest of the male adults recovered at the site, may have been due to age, dietary deficiency, disease, or all three. It is possible that Burial 4 suffered from either Paget's disease or osteoporosis, both of which involve cranial thickening and sponginess of the cranium. It is also possible that this individual may have suffered from Osteomalacia, a

disease of adults involving decalcification of the bones in which they become lighter and thinner. Although a specific diagnosis is difficult, if warranted at all, the alveolar recession, cranial thickening, and general lightness indicate that this man might have been of an advanced age. Whether he suffered from some specific disease or only old age cannot be determined, but it is clear that this man was not a robust individual at the time of his death.

Associations:

Mortuary offerings of gold foil and lapis lazuli beads were present. Nine bits of foil and seven small beads were found in his hands. One bead was found in his mouth. This bead was slightly larger than the rest and had a piece of folded foil through its perforation (figs. 30 and 21). The nine bits of loose foil were uniformly small, none larger than 5 mm. across. The smaller beads were even cylindrical forms averaging 5 mm. in width and 2.8 mm. in thickness. The larger lapis lazuli bead was 9 mm. wide and 2.8 mm. in thickness. The piece of foil through its perforation measured at least 41 mm. in length. All of the foil was so thin I was unable to measure its thickness with the equipment at hand.

Although the deer burial (Burial 1) and Burial 4

were the only two recovered with offerings in the mouth, two graves of adults (Burials 15 and 16) were found with gold or lapis lazuli beads in direct association with the bones. After Burial 4 was recovered, all of the soil in the subsequent graves both above the bones, designated as fill, and adjacent to the bones, designated as bone matrix, was screened through fine mesh. Because of this, while it was possible with a fair degree of certainty to say that the beads and foil were mortuary offerings and not part of the burial fill, it was not possible in the two other cases to indicate the specific area of the body with which the offerings had been placed.

Nevertheless, these cases of gold and bead offerings in the burials may be the earliest occurrences of what appears to have been a long tradition in some parts of the Andean area. In his 1653 description of traditional Peruvian burial practices, Book 14, Chapter XIX of the Historia del Nuevo Mundo, Father Bernabé Cobo (1964: 274) describes how: "It was their custom to place silver and gold in the mouth, in the hands, and on the chest, or in other places." (My translation).

Burial 5 (figs. 10, 14, 30-31)

70 X 44 X 17?

Southwest, left, male, adult

This individual was found immediately to the northeast, oriented head to head to Burial 4, a few centimeters from the first pit. No indication of a pit outline was visible when the previous level had been cleared off at 127 cm. and brushed, and, as was the case for Burial 4, it was necessary to probe with an icepick to define the extent of the grave. The top of the cranium was at 141 cm. below the surface and the deepest portion of the pit was at 154 cm. and rested on sterile yellow clay.

His arms were bent in front of his chest and his jaw rested on his hands as if asleep. Over the lower portion of his jaw and in front of his knees was a medium-sized stone, measuring 21 by 21 cm.

The only possible indication of disease was in the form of some slight alveolar recession around the third molar on the lower mandible. It is not unlikely that this man suffered from periodontal disease while alive.

Associations:

The only possible mortuary offering found in grave 5 was a broken bone spatulate with a hole in one end that was found among the bones as the skeleton was being removed (Fig. 212). This object measured 5.4 cm. in length, 1.03 cm. in width and 2.0 mm. in thick-

ness. The end with the hole tapered to 0.78 cm. wide and was slightly rounded. Both surfaces were smooth and slightly glossy at the tip. It appears to have been made from a mammal rib.

This instrument is very similar to spatulate bone forms recovered by Engel in the terminal Preceramic or early Initial Period site of Asia I in the Asia or Omas valley on the southern coast. Engel illustrates two spatulate bone needles which closely resemble the Burial 5 fragment. (Engel 1963:27; figs. 26-27). He reported that bone needles were found in eleven graves. However, in addition to the flat spatulate drilled forms he also illustrates a thin round long needle shape in the same passage, and it is not entirely clear which of the two forms were actually associated with the burials. Engel suggests that the bone needles, presumably including the flat variety as well, were used for twined and looped textiles (Engel 1963:27). Of the 322 classified textile fragments from Asia only 4.6% were woven, so the idea seems reasonable.

Similar spatulate bone needles were recovered throughout the different periods of occupation at Kotosh in the north-central highlands, including one from the lowest level, Level I, containing Initial Period Waira-jirca ceramics (Izumi 1963:150; Table 13). Although none were reported from graves at this site,

it is possible that the extreme similarity in form and size to the Asia and Muyu Moqo examples indicates a similar use.

It is not unreasonable to assume that if objects of a certain craft are found with the dead, they were probably used by that person while alive. In the same passage quoted above, Cobo mentions that the dead were buried "together with their arms and instruments of their art or office [Cobo 1964:274]." Could the Burial 5 associated bone tool be that of a male weaver? Probably.

This association in Burial 5 has two implications. First, although no textiles were recovered either at Waywaka or at Kotosh, the presence of the bone spatulates with holes in one end suggests that twined and looped fabrics probably were being manufactured by the earliest inhabitants at both highland sites. Second, in the case at Waywaka where a bone needle was found in a meaningful association as a grave offering, it was associated with an adult male.

Burial 6 [figs. 11, 14, 30-31]

Southeast, left, male, adult [21+]

Immediately to the west of and facing Burial 5 was a headless adult, probably male. Although roughly on the same plane as the previously exposed burial, this

grave had clearly been cut into and disturbed when Burial 5 was laid down. No cranium was found in the vicinity, but a massive square jaw was exposed between 126 cm. and 135 cm. in depth just in front of his flexed knees. It is assumed, for want of any other headless body in the excavated area, that the jaw had been associated with Burial 6.

If the jaw was actually associated, then Burial 6 was that of a male; if not, the occupant's sex is in question. The sciatic notch was slightly acute and could have been that of either a male or female.

Although one arm was recovered, the other apparently was lost with the intrusion. From the bones that were missing, it appears that the subsequent burial had cut through this grave just above the sternum, which was found intact.

Associations:

Aside from three field stones, one on the chest and two behind the back and pelvis, the only other association with this burial was a small shell bead that was found in the chest as the bones were being brushed. The shell bead [not illustrated] was white and circular, 4 mm. in width and 1.0 mm. in thickness but could not be identified as to type of material in the field.

Burial 7 (figs. 10, 14, 31)

West-northwest, right, female, child (6-7 yrs.)

The bones of this unique burial were uncovered to the north of Burial 6 while clearing out the rest of the unit. No grave pit outline was visible and it is questionable if one ever existed.

Although poorly preserved, the body of this young girl had been thrown down in a haphazard manner. Her left leg was drawn up in a flex, while the right leg was extended straight out behind the torso. A large rock was placed or thrown over her head and she was covered up without any mortuary offerings. The skull and jaw were badly crushed by the rock but it is not clear from the context if this was the cause of death or only resulted from the weight of the stone after burial. The skeleton rested between 147 and 159 cm. below the surface. The heavy stone over her head was first found at 125 cm. below the surface and was 24 cm. thick. Two smaller field stones were placed over the fragmentary remains of her left leg just south of the larger boulder.

The lack of epiphyseal union in the pelvis and tibia indicated that she was no older than her early teens. The loss of her milk teeth and the first breaking of permanent incisors indicated a more specific age of between 6 and 7 years. No signs of ancient disease

were evident.

Burial 8 [Figs. 11, 14]

80 X 45 X ?

Northeast, right, female, adult

This individual was found when scraping the bottom of Burial pits 4 and 5. There was no apparent significance to the proximity of these two burials nor was there any intentional association indicated. The upper part of Burial pit 8 had been completely obliterated by the later interments but the bottom of the grave was clearly definable in the sterile clay at 167 cm. below the surface.

The body had been drawn into a tight flex with its knees almost touching its jaw. The right arm was bent under the rib cage so that the hand lay under the skull. The left hand pointed downwards with the hand between the flexed femurs and under the upper portion of the left half of the pelvis. Two field stones had been placed over the lower mandible and knees.

Sex was indicated by a wide sternum, rounded jaw, and a wide sciatic notch. There was light to medium calculus on the molars and three molars evidenced tooth decay. Two of these were small, but one showed advanced interproximal caries with root loss.

Burial 9 (figs. 10, 14, 31)

Northeast, left, male, young adult

Protruding from the northern profile between 148 and 157 cm. in depth was the lower portion of an adult male. Only the pelvis, sacrum, and portions of the femur, fibula, tibia and radius were visible. While at first I had intended to leave this individual unexposed, the presence of marked disease on the fibula warranted the recovery of as much of the skeleton as possible. As a result, only the lower portions of this grave were exposed and collected for lack of time. Proper excavation would have required the complete excavation of the adjoining northern unit, but at that point in the season excavation of Burial 9 was second in priority to the excavation of the Muyu Moqo C-D intrusive pit (Burial 3).

Only the fibula showed signs of disease. The lateral malleolus of the right fibula had a large, 7.5 cm. long, area of exostosis, or abnormal bone growth (fig. 32). This growth flared out to 3.5 cm. at its widest point and was characterized by little wavelets and pits in the affected area. The diseased portion looked like a metal rod that had been melted at one end by the strong blast of a blow torch. Because the skeleton was only partly complete, it was

impossible to indicate if the bone disease was a localized condition or more generalized in other parts.

A positive diagnosis of this condition is far removed from describing it. As Wells points out, even for a person "trained in paleopathology the best opinions are usually tentative opinions" (Wells 1964:20). Nevertheless, in addition to simply describing and illustrating the condition, I think it worthwhile to at least suggest some possibilities.

Unfortunately, although a fairly sizable number of articles and monographs have appeared on paleopathology, not only for the field in general, but also for South America, few clear illustrations of diseased bones are available for comparison. Written descriptions alone, especially for someone untrained in diagnosis, are of limited value.

Of the clearly illustrated examples of bone disease that I could find, two examples seem possible. The fibula from Burial 9 at Waywaka seems very similar to a case of periostosis illustrated by Brothwell. This particular specimen came from a medieval burial from Scarborough, England. Although like the Burial 9 example in that the surface had small bumps or lesions oriented in the same direction, it differed in that the entire shaft of the fibula was involved (Brothwell 1965, Plate 68). Wells describes periostosis as "an

inflammation of the periosteum - the membrane covering the bones" (Wells 1964:199). Unfortunately, any more specific diagnosis is difficult because periostasis is a condition rather than a particular disease and can be caused by a wide variety of pathogens (Wells 1964: 76).

Another possible, although less probable, disease is osteosarcoma or cancer of the bone. The regrowth on Burial 9 is somewhat similar to a photograph of the end of a humerus with osteosarcoma from an Iron Age skeleton from Munsingen, also illustrated by Brothwell (1965, Plate 11B). Although not as gross as the European example, the fibula from Burial 9 may reflect the beginning of a similar condition.

Burial 10 (figs. 10, 14)

75 X 50 X 21 ?

Southwest, left, male, adult

This individual protruded out of the eastern profile of Unit C. Part of the cranium was visible in the wall, just below the outline of the Muyu Moqo C-D intrusive pit designated as Burial 3. Although the upper portions of this grave had been obliterated by the later Burial 3 pit, it was possible to define the grave outline clearly, as it was cut into the sterile yellow clay beneath the dark midden. It is possible

that this burial as well as the next one was slightly disturbed when the later Muyu Moqo C-D intrusive pit was dug. Three of the lower vertebra were out of place and the spine was out of alignment. The highest portion of the skeleton was at 139 cm. and the lowest part of the grave at 160 cm. The bottom of the grave was easily definable.

This man's knees were drawn up towards his chest. His arms were folded out in front of his chest and face, above the knees, so that one hand rested under his neck. Two field stones were present in the grave, one above his jaw and the other behind and below the rib cage.

This unfortunate individual suffered from extensive dental problems. These were massive tooth loss and extensive alveolar recession on both the upper and lower mandible.

Burial 11 (figs. 10, 15)

85 X 55 X 19

Northeast, right, female, adult

Burial 11 was found below and to the east of Burial 10, directly beneath the intrusive rock-filled pit in Unit D. The two graves were separated by an average of two centimeters of sterile clay and were unassociated. Once the bottom of the rock-filled intrusive pit had been cleared and the rest of Unit D

had been excavated to a depth of 150 cm. below the surface, it was possible to define most of the grave outline not obliterated by the subsequent B-10 grave. It was possible to define clearly the compact bottom of the intrusive rock-filled pit and it seems that part of the body of Burial 11 had been disturbed when the pit was excavated in antiquity. Both the upper half of the pelvis and the lower portion of the left humerus were missing. The upper mandible was pushed upward out of place. What probably happened was that the uppermost part of this early grave had been disturbed in the process of digging the intrusive rock-filled pit by the Muyu Moqo C-D peoples and then covered up again when the mistake was realized. If the ancient Muyu Moqo people's view of skeletons was anything like that of my campesino assistants, then I suspect that they would have wanted as little as possible to do with any unsuspected burial they might have hit upon.

Like the other Muyu Moqo A or B adult burials, this woman was buried in a flexed position with one large field stone in front of her chest and five other smaller stones around her torso. Her left, and uppermost, arm was bent so that the elbow lay near the hip with the forearm positioned between her face and knee. Her left hand was covered by the large stone. Her

right arm was under her head. The right elbow was bent just in front of her face and the forearm pointed downward so that the right hand rested between her legs near her feet.

Burial 12 (figs. 8, 26)

42 X 30 X 20

Northeast, right, no sex, infant

The only burial exposed in Unit E was that of an infant which had been dug into the base of Level V. The grave protruded into the Phase B refuse below and was therefore probably contemporary with the C-D occupation. Level V was a thin compact layer of yellow clay, and the outline of the dark burial fill was clearly visible.

The skeleton was in very poor condition, with only some of the long bones and portions of the cranium intact. Enough, however, remained to indicate the burial position. Rootless molar caps recovered from the fragmentary upper mandible indicated that this child may have reached an age of some 6 months before death.

Burial 13 (figs. 10, 13)

15 X 15 X 20

Beginning at 70 cm. at the top of the sterile sand layer in Unit G was a circular 20 cm. deep oval

pit. Inside was the amputated forearm of a young adolescent with the hand pointed downwards. The complete ends of the radius and ulna suggest that the arm may have been intentionally and carefully severed at the elbow, rather than lost in an accident. The lack of epiphyseal union in the carpals, metacarpals, and long bones place this young person's arm anywhere between 13 and earlier than 21 years of age. The relatively small size of the long bones suggest that this person most likely was in his or her early teens when he or she lost the arm. Although it is theoretically possible to determine the sex of this individual, I was unable to do so.

Associations:

In the bottom of the pit were two shell beads and a heavily worn shell fragment of undetermined type. They were found immediately next to the hand and probably were originally placed in it. The smaller bead measured 3 mm. wide and 1 mm. thick, while the larger measured 4.8 mm. across and 1.0 mm. in thickness.

No evidence of ancient disease or injury could be seen on the bones to suggest why the arm may have been severed.

Burial 14 (figs. 11, 13, 24)

78 X 54 X 26

Southeast, right, female?, young adult

Like Burial 13, the grave of this burial had been dug down from the top of the thick sand layer at 70 cm., making it also contemporary with the C-D phase of Muyu Moqo occupation at the site. The bottom of the grave was at 98 cm. below the surface and could be clearly defined.

This woman (?) lay in a loose flexed position with her face towards her lap and both arms stretched nearly straight beside her torso. The left arm lay behind her back with the left hand resting behind the pelvis. The right arm was in front of the spine with the hand between the legs as was the case in Burial 11.

Both the cranium and lower mandible were badly fragmented and misshapen. I suspect that this situation was due to post-mortem earth pressure.

Sex was indicated by a wide sciatic notch, and although this woman had clearly reached adulthood, the absence of any third molars indicates that she probably was younger than 21 years of age at death.

No mortuary offerings were associated with the skeleton. Neither were any field stones found in the grave.

Burial 15 (figs. 10, 15, 28)

69 X 40 X 39

Southwest, left, female?, adult

This light-boned female was found protruding from the eastern profile of Unit G in Level VIII. The top rim of the grave was 133 cm. below the surface and its deepest point was 168 cm. She lay on her left side in a tight flexed position with her left arm bent over her head so that the hand fell behind her skull. The right arm was hidden by her rib cage. Two small field stones had been placed on the front half of her chest. The presence of her third molars indicated that she was at least 21 years old at death. She had light to medium calculus on all teeth but no sign of tooth or periodontal disease. Her upper incisors, however, protruded well in front of her lower mandible and she probably had a "buck-tooth" appearance while alive.

Associations:

8 small lapis lazuli beads (average size: 5.0 mm. X 2.8 mm.)

1 irregular chrysocolla bead

1 small flake of gold foil

These mortuary offerings were not found associated with a particular part of the body as was the case in Burial 4, and it is possible that they were simply scattered over the body at the time of interment.

These items were recovered in a fine mesh screen when the soil among and below the bones in the burial pit was screened.

Burial 16 (figs. 10, 15, 29, 33)

85 X 45 X 14

West-northwest, left, male, adult

South of the previous burial and also protruding out of the eastern profile of Unit W29 NO was the body of a well developed male in a unique position. The body was on its back. The legs were flexed and leaning towards the left. The man's arms were stretched out on either side with the elbows bent slightly outward. His face pointed straight up. The uppermost identifiable rim of the grave was at 131 cm. below the surface and the deepest part at 145 cm.

Although the pelvis was fragmentary, sex was indicated by the massive bone structure, a well-developed supraorbital ridge and a square jaw. There was medium wear on the second molars and almost none on the one third molar still in place. He had lost two of his second and third molars in the lower mandible with some alveolar recession indicating possible periodontal disease.

This individual's cranial vault was symmetrically broad and short from front to back indicating probable

artificial deformation due to antero-posterior flattening. At the same time, it is possible that the flattening may have been caused by the position of the skull and earth pressure in the grave after burial. It had a cephalic index of 85.2 (fig. 33). While not the earliest case of artificial cranial deformation in Peru, it may be the only Initial Period example from the highlands. Hartweg (1961:112) reported marked antero-posterior cranial deformation in at least 29.9% and possible artificial deformation in most of the rest of the skulls he examined from the sites of Asia I and Culebras. This means that artificial cranial deformation was at least being practiced by the later part of the Preceramic Period on the southern coast and by the beginning of the Initial Period in the south-central sierra.

Associations:

2 small gold flakes of hammered gold

Recovered in the fine mesh screen, as were the items from Burial 15, these flakes could possibly reflect the same situation as was the case in the previous burial. One small field stone had been placed over the sternum.

Burial 17

78 X 52 X ?

North-northeast, right, male, adult

This last burial was found extending out of the south-eastern corner of Unit G with its pelvis and lower leg bones buried in the south sidewall. The top of the grave was found at 130 cm. below the surface and the deepest part was at 145 cm. below the surface. Male sex was indicated by an acute sciatic notch in the pelvis, and a square lower mandible. Heavy grinding was evident on the first, left and right lower molars and light wear on the third lower molars. The teeth showed light calculus but no evidence of caries.

The cranium was heavily deformed but probably due to post-mortem earth pressure. From the top, the skull appeared laterally altered asymmetrically in shape.

This man most likely died from a strong blow to the right side of the chin. A V-shaped wedge had been smashed out and the edges of the ancient break were heavily splintered. The right lower incisor and canine were missing and no trace of the root canals were visible. No regrowth was apparent, and under a lens the splintered ends were rounded, earth-stained, and clearly not the result of a recent break [fig. 34].

This man lay on his right side with his knees flexed parallel to his spine. His arms lay parallel to the torso down to the elbows and then bent outwards

in his lap. His left hand lay beneath the left half of his pelvis and his right hand was between his legs.

The only association in the grave was a 20 by 11 cm. field stone which had been placed between his chest and knees.

TABLE I -

SUMMARY OF GRAVE GOODS IN MUYU MOQO BURIALS

Men	Women	Children
Burial 4 8 lapis lazuli beads 9 gold flakes	Burial 15 8 lapis lazuli beads 1 chrysocolla bead 1 gold flake	Burial 13 2 shell beads
Burial 5 1 drilled bone spatulate		
Burial 6 1 shell bead		
Burial 16 2 gold flakes		

TABLE II -

BURIAL ORIENTATION AND SEX [no inform. for B-2 and B-13]

	Male	Female	Children	Total
Right	B-4, B-17	B-7, B-8, B-11, B-14	B-12	7
Left	B-5, B-6, B-9, B-10, B-16	B-15		6
Total	7	5	1	13

TABLE III - SUMMARY OF SEX, AGE, LONG BONE MEASUREMENTS, AND STATURE (cm.)

* - Based on one measurement and questionable

** - Average of several regression equations

Burial #	Sex	Age	Femur	Fibula	Tibia	Humerus	Radius	Ulna	Stature
2	?	infant	---	---	---	---	---	---	---
4	Male	adult	---	---	---	28.2	22.0	---	158.3
5	Male	adult	42.5	32.2	35.5	---	33.5	---	161.24
6	Male	adult	38.8	30.8	32.0	---	21.9	23.9	155.24
7	Female	6-7	21.2	---	17.5	---	---	---	---
8	Female	adult	40.8	31.9	33.5	28.9	---	23.8	---
9	Male	adult	---	---	---	---	24.7	---	169.0*
10	Male	adult	39.8	---	32.2	28.5	23.0	---	157.8
11	Female	adult	40.6	---	---	30.7	---	25.0	---
12	?	infant	---	---	---	---	---	---	---
13	?	10-12	---	---	---	---	16.3	---	---
14	Female	15-20	42.4	---	35.9	30.9	24.0	25.7	---
15	Female	21+	41.2	---	33.6	29.7	22.5	24.1	---
16	Male	adult	---	31.3	34.0	28.9	---	23.8	158**
17	Male	adult	41.6	---	34.0	---	23.2	24.81	162.4**

CHAPTER IV

CONTINUITY AND CHANGE IN MUYU MOQO CERAMICS

Introduction:

Clear stratigraphy on the crest of Waywaka permitted subdivision of the Muyu Moqo pottery which was found in the subsurface levels into three distinct phases, designated: A, B, and C-D. Each phase represents a unit of contemporaneity in which certain features of style and technology are consistently found associated on sherds from a particular stratigraphic context.

Each phase is distinguished from the preceding one by elements of style or methods of manufacture which appear as innovations that were not in evidence earlier. These distinctions not only serve to show how the Muyu Moqo style changes through time, but will be useful for the identification of surface finds and sherds recovered in future excavations.

As the tripartite division implies, the Muyu Moqo style is a tradition which covers a considerable length of time. While each phase marks a change, there is no basis at the present for suggesting how long each phase may have endured, or that they were of comparable duration. In fact, it is probable that each of the

phases of this tradition lasted for quite different periods of time.

In presenting the Muyu Moqo style, my aim is twofold. First, I want to show for all three of the phases how certain basic ideas both continue and change through time. Second, for each phase, I want to show the degree of variation in style and technology which existed at the same time. In other words, I will try to reconstruct the repertoire or vocabulary of shapes and techniques of decoration and manufacture that was available to the potters.

There are, however, certain limitations in the nature of the sample that must be discussed. While the goal is to come as close as possible to a reconstruction of the vessel forms that were being made during each phase, the sample consists of broken pieces that were discarded in the occupation refuse. Whole vessels were not buried with the dead, and no whole vessels were recovered from the refuse. Thus, when I speak of vessel shapes I am actually speaking about the form of the upper portions of the vessels as they could be reconstructed on paper from the largest and therefore most informative rim sherds. Furthermore, the majority of Muyu Moqo pottery is simple and plain. Consistencies in lip form within each phase mean that small rim fragments, which were by far the most numer-

ous, could be easily confused among several vessel forms. Therefore, unless they showed some decoration or were unique, most of the small pieces had to be ignored when trying to decide what vessel forms were present in each phase.

The necessity to stress only the large sherds as a basis for defining the different shape categories made it impossible to determine accurately how many sherds were present in the sample for each shape category. Therefore, the analysis is limited to defining only the range of variation in shape for each phase. No attempt is made to indicate the relative frequency of each particular vessel form or design technique. The nature of the sample just does not permit the reconstruction of an accurate frequency picture.

Whenever possible, I have tried to illustrate at least three examples of each vessel form that could be defined for each phase. On each graphic vessel reconstruction the number of the figure is shown on the lower right and the form it describes is shown in brackets on the left.

Phase A

The sample and stratigraphic context:

This earliest phase is defined by a sample of 123 rim and decorated sherds out of a total sample of 1040 sherds from the lowest levels in the refuse

deposit on the crest of the site. Phase A sherds were found in Levels VII to IX in Unit C, Levels VIII and IX in Unit G, and in Level VII in Unit E. Although small in number and low in density in the refuse, these sherds reflect a clear unit of contemporaneity with consistently shared features of style and technology which distinguish them from the later material.

General features of technique and style:

Perhaps the most distinctive feature of all rim sherds in the Phase A sample is a consistently thin flat lip, which never exceeds 4 or 4.5 mm. in thickness. Some, but not all, rims are slightly thinned on the inside. On all, the inside and outside edges of the lip are sharply squared off as if the potters had drawn a flat spatulate instrument over the surface while the vessels were still plastic and damp. Small (1.0 mm.) ledges can be felt on either side of the lip when one runs a finger across the edge.

All Phase A sherds are further distinguished from later ceramics by the consistent occurrence on all sherds of the same dark purplish-brown surface color (Munsell: 5YR 3/2 to 5YR 2/2). As a rule Phase A sherds have a dull matte surface finish. A few sherds showed some light, rather widely spaced burnishing marks on the shoulder of the vessel. Apparently, if used at

all the burnishing stone was meant to smooth rather than give a sheen or polish. Burnishing never extended to within 1 cm. of the lip.

Small micro-cracks visible with a magnifying glass, and a soft, dull appearance to the surface suggest that the Phase A potters may have used a thin watery wash or unpigmented slip on the surface of their vessels.

The paste in Phase A sherds was slightly lighter in hue but generally of the same chroma. The edge breaks on these sherds were irregular and coarse in comparison to those of the later phases, giving an earthy appearance to the paste. Phase A paste also seems softer than that of the later ceramics. Although no Mohs scale was available to me in the field, the Phase A sherds would give off a dull thump when flicked with the finger while the Phase B sherds gave an audible ping. Furthermore, it was consistently possible to gouge a Phase A sherd with a Phase B piece, but not visa versa. Small irregular off-white grains (0.2 to 0.5 mm.) were present in low densities in all Phase A sherds. It is not clear, however, if these grains represent naturally occurring inclusions or intentionally added temper grains. No micaceous flecks were observed either on the surface or in the pastes of any of the Phase A sherds in my sample.

Vessel shapes:

The above mentioned consistencies in lip form and technology are paralleled in the Phase A sample by a limited repertoire of basic vessel shapes. Present are: large neckless ollas, small neckless ollas with an incipient neck, small bowls, and bottles.

Form 1: Subtle variations in the orientation of the rim and distinctions between the degree of inflection below the rim permit the subdivision of large neckless ollas into two basic forms. These forms are best viewed as the extremes in a continuous range of variation. At one end of this range of variation was a series of rims from vessels with a wide diameter and some degree of a convex curve visible on the outside of the vessel below the lip (figs. 35-40 and 48). While a few sherds showed a diameter of up to 30 cm., the majority conformed to a diameter of 22 or 23 cm.

Form 2: At the other end of this range are rims with little or no inflection below the lip, rims which describe a continuous convex curve from the lip of the vessel to the shoulder (figs. 43-47). These examples are generally smaller in diameter than the Form 1 variants with a range of 15 to 18 cm. predominating. It appears likely that the Form 2 rims

belonged to a globular or sub-spherical vessel. However, there is no evidence in the Phase A sample as to how deep or wide at the shoulder they may actually have been.

Form 3: A third group of rim sherds is derived from a small vessel form with an abrupt and well-defined convex curve at the rim 1.0 to 1.5 cm. below the lip (figs. 41, 42, and possibly 52). The nearly vertical segment at the rim gives these vessels the appearance of having almost an incipient neck. Although their number was limited in my sample, sherds of this variety were consistently of smaller diameter than the first two forms, varying between 10 and 13 cm. in diameter at the lip.

Form 4: The only vessel form for which I can indicate the entire outline is a small bowl with a slightly constricted opening (figs. 49-51). The sides are nearly vertical and slightly convex. These small bowls varied in diameter from 8 to 14 cm. One large bowl fragment, 1/3 complete, was 14.5 cm. in diameter and 6.5 cm. in depth (fig. 51). From this piece, it is not unreasonable to suggest that the other bowls in the sample were also round-bottomed and slightly less than 1/2 their diameter in depth.

Finally, the presence of spouted bottles is

indicated by 2 spout fragments in the Phase A sample (figs. 56 and 57). Both share the thin flat lip, matte surfaces and color of the other Phase A sherds. Both are smooth on the inside surface, suggesting that they may have been constructed from a single wide strip of clay rather than from a series of coils, as was generally the case with spout fragments recovered from later contexts. However, each of these sherds represents a different spout form and also was probably related to a distinct bottle form.

The first of these, designated Form 5, has a basically conical shape with slightly convex sides and a height equal to its width at the base (fig. 56). This Form 5 example is most similar to the spouts in the B and C-D samples and is probably the prototype for these forms. The second Phase A spout fragment is unique in the entire collection and apparently drops out of the Muyu Moqo style after the first phase. It is nearly twice as wide at the base as it is high, giving it a mammiform shape (Form 6, fig. 57).

Neither of these fragments shows any traces of a loop handle or bridge attachment. However, both are small portions of originals. It is possible that a loop handle or bridge could have been attached to the unpreserved segments.

A third spout fragment, broken at its base but

otherwise complete, is similar in shape to the Form 5 example but distinct in construction and paste. It was constructed with four thick coils that were left unsmoothed on the inside surface. Its paste is a harder fine grain light gray color, and it has a reddish matte surface. Because of these differences and because it came from a level containing both Phase A and B refuse (Level VII, Unit C) it could pertain to either of these phases or represent a transitional step between the two. It is significant because no strap handle or bridge attachment is evident on its surface. It was also complete enough to show that it attached to the bottle on a tilt. The angle suggests that the spout may have been juxtaposed to a second spout on the body of the bottle, and that a double spout arrangement without a bridge or loop handle may have been the rule during the A phase.

Plastic alterations in form:

Strap handles: Two rim sherds and several small handle fragments show that the Phase A vessels were sometimes constructed with at least one form of vertical strap handle. The one clear example in the entire sample shows a handle below the lip. It was made from two independent long rectangular strips of clay placed side by side (fig. 47).

Labial incision: The one consistent form of decoration present in the Phase A sample was the presence of labial incision or punctation to decorate just the flat surface of the vessel lips. As described below, other forms of decoration are also represented, but the technique of labial incision is the only one forming a consistent pattern during this phase.

As I am using the term here, incision implies both cutting and pressing; both techniques are evident. It is also apparent that at least two types of tools were used by the Phase A potters to make incisions. One was a thin, sharp instrument, such as a stone flake or thin bone spatulate with the edge ground to a point. Examples of both such tools were found in the refuse. The second instrument was broader. It could conceivably have been a wide round needle or piece of worked bone. A third tool type may also have been used. It could have been another part of one of the first two or a different instrument altogether. This tool had a pointed tip which left thin small wedge shaped, cuneiform-like, punctations on the lip. This form of labial decoration is represented on only one sherd (fig. 45).

The commonest technique of labial incision was to draw a series of evenly spaced strokes with one of the two above mentioned tools across the lip from

one side to the other. This procedure was done either perpendicular to the tangent of the curve or at a slight angle (figs. 41, 31, and 46).

While only six sherds were recovered with lines incised across the lip, this technique was found on Form 1, 2, and 3 vessels. In other words, it appears that during the A phase, labial incision could be applied to any of the enclosed neckless olla forms. The only vessel lacking incised lines was that of the small round-bottomed bowl.

Finally, a third variety of labial impression was represented on one small rim sherd that could have belonged to either a Form 1 or 2 vessel. This example showed a design of broadly impressed lines that were angled so that they barely touched one another next to the inner edge of the lip. They were widely spaced, leaving semi-oval impressions on the outside edge. (fig. 40). The sherd was too small to indicate how this element may have been repeated or spaced.

While the technique of labial punctation with a vertically held pointed instrument appears on later sherds in the Muyu Moqo sequence, the use of lines running from edge to edge appears to be limited to the Phase A ceramics. All labial incision was applied after the lip had been scraped flat.

Other forms of plastic decoration:

Three other varieties of plastic decoration were represented by single sherds in the sample. The first of these varieties was a single shallow circular design on the outside of a small, 9.5 cm. wide, bowl form with slightly convex sides (fig. 53). The circle, which was placed 2 cm. below the lip, was poorly defined and only became visible after the sherd had been washed. The circle was irregular in shape, shallow and uneven in depth. The ill-defined edges and irregular outline indicate that the circle had been incised rather than impressed while the vessel was still plastic or leather hard before the surface of the sherd had been finished by light scraping or burnishing. The surface of the sherd was slightly more glossy than was generally the case with this early material but otherwise it did not differ in paste, surface color, or texture from the other sherds.

The second unique example of decoration was a small thin body sherd (fig. 54) showing zoned incision. One element of an apparently repeating panel is preserved. The pattern is one of irregular triangles pendent from an incised line. While the line is apparently horizontal, it is not clear whether the tips of the triangles point up or down. The vertical orientation of the triangles is indicated by traces of hori-

zontal brush marks on the inside of the sherd perpendicular to the point of the triangle and parallel to the "horizontally" incised line on the outside of the sherd. The inside of the pendent triangle is filled with lightly scratched, ill-defined lines with minute punctations to one side of each of these filler strokes. At first glance, I thought that these faint filler marks, and even the larger outlined incisions, might represent rocker stamping with a shell tool. Upon closer examination, however, the design can be seen to be made with a series of separate individual strokes with a pointed instrument. The fragment is too small to indicate with which, if any, of the definable Phase A forms this panel may have been associated.

Finally, a single sherd (fig. 52) found in mixed Phase A and B refuse in Level VII of Unit E with a scalloped lip represents a unique example in the sample. Although scalloping of the lip is a prominent feature of the subsequent phase, distinct Phase A color, paste, and surface treatment leave the phase attribution of this piece in no doubt. The form of the scalloped lip on this Phase A example contrasts with that found on the Phase B ones. The difference is one of symmetry. Viewed from the side, the scallop on figure 52 can be described as wave-shaped, rising on the left and breaking almost vertically into a

notch on the right. In contrast, the subsequent Phase B examples of scalloping are all bilaterally symmetrical. As we are dealing with only one example, it is impossible to determine whether this distinction is significant as a marker of style change.

Phase B

The sample and stratigraphic context:

Phase B is defined on the basis of a small but consistent sample of sherds from Level VI of Unit C and Level VII of Unit G, both of which ran from 90 to 103 cm. below the surface. The Phase B sherds were isolated in Level VI of Unit C but mixed with a few Phase A rims in Level VII of Unit G. In the first case the bottom of the level was clearly marked by an ash lense while in the second I cut the level at 103 cm. in order to correspond to the division in the previous unit although there was no evidence of a change in refuse composition or color. Nevertheless it is clear that by the time these refuse levels were being deposited, a concrete change had taken place in the technology and style of the Muyu Moqo pottery.

General features of technique and style:

While some changes in rim form and decorative techniques are evident, the greatest amount of change appears in technique of manufacture. There are

consistent differences in surface finish, paste, sherd thickness and color. Perhaps the most salient innovation in the B phase is that of burnishing. All rim sherds are evenly burnished inside and out and on the lip. The immediate effect of this innovation is to obliterate the sharp edges on either side of the lip which were so characteristic of the earlier Phase A rims. Lips are now slightly rounded and smooth across the top of the edge. Even on those few Phase B rims with predominantly flat lips, the edges of the lip are smooth instead of jagged.

Coupled with this smoothing is a gradual increase in the thickness of rim sherds. While a few rims from smaller vessels overlap in thickness with those of the A phase, most sherds, especially those from the larger neckless ollas, range between 6 and 8 mm. in thickness, an increase of 2 to 4 mm.

A change in paste is also evident. Paste is much finer and denser than before. The uniform dark purplish-brown paste of the Phase A sherds gives way to a greater range in color. Although I had no Munsell color chart on hand in the field, pastes ranged in color from light and dark reddish browns to light and dark greys. Also, as previously mentioned, the Phase B sherds were generally harder than their Phase A counterparts.

The increase in sherd width and greater density combined to make the Phase B sherds heavier than earlier sherds of comparable size. Clearly the Phase B potters were either using different clays or firing their vessels at higher temperatures or both.

Small micro-cracks visible under a magnifying class on the surfaces of the sherds as well as a slight color contrast between the paste and surface indicate that a thin unpigmented slip or wash continued to be applied.

Continuity and change in vessel forms:

With the exception of the mammiform bottle spout, there seems to be a basic continuity in vessel form from the previous phase. While there are some slight changes in rim orientation and degree of inflection, these alterations are subtle and do not warrant the designation of any significant new basic vessel categories. If anything, there seems to be a blending of features by the Phase B potters rather than a greater rigidity of definition.

From my available sample of rims, the distinction between Forms 1 and 2 which was evident during the A phase becomes less apparent. Instead I see one general category of large neckless ollas which range in diameter from 20 to 30 cm. While some show a pronounced convex curve on the rim (figs. 58-61), others show little or

none (figs. 62-64). However, these two variations in the degree of inflection do not correspond to any consistent distinctions of rim diameter.

Within this class of large ollas, those with inflection below the lip tend to be more inflected than was the case on the Phase A examples. The point of inflection is closer to the lip, creating a nearly vertical segment between 0.7 and 1.0 cm below the mouth of the vessel. This change could be seen as a transference of the sharply inflected rim which was present only on Form 3 vessels in Phase A to both Form 1 and 3 vessels in Phase B.

Also within this group of large vessels was one rim sherd (fig. 61) which flared slightly at the top of the rim. The lip was nearly flat on this unique piece, but the edges of the lip were evenly smooth and rounded off.

Smaller closed-mouth ollas with sharply inflected rims also continued with little change into the B phase (figs. 65-73). Although these ollas are simply analogs of the Form 3 vessels of the previous phase, the Phase B examples show a greater range in rim diameter than was evident before. While the median rim diameter was between 14 and 15 cm., there were some that ranged from 10 to 17 cm. in diameter. That this was a valid category, recognized by the potters,

is indicated by the consistent association of lip scalloping with these smaller vessels.

The small round-bottomed and slightly constricted Form 4 bowls were represented by a single sherd from Level VI in Unit C (fig. 74). Like all sherds in the Phase B sample, this piece was finely burnished to a low gloss on the inside and on the outside. This surface finish as well as its rounded lip distinguished it from its Phase A antecedents.

There are no further examples of a mammiform spout, but the thinner Form 5 conical spout continued (fig. 76). The one spout fragment recovered from B phase refuse shows the broken stump of a loop or strap handle projecting from the center of the spout.

Decorative techniques:

Scalloped lips: Although scalloped lips may have begun to appear by the end of the A phase, this kind of lip decoration became more common and supplanted the use of labial incision in the B phase. Nine examples of rims with scalloped lips were recovered from pure Phase B refuse. Eight of these, reflecting the total range of variation within the sample, are illustrated (figs 65-70 and 72-73). Two rims with scalloping were recovered from the probably Phase C-D floors in Unit E (Level V), (figs. 71 and 78). However, these two pieces differ from the others

and will be discussed separately.

As the floors separate the Phase C-D refuse in Levels IV and III from the lower Phase B refuse in this unit, these two unique examples may belong to either the end of the B phase or the beginning of the C-D phase. Whatever the case, it is clear that scalloping of the lips did not continue for long, if at all, into the C-D phase.

From those examples which are clearly part of the Phase B unit of contemporaneity, it appears that scalloping was reserved for the smaller (Form 3) neckless ollas which had clear-cut concave inflections below the lip.

There seem to be three main variations in the degree of scalloping represented in this sample. The first of these (figs. 65 and 66) is only a slight undulation in the lip with no distinct breaks in curvature. The second (figs. 69 and 73) is a series of dips separated by a wide horizontal section. The third (figs. 68 and 72) is a series of rounded peaks separated by wide even dips. One piece of this variety (fig. 68) also had a secondary dip cut into the main peak.

The two aberrant scalloped pieces from Level V in Unit E contrast with the others in color, surface finish, shape and technique of scalloping (figs. 71

and 78). Both are light orange in color and surface finish. While the smaller of the two could possibly be described as a Form 3 vessel, it has a definite ridge on the shoulder giving it a carinated profile (fig. 71). The larger is unique in that the scallops are on a large globular convex-sided form (fig. 78). Furthermore, both contrast with the definite Phase B examples in that the scallops are made up of evenly spaced dips which repeat without a horizontal section between. Finally, the smaller piece was burnished to a low gloss while the larger had a dull, matte grainy surface. Neither was finished with an unpigmented wash or slip.

Body punctation: The idea of elaborating basic forms with punctation on the body of a vessel apparently came in for the first time during the B phase of the Muyu Moqo style. Although it could have been used on other forms and in other contexts, given the small size of the Phase B sample, it is possible to specify only two.

The first of these is on the rim of a probable Form 3 vessel. The pattern in this case was to place at least two punctations in a cluster some 2 cm. below the lip on the outside of the vessel (fig. 75). The second context was on the body of a Form 5 loop-

handled spout (fig. 76). In both cases the sherds were too small to indicate how this feature of design may have been repeated around the pieces when whole. On each, the punctations were made with a broad pointed awl-like instrument which was impressed at a low angle into the body.

Problematic pieces:

As not unexpected in a small sample, there are several varieties of sherds which do not fit the norm either in style or technique. These may represent pieces imported from other areas, or perhaps the work of different local potters. Furthermore, explanation of these pieces is made more difficult, because they cannot be identified unambiguously with any particular unit of contemporaneity. They could be either late in the B phase or early in the C-D phase.

The first of these enigmatic variations is represented by a single sherd which was found in the thin lense of refuse in the center of the thick sand stratum (Layer V, Unit C). Since the upper half of the sand stratum contained Phase C-D pottery, and the lower half Phase B pottery, it is not entirely clear from the context and associations to which of these two phases this sherd could be assigned. However, it is distinct enough to be described in detail. The sherd is a small rim fragment from a scalloped vessel

(figs. 77 and 152). The paste is an even fine grained gray color with no distinctive grain inclusions. Like the other Phase B examples, it is burnished, but in this case the inner and outer surfaces are glossier than on most pieces. Two well-defined circles are stamped deeply, probably with a cane tube, on the inside of the rim. Although the piece is small and difficult to reconstruct, the inner stamping and the apparent orientation of the lip suggest that the rim may have had an outward flare. If it did, then this is the only example in the Phase B sample with such a form.

The second variation from the norm occurs on a large number of sherds of a particular form and paste which are found in both Phase B and C-D contexts. All are distinguished by a bright light tan or orange paste with a 15 to 25% density of irregular white inclusions (0.3 to 0.5 mm.). When shape could be determined, it was always that of a carinated body segment. These ranged between 17 and 22 cm. in diameter at their widest points. There was an obtuse angle on the outside and a smooth curve on the inside. The outer surfaces varied from smooth to glossy. Inner surfaces were always irregular and unfinished. On several it was possible to distinguish the original coils. Each carinated segment was decorated with a

line of vertically punched small oval punctations which were placed either just below or pendent to the shoulder angle. I found it impossible to link any of these body fragments securely with any of the defined rim forms and will leave this suggestion of a vessel shape unnumbered.

This type of sherd is first found in small numbers in the Phase B refuse. Two examples were recovered in mixed Phase A and B refuse in Level VII in Unit E (fig. 145). Three were found in the Phase B refuse in Level VI in Unit C. These bright orange sherds were best represented in the Phase C-D refuse immediately above the thick sand layer (Level IV in Unit C and Level V in Unit G). In these two levels 55 sherds were recovered with the light orange paste and 5 showed the distinctive shoulder angle with punctations implying the carinated form (figs. 142-144).

Phase C-D

The sample and stratigraphic context:

The C-D phase is defined on the basis of the ceramics found in the upper Muyu Moqo refuse in the units on the crest of Waywaka. In the 3 adjacent units, Units C, D, and G, the C-D phase pottery was isolated in a 40 cm. thick band of occupation refuse

in the upper half of the deposit. It was bordered on the top by the compact clay stratum with Qasawirka ceramics, and on the bottom by the thick yellow sandy stratum which extended from 70 to 90 cm. below the surface. This portion of the deposit included Levels III and IV in Unit C; Levels III, IV, and V in Unit G; and Level V in Unit D.

Further to the east, in Unit E, Phase C-D pottery was found in Levels III and IV, below the compact dark clay Qasawirka stratum (Level II) and above the yellow floors in Level V. Although Level III contained both Qasawirka and Muyu Moqo sherds, I am including it in the sample because the two styles were easy to distinguish, and because some particularly large and representative Phase C-D sherds were found within it. The bottom of Level III coincided with the top of the foundation trench into which the Qasawirka fieldstone wall had been built. The Muyu Moqo refuse found in Level III prabably represents the ancient backdirt from this trench. Therefore, although higher in the profile, the Phase C-D sherds in Level III are probably contemporary with those in Level IV.

In all, these occupation levels yielded a total of 3593 ceramic fragments, of which 391 were diagnostic rim or decorated body sherds.

The Phase C-D sample was further augmented by

contents of the intrusive rock-filled pit which extended down from the top of the thick sand stratum in Unit D into the lower refuse. This single unit of contemporaneity yielded an additional 1381 Phase C-D fragments of which 65 were either rim or diagnostic sherds. The relatively low proportion of decorated pieces to plain sherds was because most of the undecorated fragments came from at least 2 and possibly 3 badly broken large closed neck jars which were found within the intrusive pit.

This intrusive pit proved to be very important, because the diagnostic pieces were on the whole better preserved and in many cases distinct from those found in the general refuse. As the contents of the pit were contemporary with the higher Phase C-D refuse levels, it was possible to extend the range of variation in vessel forms and design themes that existed during this phase of the Muyu Moqo tradition.

While a few Phase C-D sherds were found in the upper portions of the thick sand stratum in Units C and G (Levels V and VI, repsectively), as well as in the floors (Level V) in Unit E, their main importance is in providing a clear stratigraphic boundary between the upper Phase C-D refuse and the lower Phase A and B refuse. A few sherds are illustrated from these contexts, but only when they are clearly diagnostic of a

Phase C-D shape or design theme.

Finally, some Phase C-D Muyu Moqo sherds were also recovered from the predominantly Qasawirka-bearing stratum which was designated as Level II in each of the units on the crest of the site. While these are not being included in the definitive Phase C-D sample, the mixture of styles deserves some comment. The interphase between the dark compact clay in Level II and the underlying refuse is distinct and easy to define. It is unlikely that this combination was due to any mechanical mixture during excavation. Instead I see it as the result of the obliteration of a cultural break in the refuse by natural processes of soil formation. While a cultural break in the refuse was probably evident at one time somewhere in the lower half of Level II, this refuse was fused with the Qasawirka occupation debris above by the slow seepage downward of clay-bearing water colloids. The bottom of the clay stratum became defined when the stratum became too compact to permit the deeper penetration of water.

General features of technique and style:

The C-D phase of the Muyu Moqo style is characterized on the one hand by a continuity of basic vessel forms which are obviously derived from those found in the lower refuse, and on the other by a

diverse assortment of innovations both in vessel shapes and design motifs. Some of these new features of design appear on traditional vessel forms or related shapes. Others, on new shapes, are clearly not related in style and may represent the introduction of entirely new ideas into the area. I think that it will be clear after the following description of this new material that there were at least 2 different, but contemporary, ceramic complexes being produced side by side in Andahuaylas during the C-D phase of occupation.

In the following description I will first begin with those vessel forms which are derived from earlier forms, and follow with those vessels that are different but possibly related in style. Finally, I will describe those forms and techniques of design which are without doubt new innovations.

Although in most cases, features of design serve to easily distinguish the Phase C-D pottery from the earlier material, there are distinct innovations in elements of technique which permit the easy identification of the Phase C-D sherds even on traditional vessel forms.

One of the most readily apparent of these changes is in paste and surface finish. Although there is a great deal of variation in the paste during the C-D Phase, all vessel forms which are definitely derived

from earlier phases exhibit a uniformly light reddish-brown to tan paste and surface color. While most sherds show the same irregular off-white small (0.3-0.5 mm.) granular inclusions as did the Phase A and B sherds, many seem to have a higher sand content in the paste. Also, numerous micaceous inclusions in the paste and surfaces of sherds, possibly reflecting new clay sources, are evident for the first time in the Muyu Moqo pottery. Even for the few examples which are fired to a dark brown or light gray color like the previous Phase B sherds, the presence of micaceous inclusions in the clay would readily identify them as belonging to the C-D phase.

Furthermore, there is a continuation of the trend for vessels in the traditional form categories to be thicker than their antecedents. This is especially evident in the large neckless ollas. While in the B phase, these vessels averaged between 6 and 8 mm. in thickness, their Phase C-D counterparts measure between 11 and 12 mm. in thickness.

Finally, in addition to these differences of color, paste, and thickness, there is an innovation in the technique of finishing off the lip which serves to distinguish the traditional vessel forms from their predecessors. While there are some exceptions, which will be mentioned below, the general rule is for the

lip to be flattened off, but in a different way than was the case during the A phase. During the C-D phase, potters were making the lip flat, but instead of doing it with a single swipe with a flat instrument when the clay was damp and plastic, they were taking great care to make the lip even and smoothed off on the edges by careful burnishing and wiping.

While some sherds show the dark glossy surfaces which are characteristic of the B phase material, the majority of the Phase C-D sherds in my sample were burnished to a smooth but matte finish. The stress seemed to be on a smooth and even surface rather than a glossy one.

Continuity and change in vessel forms:

Clear continuity with the past in indicated by the persistence of most of the main vessel forms that were definable in the Phase B sample. Large neckless ollas, small round-bottomed bowls, and bottles continue, but with some minor changes which distinguish them from their earlier examples.

As was the case during the B phase, large neckless ollas continue to be the most common forms in the Phase C-D sample. In addition to the differences in paste and surface color mentioned above, these large vessels fall into two distinct categories in a way that was not apparent during the B phase. That

a sharp distinction was being made by the potters between two forms of large ollas is indicated by the consistent patterned association of distinct lip forms with different rim shapes.

The large ollas with inflected rims (Form 1) are consistently made with either of two lip forms. The majority of the larger, and therefore more informative rim sherds showing a sharp inflection below the lip were made with the wide flat lip described above (figs. 79-88 and 99-101). Three rim sherds are an exception (figs. 89-91). On these there is an outward bevel on the rim. However, this change is not the result of any drastic changes or additions but rather of a simple tilting of the whole rim downward so that the inside of the lip becomes the edge of the pot rather than the top. When this is done, at least from this limited sample, it appears that the potters made the "top" of the lip curved rather than flat. With one exception, which will be discussed under themes of decoration, these Phase C-D Form 1 ollas were reserved by the potter for the application of a horizontal ridge below the rim and above the shoulder which is one of the key design features of the later Muyu Moqo vessels (see below).

As was the case in the previous Phase B sample,

these Form 1 ollas showed considerable variation in rim diameter. Based on reconstructions from the largest sherds of Phase C-D examples, the median size appears to be around 22 or 23 cm. The smallest was 17 cm. and the largest, 27 cm. in diameter.

I am not including in this discussion the five Form 1 vessels illustrated in figures 92-96. While clearly late, all are surface finds, with no concrete associations. They may be contemporary with C-D pottery in the upper refuse or they could be later. I have no evidence to argue one way or the other. I show them because of the distinctive horizontal "ridge" which is, in these cases, little more than a shallow incision. They represent a variant of this decorative technique which was not represented in the refuse and which will be discussed in detail below.

Contrasted with the flat lipped "neckless" ollas is a second group of large vessels which are analogous to the spherical Form 2 variants of the earlier Muyu Moqo material. In the C-D phase, these vessels are consistently found to be associated with a distinctive internally beveled lip, sometimes thickened and sometimes not [figs. 97-101]. As a rule, the bevel has a slight convex curve. Although not forming a sharp angle, the inside of the lip defines a visible line, or point of inflection, where the convex curve on top

of the lip gives way to the concave curve on the inside of the vessel.

These Form 2 vessels range from 16-30 cm. in rim diameter. They also contrast with the Form 1 examples in the angle of the slope on the rim. The angle described by the intersection of the horizontal rim and the tangent to the upper portion of the rim is at least 5° more acute than the inflection on the Form 1 examples.

With the exception of the small and closed bowl with the scalloped lip found in Level V in Unit E (fig. 71), Form 3 vessels were not represented in the Phase C-D refuse. They may have dropped out of the Muyu Moqo tradition by this phase or their absence may simply reflect too small a sample.

However, the small, probably round-bottomed bowls (Form 4) are clearly very much a part of the Phase C-D vessel repertoire. Like their homologues in the A and B phases, these bowls are small, from 9 to 13 cm. in rim diameter, and probably less than 1/2 their width in depth (figs. 102-106). While nearly identical in size and shape, these bowls are distinguished from their antecedents by their consistently light tan sandy pastes and smooth matte surfaces. Also, while not generally wider than the lower body of the sherds, the rims are uniformly flat, very

even and smooth on the edges. One unique example (fig. 104), was decorated with a series of evenly spaced but unaligned small conical punctations on the lip. All others of this class were undecorated.

Finally, continuity from the previous two phases is indicated by the persistence of bottles as represented by spouts (figs. 104-114). Eight complete or reconstructable conical bottle spouts were recovered from the upper Phase C-D refuse. All but two are similar to the earlier examples; all are conical Form 5 shapes between 2.5 and 3.5 cm. in height and approximately as wide at the base as they are high. Also, all but two have the stump of a loop handle or bridge projecting from the center of the spout.

The two exceptional spout fragments differ from the others in being shorter and nearly cylindrical in vertical section. They also lack any evidence of handles or loops (Form 7, figs. 109 and 113).

Despite these variations in shape, all appeared to be manufactured by the same technique. They were built up with two or three coils which were always smoothed over on the outside and sometimes on the inside. On each, the lip was thin and flat. All but two (figs. 110 and 114) showed a smooth cylindrical segment inside the top of the spout as if a round dowel had been pushed into the opening after the

coils were joined.

Intermediate vessel forms:

As I mentioned above, some of the new vessel shapes were most probably derived from, or in some way related to, the more traditional vessel shapes. Some are entirely new and very different, and some show an affinity in certain features to earlier pottery, but in new compositions. For want of a better term, I am categorizing these possibly related, but different forms as "intermediate" vessels. No temporal connotation is implied.

One of the most distinctive innovations in form within this class of "intermediate" vessels is found in a group of small conical vessels in the general shape of a truncated cone. Six rim sherds permitted definition of two forms with this general shape category. The first, represented by four specimens, has a sharply edged flat lip and a distinct, wide, flare (Form 8, figs. 115-117; 119 and also 168-169). The second is thickened towards the lip, which, although flat, is rounded at the edges. The angle of flare is less extreme and more vertical than on the other variant (Form 9, figs. 118 and 120). Each of these two conically shaped forms was consistently found to be associated with one of two decoration motifs; either a step or a horizontal band on the outside of the rim

between 1.5 and 2.0 cm. below the lip.

Another distinctive new, but probably related, form is represented by a single specimen from Level III in Unit C (Form 10, figs. 136 and 170). This unique vessel is also conical in shape but differs from the previous forms in that the wide end of the cone is at the mouth. Although definitely a distinct form, it seems somewhat related to Form 8. It has a flat lip, straight sides, and a well-defined but curved step on the outside below the lip. Unlike the Form 8 specimens, this piece is burnished to a low gloss and is a dark gray on the surface. The burnishing marks are vertical below the ledge and horizontal above it.

Finally, under this heading of "intermediate" vessel forms, I am including 3 small closed-neck spherical containers which were also found within the fill of the intrusive rock filled pit in Unit D. (Figs. 121, 124, and 125). Although different from anything found in the earlier refuse, they possibly could be interpreted as being derived from the Form 3 vessels which were missing in the Phase C-D sample. While this hint of stylistic affinity warrants their being grouped with the other "intermediate" vessels from the Phase C-D refuse, they are distinct enough to be given new form categories. The first of these

is a single specimen with a flat lip, a short (1.0 cm.) "incipient" neck, and bulging convex sides (Form 11, fig. 121). This piece is unique in the Phase C-D sample for other reasons. It is decorated with two horizontal incisions about the neck, which form a band with irregularly spaced punctations inside. Below this band, the entire preserved portion of the convex body is covered with small eliptical punctations which are round at one end and pointed at the other, not unlike those found on some of the B phase vessels, but shallower. They appear to have been made with a thin pointed triangular tool which was pushed into the clay at an acute angle relative to the surface of the vessel. Most important, the entire outside surface of the bowl is painted over with a very thin watery brownish-red slip which was applied after the punctation. This is the first and only example of red slip in the Muyu Moqo style.

The other two small globular vessels are perhaps even closer in style to the other more traditional Muyu Moqo pots. One (Form 12, fig. 124) is definitely related, and the other (Form 13, fig. 125) possibly is. Form 12 is a neckless olla, 10 cm. in rim diameter, with a flat lip which is rounded on the outer edge. The lip portion is a 0.5 cm. section with a slight undercut at the point of inflection.

Below this line, the body of the vessel slopes immediately outward in a continuous convex curve. The paste is light tan in color and the surface has a dull matte granular texture.

The third of these small globular vessels has a similar but shorter ring around the rim with a slight bevel on the outside. The outer surface is burnished to a smooth, almost glossy, gray brown and there is a thin plano-convex vertical strap handle attached to the body [Form 13, fig. 125].

New non-traditional vessel forms:

In this final section of the shape description I will discuss those vessels which represent clear innovations during the C-D phase and which have no immediately apparent antecedents in the earlier Muyu Moqo phases.

Perhaps the most radical departure from the earlier norm in terms of vessel shape is represented by a series of large and medium sized necked jars. From the number of reconstructable rims and bases it appears that at least two large jars had been broken in the intrusive rock-filled pit in Unit D. While the fragments of the largest of the Phase C-D jars were found only in the intrusive pit, smaller jar neck rims were found both in the pit, and in the contemporary refuse above. Variations in lip forms, neck

orientation, and size indicate that there were at least 4 categories of jars being made during the C-D phases, which I am designating as Forms: 14, 14a, 14b, and 15.

Despite their differences, each of these jars had a slightly flaring and thickened lip which appears to have been built up by adding a thin horizontal strip of clay to the outside of the mouth. The distinct form classes reflect on the one hand variations in the extent to which this horizontal lip band was smoothed over or shaped, and on the other the differences in the degree of flare and orientation in the neck portion of the sherds.

The first of these forms is represented by a single large sherd from the fill of the intrusive pit [Form 14, fig. 126]. Unlike the other jar fragments this specimen was large enough to permit the reconstruction of the entire upper portion of the vessel. On this specimen, the lip was smoothed over so that there were only subtle curves at each point of inflection. The lip band was slightly convex in curvature on the outside. The neck was conical, with a subtle convex curve when viewed from the side. The point of inflection marking the juncture of the neck and the shoulder was a gradual curve rather than a sharp angle. Two wide vertical strap handles were attached

to the shoulder of the jar just below the beginning of the neck. The lower neck and upper shoulder of this jar were decorated with a series of 3 vertically-aligned appliqué pellets with 3 or 4 punctations in each. The jar measures 14 cm. at the rim and had a maximum diameter (exterior measurement) of 29.5 cm. Its sides were quite thin (5 mm.) for its size, and it was burnished to a smooth low sheen. It was a light mottled gray brown in color and had a coarse granular tannish-gray paste with large amounts (30-40%) of irregular, small (0.2-1.5 mm.), white inclusions.

Fragments of large flat bases were also found in the intrusive pit (figs. 128-130). Consistencies in paste, color, and surface finish suggest that they originally belonged to the large Form 14 jar. The angle at the base was blunt and the sides of the jar rose gradually. From the slope of these botton pieces and the width of the upper part of the jar, it appears that the original height was between 40 and 50 cm.

The neck and shoulder portion of a second large jar was also found in the intrusive pit. Although probably similar in shape to the first, this piece had a more flaring and higher shoulder. It was decorated with a wide clay fillet at the base of the neck

with two rows of large deep, oval punctations. As my jar categories are based on rim and neck shape, it is not clear to which form this fragment pertains. From the inward slope of the neck, it could have had either a Form 14, 14a or 14b rim.

The second variety of jar rim differs from the first only slightly (Form 14a, figs. 131, 132, and 135). It has the same flaring, slightly thickened, rim but the points of inflection are well-defined lines and angles. On each, the rim band is slightly concave in the middle, and the top of the lip is beveled on the outside. Furthermore, the "neck" portion flares outward more than the first, suggesting that this rim form may have belonged to a jar with no separate neck segment and only a flaring rim on an ovoid body.

The third variety of rim differs from the others in that the rim is convex on the outside (Form 14b, figs. 133-134). The rim is shorter and wider than the others, and the lip forms a dull point rather than a flat bevel on the top.

The final variety of jar neck is similar to Form 14a in lip form, but the "neck" portion slopes in a straight line from the lip (Form 15, figs. 137 and 171). It also differs in that the bottom of the horizontal clay lip-band was left unsmoothed on the

bottom, forming a jagged, irregular edge above the neck surface. While Forms 14a and 14b had light tan pastes and smooth granular matte surfaces, this piece was of a distinctive bright orange color.

Also new in the C-D phase vessel repertoire were two examples of small flaring convex-sided bowls. While of the same general shape and size, 13 and 14.3 cm. in diameter, each differs at the lip and in the surface finish enough to warrant distinct shape categories. The first of these is slightly beveled on the outside of the lip and has a horizontal semi-oval lug projecting out in line with the horizontal rim (Form 16a, fig. 122). Four long oval punctations are impressed perpendicular to the tangent to the rim on the top of the lug. The paste is grayish-brown in color with relatively small amounts (ca. 15%) of small white granular inclusions (0.4-1.0 mm.).

The second open bowl is 13 cm. in diameter and has a rounded lip which projects out from the body some 2 mm. beyond the curved outer surface (Form 16a, fig. 123). The bowl is smooth but unburnished on the inside and rough on the outside below the rim. The surface finish on the outer surface is distinct from that on any other vessels in the sample. It has numerous jagged pockets and a generally grainy texture not unlike the surfaces of some of the modern mold-

made open bowls one can see today in the open markets of Cuzco. The paste is a light reddish-brown color with a high percentage of small white granular inclusions (0.5-1.0 mm.).

Finally, one of the most distinctive new pottery forms in the Phase C-D ceramic assemblage is the incomplete torso of a hollow anthropomorphic clay figure (Form 17, figs. 138 and 172). It was encountered in the lower fill of the intrusive pit. The rest of the figure was missing. All that remained was part of the stomach, the complete left arm, and most of the back section. The arm and hand are connected at all parts to the body section. The hand is indicated with four long punctations. A fillet of clay with 4 small punctations is attached at the wrist, indicating either a cuff or a bracelet. A continuous clay fillet runs around the neck or upper shoulder, and vertical fillets hang down below the horizontal ones, giving the appearance of braids or a gorget. Between the vertical fillets are round clay buttons, with a single punctation in the center. A perforation has been punched through the elbow on the one remaining arm, suggesting that the vessel may have been suspended in the air.

This figure was a light reddish-brown color and the outside is burnished to a low gloss. The body

was constructed with a series of thin, wide coils which were left unsmoothed on the inside. There is a small perforation through the stomach which very likely functioned as an air hole to keep the figure from exploding when fired. This perforation also implies that the figure was an enclosed vessel when complete.

Associations of Shapes and Designs

The distinctions among Traditional, Intermediate, and New Non-Traditional vessel forms in the Phase C-D ceramics also coincide with differences in the techniques of decoration. While the most important modes of decoration involve the idea of plastic alterations or additions to the vessel, there is a basic distinction between the kinds of decoration found on vessels in these different categories. On Traditional and Intermediate forms the plastic decoration involves ridges, steps, or bands which were smoothed into the surfaces so as to become integral parts of the vessel. On the New Non-Traditional vessels forms, however, decoration consistently involves the addition of appliqué fillets or pellets which are stuck <u>onto</u> the surface as a final trimming. Although the distinction between these two techniques may seem subtle, it is consistent and serves to support the idea that a separate complex had infused into the Muyu Moqo trad-

ition during the Phase C-D occupation of Waywaka. Furthermore, within these two main categories of decorative technique, it is possible to distinguish particular compositions which are consistently repeated. By composition I mean a consistent association of a particular motif or technique with a particular vessel shape. These new compositions in the C-D phase would seem to be the result of ideas being introduced from outside the area rather than the result of local experimentation.

Finally, there were certain unique examples of decorated sherds which will be discussed which represent innovations in the Muyu Moqo style but which cannot be classed as compositions because they were found on only one example. Nevertheless, I am grouping these with the decoration found on the Intermediate vessel forms, because they show greater similarity in paste or shape to the Traditional vessels than to the Non-Traditional ones.

Designs on Traditional vessel forms:

a. Horizontal ridge with vertical notches:

The ridge, when present, is most commonly associated with the large Form 1 neckless ollas (figs. 79-85, 89-91, and 159-167). Examples of this decorative technique show a considerable range of varia-

tion both in the shape of the ledge and in the kind of punctations or notches that are impressed into or cut out of it. At present it is impossible to assign these differences any chronological significance. However, despite these differences, the ridge is always worked into the vessel surface, triangular or prismatic in cross-section, and always placed in the same position on the vessel: on the rim between the lip and shoulder but never on the shoulder itself, or on the widest part of the vessel.

In the entire excavation, one unique Form 2 vessel fragment was recovered which has a horizontal ridge. This piece is a shallow convex-sided constricted pot (fig. 163) with the internally beveled lip characteristically found in Form 2 rims.

Finally, a distinct but obviously related variant of the horizontal ridge motif is found on a series of Form 1 surface sherds that are not represented in the Phase C-D refuse sample. These pieces show a slight cornice made by simply pressing a line around the rim of the vessel. On these vessels the notches or incisions that are present on the ridged examples are replaced by punctations in the surface on, or just below, the impressed line (figs. 92-96).

Designs on Intermediate forms and questionable sherds:

B. Horizontal step on rim:

This motif is consistently found on Forms 8, 9, and 10 vessels. On Form 8 sherds (3) the step is well-defined and defines a 3 to 4 mm. shelf on the outer rim between 1 and 1.8 cm. below the lip (figs. 115-117). On 2 of these pieces there is a thin line incised at the juncture of the step and the surface (figs. 116-117), and on 1 there is no incision at the juncture but one on the rim half-way between the lip and the step (fig. 115). The Form 9 piece, although clearly reflecting the same idea, is different from the above examples in that the step is only a faint depression and rise. Two small ephemeral incisions are visible in this line (fig. 118). On the Form 10 conical sherd, the step has rounded edges on the lower portion and a sharp line of inflection in the inner junction of the upper rim surface and the step. (fig. 137).

c. Horizontal raised strap:

A horizontal raised strap is found on one vessel of Form 8 (fig. 119) and one of Form 9 (fig. 120). On the former the band is wide and undulating. It is partially burnished over and has a series of irregularly placed punctations on it. These were applied before the band was smoothed. On the other, the

raised band was evenly smoothed by burnishing to blend in with the vessel surface. The band is straight rather than undulating.

d. Red slip and over body punctation:

This combination of decorative techniques is found on a unique Form 11 vessel. This sherd was described above (see page 111).

e. Post-fire pigment:

Two small body sherds in the Phase C-D refuse had traces of a reddish-pink post-fire pigment preserved in depressions on their surfaces (Fig. 141). This technique of decoration was not found on any rim sherds and therefore cannot be assigned to a vessel shape.

f. Pigment burnished:

Finally, one sherd in the Phase C-D sample has a unique surface treatment that has not to my knowledge been reported in the literature. This technique is found on the outer surface of a small Form 4 bowl which also has 2 small punctations below the lip. There are traces of reddish pigment faintly visible which are worked into the surface of the vessel in streaks which are aligned with the burnishing marks. This effect does not appear to have resulted from the erosion of slip, nor does it look like the result of

post-fire pigment being painted on and then burnished over. Instead, it appears as if the surface was actually burnished or scraped with a chunk of reddish ochre (fig. 139).

Decoration on New and Non-Traditional vessel forms:

g. Appliqué fillets and pellets with punctations:

As mentioned above, this technique of decoration is found only on the new Non-Traditional vessel forms. It is found in the following contexts:

1. As a series of 3 vertically placed pellets about the neck of the large Form 14 jar (figs. 126 and 171).
2. As a wavy fillet below the rim on a Form 15 jar neck (fig. 174, top).
3. As a wide horizontal fillet with deep oval punctations at the junction of the neck and shoulder on a large unidentified jar form (fig. 127).
4. As a combination of pellets and fillets added either to ornament or define aspects of anatomy on the body of an anthropomorphic figure (Form 17, figs. 138 and 172).
5. Finally, as simple fillets placed in a series of straight or wavy lines on the body segments of vessels of unknown shape (figs. 173-174.

In most cases the punctations are smooth on their inner surfaces, but in one example, there is a peak visible in the center of the punctation (fig. 173, bottom sherd). These depressions are exactly like those that would have resulted if the potters had used the quill point from the feather of a large bird.

Other Ceramic Artifacts

Pottery spindle whorls:

There is a consistency in technique of manufacture and style of pottery whorls throughout all three of the Muyu Moqo phases, with the possible hint that new varieties were being introduced during the C-D phase. The traditional Muyu Moqo spindle whorl was made from a slightly curved body sherd. The fragment was chipped, and sometimes ground, to a spherical form (between 4 and 6 cm. in diameter), and then drilled biconically (figs. 180-183). A biconical and evenly symetrical whorl was recovered from mixed phase C-D and Qasawirka refuse (fig. 178). It could belong to either style.

It is clear that there is a drastic change in the technique of manufacture and style of whorls by Qasawirka times. All the Qasawirka whorls are modeled pieces, larger, thicker, and heavier than the earlier Muyu Moqo examples (figs. 175, 177, 178 and 179).

They are consistently oval in transverse section and appear to have been made by pressing down a ball of clay with the palms much as a child does when playing "patty-cake." Two examples showed traces of the characteristic Qasawirka oxblood red slip (figs. 175 and 179).

Solid pottery figurine:

While none was found in the excavated Muyu Moqo refuse, it is possible that these people also had made figurines as part of their artifact inventory. In 1946 John H. Rowe recorded a figurine fragment from the surface of Waywaka in the private collection of César Zanabria, a former resident of Andahuaylas and then a student at the University of Cuzco. Zanabria gave the piece to Rowe, and I had the opportunity to examine it in Cuzco in 1969. The fragment is the upper portion of a solid clay anthropomorphic figure (fig. 185a and b). It is light tan in paste and surface color and very similar in material to the Phase C-D pottery. There are also other points of similarity which suggest a Phase C-D Muyu Moqo attribution. First, the eyes are depicted by circles of clay appliqué, and the arms are shown by little more than pressed ears on the side of the torso. This concept of keeping the arms as an integral part of the body

is like that depicted on the hollow figurine vessel found in Phase C-D, Rock-filled Intrusive Pit, in my excavation (figs. 138 and 172). Furthermore, it is clearly not anything like the much more recent examples of the Waywaka or Huari style figurines that I have recorded from the Andahuaylas region. Neither is it similar in style or technique of manufacture to the figurines of the Qasawirka style which follows the Muyu Moqo occupation at Waywaka. These are all hollow pieces with carefully modeled and incised facial features. The arms, on the one whole Qasawirka figure that is in existence today, project out from the body (fig. 186; see also figs. 187-188).

Comparisons with Other Regions

It does not, I believe, need to be argued that, both from its stratigraphic context and from general features of style, the Muyu Moqo style of Andahuaylas is early in time, probably as early as the beginning of the Initial Period. The general vessel categories of neckless ollas, small round-bottomed bowls, and bottles are a consistent feature of Initial Period styles from the coast. Large neckless ollas have been reported over large areas in contexts spanning both the Initial Period and the Early Horizon. What we are looking for, however, are specific points of

comparison, not generalized parallels. It is worthwhile, therefore, to examine those contexts in which specific compositions, distinctive of the Muyu Moqo style, occur in specific early contexts in other regions of Peru.

I was able to identify three specific design compositions in the Muyu Moqo style which show close parallels with other areas: the large neckless ollas with a horizontal notched ridge, the Form 8,9 conical forms with horizontal steps, and finally, bottles with looped handles.

I know of three Initial Period or at least very early ceramic contexts in which the Muyu Moqo-like Form 1 large neckless ollas with horizontal notched ridges have been found. However, none are illustrated in the literature.

This theme is present in the Initial Period Guañape style. Although in their depictions of the Guañape style Strong and Evens do not illustrate it [1952, fig. 35], Junius B. Bird recorded this composition on a Guañape vessel from his excavations at Huaca Prieta [slide in the possession of Dorothy Menzel]. This piece is a large ovoid neckless olla with discontinuous horizontal notched ridges above the shoulder.

The most striking parallel to the Muyu Moqo

style comes from the site of Hacha on the southern coast. Rowe and Dorothy Menzel recorded two variations of large olla forms at Hacha which are almost indistinguishable from those in the Guañape and Muyu Moqo refuse sites. The one variety found at Guañape had a discontinuous ridge, while at Hacha neckless ollas occur with either a continuous or a discontinuous notched ridge about the rim. (Rowe, personal communication).

The third case of this theme being present in early ceramic associations comes from the area of Tinta in the southern highlands. Karen Mohr-Chávez illustrated a single sherd found in association with Marcavalle pottery at the site of Pikicallepata (1969, fig. n). While in Cuzco during the 1971 field season I had the opportunity to examine several additional specimens with this design composition from the excavations at Pikicallepata. These were so similar that they could have been copies of the Muyu Moqo Form 1 composition with the horizontal notched ridge. However, while similar in shape, diameter, and placement of the ridge, the Pikicallepata sherds appeared to be heavier and more massive than either the Muyu Moqo or Hacha examples.

The second Muyu Moqo composition with extra-regional comparisons is that of the horizontal step

on Form 8 and 9 conical vessels. Like the other examples above, this find has also not yet appeared in the literature. In 1959 Lawrence E. Dawson attended a lecture in Lima by Augusto Cardich where an unnamed cave site, "in Castrovireina, east of Ica at 4400 m." was described (Dawson, personal communication). Dawson took notes and made a few sketches. In addition to flat lipped neckless ollas, ring bases, and body punctation, Dawson illustrated one rim sherd with a definite shelf below the lip very much like that on the Form 8 and 9 Muyu Moqo examples. Although it is difficult to make any solid conclusions based upon such limited data, it does seem likely that this site contained Initial Period refuse and a ceramic occupation with certain marked parallels to those found at the Muyu Moqo and Hacha sites.

Finally, the composition of bottle spouts associated with loop handles constitutes another basis for indication of both contemporaneity and exchange of ideas with Initial Period occupations in other areas. Bottles with short double spouts, with a loop handle between, are present in the Hacha style (Rowe, personal communication).

Also, while he does not describe it as such, Engel illustrates a complex bottle form with two spouts joined by a loop handle (Engel: 1966, fig. 41B).

Although he describes it as a "Chavin" bottle the photo argues otherwise. It is definitely not in the Chavin style and probably not Early Horizon in date. The bottle is decorated with resist painting. The spouts are most like my Form 7 examples from the Phase C-D in the Muyu Moqo style.

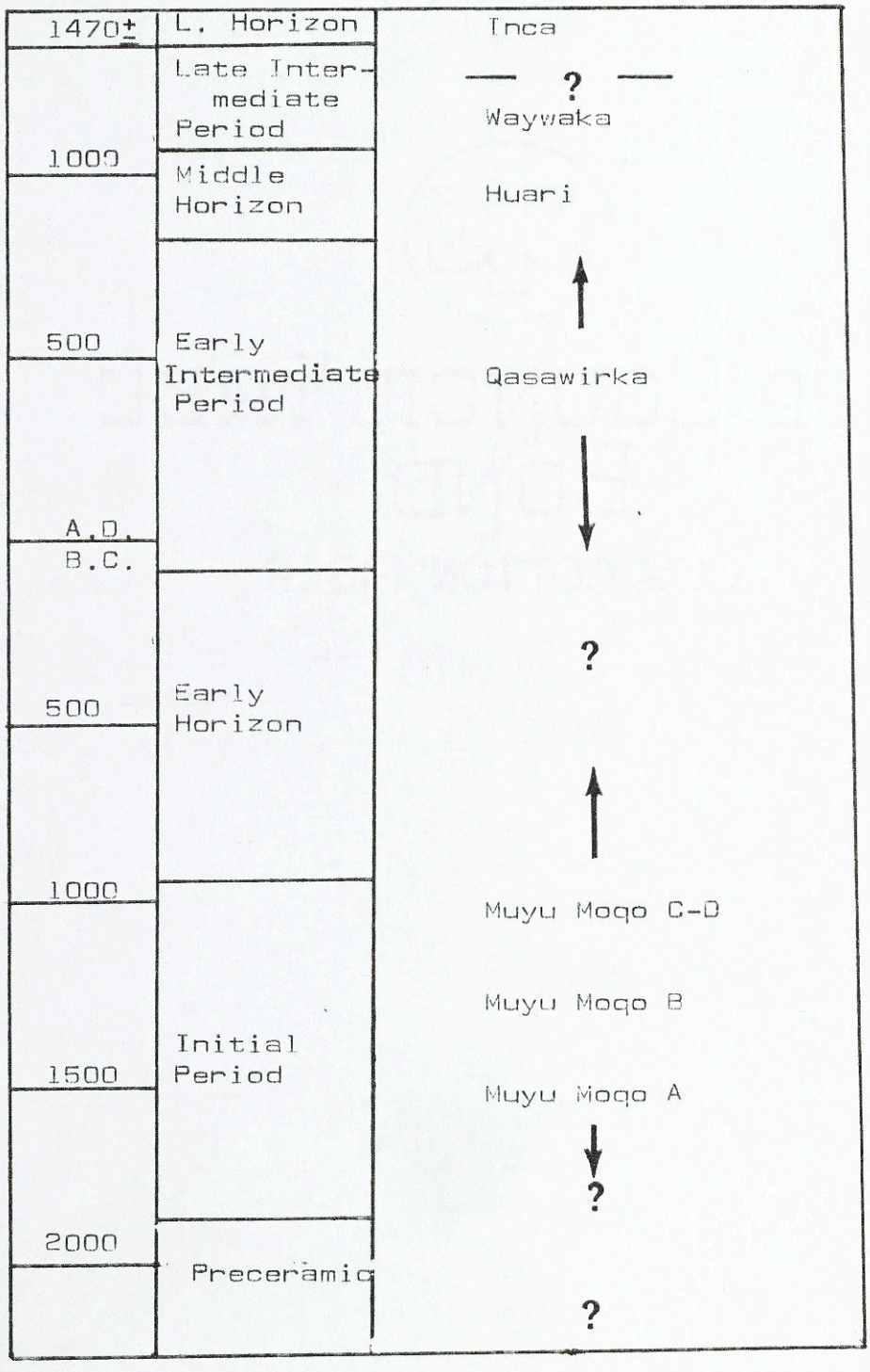
Not only do these close parallels argue for a contemporaneity of the Muyu Moqo style to these others, but the whole bottle illustrated by Engel and the reconstructible fragments recorded by Rowe from Hacha suggest that, at least by the C-D phase, the Muyu Moqo bottles were also probably made with a double spout and loop handle or bridge.

The Muyu Moqo Style in Time

From the above mentioned stylistic parallels and design composition it appears likely that the Muyu Moqo tradition existed during the Initial Period. Further evidence supporting this conclusion comes from the first of a series of radiocarbon determinations which are presently being processed. A sample of charcoal from a feature of 34 unworked stones, resting on sterile subsoil (Feature 1, Unit C, Level IX), in clear association with only Phase A sherds, yielded an age determination of 3440 ± 100 radiocarbon years B.P. or 1490 ± 100 B.C. (U.C.L.A. - 1808A). When

corrected for the change in C^{14} production in the atmosphere since that time, according to the Bristlecone Pine Scale, a date at least 250 years earlier is indicated for the beginning of Muyu Moqo A occupation at Waywaka. Because of the minimal stylistic differences between the A and B phases of the Muyu Moqo style, the second phase probably postdates the first by no more than a century or two. Just how much more recent the Phase C-D occupation is cannot be said with any certainty. However, given the ties Phase C-D pottery shows to the Hacha style on the coast, it does not seem likely that it is more recent than 1200 to 1,000 B.C. In other words, I see all three phases of the Muyu Moqo style, or tradition, as belonging in a 500-700 year span of time which stretches from at least as early as the first half of the second millennium B.C. to possibly as recent as the beginning of the first millennium B.C.

Proposed Chronology for Andahuaylas



CHAPTER V

NON-CERAMIC MONUMENTS

> "A monument is anything made, used, or even transported by man." - John H. Rowe

This definition is important, because it permits us to circumvent the distinction between "artifact" and "non-artifact" usually made by archaeologists in their reports, a distinction which only complicates the picture when the goal of a study is to use all available information to reconstruct the past. Archaeologists have to take what they can get, and in this chapter I will discuss and describe any and all monuments which help us in any way to understand better who the Muyu Moqo people were and how they lived.

However, before we go into the chipped obsidian artifacts I would like to preface this section with a few comments regarding the use of the term "projectile point," which I have avoided by using only the term "point."

Nevertheless, it is important to point out that I am using this word only in a morphological sense rather than in a functional one. That the small Muyu Moqo forms are points is not in question. We have no evidence, either from any preserved shafts or reveal-

ing associations such as the finding of a point in the rib cage of a dead animal, which would allow us to categorize these objects as projectile points. For all we know, the Muyu Moqo peoples could have hafted them to short sticks to be used as cutting or drilling tools. It is only in the conventions of archaeology that we find a basis for speaking of these points as projectile points.

Even if they were used as projectile points there is no basis in fact for arguing what form of shaft they might have been attached to. Was it an arrow or an atlatl dart? Some might be led to argue that the small size of the points made them too light for dart points. Ethnographic evidence, however, argues against this view. In the first place, the size of the point may have very little to do with the size of the game. While the Muyu Moqo points or ones like them might appear too small to kill a large animal, it is precisely the smaller point that penetrates more deeply and stays longer in the wounded animal. There is thus no reason why such a small point could not have been hafted to a large dart shaft to be used with a spear thrower. Any lack of weight on the part of the point could have been compensated for with a heavy foreshaft.

Chipped obsidian knife: (fig. 200)

Aside from the points and flakes, the only other example of obsidian workmanship was that of a large knife fragment which was found in mixed Phase C-D and Qasawirka refuse (Unit D, Level IV). It is bi-convex in section and apparently chipped from a large blank on which the original surfaces were still visible on both sides. As is the case with the Muyu Moqo points, this specimen was flaked bilaterally but not over the entire surfaces of either side. Working was limited to simply defining the outline and giving sharpness to the edges, without finishing the broad surfaces with chipping.

Since the piece is unique in the sample, and comes from a mixed refuse level, the knife could pertain either to the end of the Muyu Moqo occupation or to the Qasawirka culture.

Small chipped stone points:

Muyu Moqo points are limited in number as well as small in size. A total of only 9 points was recovered from the Muyu Moqo refuse levels in the excavations at Waywaka. As shown in Table VI, 3 were found in Phase A levels (figs. 194-196), 2 in Phase B levels (figs. 192-193), and 2 in Phase C-D levels (figs. 190-191). Two additional points were found

in levels containing both Phase C-D Muyu Moqo and Qasawirka sherds, so it is not clear to which of the two styles they correspond.

In general the Muyu Moqo points are small triangular forms with slightly convex sides. They show a range of between 17 and 22 mm. in length and 0.48 and 2.240 gms. in weight. All of the points recovered are made of an opaque black or slightly translucent obsidian. Both varieties of obsidian occur in each of the three phases.

There seems to be little difference between the Phase A and B examples; all have concave bases. One of the Phase A points (fig. 195) and both of the B phase points have slightly serrated edges (figs. 192-193).

There are only two Phase C-D specimens, but these two points are distinguished by having one side of the base slightly longer than the other, forming a spur (figs. 190-191). Though as a rule the Muyu Moqo points are bifacially chipped, one of the Phase C-D examples is an exception. This piece (fig. 190) shows one side of the original flake nearly unaltered, with only slight secondary scars visible along the edge.

In general, the points reflect irregular primary and secondary chipping along the edges with few scars

TABLE IV - CHIPPED OBSIDIAN ARTIFACTS * = incomplete

Figure	Length	Width	Thickness	Weight	Unit-Level	Ceramic assoc.
194	19.0 mm.	14.0 mm.	4.0 mm.	0.480 gm.	G-IX	Muyu Moqo A
195	21.0 mm.	13.0 mm.	6.0 mm.	1.380 gm.	C-VIII	Muyu Moqo A
196	20.0 mm.	17.0 mm.	6.1 mm.	1.385 gm.	D-VII	Muyu Moqo A
192	25.0 mm.	16.0 mm.	6.0 mm.	1.530 gm.	G-VII	Muyu Moqo B
193	17.0 mm.	13.0 mm.	4.5 mm.	0.740 gm.	G-VII	Muyu Moqo B
191	21.5 mm.	15.5 mm.	5.5 mm.	1.435 gm.	G-IV	Muyu Moqo C-D
190	29.0 mm.*	13.5 mm.	6.2 mm.	2.240 gm.	E-IV	Muyu moqo C-D
198	22.5 mm.	14.0 mm.	6.0 mm.	1.680 gm.	D-III	Mixed: MM C-D and Qasawirka
199	22.0 mm.*	15.5 mm.	3.5 mm.	2.040 gm.	E-III	Mixed: MM C-D and Qasawirka
200	53.0 mm.	24.7 mm.	9.2 mm.	12.580 gm.	D-IV	Mixed: MM C-D and Qasawirka
197	20.1 mm.*	14.0 mm.	4.0 mm.	1.650 gm.	F-II	Qasawirka

extending across either of the surfaces.

The two examples from mixed Muyu Moqo Phase C-D and Qasawirka refuse are also small triangular forms but with straight instead of concave or barbed bases (figs. 198-199). Because of their mixed ceramic associations, these two points could either reflect a variant of the barbed Phase C-D Muyu Moqo points or a feature of the later Qasawirka lithic technology. However, the only projectile point found associated with pure Qasawirka refuse was a small incomplete obsidian piece with a rounded base indicating an almond or tear drop form (fig. 197). Such a limited sample makes clearcut distinctions between point forms impossible for this part of the sequence.

Regional comparisons:

The small concave based point seems to have a wide distribution throughout the southern highlands and coastal regions of Peru during the late Preceramic and early Initial Period. The 5 Phase A and B Muyu Moqo points are almost identical to MacNeish's late Preceramic Pike type of his Cachi phase in Ayacucho which runs from about 4000 to 2000 B.C. (1971: 40-41; also personal communication, 1971). In Huancavelica to the north, Rogger Ravines found this point form in ceramic associations at the site of

Chunquimarka (1969-70:250-252). Although Ravines attributes this occupation to the end of the Early Horizon or beginning of the Early Intermediate Period, no radiocarbon determinations have yet been run, and this ceramic complex could possibly date to the Initial Period.

Small concave-based and barbed points have also been reported in the late Preceramic or early Initial Period sites of Ichuña in Moquequa (Menghin and Schroeder 1957) and Arcata in Arequipa (Schroeder 1957).

The small concave-based triangular point is also associated with the Initial Period occupation sites of Qaluyu in Puno and Pikicallepata, near Tinta, in Cuzco. (Mohr-Chávez 1969: figs. s, u, v). The presence of several Phase C-D Muyu Moqo-like sherds in the refuse at Pikicallepata may well be related to the similarity in chipped stone points.

Although stone points are noticeably absent in Initial Period contexts on the central coast, numerous small Muyu Moqo-like obsidian points were collected by John H. Rowe and others at the Initial Period site of Hacha in the Acari valley on the southern coast (1971 personal communication). Further to the south, in northern Chile, Bird reported the presence of small triangular concave-based points together with

stemmed forms in the second of two preceramic cultures at Punta Pichalo. The concave-based points then followed through as the predominant form in the subsequent pottery bearing refuse in the upper levels (Bird 1943:259).

From the limited evidence available at present, it appears that the small concave-based point was distributed throughout the south-central highlands and coastal areas during the Initial Period. Furthermore, in the area of Huancavelica, Ayacucho, and Andahuaylas it appears that the same point form may have been made from the latter part of the Preceramic up until the Early Horizon.

If this was actually the case, then there appears to have been no significant change in points coinciding with the introduction of pottery into these areas. This suggests the possibility that there was a continuation as well of late Preceramic hunting patterns, whatever they may have been, into the Initial Period and possibly into the Early Horizon. Judging from the small number of points recovered at Waywaka, hunting may well have been only a secondary source of food supply. But since it is only inference that the points recovered were actually used for the hunting of game, any discussion of their use is only speculation.

Other chipped stone artifacts and detritus:

After ceramics, the largest number of items found in the refuse at Waywaka consisted of flakes and flake scrapers of a fine grained basalt or hornfels. Although all of the flakes and flake scrapers were washed, marked and stored in Cuzco for later study, a detailed study of the subtle variations of secondary chipping was not made during the 1970-1971 season.

Nevertheless, all of this non-obsidian lithic material appears to be of the same basic form. Most consisted of simple, irregular primary concoidal flakes struck from polyhedral, unprepared, cores. Where present, secondary chipping was usually limited to retouch along one edge of the original flake.

That these flakes were probably used for scraping and cutting by the Muyu Moqo peoples is obvious. Just what they may have been cutting is difficult to say. It is most likely that the flakes were primarily used for the cutting of perishable items, such as flesh or skins. Several examples of broken camelid bones with transverse saw marks across their surfaces suggest that at least some of the stone flakes probably served in the making of bone tools.

The relative percentage of different lithic materials may be significant. A total of 1119 stone

flakes and flake scrapers were recovered from the Muyu Moqo levels in Units C, D, and G. Of these, only 21, or 1.9%, were of obsidian; 12, or 1.1%, were of chalcedoney, and the rest were of basalt or hornfels. These percentages suggest that while the hornfels and basalt were readily available locally, the obsidian and chalcedoney very likely had to be imported into the region. However, despite their small number, the presence of obsidian flakes in the refuse suggests that the points were chipped at or near the site of Waywaka.

While the obsidian, probably in the form of flakes (no obsidian cores were recovered in the refuse), was in all likelihood imported into Andahuaylas, there is no way of telling from how far away it may have been brought. At present I know of only one clear case of an obsidian mine and workshop in the south-central Andes, and that was located by Rogger Ravines in the Department of Huancavelica (1970 personal communication). Other sources of obsidian probably occur closer to Andahuaylas, but any useful discussion of ancient obsidian trade routes will have to wait until more thorough surveys of the highlands have been completed.

Ground stone artifacts:

Milling stones: (not illustrated) Three metate

fragments and two whole manos were recovered from the Muyu Moqo refuse levels. Two of the metate fragments were associated with Phase C-D refuse (Unit G, Level V; and Unit D, Level VI - outside of the intrusive pit). One small metate fragment and two complete bifacial manos were associated with the earliest Muyu Moqo Phase A pottery in Levels VII and IV of Unit G. No examples of pestles or conical mortars were found in the refuse.

Stone bowls: Aside from two stone bowls that form part of a gold-working tool kit, which will be discussed below together with the gold, only one example of a stone bowl was found in Muyu Moqo contexts. This complete specimen was found protruding from the southern profile of Unit G between 108 and 118 cm. below the surface during the excavation of Level VIII (fig. 28). Unfortunately, the evening that it was exposed, vandals came to the site and dug it out of the side wall. Despite this loss, I was able to note that this example was an apparently complete round-bottomed, thick-sided bowl measuring 10 cm. in height and 13 cm. in width. Its rim was rounded and it had a round, rather than conical, profile in the center. The bowl was made from a light gray porous stone, probably a volcanic tuff or pumice.

Stone sculpture: (figs. 23, 25, 214a and 214b) One piece of what may have been stone sculpture was found in the Muyu Moqo refuse at Waywaka. This problematic object consisted of a 66 cm. long fin-shaped slab of granite. One side of the stone was ground flat with rounded sides and the other was bulged outward so that the object was plano-convex in section. One end, corresponding to the tip of the "fin" narrowed to a smooth round edge with a slight notch ground in the middle. The opposite end had an oval chipped surface suggesting that the piece may have been longer at one time. Save for this chipped end, the entire surface was very smooth and even on all sides.

The stone was found lying flat in a 70 cm. long oval pit which protruded out of the northern profile of Unit E. The top of the pit began on the surface of Level V which consisted of light compact sand. Although no diagnostic sherds were found within the pit itself, its stratigraphic context places it contemporary with the Phase C-D Muyu Moqo refuse in Level IV. The fill of the pit consisted of a reddish-brown ashy soil. The sides of the pit were defined by a thin red line indicating that there had been fire in the pit before it was filled in. No ash or scorching was visible on the surface of the stone,

and it is not entirely clear if the stone was placed in the pit before or after the fire.

While it is possible that this smooth stone may be nothing more than a milling stone with little evidence of use, its odd outline and purposeful burial in a burned pit suggest that it had some other significance.

Beads: In addition to the 16 beads found in Burials 4 and 15, 8 in each, 42 small stone beads were recovered in the lower Muyu Moqo refuse. As is clear from Table VII, the majority of these was made from lapis lazuli, 35 in all. Beads were about equally distributed in Phase A and Phase B levels. All of the lapis lazuli beads were of the same type, short cylindrical forms with wide cylindrical to biconical holes, between 2.4 and 3.5 mm. in diameter, through the center. With the exception of the large lapis lazuli bead in Burial 4, all of those recovered in the refuse ranged between 4 and 6 mm. wide with an average width of 5 mm. and an average thickness of 2.8 mm. [figs. 201 and 202].

In addition to the lapis lazuli beads, 4 chrysocolla beads were recovered, 1 in association with Phase B sherds and 3 in association with Phase A sherds. While three of these were similar in size and shape to the lapis lazuli examples, 1 from Level

TABLE V - MUYU MOQO STONE BEADS IN REFUSE

Level:	Lapis lazuli	Chrysocolla	Other	Total	Ceramic Associations
UNIT: G					
V	1	-	-	1	Muyu Moqo C-D
VI	-	-	-	0	Muyu Moqo C-D
VII	16	1	1	18	Muyu Moqo B and A
VIII	14	1	1	16	Muyu Moqo A
IX	-	1	2	3	Muyu Moqo A
UNIT: C					
IV	-	-		0	Muyu Moqo C-D
V	-	-		0	Muyu Moqo C-D andB
VI	3	-		3	Muyu Moqo B
VII	-	-		0	Muyu Moqo B and A
VIII	-	1		1	Muyu Moqo A
Total:	34	4	4	42	

VIII in Unit G measured almost 8 mm. across and was irregular in shape.

Finally two beads differed from the others in both shape and material. One was a whole example from Level VII, and the other a fragment from Level VIII in Unit G. These beads were made from a light sky-blue stone that could be turqoise, sodalite, or dumortierite. Sodalite and dumortierite look like a poor grade of turqoise, and the staff of the geology museum at the University of Engineering in Lima explained that it was difficult to tell them apart without special laboratory analysis. Both of these beads were wide and flat with uneven, rough edges. The complete example from Level VII (Fig. 201, lower right) measured 14.5 mm. in width and 3 mm. in thickness. In contrast to the small perforations in the small lapis lazuli beads this piece had a small 1.5 mm. perforation in the center.

In addition to these complete ground stone beads, 24 small, 1.0 to 1.5 cm., chunks of unworked semi-precious stones were recovered from the Muyu Moqo refuse. Only a representative sample of the different colored stones encountered was taken to Lima for identification, so that is impossible to indicate the exact breakdown of minerals present. However, of those that were identified as to material, I can say that

examples of chrysocolla, sodalite, and possibly dumortierite were present. Chrysocolla was the most numerous of the three. No chunks of unworked lapis lazuli, however, were found in the entire excavation.

Finally, one small chunk of aquamarine measuring 4.5 mm. by 6.0 mm. was found with the Phase A pottery in Level VIII of Unit G. Although positively identified as to material in Lima, the piece was too small and badly broken to suggest an original form. Nevertheless, one surface clearly showed grinding.

Lapis lazuli beads appear to have a wide distribution in southern Peru during the Initial Period which coincides with that of the small concave-based projectile point. In the southern highlands, I know of two probable Initial Period sites where lapis lazuli beads were found. The first of these sites is in Cuzco. Edward B. Dwyer told me that, at the site of Minas Pata, in the Lucre Basin near Cuzco, he found "30 to 40 lapis lazuli and shell beads associated with a human burial, flexed on its side, beneath the floor of a Marcavalle house" [unpublished information]. The beads and the burial were contemporary with the Marcavalle occupation at the site and therefore date at least to the end of the Initial Period.

Further to the south, two lapis lazuli beads were found by Menghin and Schroeder at the rock shel-

ter site of Ichuña in Moquegua (1957:50, fig. 14). Although the deposit was excavated without stratigraphic control, at least two cultural components were present. The uppermost of these yielded the small concave-based triangular and unilateral barbed points characteristic of the Muyu Moqo occupation at Waywaka (Menghin and Schroeder 1957, figs. 7, 8, 9). Although no provenience is given for the two stone beads, they are illustrated and appear to be almost identical in size and shape to the Muyu Moqo examples. These stylistic parallels, together with the presence of a ceramic spindle whorl in the upper portion of the later deposit suggest an Initial Period date near in time to that of the Muyu Moqo A and B phases of occupation in Andahuaylas.

At least four lapis lazuli beads were found by Engel at the site of Asia I in the Omas valley south of Lima (1963:55). Of those described or illustrated, none appeared to be of the short cylindrical form found at Waywaka and Ichuña. Nevertheless, their presence shows that this material was used for making beads at an early period on the coast as well as the sierra. While Engel argues that Asia I was inhabited during the preceramic state, the presence of fired clay jet mirror frames suggest a later date for the site. An early Initial Period placement seems more

likely.

In his 1969 publication, A Comparison of Formative Cultures in the Americas, Ford argues that finely cut stone beads do not appear in South America until after about 1200 B.C. [p. 161]. The finding of small beads in the Phase A levels of the Muyu Moqo occupation at Waywaka proves that these artifacts were present not only in this area, but probably throughout the southern part of Peru at least as early as the first half of the second millennium B.C.

Metal: In the entire excavations at Waywaka, 53 small flakes of gold were recovered in the lower occupation levels. No other metal was found associated with the Muyu Moqo refuse.

As previously described in Chapter III, the first evidence for gold came in the form of nine small flakes of finely hammered foil in Burial 4. The loose flakes as well as seven small lapis lazuli beads were found in the individual's mouth. This bead was larger than the rest, and had a piece of folded foil through its perforation. This folded piece was the largest encountered, measuring at least 41 mm. in length. All the other flakes, both in the burials, and the refuse, were uniformly small, none larger than 5 mm. across. All of the foil was so thin that I was unable to mea-

sure its thickness with the equipment at hand. However, its extreme thinness contrasts with the later Chavín gold work which is generally made out of a thicker plate that could be bent and embossed. The Muyu Moqo foil appeared to be on the same order of thinness as the finest grade commercial aluminum foil commonly used in the kitchen today.

Because all of the flakes recovered were like those in Burial 4, it is possible that all may have been intended for the same purposes. At the same time, this thin foil might have had several purposes. It could just as well have served as sheathing on more solid objects, or as bits of decoration to be sewn onto clothing. The possibility also exists that other, as yet undiscovered, thicker forms of metal may have been made by the Muyu Moqo peoples. At present, the only clear evidence, from burial associations, is that it was used as a burial offering.

Because none of the human burials contained any ceramic associations, and because the level immediately above the rim of the Burial 4 pit contained mixed ceramics, it was not entirely clear from the context if this burial and the gold foil were buried during the Phase A or Phase B period of Muyu Moqo occupation at the site. Only if gold foil was found in direct association with the Muyu Moqo A sherds could

a strong case be made for metal working in the highlands as early as the initial occupation of the site.

In an effort to solve this problem I decided to screen all the lower Muyu Moqo refuse in my final excavation unit (Unit G, W29 NO) through a fine mesh screen instead of the 1/4" mesh that I had employed throughout the season. Any bits of foil or beads as small as those found in Burial 4 would pass unnoticed through the 1/4" screen. Although time consuming, this procedure yielded results.

In the seventh level, from 90 to 103 cm. below the surface, containing both A phase and B phase Muyu Moqo sherds, were 25 flakes of foil and 19 beads of various sorts (fig. 201). Although the sample was increased, the contemporaneity of the gold was still in question.

However, in the next level, Level VIII, from 103 to 127 cm. below the surface, I found 16 more gold flakes as well as 14 additional beads associated with only Muyu Moqo Phase A pottery (fig. 202). Although some were found throughout the level, the majority of the flakes and beads were found among several large stones in the eastern end of the unit. The stones rested at a depth of 127 cm. below the surface and were clear of any intrusive burial pits. The total sample was less than half a gram in weight, but it

was still sufficient proof that hammered gold was known to these early pottery-producing peoples in the south-central highlands.

There was, it should be pointed out, no apparent evidence of any disturbance that may have brought the gold and the beads down from higher levels in the refuse. No traces of burrowing animals were visible on the surface of Waywaka or in the profiles or floors of the excavation pits. The only other possible source, that of burrowing insects or land snails, must also be rejected. A small burrowing land snail does exist in the region today, but only one small shell was found in the lower refuse. Although the thin shafts made by these snails could have been large enough for a flake or bead to drop into, the relatively large number of flakes and beads recovered in the lower levels would seem to argue against their having dropped down from above. Finally, if these items were intruded through later disturbances, it would be expected that some Phase B pottery would have come down as well. None did. Only Phase A sherds were found associated with the beads and foil in Level VIII.

Gold-working tools: The discovery of this ancient gold foil only raised an additional question. Were the earliest Phase A Muyu Moqo importing, or actually

making the gold foil found in the refuse and burials? The mere presence of gold foil only proved that worked metal was known and available very early to the inhabitants of Andahuaylas. But that does not permit us to say that they were the ones who controlled this technology. In fact, at first the small amounts recovered seemed to indicate that the gold might have been brought in from somewhere else. However, in the last week of the excavations, as the lowest level of the final pit (Unit G, Level IX) was being cleared, I fould what appears to be a complete gold-worker's tool kit (figs. 11 and 15).

Resting on sterile subsoil, in the lowest Muyu Moqo A refuse level, were two stone bowls, one inverted over the other (fig. 203). The bowls were roughly formed, with wide rims, slightly convex sides, and flattened bottoms. Both were fashioned from a soft, white volcanic tuff, known locally as "cheqo." The inverted bowl on the top was larger than the bottom one, and it measured 21 cm. in width by 13 cm. in height. The smaller bowl measured only 16 cm. in width and 10 cm. in height. The walls of both measured between 3.5 and 5.0 cm. in thickness.

When I removed the top bowl, I found inside three small cylindrical hammers and a larger, almost mushroom shaped, evenly worked anvil (fig. 204). While

at first I thought that these implements might have served to grind pigments, their more probable function as metal working tools became apparent after I washed the soil from within the bowls through a fine mesh screen and found an additional flake of gold foil (fig. 209).

The functional distinction between the anvil and the three hammers is indicated by contrasts in size as well as in shape. The anvil (fig. 208) outweighs even the largest of the hammers by more than a factor of three. It was made from a fine grained greenish porphyry with large phenocrysts. It had been so carefully smoothed and finished than no nicks or scratches from its manufacture were visible to the naked eye. The anvil had a broad, slightly curved platform and a thinner, almost parallel-sided shaft which ended in a rounded butt.

The larger of the hammers (fig. 205) had only one clear circular working face and was slightly conical, with straight sides and a rounded end. The two smaller hammers (figs. 206 and 207) were double headed and cylindrical in shape. Both had slightly concave sides, which would have afforded the goldsmith a firm grip in spite of the small size of the tools. All three contrasted with the anvil in that their striking surfaces were flat, while on the latter the

platform was slightly rounded.

Each of the hammers was made from a different, although hard, material. The larger of the three (fig. 205) was cut from hard granular basalt, the second (fig. 206) from a fine-grained grayish sandstone, and the third (fig. 207) from a whitish metamorphic garnet-quartz hornfels. Although not strikingly different in size, their differences in weight suggest that they may have been used in sequence as the gold became progressively thinner.

In attempting to propose a plausible reconstruction of how the tools may have been used, I found, after experimenting with different positions, that the most feasible arrangement was to hold the anvil between my knees, as indicated by the rendering in fig. 210.

While these are not the only known ancient metal working tools known in Peru, they are probably the earliest and the only ones yet found in association with datable cultural material. Two other groups have been separately described in print by Lothrop (1950) and Bird (1968), but in both cases the tools came to the attention of archaeologists only after they had been unearthed by looters for the commercial market (huaqueros), without any information as to exactly where they were found or how old they may

have been. They do, nevertheless, present a basis for comparison. While the Muyu Moqo pieces are all cylindrical, both the Bird and Lothrop groups contain a larger assortment of tools, some square or rectangular, as well as other stones which probably served for embossing and engraving.

There is one final question which could not be answered for purely technical reasons. Because all of the gold was deposited, together with the ceramic collections, in the Laboratory of Archaeology, National University of Cuzco, Peru, it was not possible to submit any for chemical analysis. It is possible that in addition to simply controlling the technique of simple hammering of nearly pure native gold, these Muyu Moqo smiths may have known of annealing. Annealing is the technique of alternatively heating and cooling the metal, as it is being hammered, in order to render it less brittle. Because of the extreme thinness of the foil, Dr. Clair C. Patterson of the California Institute of Technology recently pointed out to me that if the gold used by the Muyu Moqo smiths contained the 10% silver impurity most common in native gold, it would have been necessary to anneal the nuggets, while hammering, in order to attain the extreme thinness of the Waywaka foil.

Burned daub: Four fiber- and twig-impressed chunks of fire-hardened clay were recovered from the lowest Phase A Muyu Moqo levels. One was found in the fill of the intrusive Phase C-D pit in Unit D. Two additional fragments were also recovered from Qasawirka ceramic associations. These clay fragments apparently represent the traces of wattle and daub construction.

The best example of burned daub came from Feature 1 in Level IX of Unit C and is illustrated with close-up photographs of both sides in figs. 19a and 19b. Like the rest, one side of this fragment was light brownish-tan in color, nearly flat, with shallow grass impressions. The opposite side had large, deep, well-defined stick and twig impressions, and was burned black. All of the fragments varied between 2 and 2.5 cm. in thickness.

Together with the floors in Level V of Unit E, these wattle and daub chunks were the only evidence of architecture during the Muyu Moqo phases of occupation at Waywaka. With the evidence at hand, about all that can be said is that the earliest Muyu Moqo peoples made their structures of wattle and daub, with no indication as to the shape or size of their houses. The deep twig impressions indicate frames of thin branches which were probably supported by stronger

poles. From the charring we can say that at least one of these houses had been destroyed by fire.

While several late Preceramic and Initial Period ceremonial structures have been illustrated, few houses of the common man have been reported in the archaeological literature. The earliest known household residence in Peru was excavated by Donnan at the site of Chilca on the central coast. This small circular house was semi-subterranean with a conically shaped thatched grass superstructure. A sample of grass from the fallen roof yielded a radiocarbon determination of 5370 ± 120 B.C. (Donnan 1964:137).

I mention this structure because the Chilca house was not unlike some of the temporary seasonal houses which I observed modern campesinos making in the high puna today. While these seasonal houses are generally oval in outline and have a curved rounded roof, the basic idea is the same: a frame of wood or reed rods covered with layers of shingled grass. Although no clay was used in the Chilca or modern highland examples as a plaster, the considerable antiquity and wide modern distribution of this house type suggests that, lacking fieldstone foundations as they apparently did, the Muyu Moqo structures may have been very much like these in form, with mud daub added on portions of the outside.

Whatever the form of the Muyu Moqo houses, we can say that they were made with a wattle and daub technique, and that no evidence has so far been recovered of rectangular houses with field stone walls from the Initial Period in this area of the highlands. All of the stone walls at Waywaka were contemporary with the later, probably Early Horizon or Early Intermediate Period, Qasawirka phase of occupation.

Worked bone: (figs. 215-220, 221, 223-228) Only eleven pieces of worked bone artifacts were found in the lower deposits. The most common form was a thin flat spatula of unknown function. Four similar fragments were found in both Phase A and B contexts (see key to illustrations for provenience). The largest and most complete of these (fig. 217) measured 7 cm. in length, 1.4 cm. in width and tapered to a rounded tip. Like the other three fragments of this type (figs. 218-220), it was ground down on both surfaces to a thinness of 1.5 mm.

Two small but thicker and sturdier flat rectangular bone instruments with biconical holes at one end were also recovered. One of these, a fragment (fig. 216), came from the soil matrix immediately adjacent to the bones of Burial 5 and is described in Chapter II. The second example of this same form

was complete and came from the loose refuse in Level VII of Unit C (fig. 215). Since it came from the vary bottom of the level, it is probable that it is contemporary with the A Phase of occupation refuse. While the fragment from Burial 5 was slightly curved and concave-convex in section, the whole example was ground flat on both sides. Nevertheless they are close enough to suggest a similar function. Each had smooth rounded edges and each measured 3 mm. in thickness.

The whole piece measured 5 cm. in length and 1.7 cm. in thickness at its widest point. A 4 mm. wide conical perforation was drilled 1 cm. from its widest end. Beginning at this hole, the long end narrowed gradually to 1 cm. in width and thinned to a sharp glossy edge. The interior of the perforation was also worn down and glossy on the side opposite the thin elongated tip of the instrument. These patterns of wear suggest that this instrument, and probably that in Burial 5, was used for textile manufacture, probably for the making of looped or twined fabrics.

Two pieces of worked bone were probably intended for ornament. A camelid incisor was found in Level V of Unit E (fig. 225). It had a hole drilled in the root, and save for being split longitudinally from front to back, it was not otherwise altered. It pro-

bably served as a pendant.

Also, although no large bone beads were found in the finished form, a large bone bead blank was recovered from the fill of the Muyu Moqo C-D intrusive pit in Unit D (fig. 223). This tube had been sawed off at either end and an incomplete groove circumscribed it in the center. One end was fire-blackened.

Two small fragments (figs. 221 and 226) were sections of long thin cylindrical forms that could have served either as needles or awls. The pieces were too small to clearly define which was the case.

Finally, a 7.6 cm. long sliver of bone (fig. 228) showed slight grinding at the tip, suggesting that it may have served as an awl, a weaver's pick, or a stone flaking tool.

The other two fragments illustrated (figs. 224 and 227) came from later contexts in the refuse and do not pertain to the Muyu Moqo culture.

Faunal remains (not illustrated):

Molluscs: Four separate examples of Pacific marine molluscs were found in the refuse. Two fragments of mussel shell, Mytilus sp. were found in the thick sand layer with Muyu Moqo C-D pottery in Units C and G, Levels V and VI, respectively. One small Mytilus fragment was found with mixed Phase A and B

Muyu Moqo sherds beneath the intrusive pit in Unit D. Finally, a white sand-dwelling clam shell fragment was recovered from mixed Phase A and B refuse in Level VII of Unit E. None of these showed any cutting or grinding marks and all appear to have been smashed in antiquity.

Although small in number, these finds are significant. Their presence is positive proof that, at least by the B phase, the Muyu Moqo peoples had some form of contact, either direct or indirect, with the coast, which lies 250 kilometers away at its closest point.

Vertebrates: Any potentially diagnostic or complete animal bones found in the refuse were brought back to this country to be analyzed. Although no artifacts are permitted to leave Peru today, these remains were released by the Casa de Culture as "biological samples." The identification was made by Todd R. Olson of the Department of Paleontology, University of California, Berkeley. Since the number of diagnostic bones averaged no more than 1 or 2 per level, no quantitative study of the distribution of different forms was warranted and only the presence or absence of a particular animal could be indicated.

Remains of camelid, deer [Odocoileus sp], and

guinea pig (Cavis sp.) occurred throughout the refuse. Significantly, several bones of each were found in the earliest Phase A refuse. Thus, we can say that all three were utilized as sources of meat in Andahuaylas at least as early as 1500 B.C. radiocarbon years.

However, there is no way that I know of at the present to prove domestication of these Andean mammals. I would suggest that while the deer was surely being hunted, the camelid and guinea pigs may possibly have been domesticated. Given the docile nature of the guinea pig, I find it hard to imagine that if the Muyu Moqo peoples were using it for meat, it was not also running around their houses as is the custom today. However, wild guinea pigs exist in the sierra today, and these ancient remains could have also come from animals caught in the wild.

The presence of spindle whorls shows that the Muyu Moqo people were spinning fibers of some sort, and it seems likely that wool from camelids was the main source. Again, however, these animals could have been hunted in the wild for their meat and wool or kept in a state of domestication. There is no basis at the present for arguing either way.

Only three possible other varieties of animals were represented by single specimens of each out of the entire sample. In each case, the identification

was only tentative, and the bones are presently being submitted for further analysis.

Although I expected otherwise, only one possible bone of a viscacha (Lagidium sp.) was found in the excavation. This consisted of a broken left tibia from Phase B refuse in Level VI of Unit C. Viscachas were important in antiquity for their meat and fine pelts, and are considered a delicacy by modern campesinos. The lack of stronger evidence that they were utilized by the Muyu Moqo people is surprising. If the deer was being hunted, I would expect that the viscacha would be as well, and therefore be equally common in the refuse.

The two other aberrant and questionable bones came from Muyu Moqo C-D ceramic associations. The first of these was a medium-sized avian scapula. Although he was not able to indicate the species with the comparative collections on hand, Olson could say that this piece was larger than the scapula of a duck.

Finally, the second bone in C-D contexts came from Level V of Unit G and consisted of the proximal end of an adult feline femur. The shaft of the bone had been sawed off in antiquity leaving the end of articulation complete and unaltered. This fragment was smaller than the femur of an adult puma, Felis

concolor, and could have come from the local wildcat (ʼoqollu) that is still an inhabitant of the Andean area.

CHAPTER VI

INTERPRETATIONS AND CONCLUSION

Until this past year the entire south-central highland region between the modern city of Ayacucho and Cuzco was an archaeological blank. Not only did no well-established chronological sequence exist, but no very early cultures had been found in this portion of the Andean area.

The 1970-71 excavations at the site of Waywaka have drastically altered this picture, or rather, lack of a picture. Deep deposits of occupation refuse revealed a discontinuous sequence of cultures stretching from the second millennium B.C. to the coming of Inca influence in the region in the 15th century A.D. Perhaps the most significant revelation of this research, and the focus of this report, was the discovery of a long tradition of Initial Period occupation at the site which spanned the first 2 millennia B.C.

In the previous pages, I have concentrated on describing the excavation, human remains, and ceramic and non-ceramic monuments which permit us to define this early Muyu Moqo culture. Now let us turn to the implications of these finds.

The discovery came as somewhat of a surprise.

I remember that in 1970 while attending an anthropological conference in Mexico City, a colleague, upon hearing my plans to try to develop a cultural sequence for Andahuaylas region, commented: "You won't find any early pottery there, it is all happening somewhere else. That whole region was a cultural backwater during the Initial Period." The excavations have proved otherwise. Not only was Andahuaylas not a "cultural backwater," but the pottery-producing peoples that were living there around 1700 years B.C. were probably much more aware of "the outside world" than scholars had supposed. Let us see why this is the case.

One of the most significant points to come out of this work is not only the presence of the Muyu Moqo style itself, but also the close parallels it showed to the earliest ceramic traditions of other regions in the sierra to the south and the coast to the west and northwest.

In 1967, in his synthesis of Peruvian archaeology, Peru Before the Incas, Lanning stated:

> ...Life during the Initial Period was circumscribed by cultural and geographic barriers, the people were content not to look beyond them. [p. 95]

With the information then available, such a conceptualization may have been warranted, but today, with

the new data at hand, this is no longer the case.

From the previous descriptions and discussion it is clear that not only in general features, but also in specific details and compositions the Muyu Moqo pottery and lithic artifacts show close parallels to finds in distant regions of Peru. In particular we can point to striking analogues in style and technology in the Cuzco region and on the southern and north-central coasts. Although the evidence is still relatively spotty and comes from widely separated areas, I think a picture can be seen to be emerging. It is my belief that these close similarities reflect the exchange of ideas and people at a very early time. At least it is possible to say safely that with this new evidence from Andahuaylas, and from the recent results which are emerging from studies in the southern sierra and on the coast, that during the early part of the Initial Period, about 1500 B.C. and probably earlier, there existed a wide-ranging pool of commonly held ideas about what pottery vessels and chipped points should look like. In the 1967 work mentioned above, Lanning defined three traditions that existed in Peru during the Initial Period. One he characterized as having "neckless cooking and storage pots, undecorated or at most bearing a few appliqué fillets or simple incised designs." (p. 85)

At the time he was writing it was only possible to extend this tradition to include most of the coast and northern half of the highlands. The southern - central and southern sierra went unmentioned. They went unmentioned because no Initial Period refuse sites had been identified as such. Based on the results of the work at Waywaka, this tradition can not only be better defined but also its boundaries can be greatly expanded. It is now quite evident that this neckless olla tradition was very much in existence in the southern sierra and coastal regions of the Peruvian Andes during the early part of the Initial Period.

Not only is it presently possible to see a wide extension of commonly held ideas and complexes, but I feel it permits us to grant the ancient Peruvians living during the Initial Period much greater fluidity of movement than could be suggested in the past. Ideas are carried by people - they do not exist in a vacuum. The problem that this simple fact poses is, precisely how were the commonly held ideas spread and why? Was it due to gradual diffusion of an idea complex through different groups, or the specific movement of peoples between widely spaced regions over short periods of time, or possible both?

It is my contention that, while indirect contact may very well have been a factor, direct trade or even

possibly the movement of groups was taking place, both between the coast and sierra and between the southern and central highlands at least as early as 1500 B.C. Let us examine the evidence.

There are 3 independent kinds of evidence which have come to light from the excavations at Waywaka that support this position.

The first of these is those parallels in style which I have discussed above, not simply general similarities in vessel form, but the occurrence over large areas of specific compositions of designs on particular vessel forms. As mentioned, these compositions were the large olla with the notched ridge, bottle spouts with loop handles, and in one area to the west, the Form 9 vessel with a ledge below the rim.

However, while titillating, these bits of data are not alone sufficient to support a case for direct contact or the movement of people. Other students (cf. Lynch) have in the past tried to argue for ancient population movements or seasonal transhumance from stylistic and typological comparisons alone. Ultimately, however, these arguments have proved unsatisfactory. The only concrete proof for long distance trade or population movement derivable from archaeological data is when an object or group of

objects that can come from only one source is found in a cultural context at a place far from its point of origin. Then, and only then, does the archaeologist have a sound basis upon which he can argue for a system of long distance trade or exchange between ancient peoples.

Excavations at Waywaka reveal two kinds of materials which fit this criterion: marine shells and semi-precious stones.

Fragments of Pacific shore-dwelling mussel (Mytilus sp.) and clam shells were recovered in the lower refuse in mixed Phase A and B contexts. These shells prove that at least by the B phase of the occupation at Waywaka some form of trade or contact was occurring between the sierra and the coast to the west. There is, however, no argument for any particular form of exchange between the two areas. It could have been due either to the seasonal transhumance of the same group or to direct or indirect trade between isolated peoples.

However, the second group of data permits an even broader perspective. As described in Chapter IV several varieties of semi-precious stones were recovered from the lower Phase A and B Muyu Moqo refuse. Among those which could be identified by the staff at the University of Engineering in Lima were:

chrysocolla, turqoise, sodalite, dumortierite, aquamarine and lapis lazuli. While at the geology museum I made a point of asking about the known sources of each of these types of stone. As far as they knew, all but the last had been recorded in natural deposits either in the Department of Apurímac or in the adjacent Departments of Ayacucho, Ica, Cuzco or Araquipa. Lapis lazuli, however, was not known to occur in Peru. To date, the only verified deposits of this stone are located within the boundaries of modern Chile. While some reports have appeared to the contrary, a recent study of ancient minerals in archaeological and natural contexts by Dr. Georg Peterson (1970: 13) revealed that in all such instances the identified pieces turned out to be similar in appearance but a different mineral. According to Peterson, the only known occurrences of lapis lazuli are in the northern Atacama desert of Chile.

If this is the only source, then the early Initial Period inhabitants of Peru who buried or lost lapis lazuli beads in their occupation sites must have been getting it from the source in Chile. Either people had to travel between the two areas or this beautiful blue gem stone was being traded north from group to group. The implication, of course, is that the Muyu Moqo peoples at Waywaka, as well as those in the

sierra around Cuzco, Moquegua, and on the coast at Asia were engaged in long distance commerce at least as early as 1500 B.C. and probably a good deal earlier. Furthermore, the location of the sites where lapis lazuli has been found in Initial Period contexts are all in the southern coastal and sierran portions of Peru.

It is important to note in this context that while the other varieties of semi-precious stones were found in both an unworked and worked state, lapis lazuli was encountered only as finely worked beads. This distinction in the sample suggests that while the other stones may have been made locally, the lapis lazuli beads were traded into the southern coastal and sierran regions of Peru in a finished state.

The above is, it must be stressed, conjecture based on present evidence. The case for long distance trade from the south depends on: 1) the beads being of the same material as those in Chile, and 2) that no true deposits of lapis lazuli actually exist either in Peru or near Andahuaylas. Like archaeology, the understanding of the geology of Peru can change drastically with a single find. Vast regions still remain unmapped by the geologists, and it is not unlikely that our understanding of the natural deposits of various minerals in Peru will change dramatically in the near

future. Basic geological research in Peru is progressing with at least as much vigor as is the study of ancient cultures.

Nevertheless, even if my argument for a south to north trade in lapis lazuli during the Initial Period should be proved groundless with the discovery of local deposits in or near Andahuaylas, there is still a good case for outside contacts on the part of the early Muyu Moqo people during the first half of the second millennium B.C. Not only the close ceramic parallels to the Hacha style but the presence of Pacific marine bivalves in the refuse provides a good case for early commerce between the coast and the highlands of Andahuaylas.

Finally, one of the most striking and certainly the most dazzling aspect of this research was the discovery of finely-hammered gold foil as well as a gold-working tool bit in the earliest Muyu Moqo Phase A levels at Waywaka.

Until last year and the excavations at Waywaka, the origins of Andean metal technology had been obscure. The earliest recorded metal artifacts in Peru, and for that matter in all of South and Meso-America, were some ornate gold ornaments in the Chavín style from the northern coast of Peru, dating at the earliest to about 800 years B.C. A date of 400 or

500 B.C. seems more probable. Up to now it appeared that both gold and copper technology made their appearance among the inhabitants of ancient Peru about the same time. Despite the fact that pottery-producing peoples lived on the coast of Peru as early as the first half of the second millennium B.C., no metal earlier than the Chavín gold has been found with their remains.

The discovery of gold foil in the earliest Phase A contexts together with gold-working tools has drastically altered our understanding of the development of Andean metal technology in two ways. First, the association of the foil with pottery dating to at least 1500 B.C. establishes the Waywaka gold as the earliest yet recorded in the South American continent. Second, the discovery of the gold-working tools proves that the Muyu Moqo peoples were actually making the gold foil themselves, rather than importing it. In other words, we can now say that the earliest known operations in South American metal technology took place in the south-central highlands of Peru nearly a thousand years before the Chavín style gold objects were being made in northern Peru. Of course, there is always the possibility that still earlier evidence for the use of metal may be found with further exploration.

In light of my previous comments, the Waywaka discoveries raise two additional possibilities. If something was being traded in exchange for the lapis pazuli, the gold foil being produced by the Muyu Moqo peoples is a likely candidate. The gold-working tools further suggest that the craft specialization may have existed as early as the first part of the Initial Period. Metal working was an important craft specialization at the time of first European contact, and it may have been a very old one, especially if gold was being traded.

The excavations at Waywaka turned out to have unexpected significance for our understanding of life and work in ancient Peru in the Initial Period, most importantly, perhaps, because of their bearing on the question of early commerce and the origins of Andean metal working.

BIBLIOGRAPHY

Anonymous

1963 Rock-color chart. The Geological Society of America, New York.

Benavides, Calle Mario

Ms. Estudio de la cerámica decorada de Qonchopata. Tesis para optar el grado de Bachiller en Ciencias Anthropologicas, en la Universidad Nacional de San Cristobal de Huamanga, Ayacucho, 1965.

Bird, Junius Bouton

1943 Excavations in northern Chile. Anthropological Papers of the American Museum of Natural History, vol. 38, part 4, pp. 173-316.

1968 Treasures from the land of gold. Arts in Virginia, vol. 8, no. 1 and 2, pp. 20-23. Richmond.

Brothwell, Don R.

1965 Digging up bones: the excavation, treatment and study of human skeletal remains. The British Museum of Natural History, London.

Casafranca, José

1960 Los nuevos sitios arqueológicos Chavinoides

en el Departamento de Ayacucho. Antiguo Peru: espacio y tiempo. Trabajos presentados a la Semana de Arqueología Peruana, 9-14 de Noviembre de 1959. Lima.

Cobo, Bernabé

1964 Historia del Nuevo Mundo [1653]. Biblioteca de Autores Españoles desde la formacion del languaje hasta nuestras dias [continuacion], 2 vols. tomos 91 and 92. Ediciones Atlas, Madrid.

Dominovich, López A., ed.

1967-68 Atlas del Peru. Libreria E Imprenta "Guia Lascano". Lima.

Donnan, Christopher B.

1964 An early house from Chilca, Peru. American Antiquity, vol. 30, no. 2, pt. 1., October, pp. 137-144. Salt Lake City.

Engel, Frédéric

1963 A preceramic settlement on the central coast of Peru: Asia, Unit I. Transactions of the American Philosophical Society, n.s., vol. 53, pt. 3. Philadelphia.

1966 Paracas: cien siglos de cultura peruana. Juan Mejía Baca. Lima.

Ford, James A.

1969 A comparison of formative cultures in the

Americas: diffusion or the psychic unity of man? Smithsonian Contributions to Anthropology, vol. 11. Washington.

Hartweg, Raoul

1961 Les squelettes des sites sans céramiques de la cote du Pérou. II. Etude descriptive de Documents Nouveaux (Fouilles de Cabezas Largas, site 104 AL-I). Journal de la Société des Americanistes. T.L., pp. 111-133. Paris.

Ishida, Eiichiro and others

1960 Tōkyō Daigaku Andesu chitai gakujutsu chōsa dan 1958 nendo hōkokusho. Andes; the report of the University of Tokyo Scientific Expedition to the Andes in 1958. Bijitsu Shuppan sha, Tokyo.

Izumi, Seiicho and Sono, Toshihiko

1963 Andes 2: Excavations at Kotosh, Peru, 1960. Kodakawa Publishing Co., Tokyo.

Jannsens, Paul A.

1970 Paleopathology: diseases and injuries of prehistoric man. Humanities Press Inc., New York.

Lanning, Edward Putnam and Hammel, Eugene A.

1961 Early lithic industries of western South America. American Antiquity, vol. 27, no. 2, October, pp. 139-154. Salt Lake City.

Lanning, Edward Putnam

1967 Peru before the Incas. A Spectrum Book, S-156, Prentice-Hall, Inc., Englewood Cliffs.

Lothrop, Samuel K.

1950 Metal working tools from the central coast of Peru. American Antiquity, vol. XVI, no. 2, October, pp. 160-164. Salt Lake City.

Lumbreras, Luís Guillermo

1960 Esquema arqueológico de las sierra central del Perú. Revista del Museo Nacional, tomo XXVIII, 1959, pp. 64-117. Lima.

Lynch, Thomas F.

1967 The nature of the central Andean preceramic. Occasional papers of the Idaho State University Museum, Number 21, Pocatello.

MacNeish, Richard S.

1971 Early man in the andes. Scientific American, vol. 224, no. 4, April, pp. 36-55.

Menghín, Oswaldo and Schroeder, Gerhard

1957 Un yacimiento en Ichuña [Departamento de Punc, [sic] Peru] y las industrias precerámicas de los Andes centrales y septentrionales. Acta Praehistorica, 1, pp. 41-56. Buenos Aires.

Menzel, Dorothy

1964 Style and time in the Middle Horizon. Ñawpa Pacha 2, pp. 1-105. Berkeley.

1968 La cultura Huari. Col. Las Grandes Civilizaciones del Antiguo Perú, tomo VI. Compañía de Seguros y Reaseguros Peruano-Suiza S.A., Lima.

1968 New data on the Huari empire in Middle Horizon 2A. Ñawpa Pacha 6, pp. 47-114. Berkeley.

Mohr-Chávez, Karen L.

1969 Excavations in the Cuzco-Puno area of southern highland Peru. Expedition, vol. 11, no. 2, Winter, pp. 48-51. Philadelphia.

Pesce, Hugo

1942 Relación somera de algunas ruinas precolombianas en la provincia chanka de Andahuaylas. Waman Puma, año II, vol. II, nos. 5-9, pp. 9-10.

Petersen, Georg

1970 Minería y metalurgía en el antiguo Perú. Arqueológicas. Publicaciones del Instituto de Investigaciones Anthropologicas, 12. Lima.

Quintana, Gerardo

1967 Andahuaylas: prehistoria y historia. Vilock, Lima.

Ravínes, Rogger

1969-70 El sitio arqueológico de Chuncuimarca, Huancavelica. Revista del Museo Nacional, tomo XXXVI, 1969-1970, pp. 234-258. Lima.

Rowe, John H.

1944 An introduction to the archaeology of Cuzco. Papers of the Peabody Museum of American Archaeology and Ethnology, vol. XXVII, no. 2. Cambridge.

1956 Archaeological explorations in southern Peru, 1954-1955; a preliminary report of the Fourth University of California Archaeological Expedition to Peru. American Antiquity, vol. XXII, no. 2, October, pp. 135-151. Salt Lake City.

1963 Urban settlements in ancient Peru. Ñawpa Pacha 1, pp. 1-28. Berkeley.

Schroeder, Gerhard

1957 Hallazgos de artefactos de piedra en el Perú y los problemas de poblamiento de América. Revista del Museo Nacional, vol. 26, pp. 290-294. Lima.

Strong, William Duncan and Evans, Clifford Jr.

1952 Cultural stratigraphy in the Virú valley, northern Peru. Columbia Studies in Archaeology and Ethnology, vol. IV. Columbia University Press, New York.

Sussman, Robert

1965 Skeletal analysis for the archaeologist. Archaeological Survey Annual Report. Department of Anthropology and Sociology, University of California, Los Angeles, no. 7, pp. 333-362.

Wells, Calvin

1964 Bones, bodies and disease: evidence of disease and abnormality in early man. Thames and Hudson, London.

Wells, L. H.

1970 Stature in the early races of mankind. Science in Archaeology: a survey of progress and research, pp. 453-468. Praeger Publishers, New York.

KEY TO ILLUSTRATIONS

Unless otherwise indicated, specimens come from the site of Waywaka (Ap2-2), Andahuaylas, Apurímac, Peru. Provenience is indicated by a capital letter (the excavation unit) and Roman numeral (the level). The entire collection is presently stored in the Laboratory of Archaeology, National University of Cuzco, Peru.

Plate XXVIII.
- 35. C-IX, 22 cm. in diam.
- 36. G-VIII, 22 cm. in diam.
- 37. G-IX, 22 cm. in diam.
- 38. G-VIII, 23 cm. in diam.

Plate XXIX.
- 39. G-IX, 30 cm. in diam.
- 40. G-VIII, 22 cm. in diam.

Plate XXX.
- 41. G-VIII, 12.5 cm. in diam.
- 42. C-VIII, 10 cm. in diam.
- 43. G-IX, 17 cm. in diam.
- 44. G-VIII, 15 cm. in diam.
- 45. G-VIII, 12 cm. in diam.

Plate XXXI.
- 46. C-VIII, 21 cm. in diam.
- 47. G-IX (pit 1), 19 cm. in diam.
- 48. C-VIII, 22.5 cm. in diam.
- 49. G-IX, 8 cm. in diam.
- 50. G-IX, 11.4 cm. in diam.

Plate XXXII.
- 51. G-VIII, 14.5 cm. in diam., 6.5 cm. high

Plate XXXIII.
- 52. C-VII, 16 cm. in diam. See Fig. 148.
- 53. C-VII, 9.5 cm. in diam.
- 54. G-VIII, max. length: 2.7 cm.
- 55. C-VII, 3.2 cm. high, 3.5 cm. wide
- 56. C-VII, 3.5 cm. high, 3 cm. wide
- 57. E-VI, 3.9 cm. high, 8 cm. wide

Plate XXXIV.

58. C-VI, ca. 30 cm. in diam.
59. G-VII, 24 cm. in diam.
60. G-VII, 20 cm. in diam.
61. C-VI, 25 cm. in diam.

Plate XXXV.

62. C-VI, 26.5 cm. in diam.
63. C-VII, 27.5 cm. in diam.
64. G-VII, 21 cm. in diam.

Plate XXXVI.

65. G-VII, 15 cm. in diam., See fig. 154
66. G-VII, 14 cm. in diam., See fig. 155
67. C-Vc (lower half of stratum), 14 cm. in diam., See fig. 156.
68. C-Vc (lower half of stratum), 15 cm. in diam., See fig. 157.

Plate XXXVII.

69. E-VI, 12.5 cm. in diam., See fig. 147
70. C-VI, 10 cm. in diam., See fig. 151
71. E-V, 11.5 cm. in diam., See Fig. 146
72. C-VI, 15.5 cm. in diam., See fig. 153
73. C-VI, ca. 17 cm. (?) in diam., See fig. 150

Plate XXXVIII.

74. C-VI, 8 cm. in diam.
75. E-VII, 8 cm. in diam.
76. C-VI, 3.6 cm. high, 2.2 cm. wide
77. C-Vb (refuse lens in center of stratum), ca. 15 cm. in diam., See fig. 152

Plate XXXIX.

78. E-V, 22 cm. in diam., See fig. 149

Plate XL.

79. E-III, 27 cm. in diam., See fig. 167
80. D-VII (fill of rock-filled intrusive pit), 23 cm. in diam.
81. C-II, 18 cm. in diam.

Plate XLI.

82. D-IV, no diam.
83. C-III, 24 cm. in diam.
84. C-IV, 19.5 cm. in diam., see fig. 162
85. C-III, 19.2 cm. in diam.

Plate XLII.

86. D-VII (Intrusive pit fill), 25 cm. in diam.
87. G-V, 25 cm. in diam.
88. G-V, 17 cm. in diam.

Plate XLIII.

89. G-IV, 24.7 cm. in diam. See fig. 159.
90. C-IV, 23.7 cm. in diam. See fig. 160
91. C-Va (upper half of stratum), 22.5 cm. in diam. See fig. 161.

Plate XLIV.

92. Surface, 21 cm. in diam.
93. Surface, 21 cm. in diam.
94. Surface, 20-22 cm. in diam.
95. Surface, 18 cm. in diam. See fig. 164.
96. Surface, 12.5 cm. in diam.

Plate XLV.

97. E-III, 16 cm. in diam.
98. E-III, 18 cm. in diam.

Plate XLVI.

99. E-III, 30 cm. in diam.
100. E-III, 25 cm. in diam.
101. E-III, 20 cm. in diam.

Plate XLVII.

102. E-III, 13 cm. in diam.
103. E-III, 13 cm. in diam.
104. C-III, 13 cm. in diam.
105. C-III, 11 cm. in diam.
106. E-III, 10 cm. in diam.

Plate XLVIII.

107. E-III, 2.1 cm. high.
108. G-III, 2.2 cm. high.
109. C-IV, 1.7 cm. high.
110. C-IV, 2.5 cm. high.
111. G-IV, 3.3 cm. high.
112. C-IV, 3.1 cm. high.
113. G-V, 2.9 cm. high.
114. G-V, 2.9 cm. high.

Plate XLIX.

115. G-V, 13 cm. in diam. See fig. 169.
116. C-IV, 10 cm. in diam. See fig. 168.
117. C-IV, 10 cm. in diam.
118. E-III, 12 cm. in diam.

Plate L.

119. C-IV, 9.0 cm.
120. E-V, 11 cm. in diam.
121. D-VII (Intrusive Pit Fill), 12 cm.

Plate LI.

122. D-VI (Intrusive Pit Fill), 14 cm. in diam.
123. D-VI (Intrusive Pit Fill), 13 cm. in diam.

124. D-V, 11 cm. in diam.
125. C-VI (Intrusive Pit fill), 7 cm. in diam.

Plate LII.
126. D-VII (Intrusive Pit fill), rim diam: 14 cm., Max. body diam.: 29.5 cm. See Fig. 171.

Plate LIII. (All from lower fill of Intrusive Pit)
127. D-VII, neck diam.: 14.5 cm.
128. D-VII, bottom diam.: ca. 10 cm.
129. D-VII, bottom diam.: ca. 11 cm.
130. D-VII, bottom diam.: ca. 12 cm.

Plate LIV.
131. D-V, 14 cm. in diam.
132. D-V, 12 cm. in diam.
133. D-VII (Intrusive Pit fill), 11 cm. in diam.
134. D-V, 11 cm. in diam.
135. D-VI (Intrusive Pit fill), 10 cm.

Plate LV.
136. D-V, 15 cm. in diam. See Fig. 174
137. C-III, 14 cm. in diam. See Fig. 170.

Plate LVI.
138. D-VII (Intrusive Pit fill), 10 cm. high

Plate LVII.
139. G-V, 10.5 cm. in diam.
140. C-III, 11 cm. in diam.
141. C-III, no diam.
142. C-III, 8 cm. in diam.
143. C-IV, ca. 21 cm. in diam.
144. G-IV, ca. 17 cm. in diam.
145. E-VII, ca. 17 cm. in diam.

Plate LVIII.
146. E-V, 11.5 cm. in diam. See Fig. 71.
147. C-Vc, 14 cm. in diam. See Fig. 67.
148. C-VII, 16.0 cm. in diam. See Fig. 52.
149. E-V, 22 cm. in diam. See Fig. 78.
150. C-VI, 17 cm. in diam.(?) See Fig. 73.
151. C-V, 10 cm. in diam. See Fig. 70.
152. C-Vb, ca. 15 cm. in diam. See Fig. 77.
153. C-VI, 15.5 cm. in diam. See Fig. 72.

Plate LIX.
154. G-VII, 15 cm. in diam. See Fig. 65.
155. G-VII, 14 cm. in diam. See Fig. 66
156. C-Vc, 14 cm. in diam. See Fig. 67.
157. C-Vc, 15 cm. in diam. See Fig. 68.
158. G-V, no diam.

Plate LX.

159. G-IV, 24.7 cm. in diam. See fig. 89.
160. G-IV, 23.7 cm. in diam. See fig. 90.
161. C-Va, 22.5 cm. in diam. See fig. 91.
162. C-IV, 19.5 cm. in diam. See fig. 84.
163. G-VI, 22 cm. in diam. See fig. 184.
164. C-I, 18 cm. in diam. See fig. 95.
165. G-IV, no diam.
166. G-IV, no diam.
167. E-III, 27 cm. in diam. See fig. 79.

Plate LXI.

168. C-IV, 10 cm. in diam. See fig. 116.
169. G-V, 13 cm. in diam. See fig. 115.
170. C-III, 14 cm. in diam. See fig. 137.

Plate LXII.

171. D-VII (Intrusive Pit fill). See fig. 126.
172. D-VII (Intrusive Pit fill). See fig. 138.

Plate LXIII.

173. D-VI and VII (Intrusive Pit fill)
174. D-VI and VII (Intrusive Pit fill). See fig. 136.

Plate LXIV.

175. St.3-IV.
176. D-III.
177. D-III.
178. D-III, 2.4 cm. in diam.
179. Ap2-1 Surface.
180. G-III, 4.9 cm. in diam.
181. G-VI, 4.3 cm. in diam.
182. E-VI.
183. G-VII.

Plate LXV.

184. G-VI, 22 cm. in diam. See fig. 167.

Plate LXVI.

185. Waywaka surface, 8.2 cm. high.

Plate LXVII.

186a,b,c, Colegio collection, Andahuaylas. Collected by Alejandro Barrientos Bustos while cultivating his fields at the site of Qasawirka (Ap2-1). When I first saw the figurine in 1969 the right hand and foot were complete.

Plate LXIX.

187. Ap2-2 (Waywaka), surface.

188. Ap2-2 (Waywaka), surface.
189. Ap2-2b (Collcapata), surface.

Plate LXX.
190-196. See Table IV, p. 138.

Plate LXXI.
197-200. See Table IV, p. 138.

Plate LXXII.
201. G-VII.
202. G-VIII.

Plate LXXIII.
203. G-IX.
204. G-IX.

Plate LXXIV.
205. hammer, length 5.8 cm., weight 102 gm.
206. hammer, length 4.0 cm., weight 65.5 gm.
207. hammer, length 4.5 cm., weight 58.5 gm.
208. anvil, length 10.1 cm., weight 359.5 gm.
209. gold foil.

Plate LXXIX.
215. C-VII.
216. Burial 15.
217. E-VI.
218. G-VIII.
219. C-VII.
220. E-VI.
221. G-VIII.
222. E-VI.
223. D-VI.
224. E-II.
225. E-V.
226. E-VI.
227. E-III.
228. C-VII.

Plate LXXX.
229. Ap2-1 (Qasawirka), collected by Alejandro Barrientos Bustos while cultivating his fields at the site of Qasawirka. height 12.2 cm., diam. at rim 10.5 cm.

Plate LXXXI.
230. Ap2-2, Waywaka. 21.2 cm. in diam.

Plate I. The site of Waywaka(Ap292) located above the modern city of Andahuaylas at 10,500 ft. in the south-central highlands of Peru. The zone of ancient occupation is bounded by the road cut around the top of the hill.

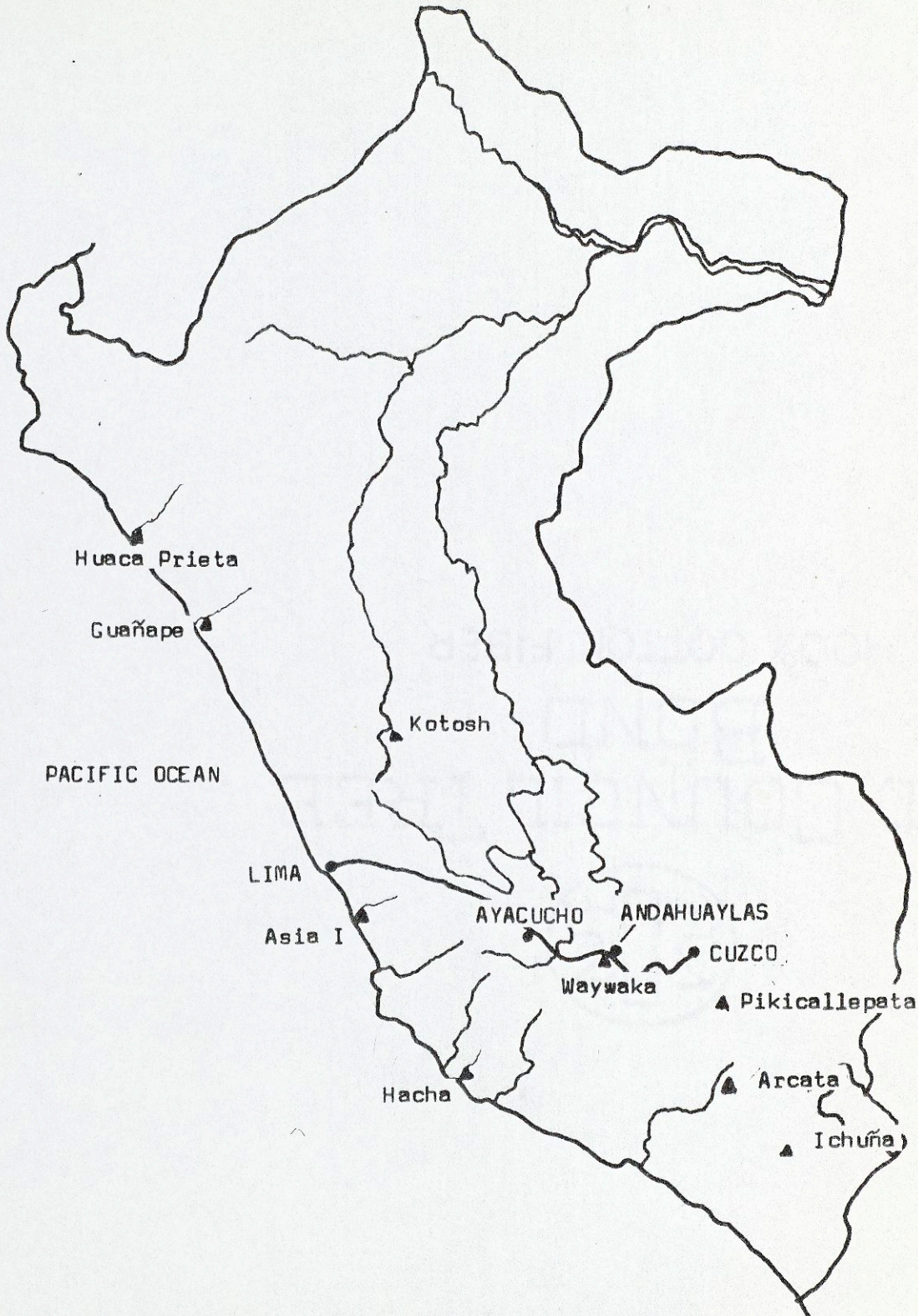


Plate: II. Map of Peru showing Waywaka and other Initial Period sites mentioned in text.

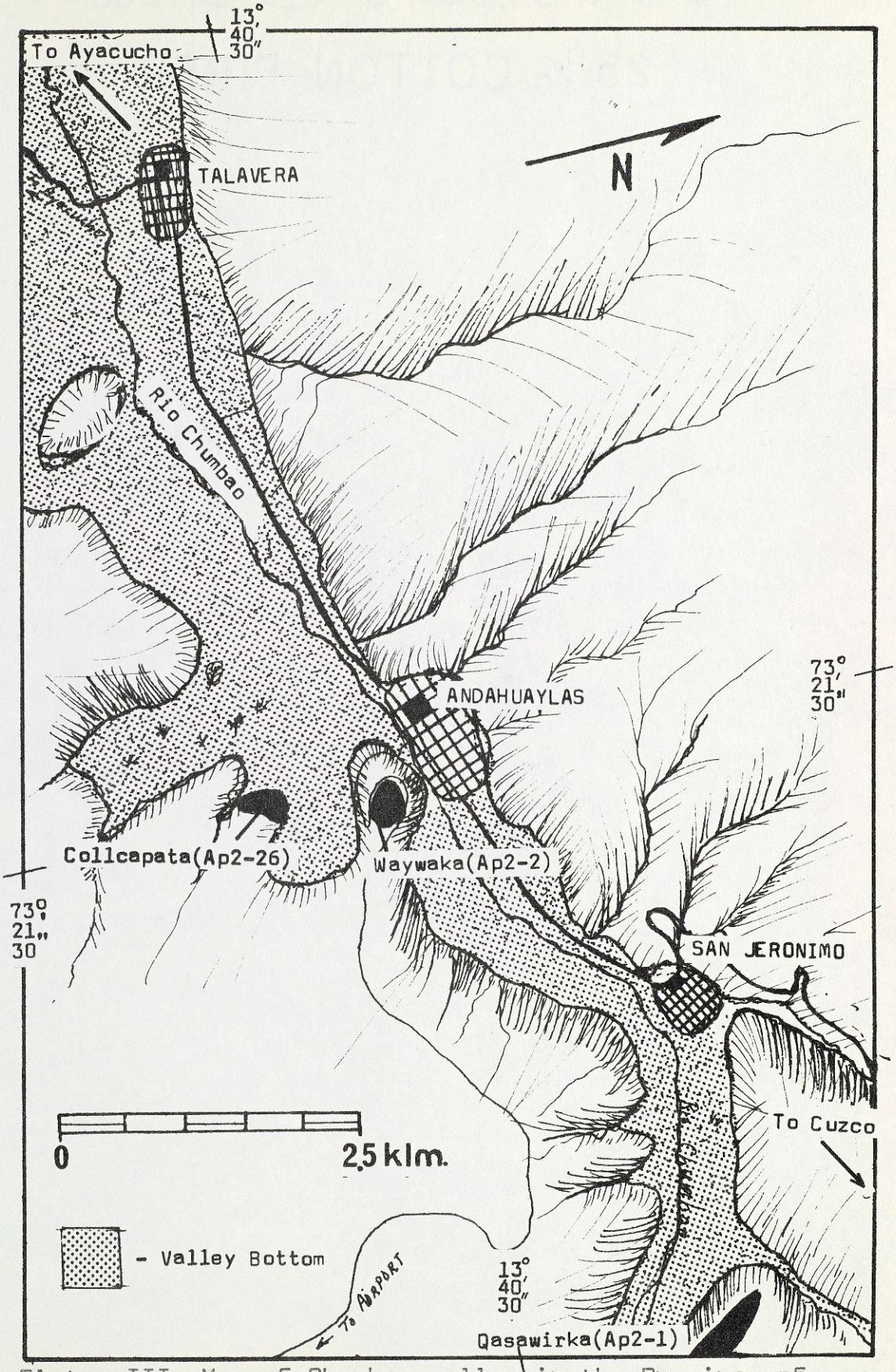


Plate: III. Map of Chumbao valley in the Province of Andahuaylas showing modern towns and ancient sites mentioned in text.

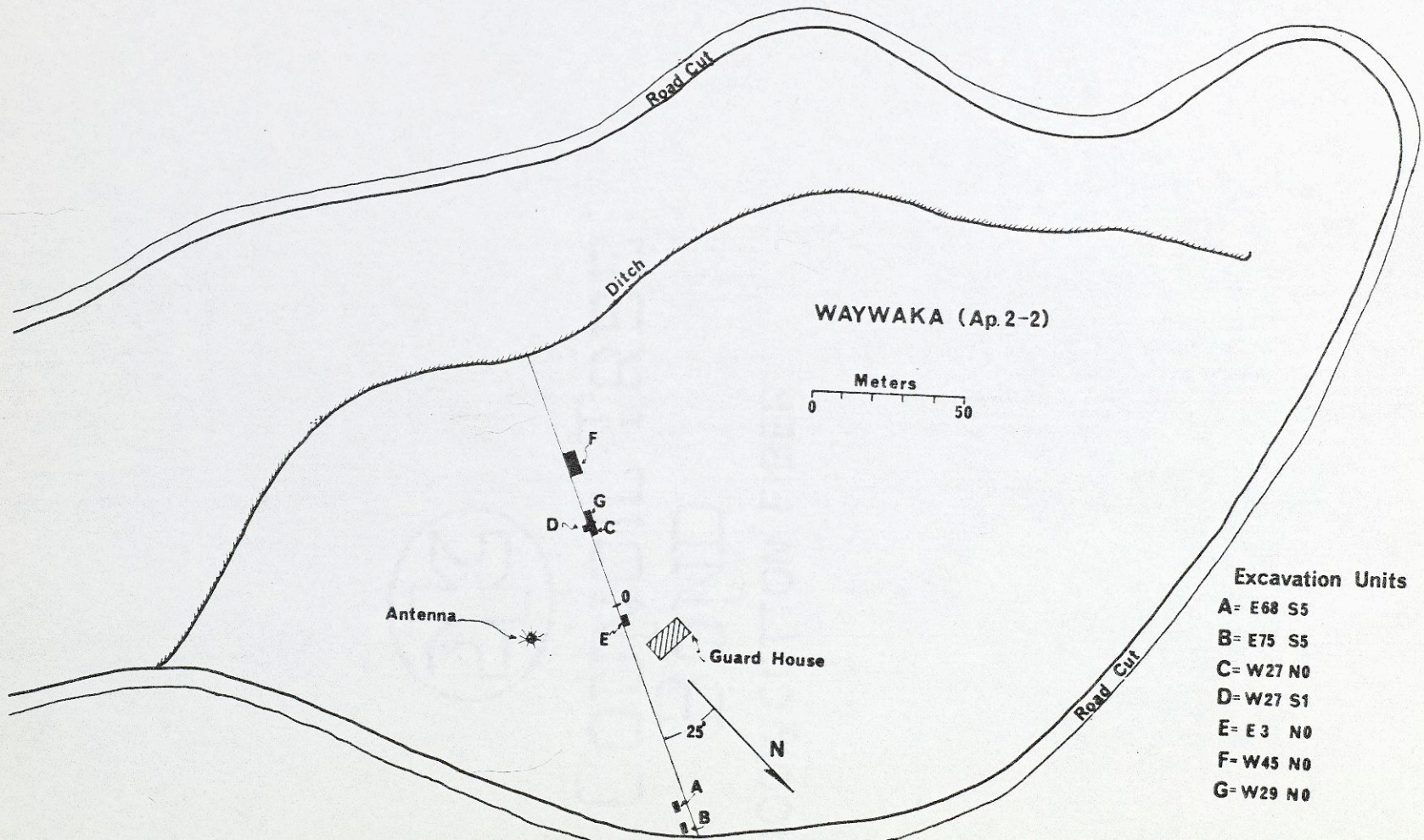


Plate: IV. Plan of Waywaka showing excavation units.

Fig. 4

Unit: E68 S5 (A)

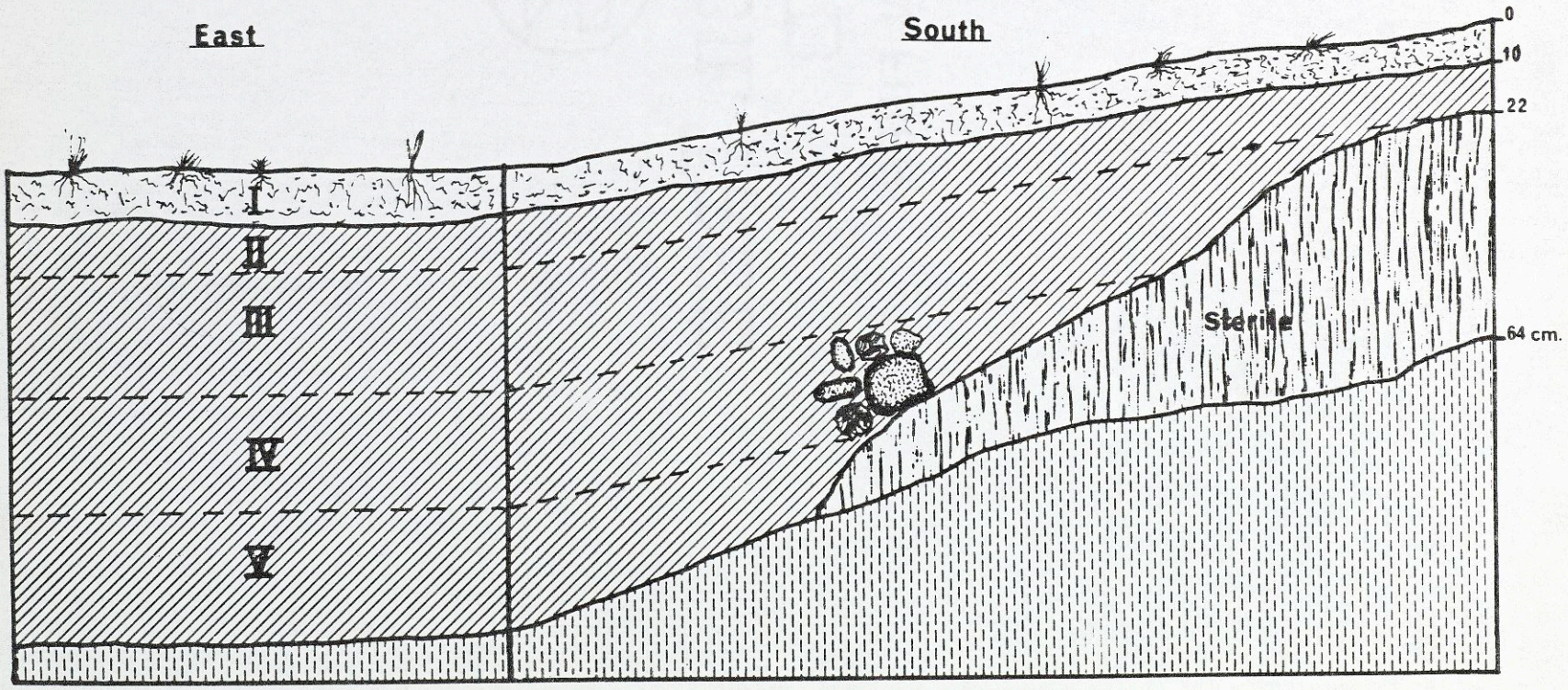


Plate: V. Profile of Unit A (E68 S5). Mixed refuse. No cultural stratigraphy.

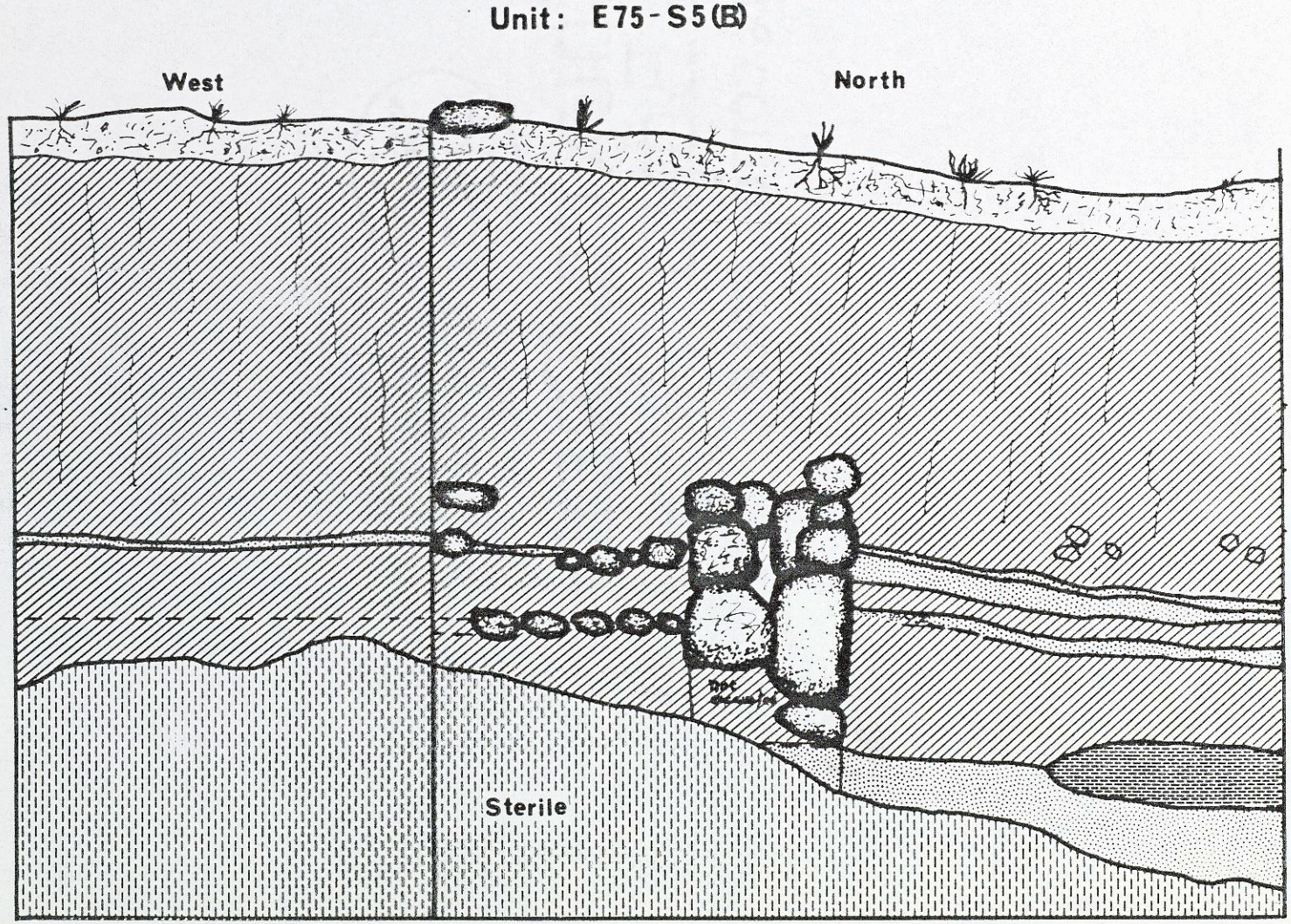


Plate: VI. North and west profiles of Unit B (E75 S5). Mixed refuse over Qasawirka.

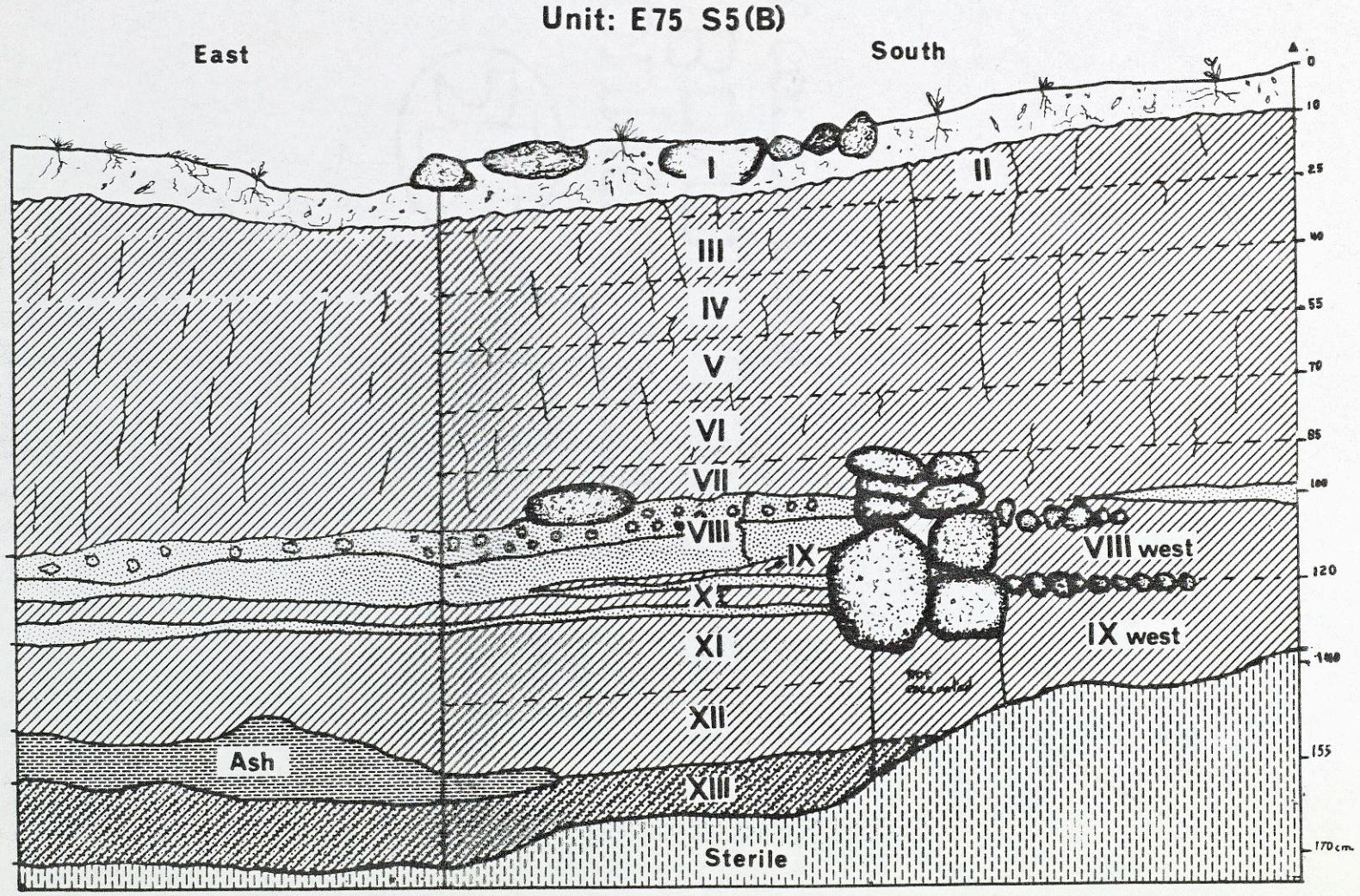


Plate: VII. South and east profile of Unit B.

Unit: E3 N0 (E)

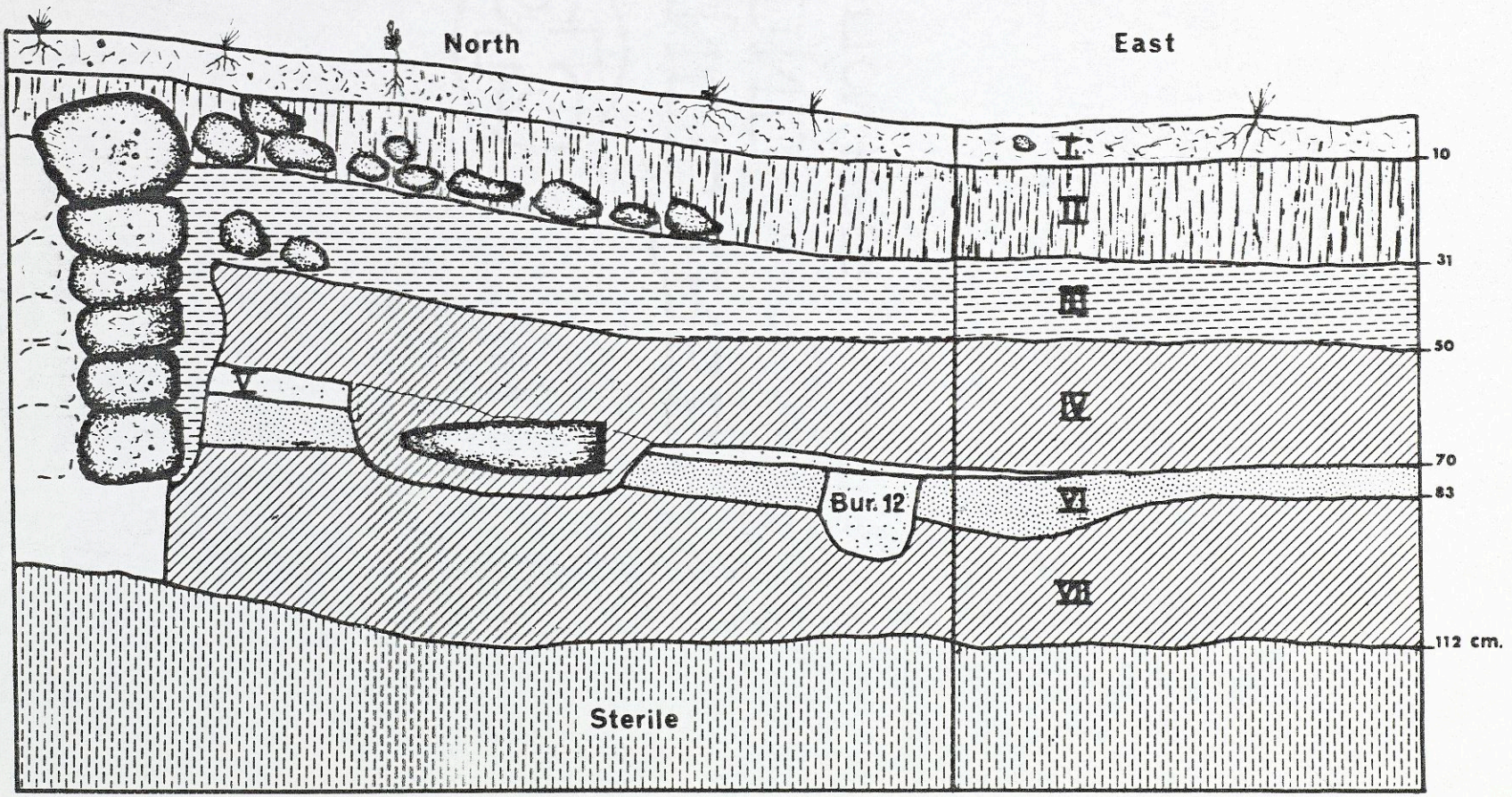


Plate: VIII. Unit E (E3 NO). North and east profiles.

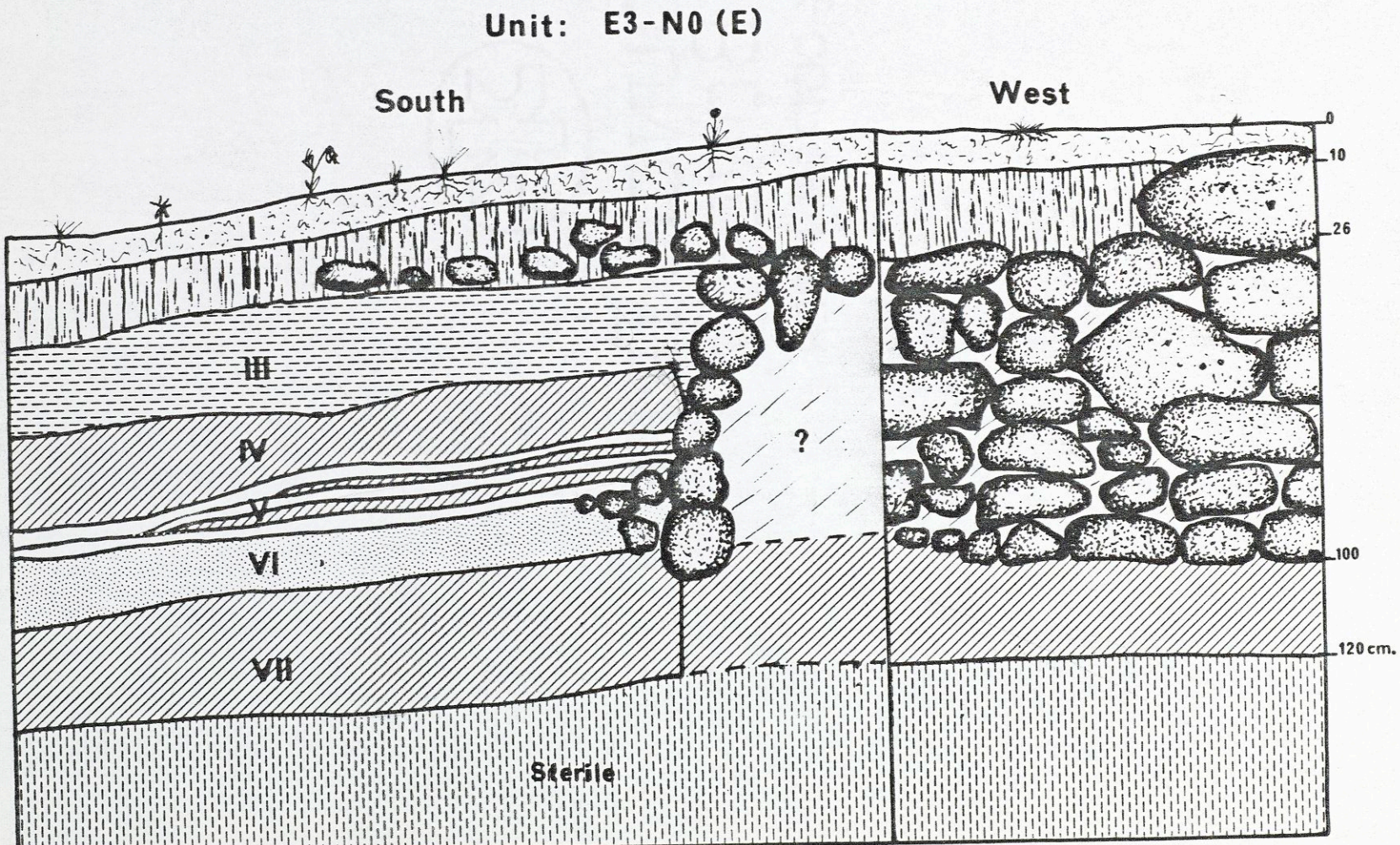


Plate: IX. Unit E (E3 NO) South and west profiles.

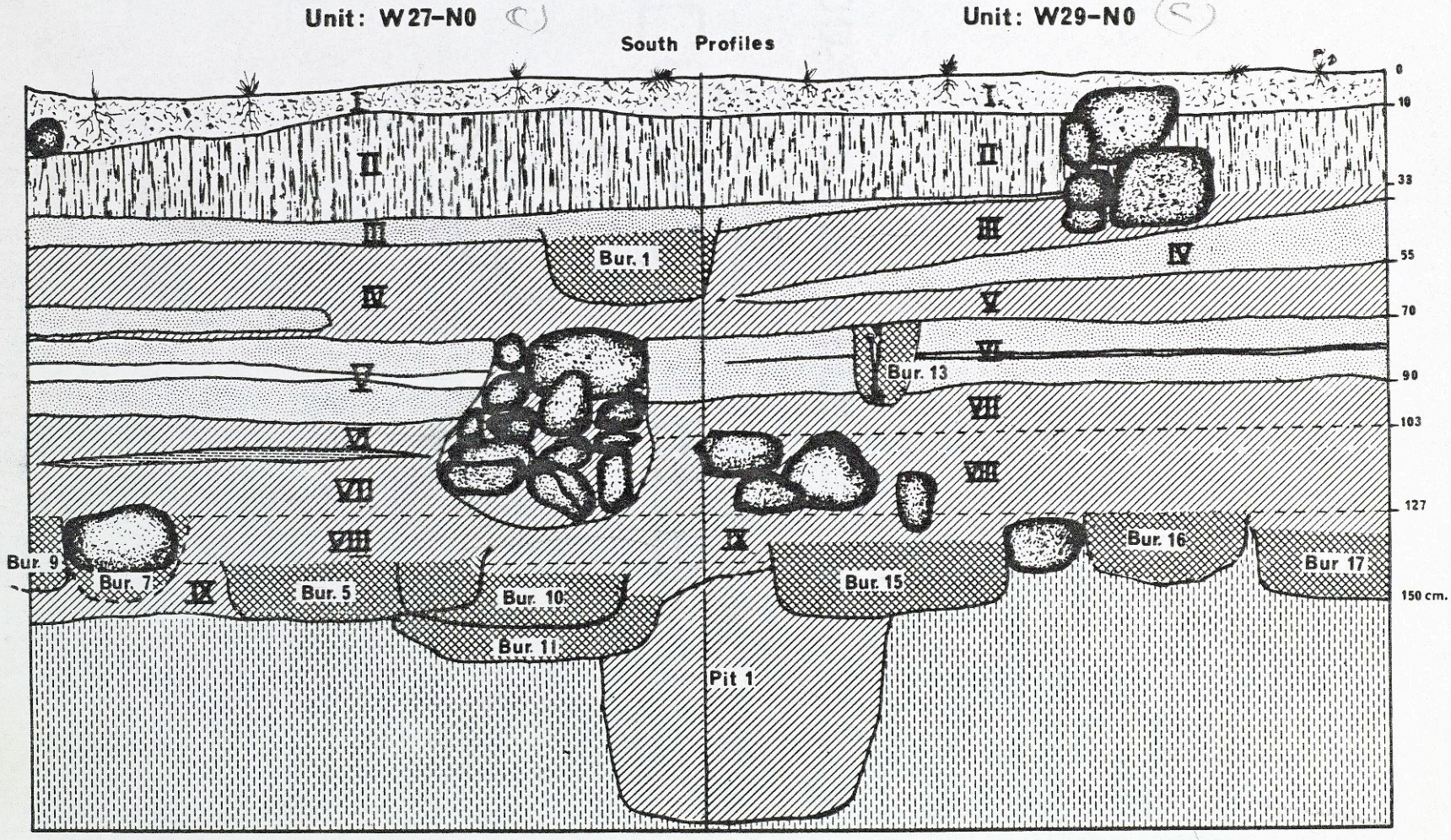


Plate: X. Units C and G. South profiles. Note Phase C-D Intrusive Rock Filled Pit dug down from the top of Level V in Unit C.

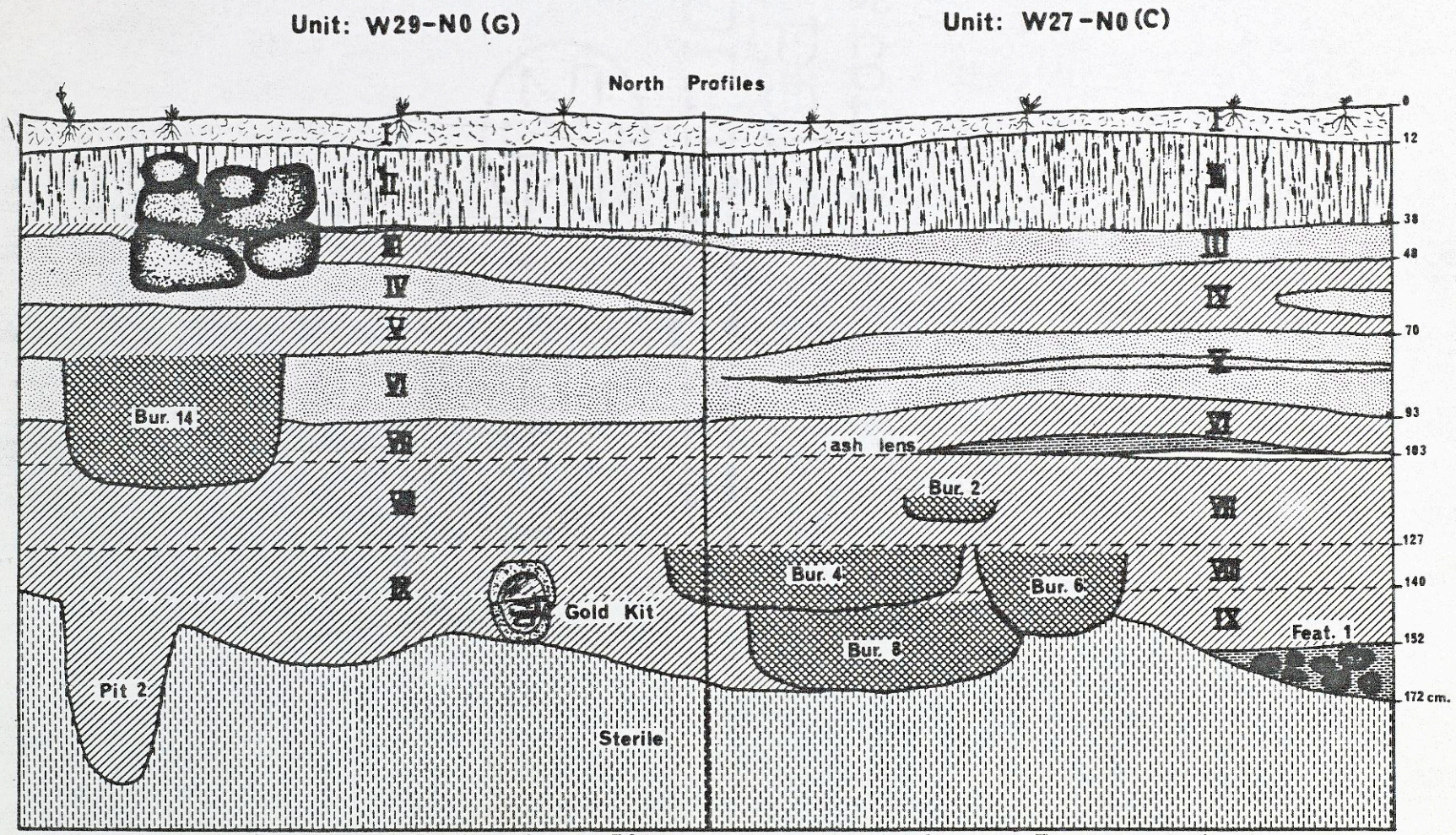


Plate: XI. Units G and C. North profiles. Note Gold kit and Feature 1 in lowest Phase A refuse Level IX.

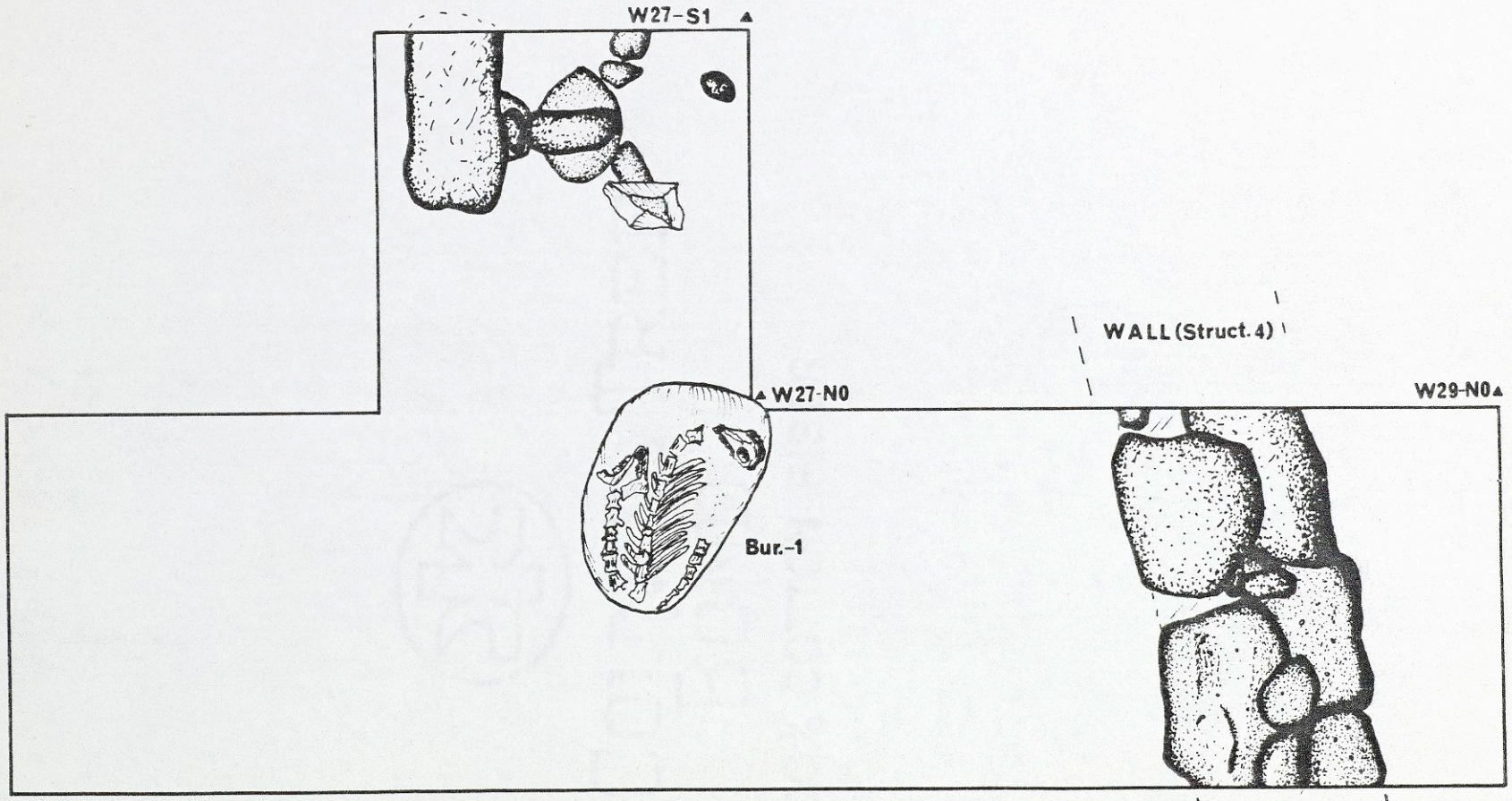


Plate: XII. Plan of finds in Levels III and IV in Units D,C, and G.

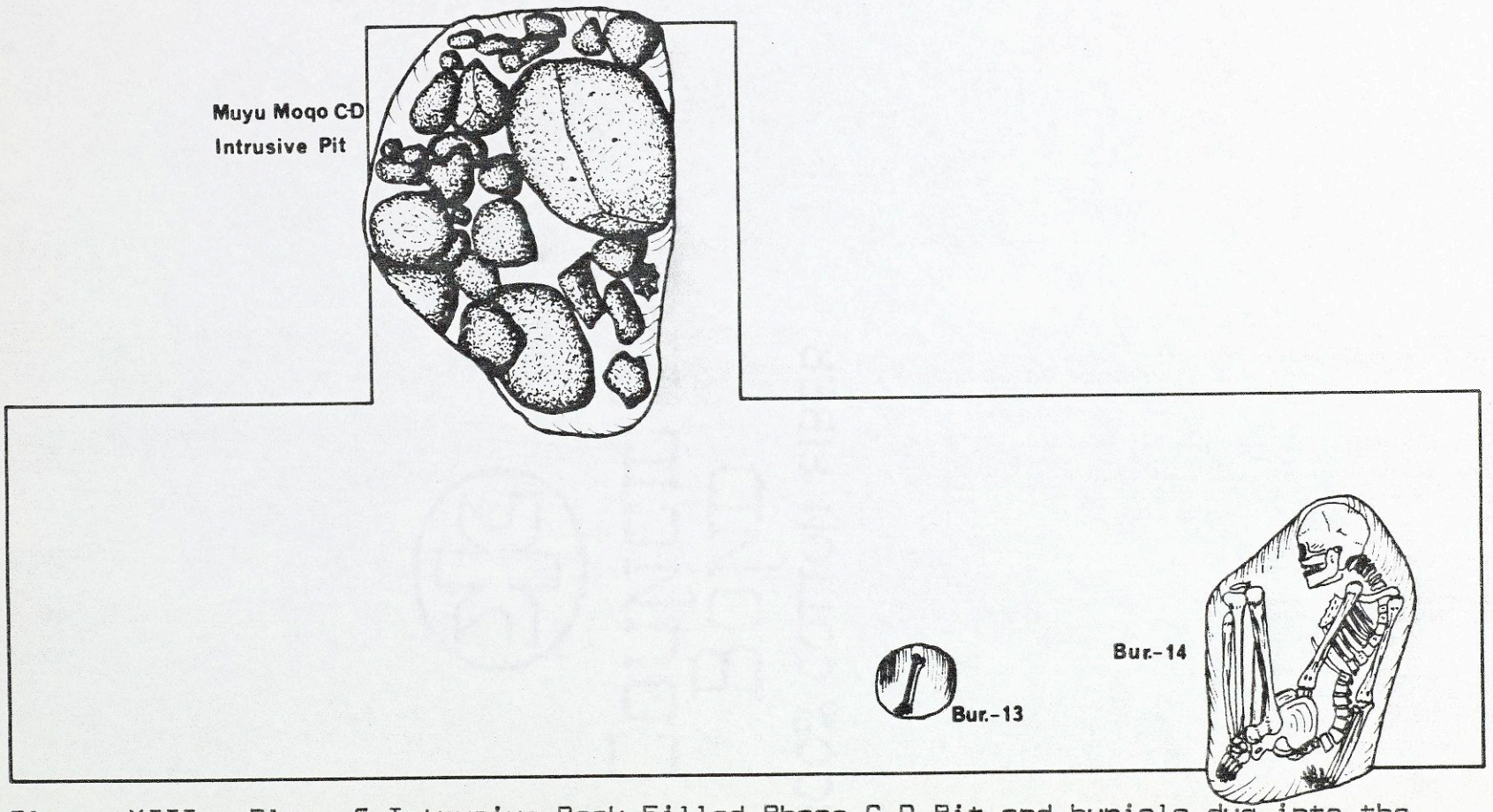


Plate: XIII. Plan of Intrusive Rock Filled Phase C-D Pit and burials dug into the top of the thick yellow sand stratum at 70 cm. below the surface.

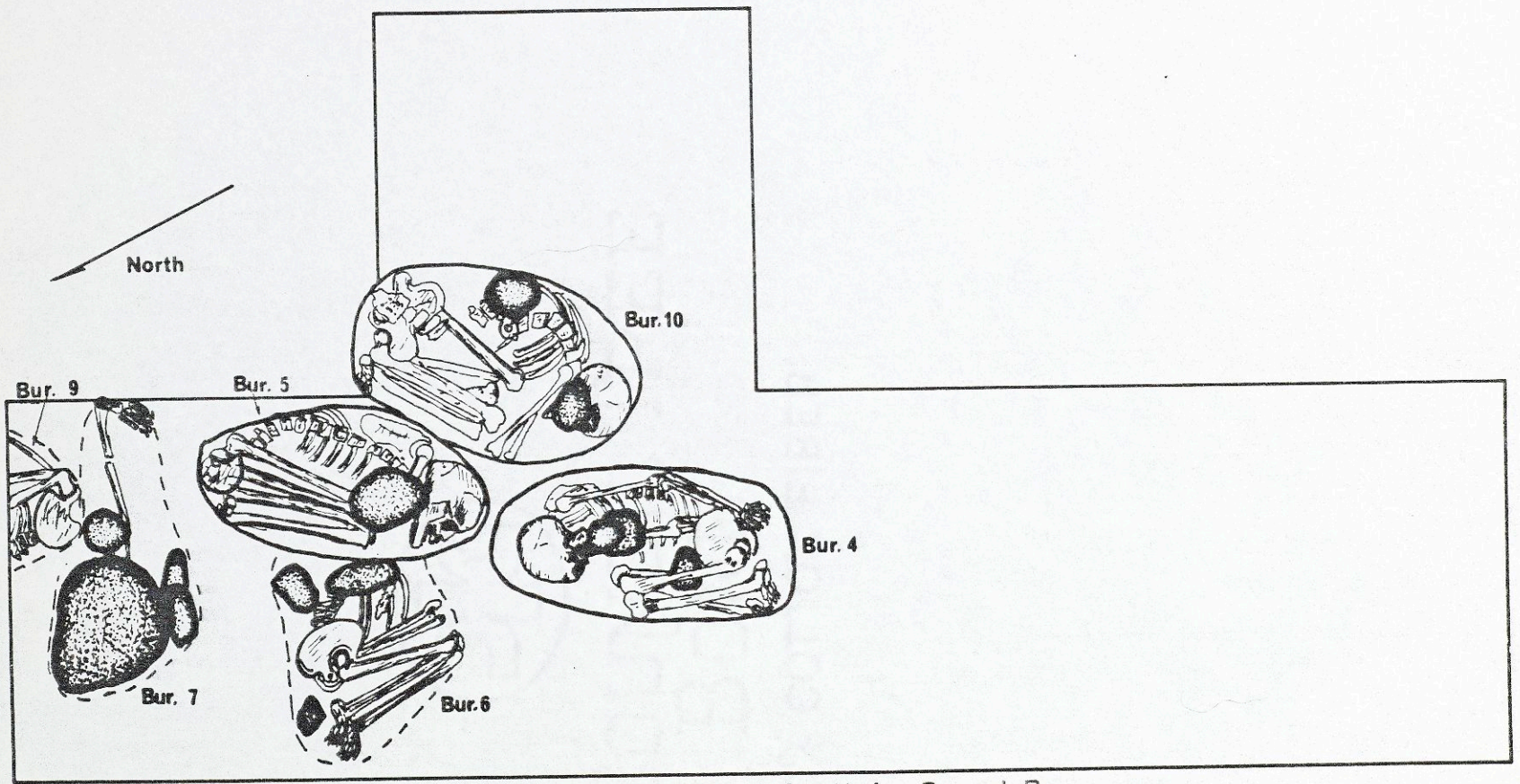


Plate: XIV. Burials in Levels VIII and IX in Unit C and D.

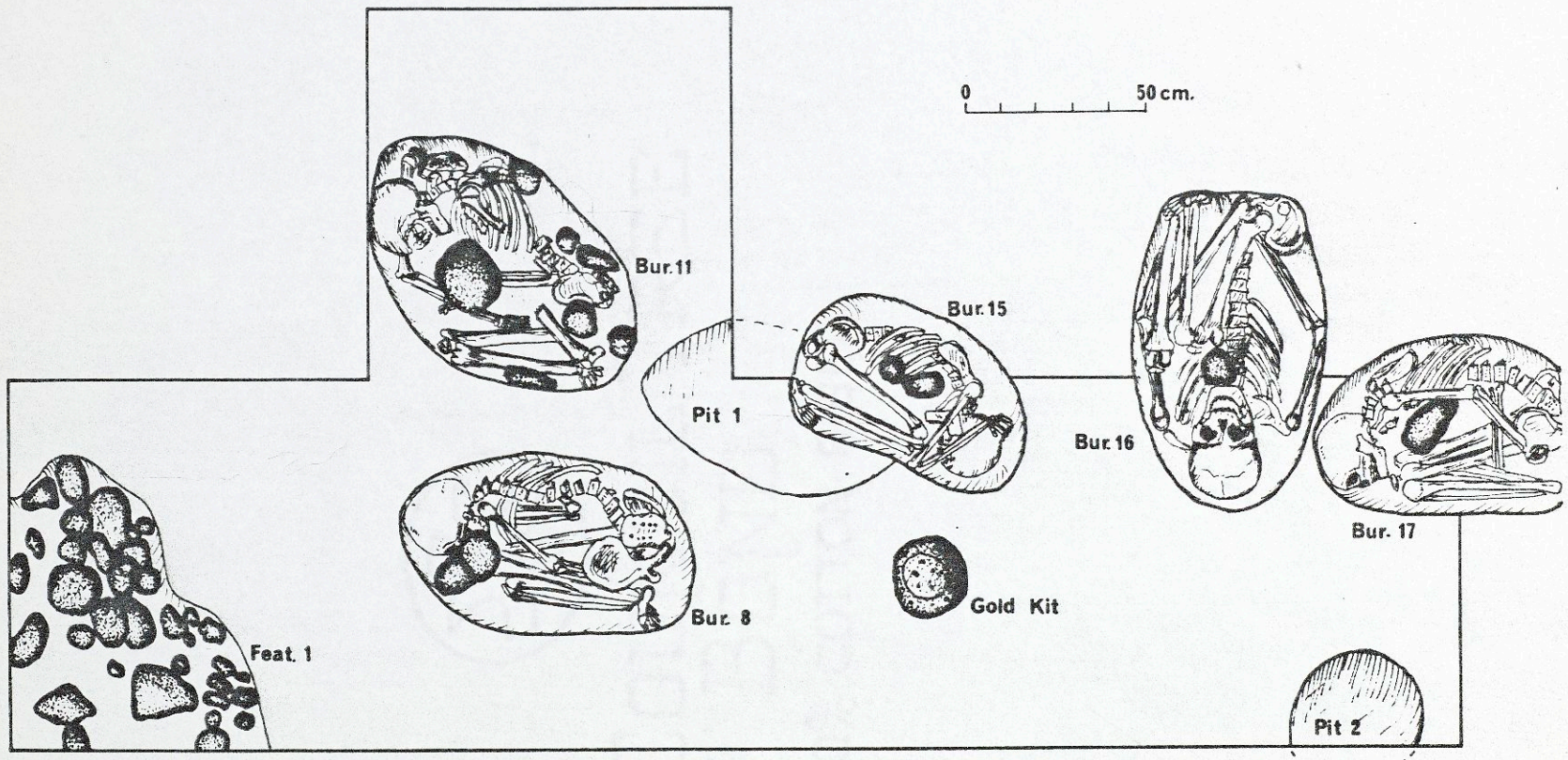


Plate: XV. Plan of burials, Feature 1, pits and Gold kit as found on sterile subsoil in the lowest refuse level.

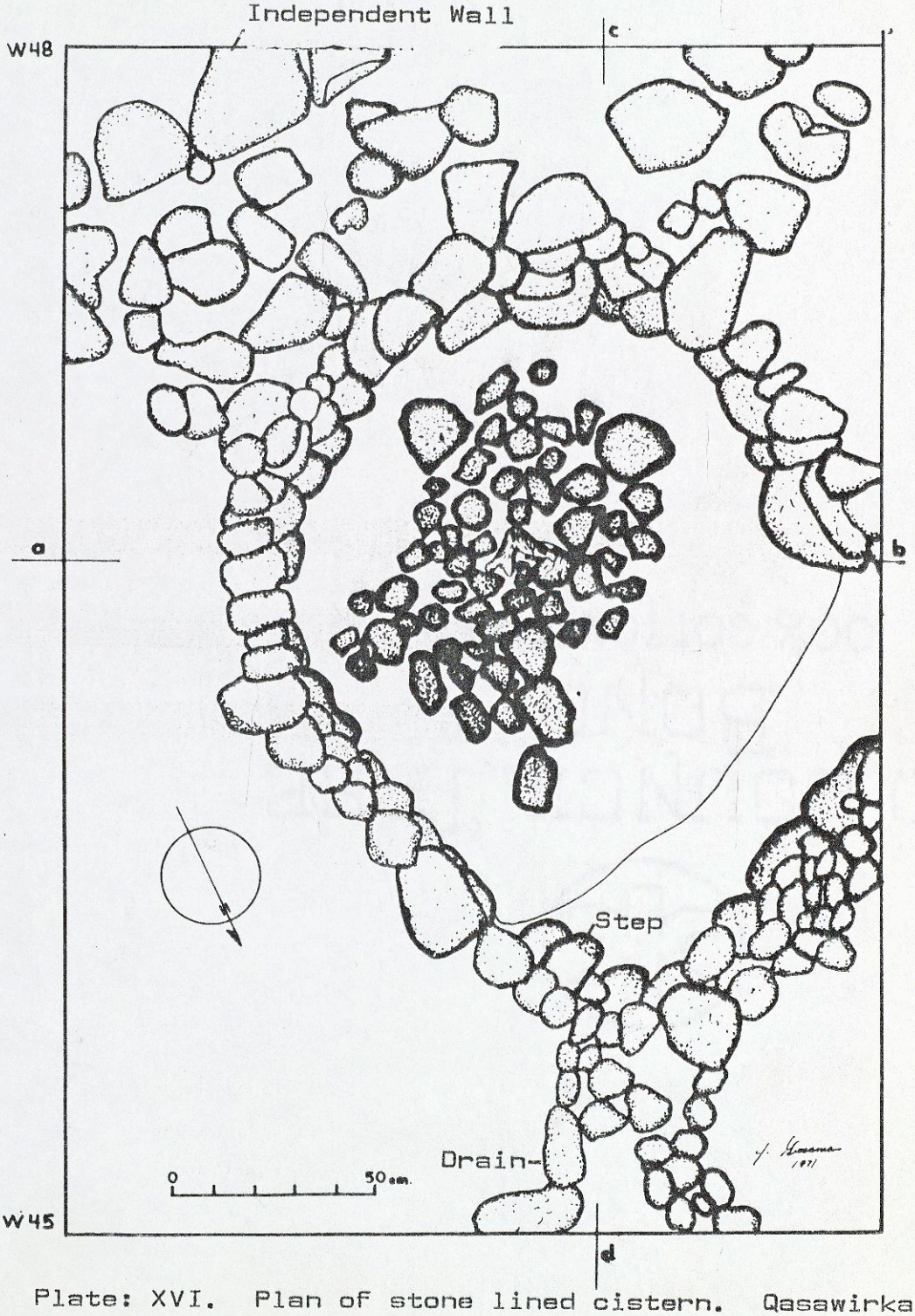
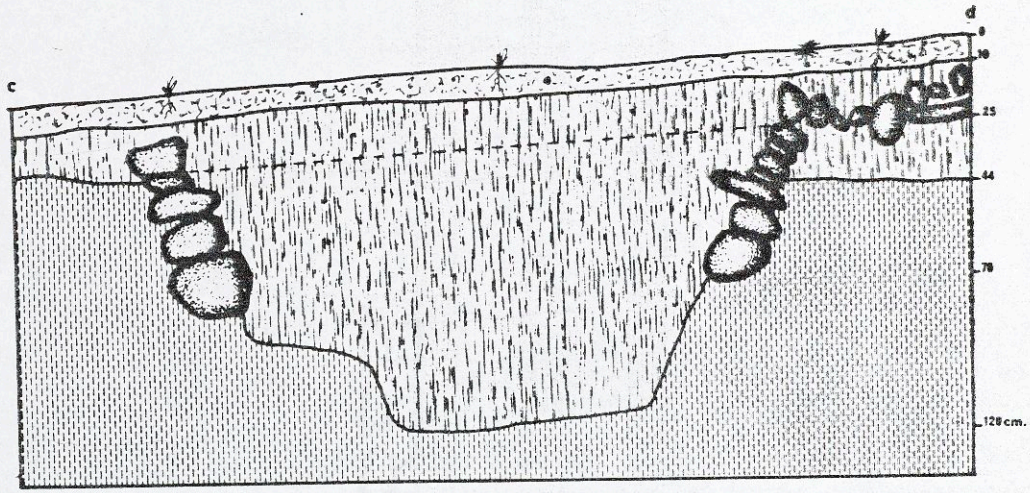


Plate: XVI. Plan of stone lined cistern. Qasawirka.



Structure 3 Sections

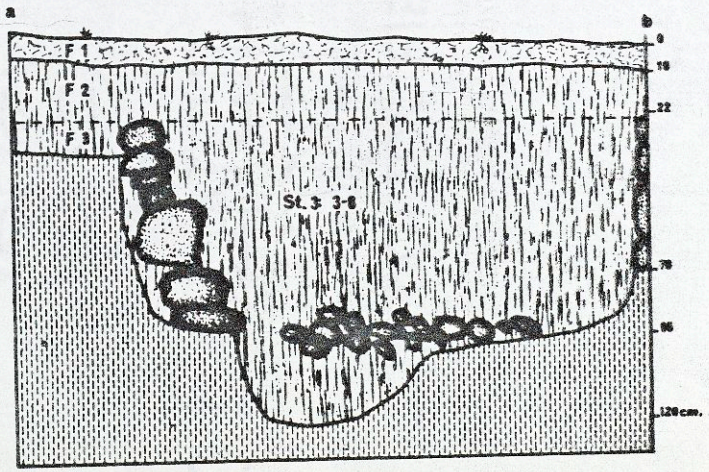
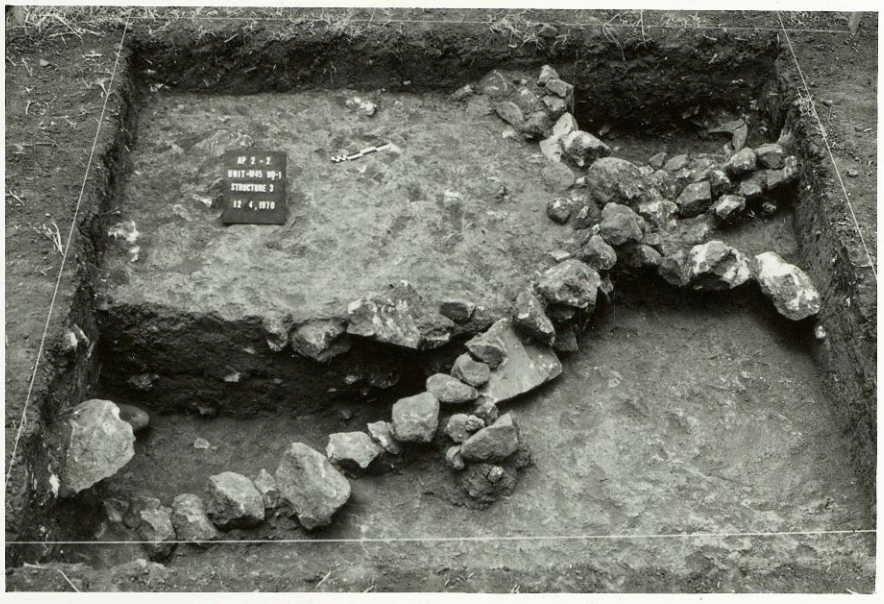
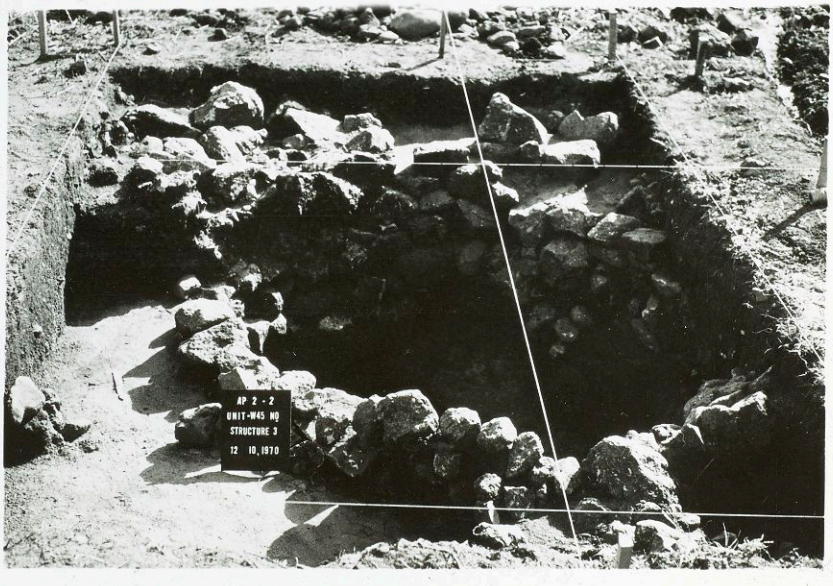


Plate: XVII. Sections of Qasawirka stone lined cistern.



18



19

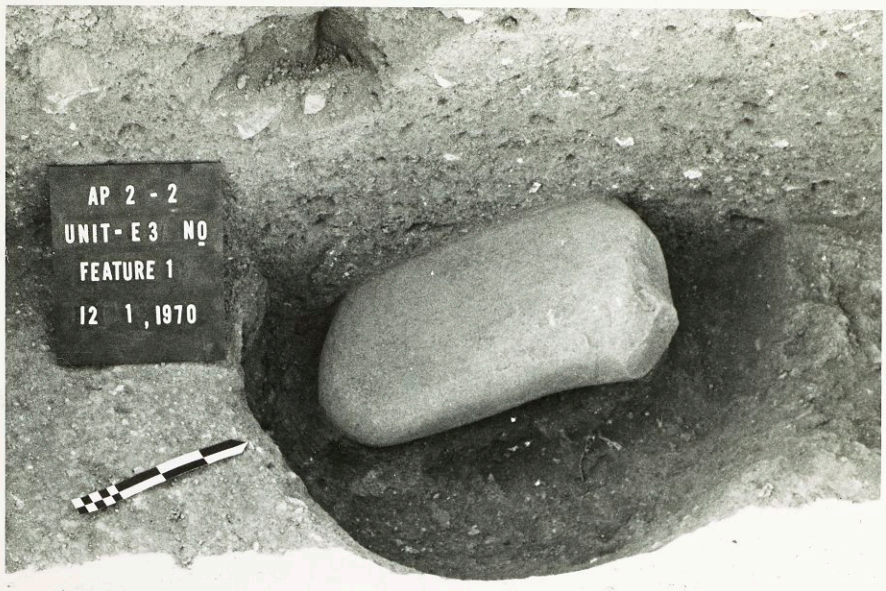
Plate: XVIII. Qasawirka stone lined cistern. Top: partially exposed; Bottom: after excavation.

20

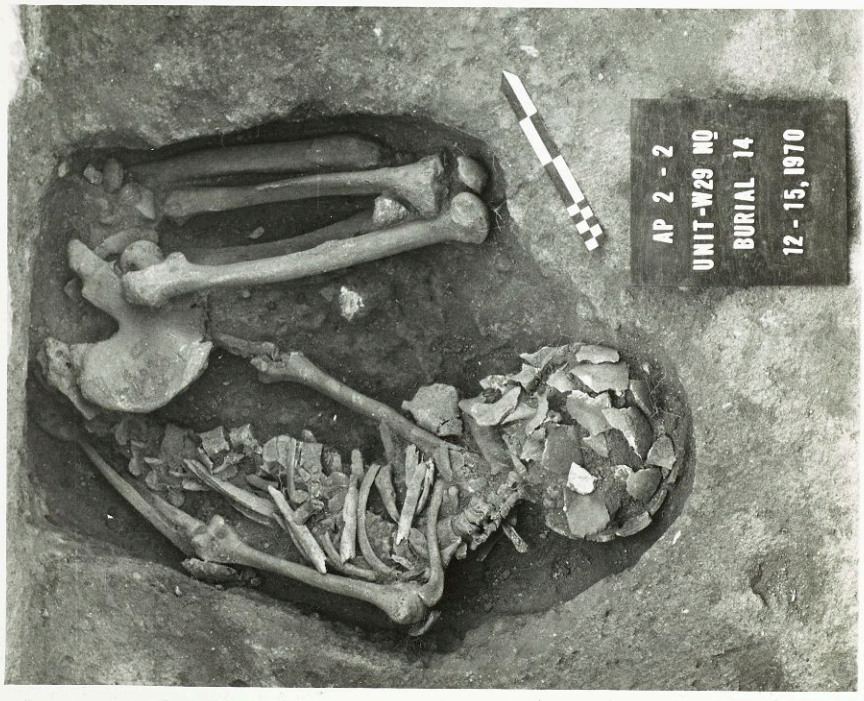
21

Plate: XIX. Intrusive rock filled pit in thick sand stratum(Level VI) in Unit D. Phase C-D Muyu Moqo style pottery inside. Note: provenience board was incorrectly marked as Burial 3.

Plate: XX. Ceremonial deer[Odocoileus virginianus] burial with chunk of unworked turquoise or chrysocolla in its mouth. Found in upper Muyu Moqo occupation refuse in Level IV of Unit C. Phase C-D. [Note the Phase C-D Muyu Moqo style sherd with the horizontal notched ridge. See figs. 90 and 160].



23



24

Plate: XXI. Top: Large fin shaped ground stone in burned pit. Bottom: Burial 14. Both found in Phase C-D muyu Moqo refuse.

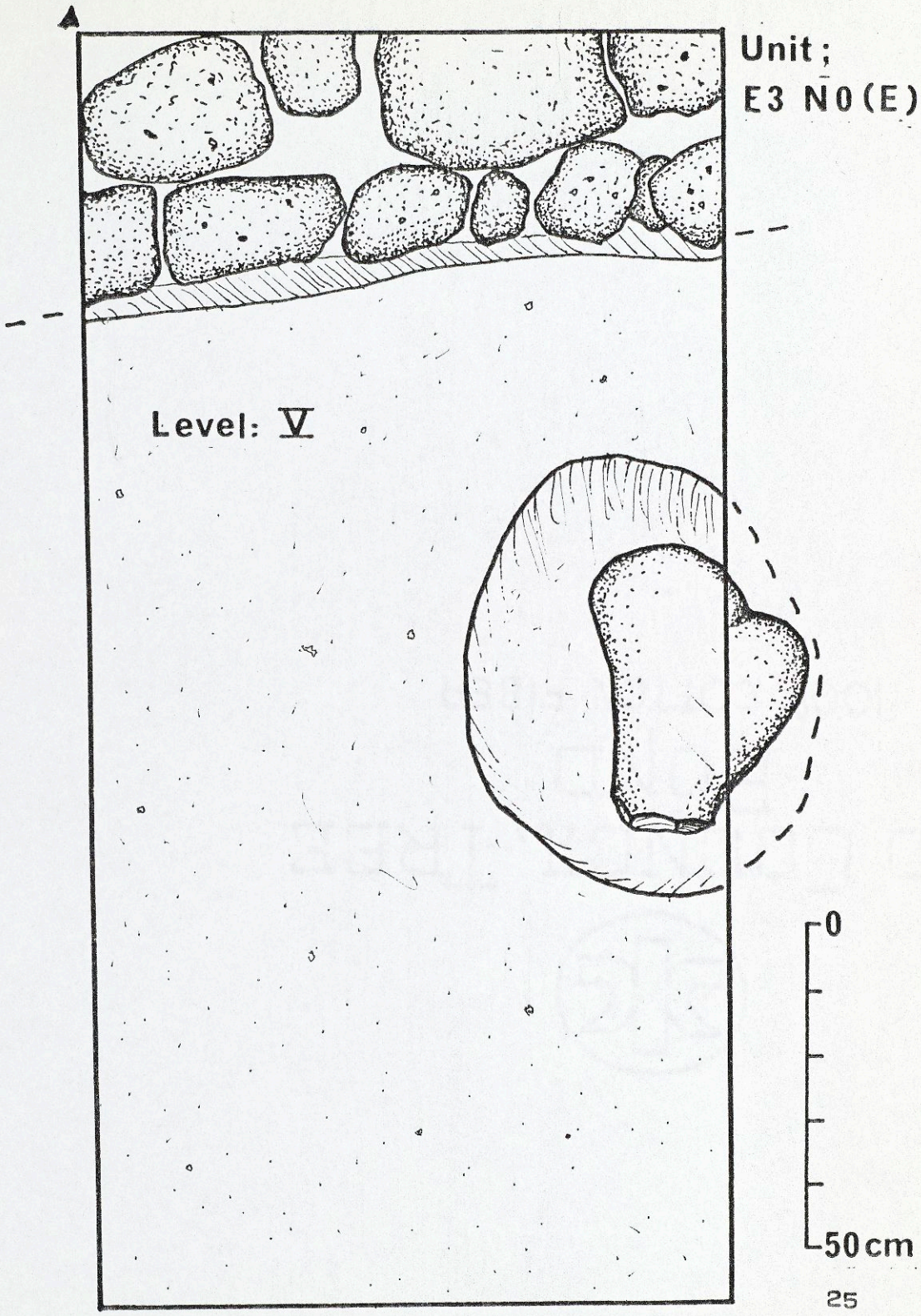
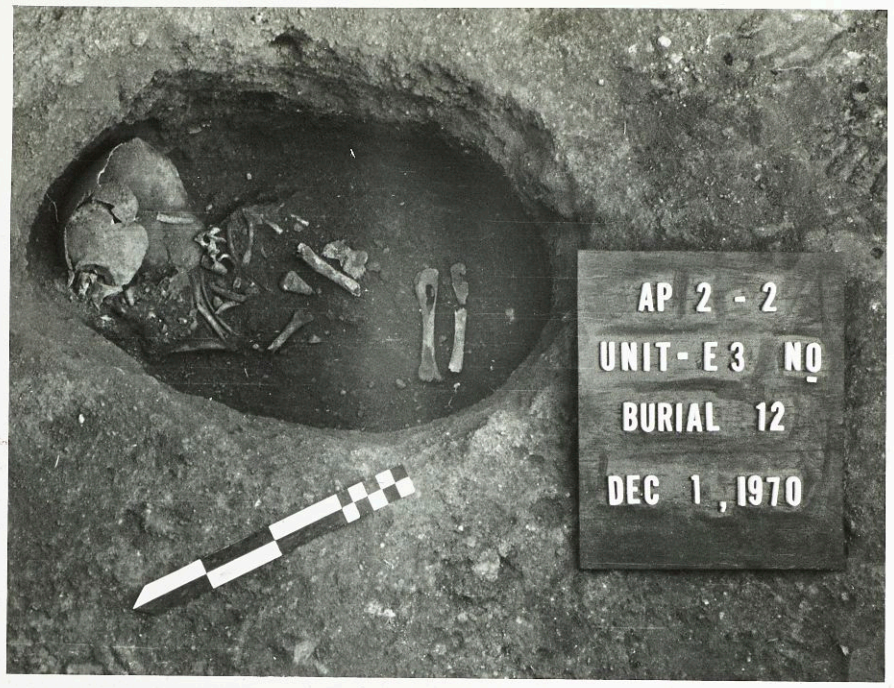


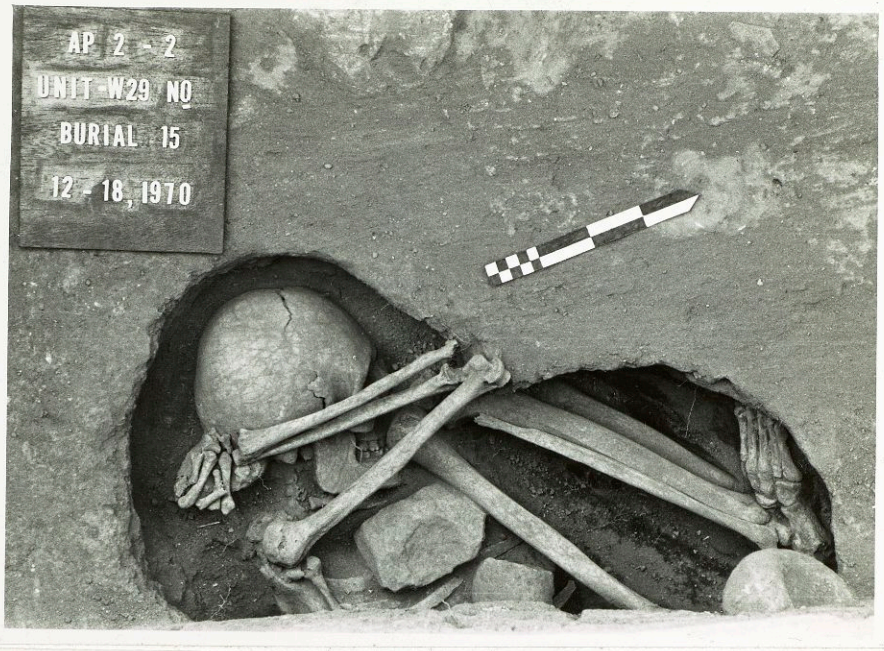
Plate: XXII. Plan of Level V in Unit E showing the large ground stone in situ. See Key to Illustrations.



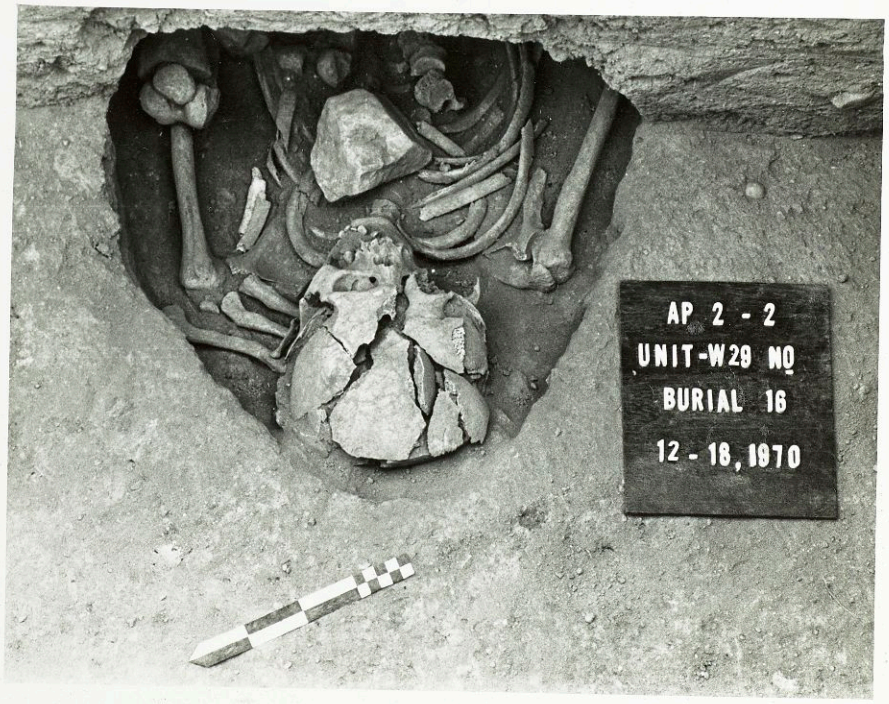
26

27

Plate: XXIII. Muyu Moqo infant burials. Top: Phase C-D. Bottom: Phase B (Burial 2).



28



29

Plate: XXIV. Muyu Moqo burials. Phase A or B.

30

31

Plate: XXV. Phase A or B burials 4,5,6,7, and 9 which were dug into Levels VIII and IX in Unit C.

32a

32b

Plate: XXVI. Obverse and converse of Burial 9 fibula showing secondary abnormal growth, possibly due to periostitis or osteosarcoma.

33

34

Plate: XXVII. Top: side view of Burial 16 cranium showing possible antero-posterior flattening. Bottom: view of lower mandible from Burial 17 showing ancient fracture due to massive blow on the right side of the chin.

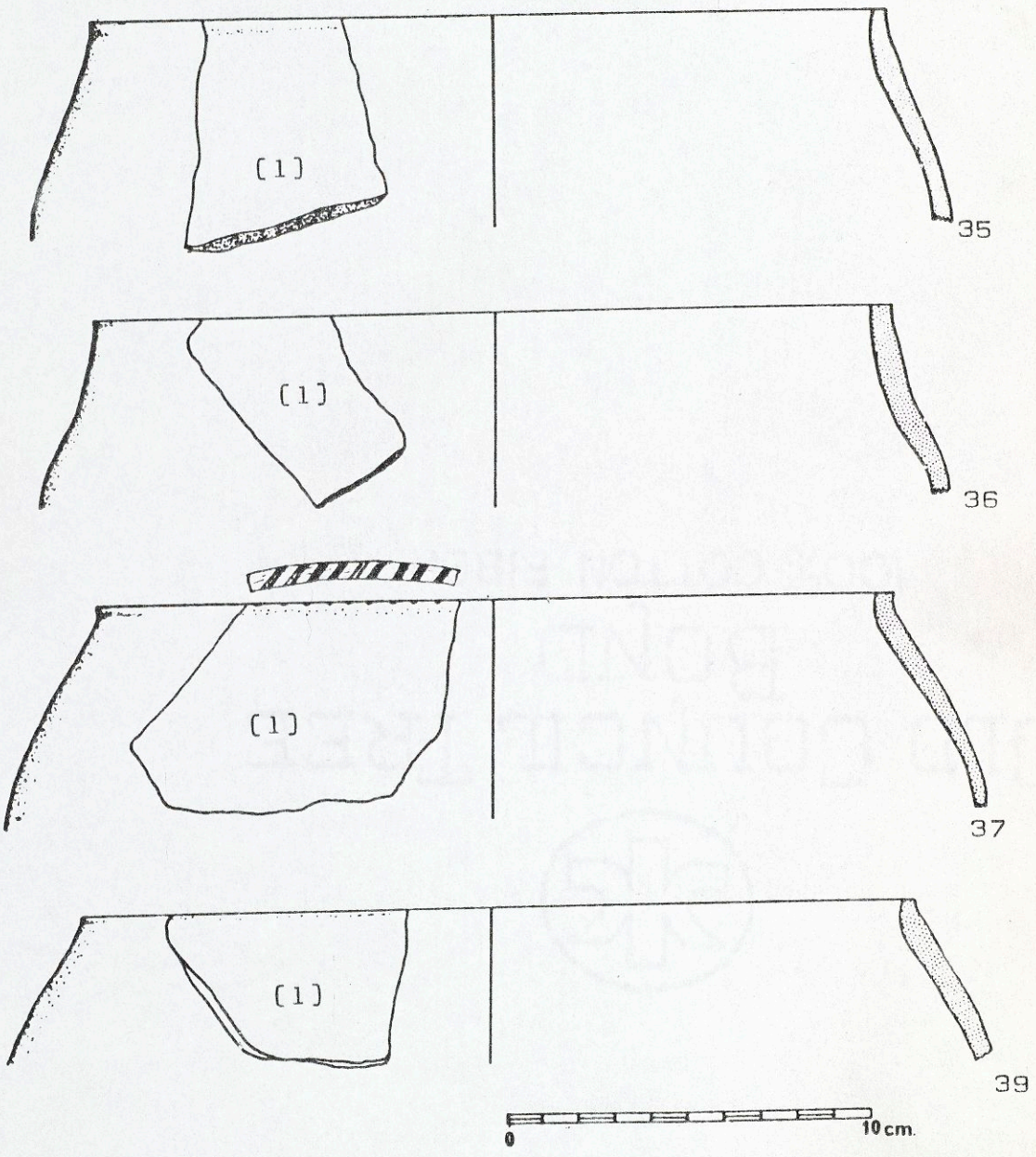


Plate:XXVIII Muyu Moqo style, Phase A. Large neckless ollas. See Key to Illustrations.

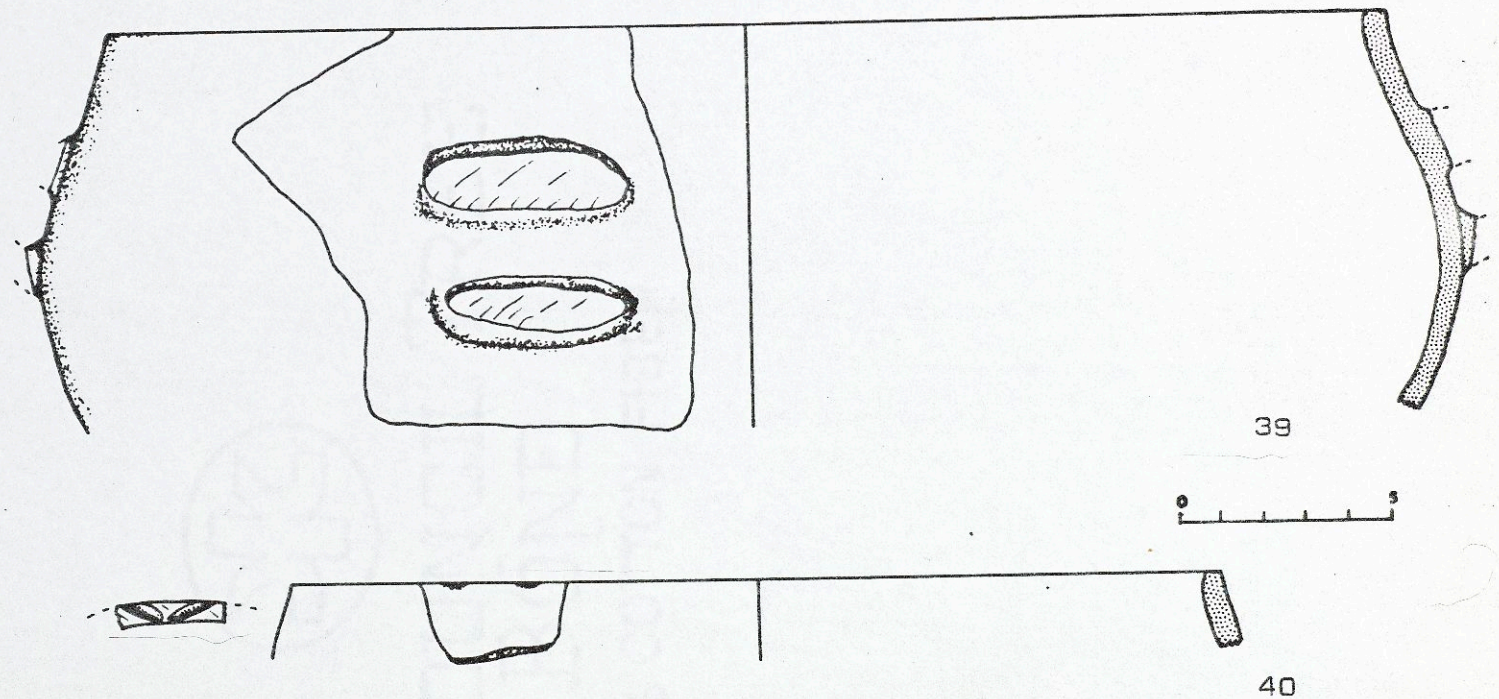


Plate XXIX. Muyu Moqo style, Phase A. See key to illustrations.

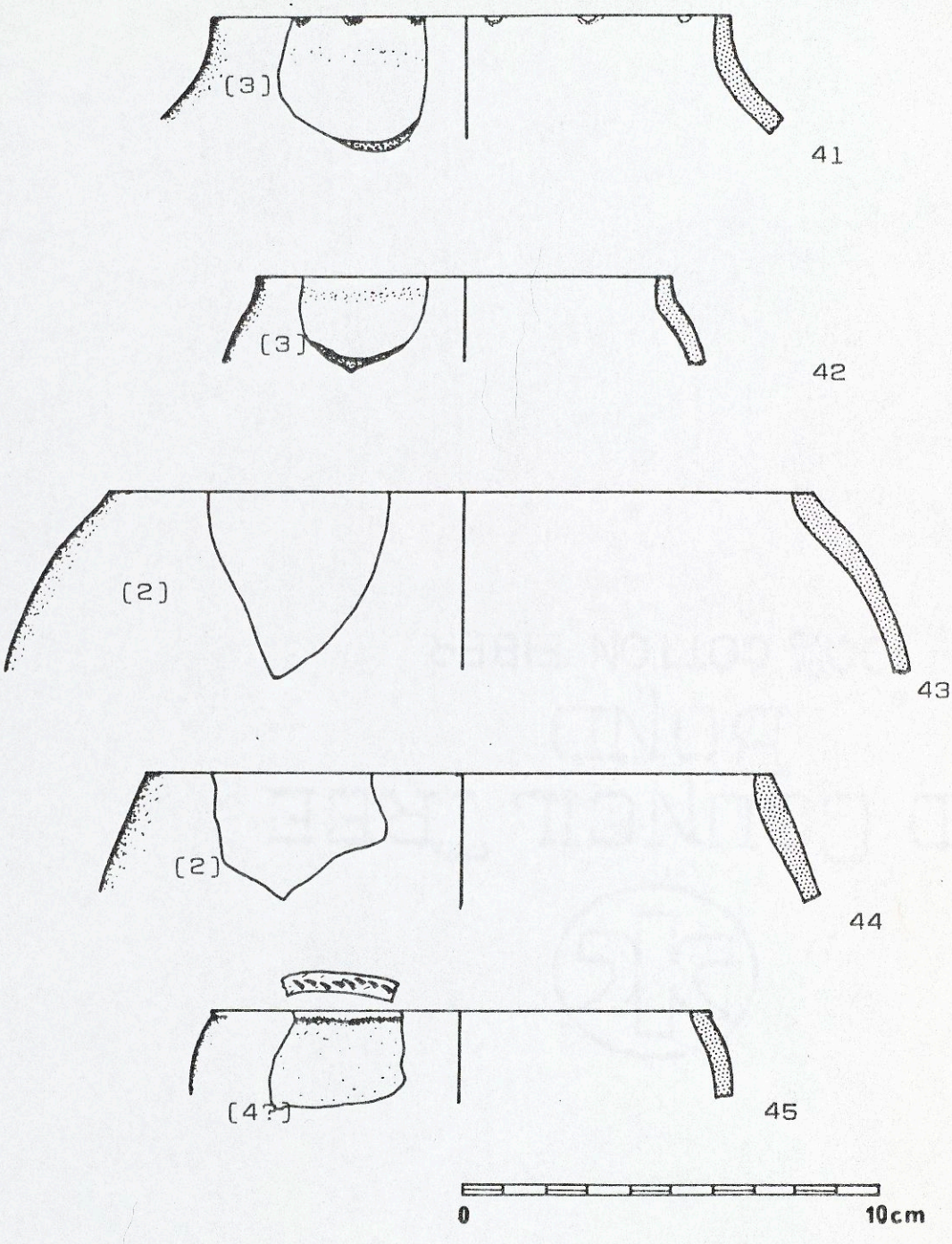


Plate XXX . Muyu Moqo style, Phase A. See key to illustrations.

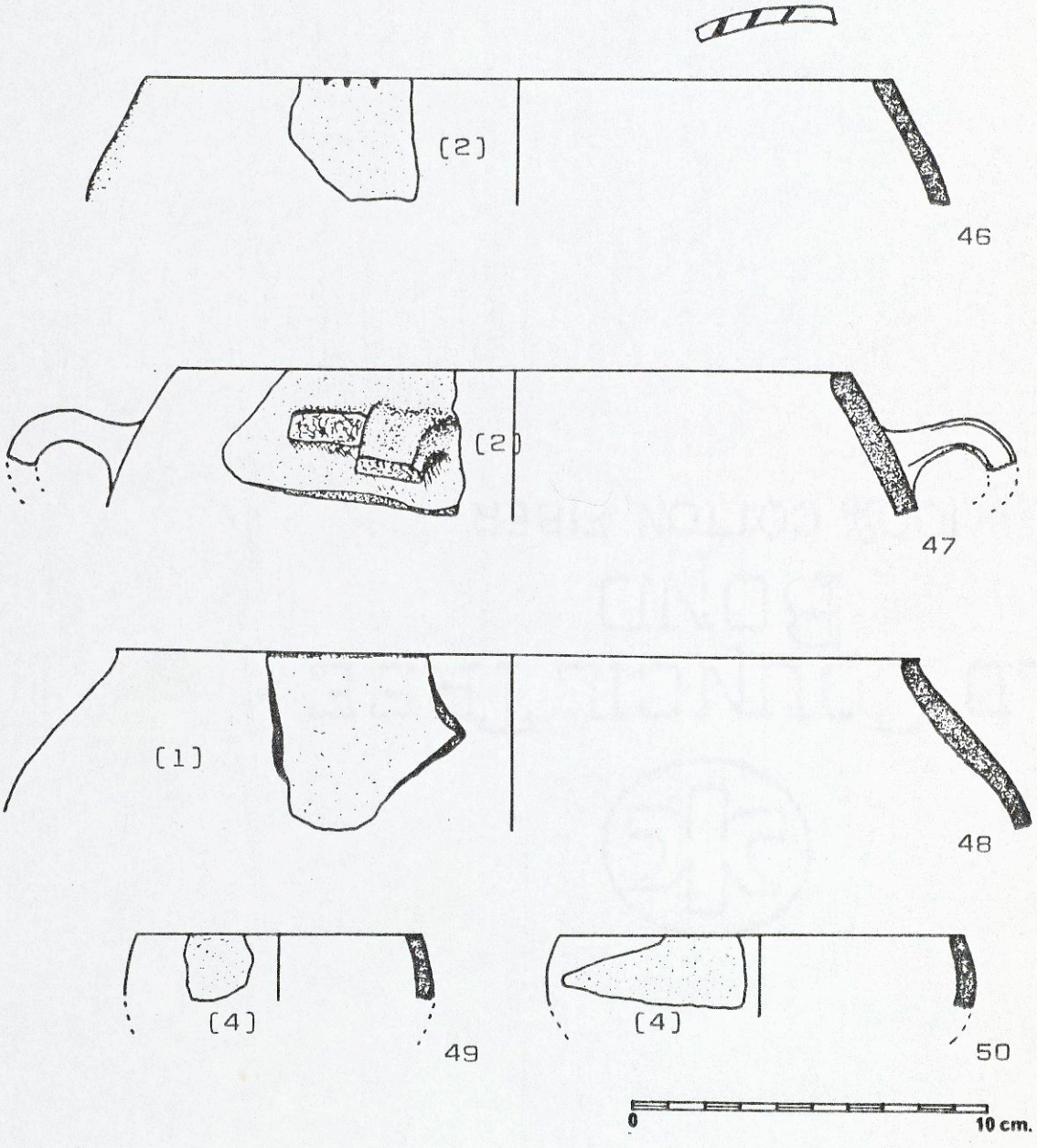
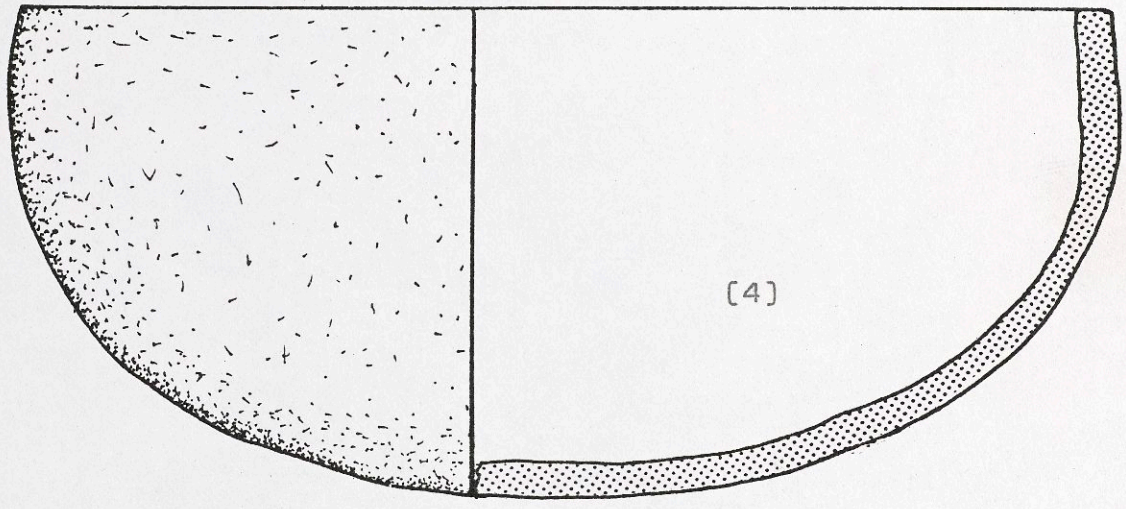


Plate XXXI . Muyu Moqo style, Phase A.



51

Scale: 1/1

Plate: XXXII. Muyu Moqo style, Phase A. 1/3 complete bowl fragment. See Key to Illustrations.

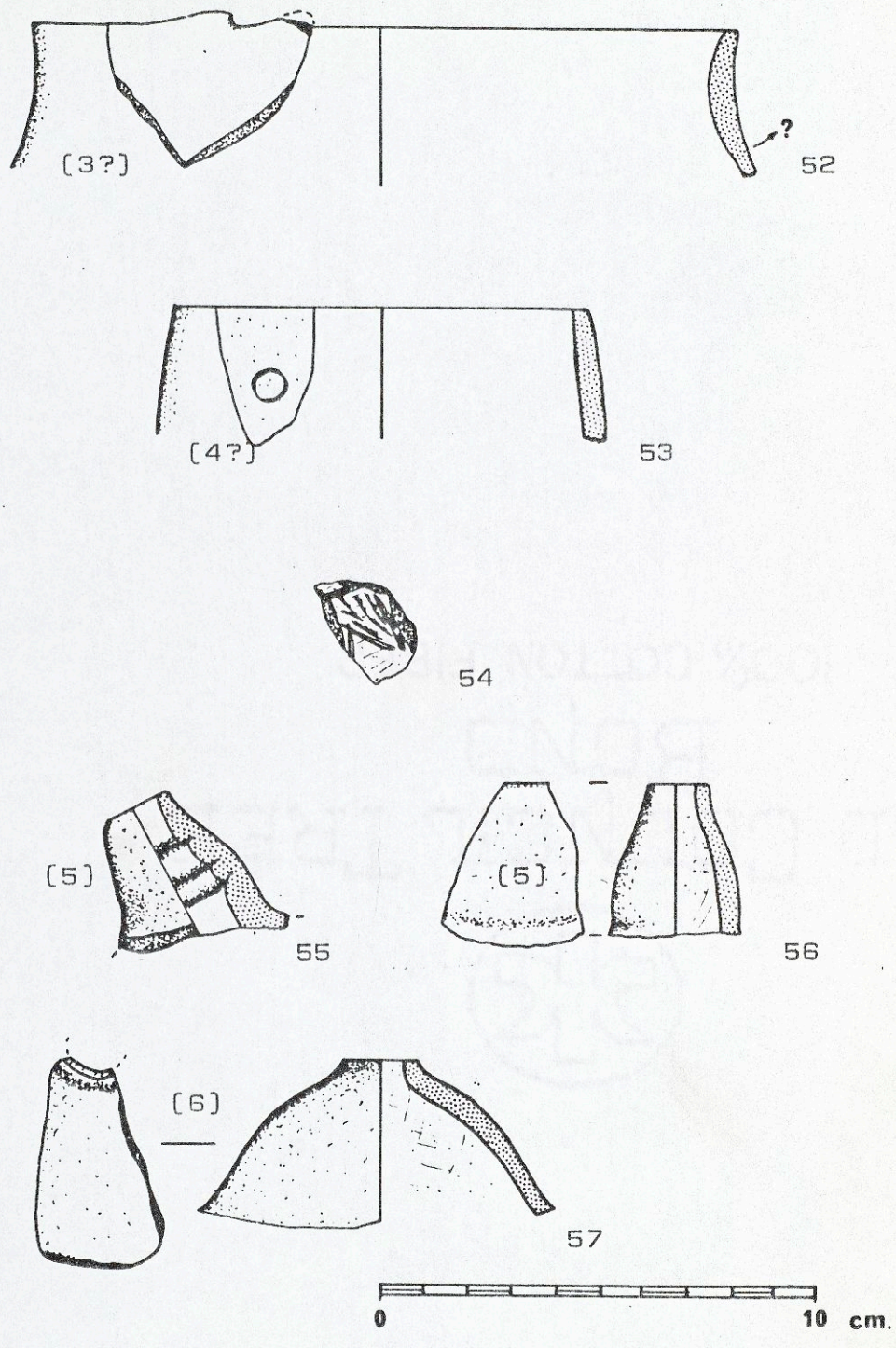


Plate XXXIII. Muyu Moqo style, Phase A. See Key to Illustrations.

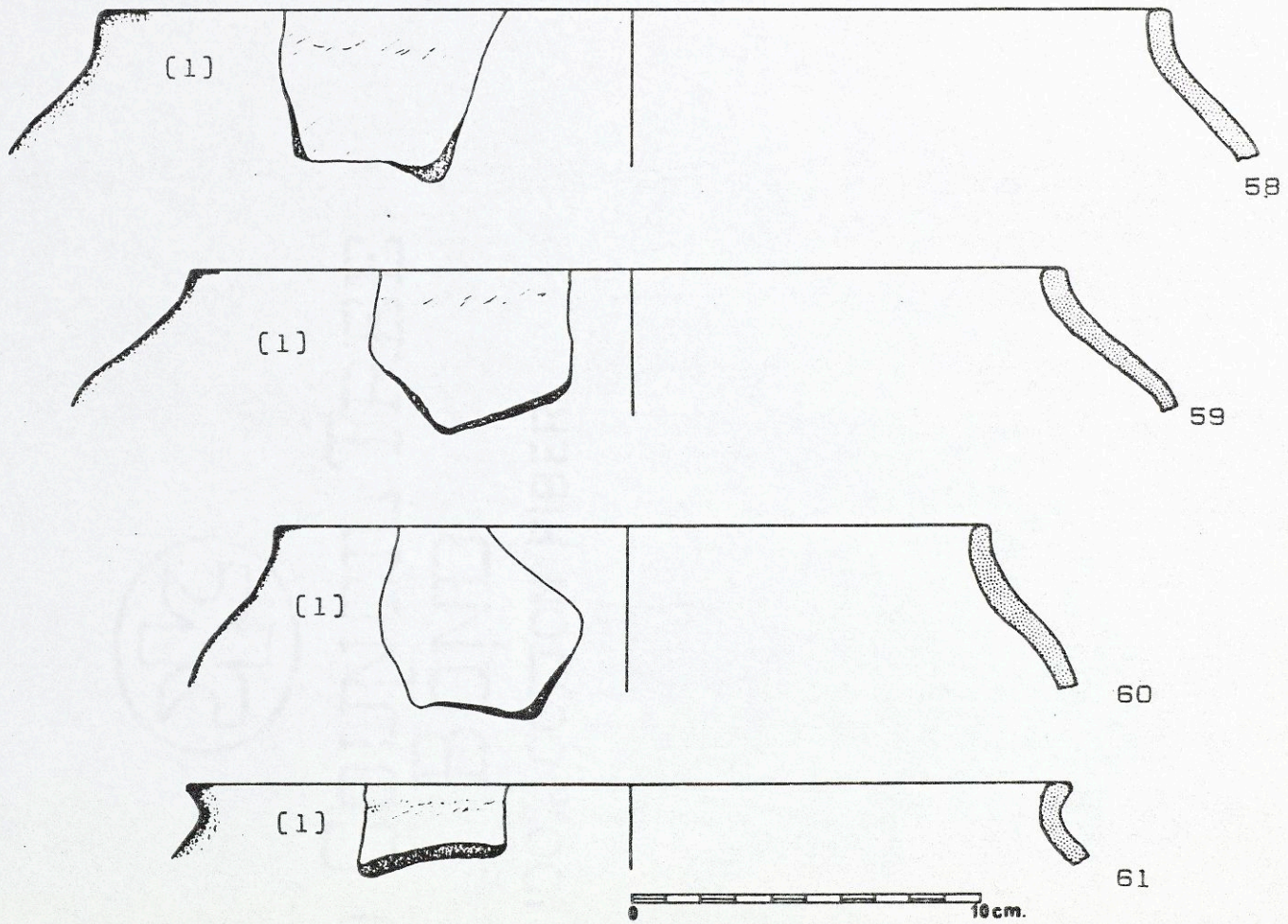


Plate XXXIV. Muyu Moqo style, Phase B. Large neckless ollas. See Key to Illustrations.

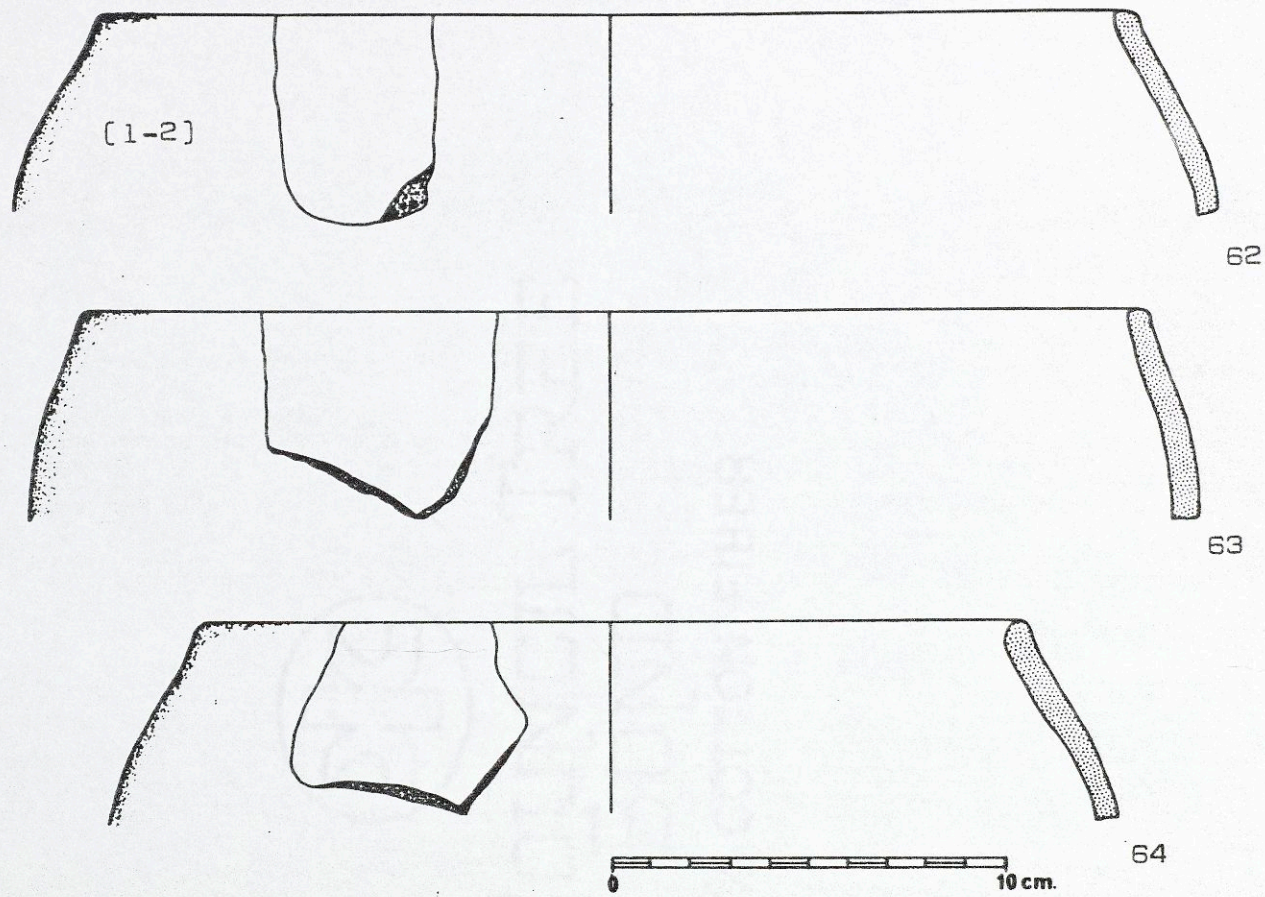


Plate XXXV. Muyu Moqo style, Phase B. Large neckless ollas.
See Key to Illustrations.

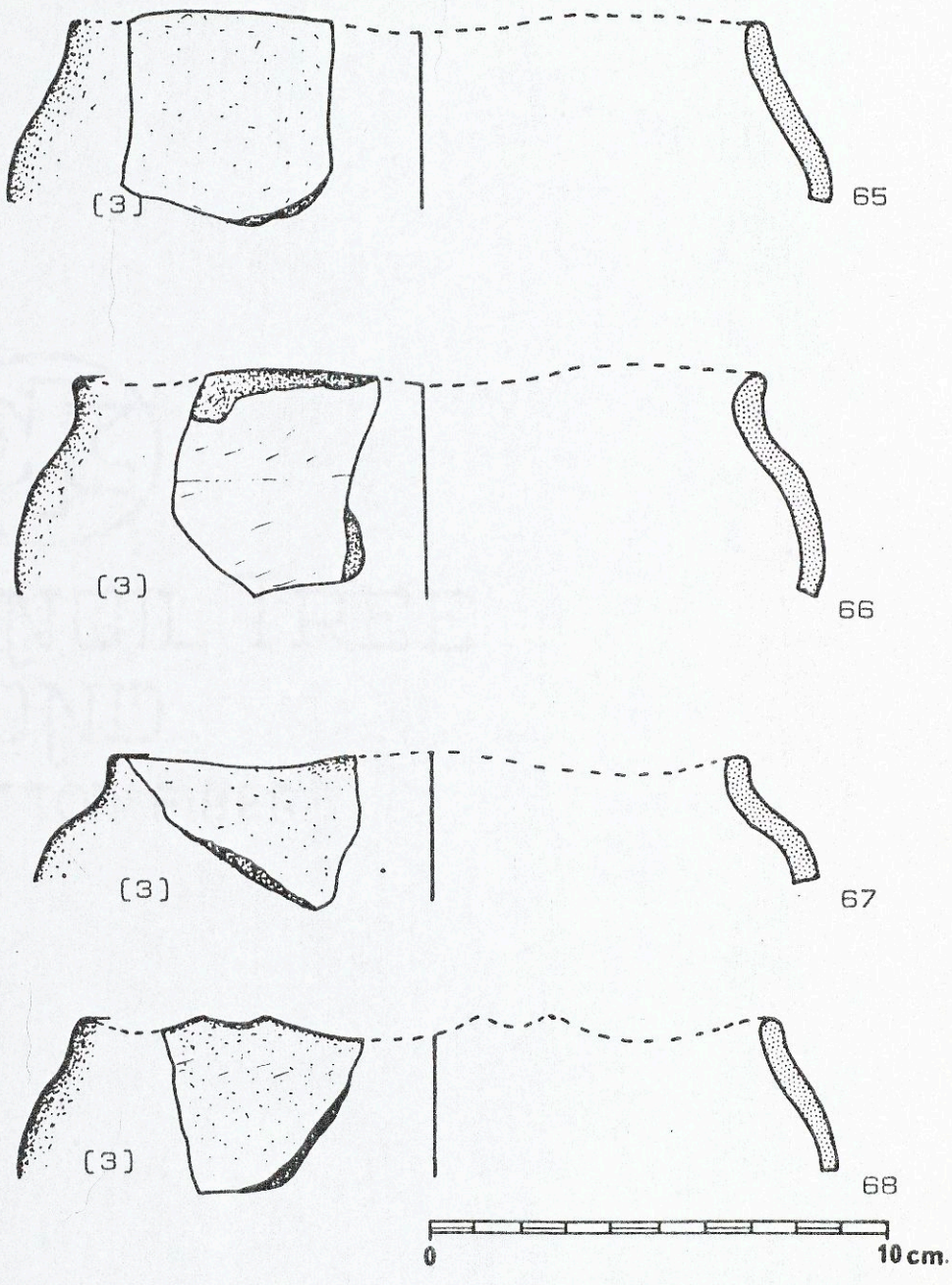


Plate XXXVI. Muyu Moqo style, Phase B. Small neckless ollas with scalloped lips. See Key to Illustrations.

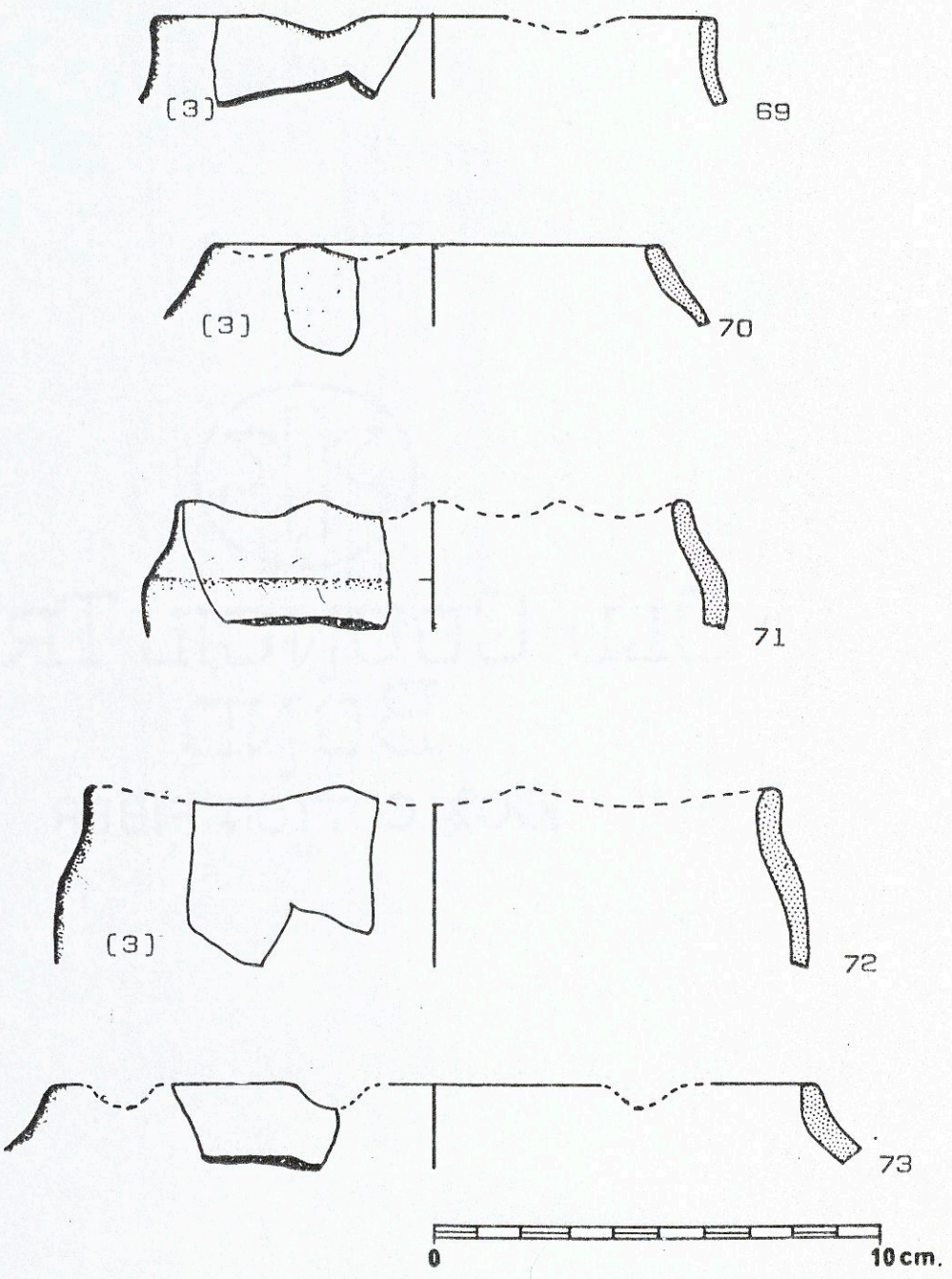


Plate XXXVII. Muyu Moqo style, Phase B(Figs. 69,70,72, and 73). Phase B or C-D(Fig. 71). See Key to Illustrations.

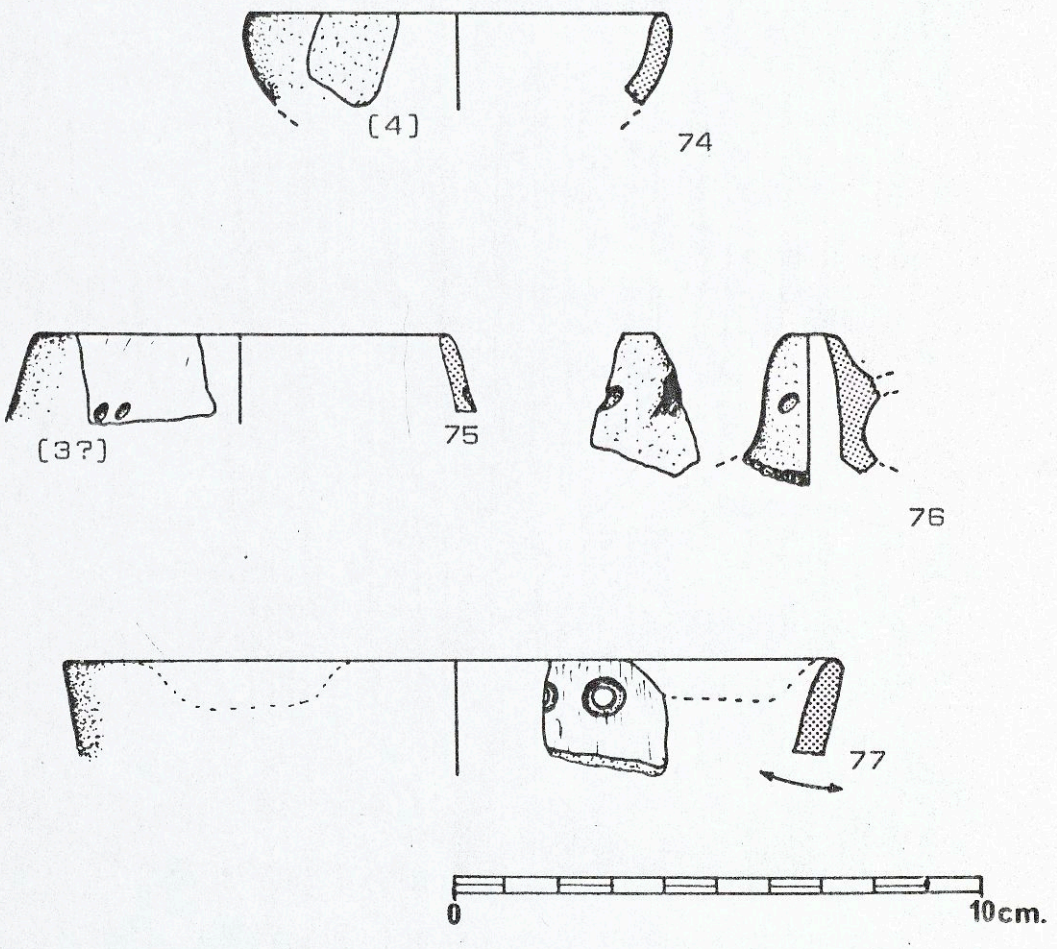


Plate: XXXVIII. Muyu Moqo style, Phase B[Figs. 74-76]. Late Phase B or C-D[fig.77]. See Key to Illustrations.

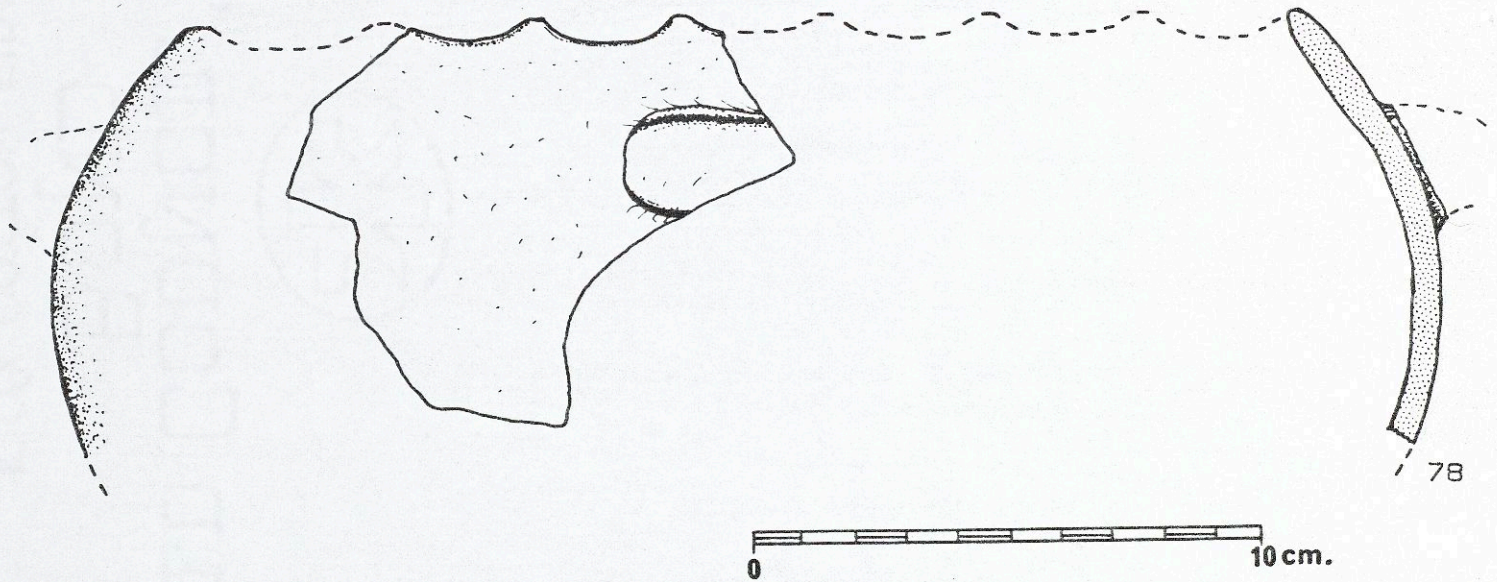


Plate: XXXIX. Muyu Moqo style, Late Phase B or early Phase C-D. See Key to Illustrations.

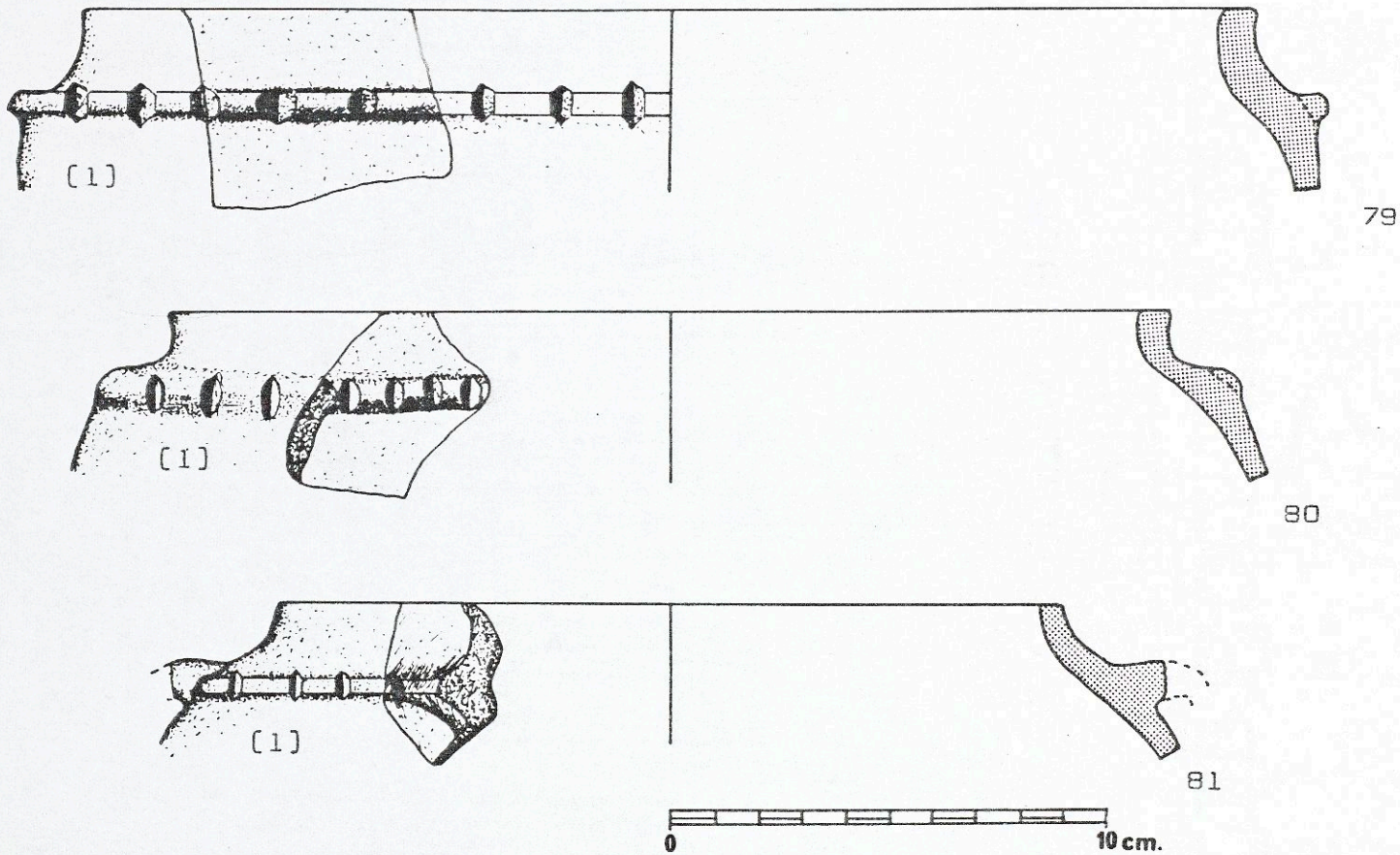


Plate: XL. Muyu Moqo style, Phase C-D. Large neckless ollas with notched ridges. See Key to Illustrations.

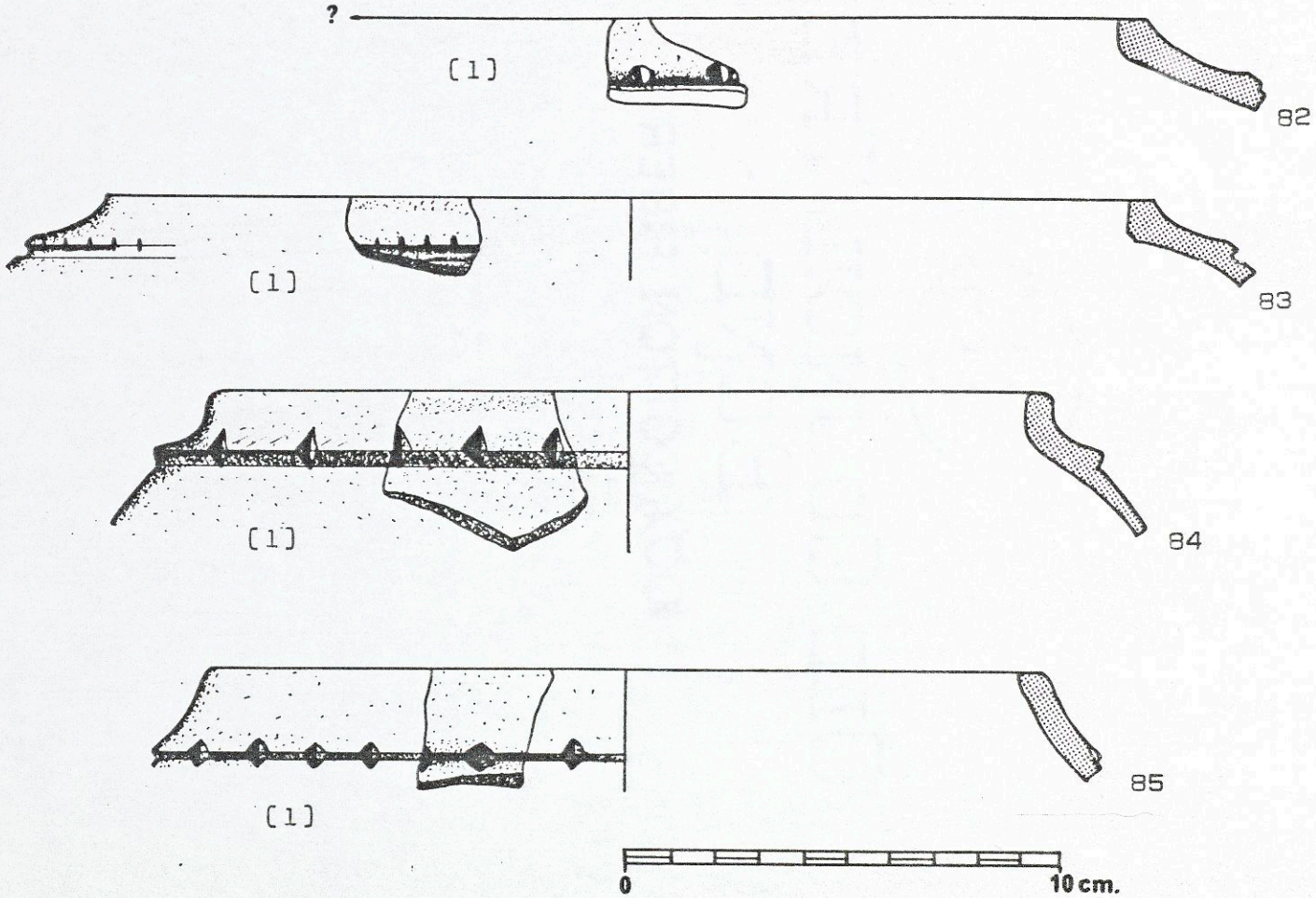


Plate: XLI. Muyu Moqo style, Phase C-D. Large neckless ollas with notched ridges. See key to Illustrations.

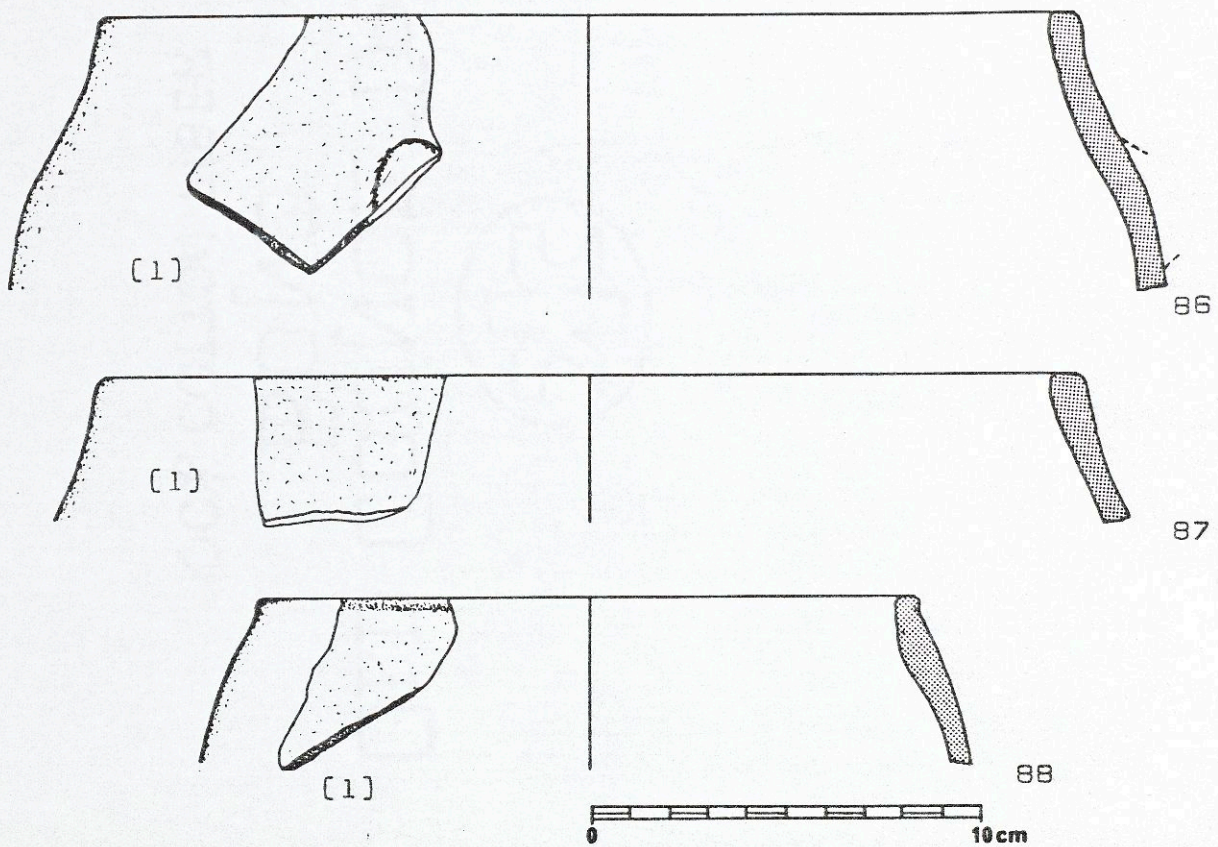


Plate XLII. Muyu Moqo style, Phase C-D. Large neckless ollas. See Key to Illustrations.

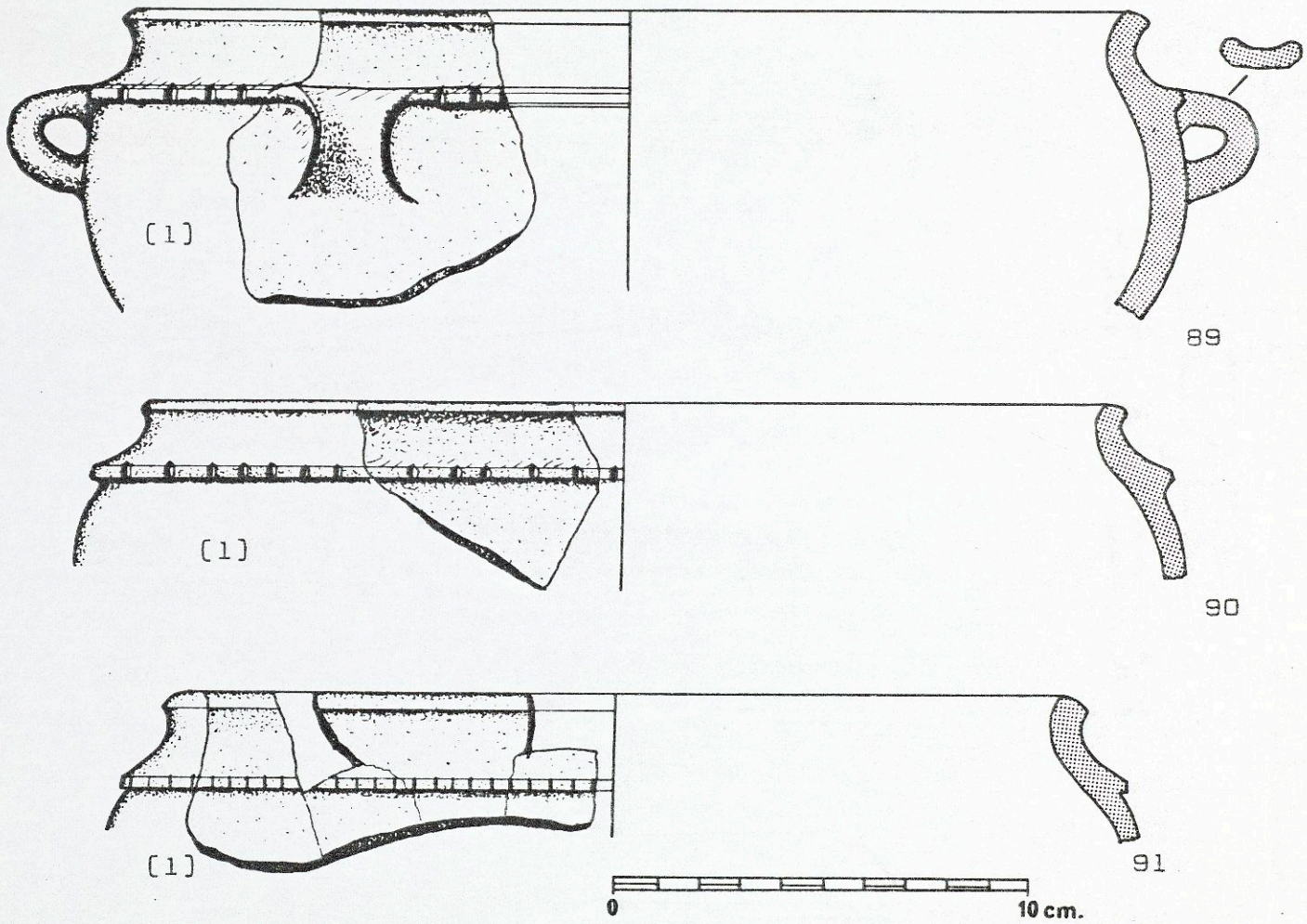


Plate XLIII. Muyu Moqo style, Phase C-D. Large neckless ollas with horizontal notched ridges. See Key to Illustrations.

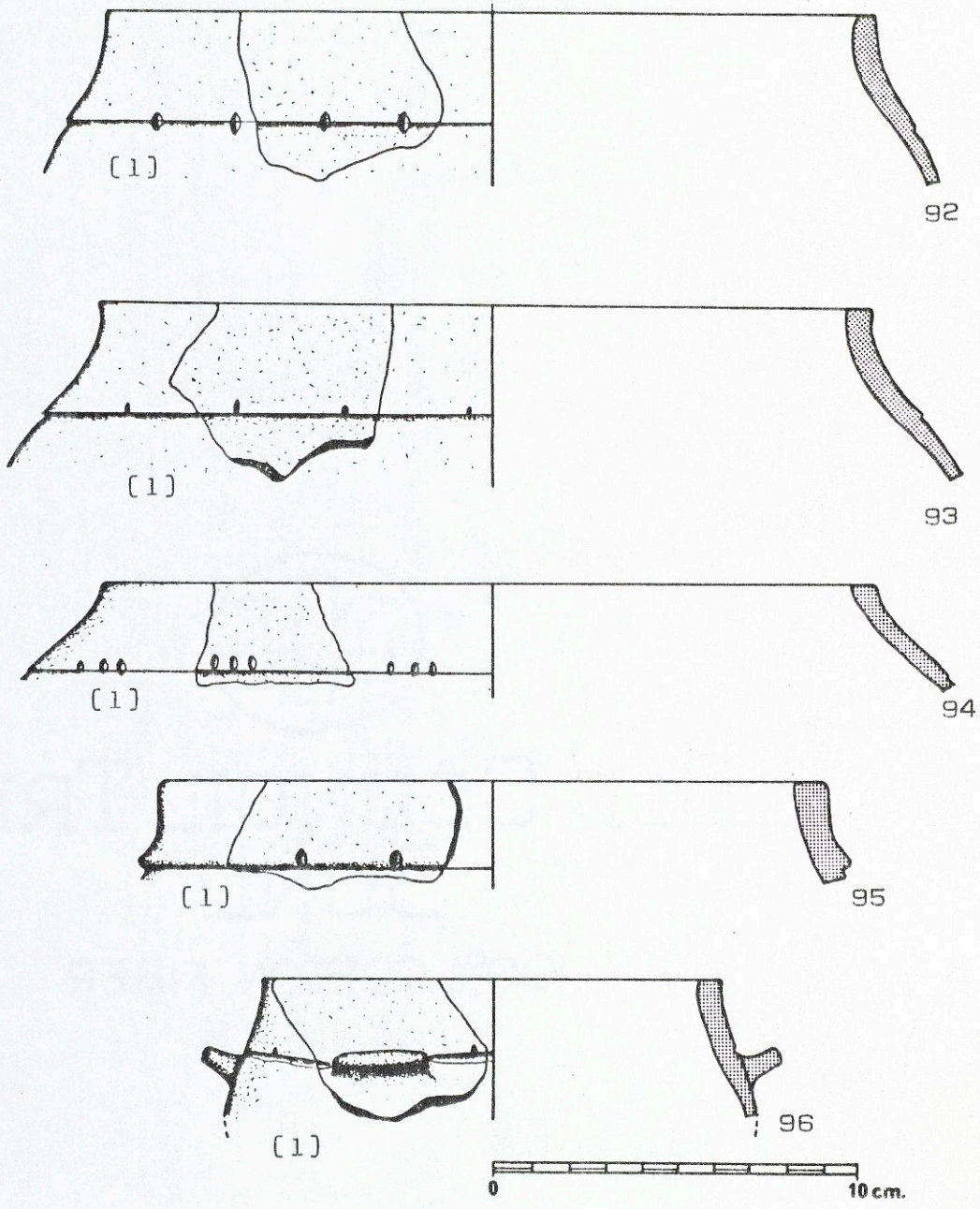


Plate XL IV. Muyu Moqo style. Surface sherds from Waywaka (Ap2-2). Probably late Phase C-D. See Key to Illustrations.

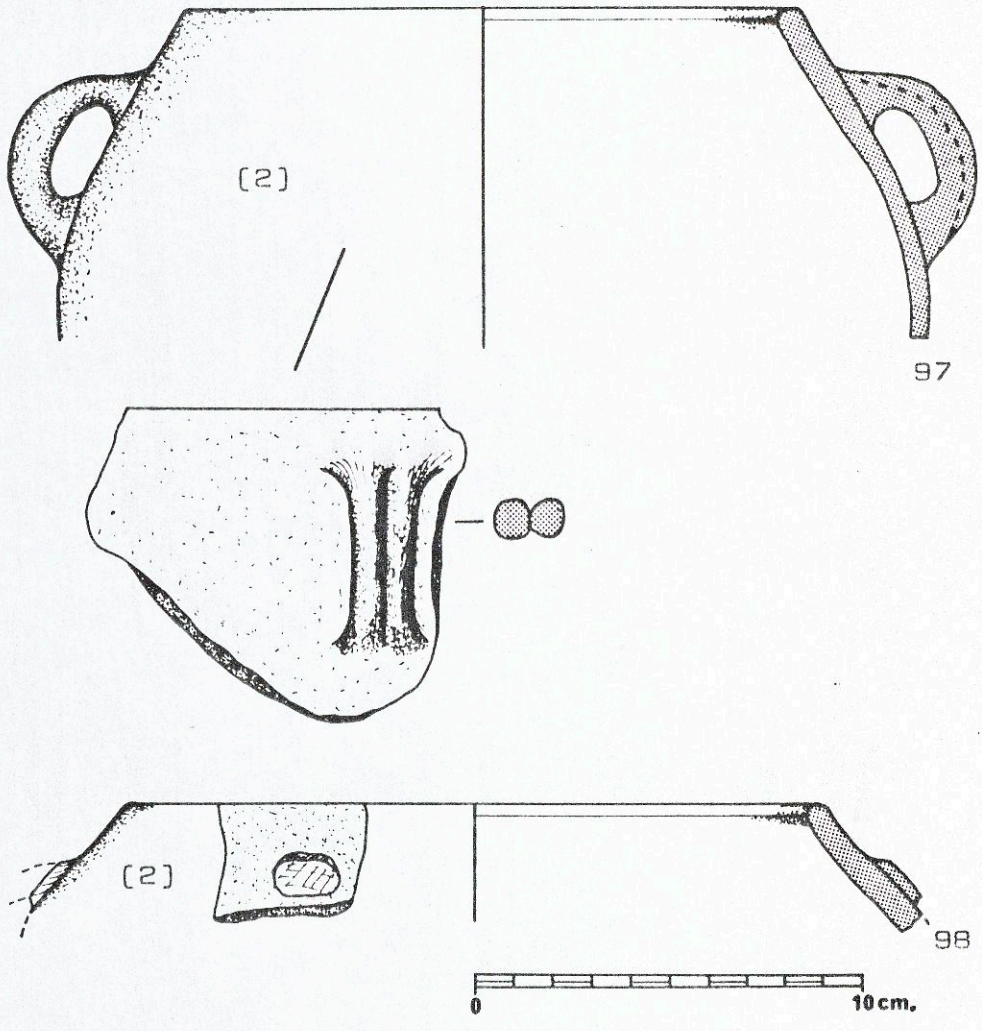


Plate: XLV. Muyu Moqo style, Phase C-D. See Key to Illustrations.

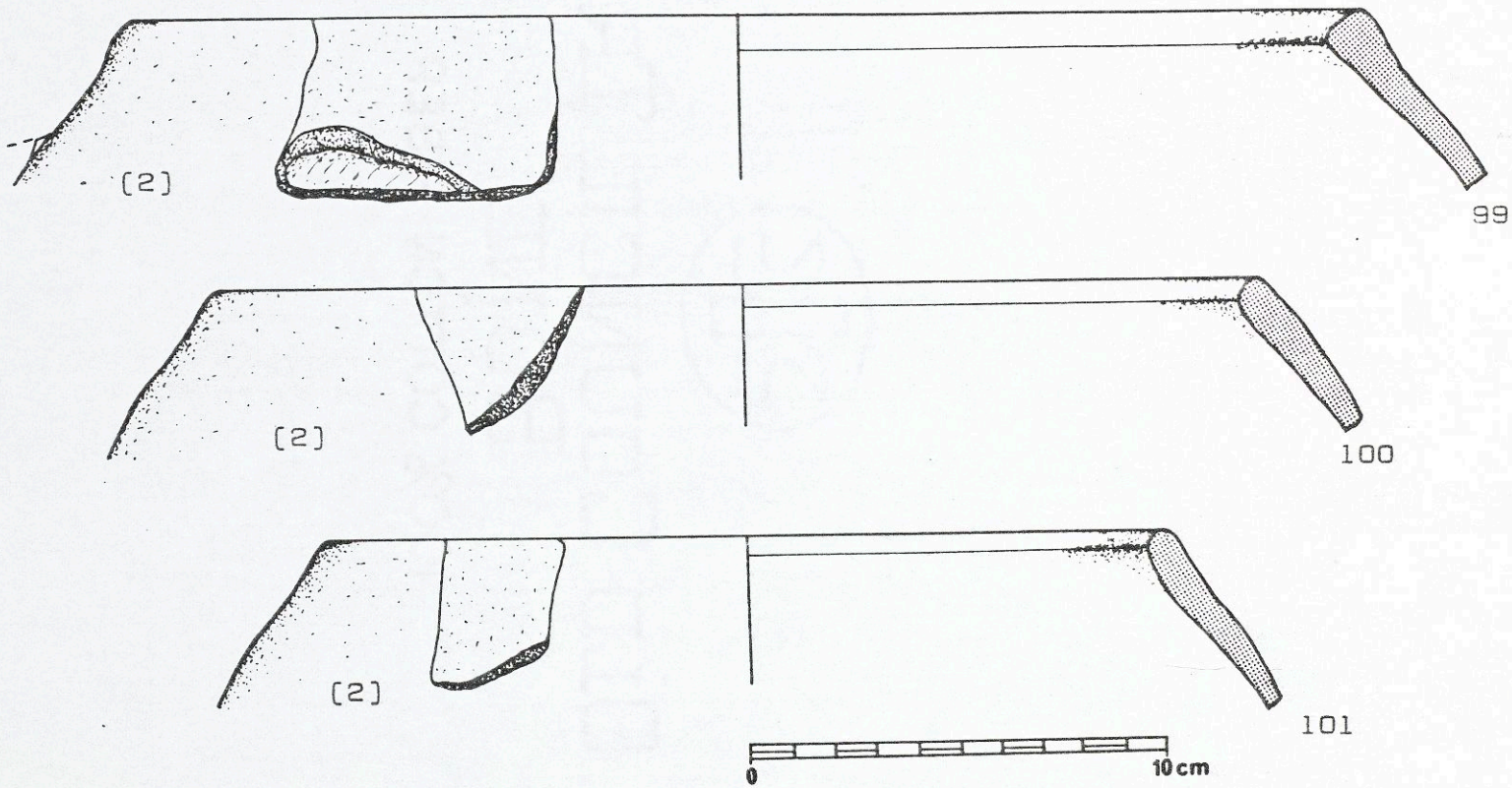


Plate: XLVI. Muyu Moqo style, Phase C-D. See Key to Illustrations.

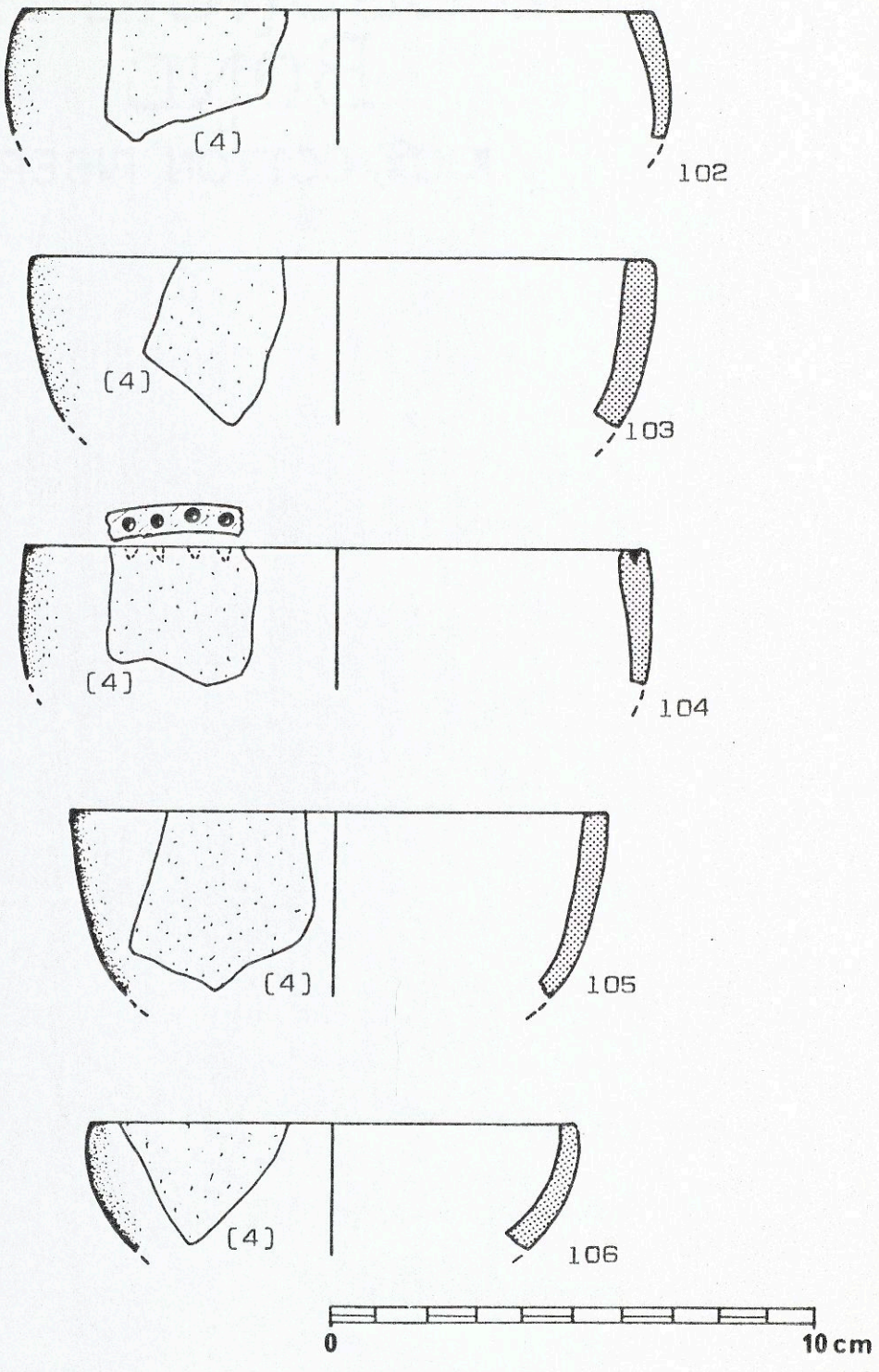


Plate: XLVII. Muyu Moqo style, Phase C-D.
See Key to Illustrations.

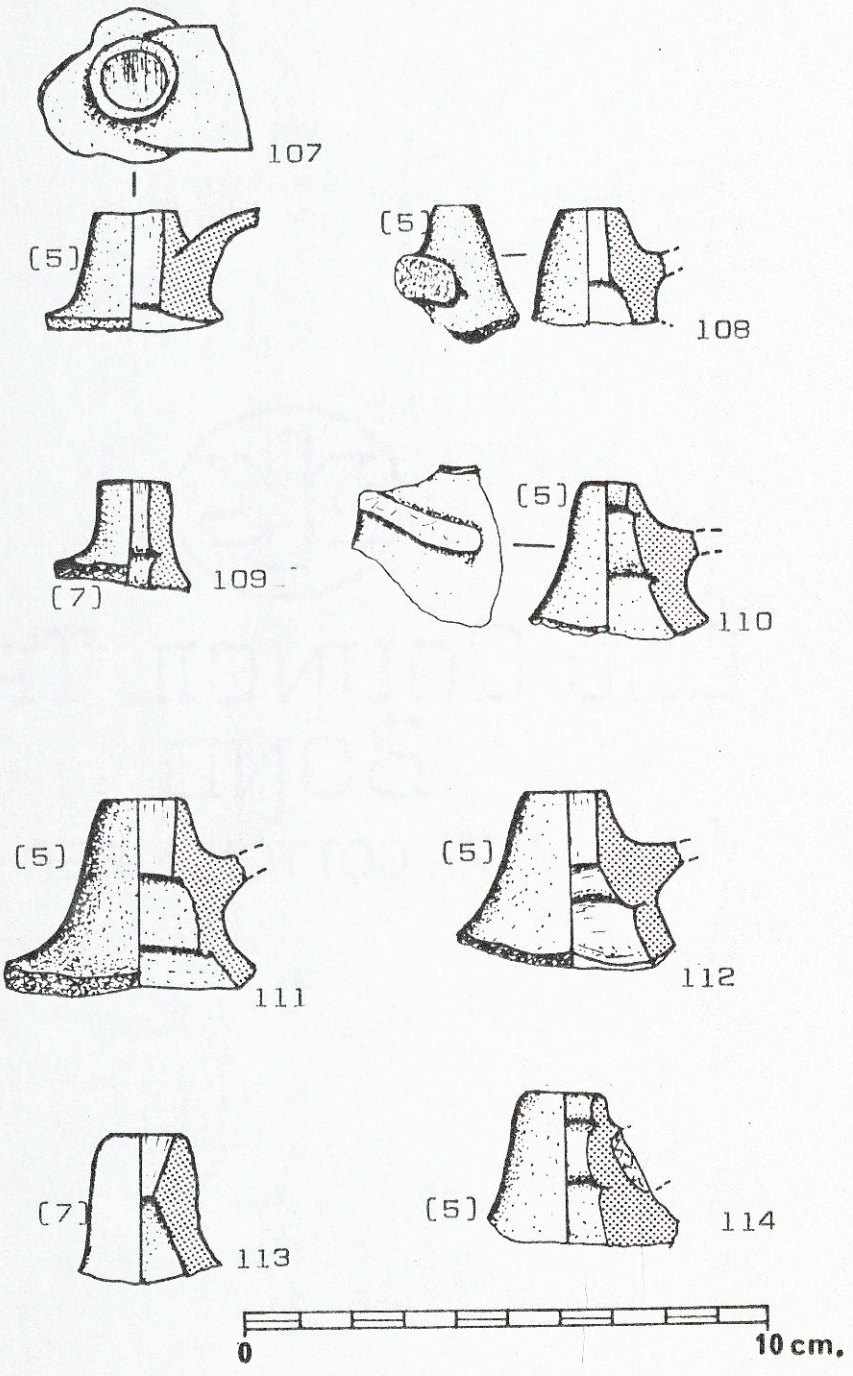


Plate: XLVIII.Muyu Moqo style, Phase C-D. Form 5 & 7 bottle spouts. See Key to Illustrations.

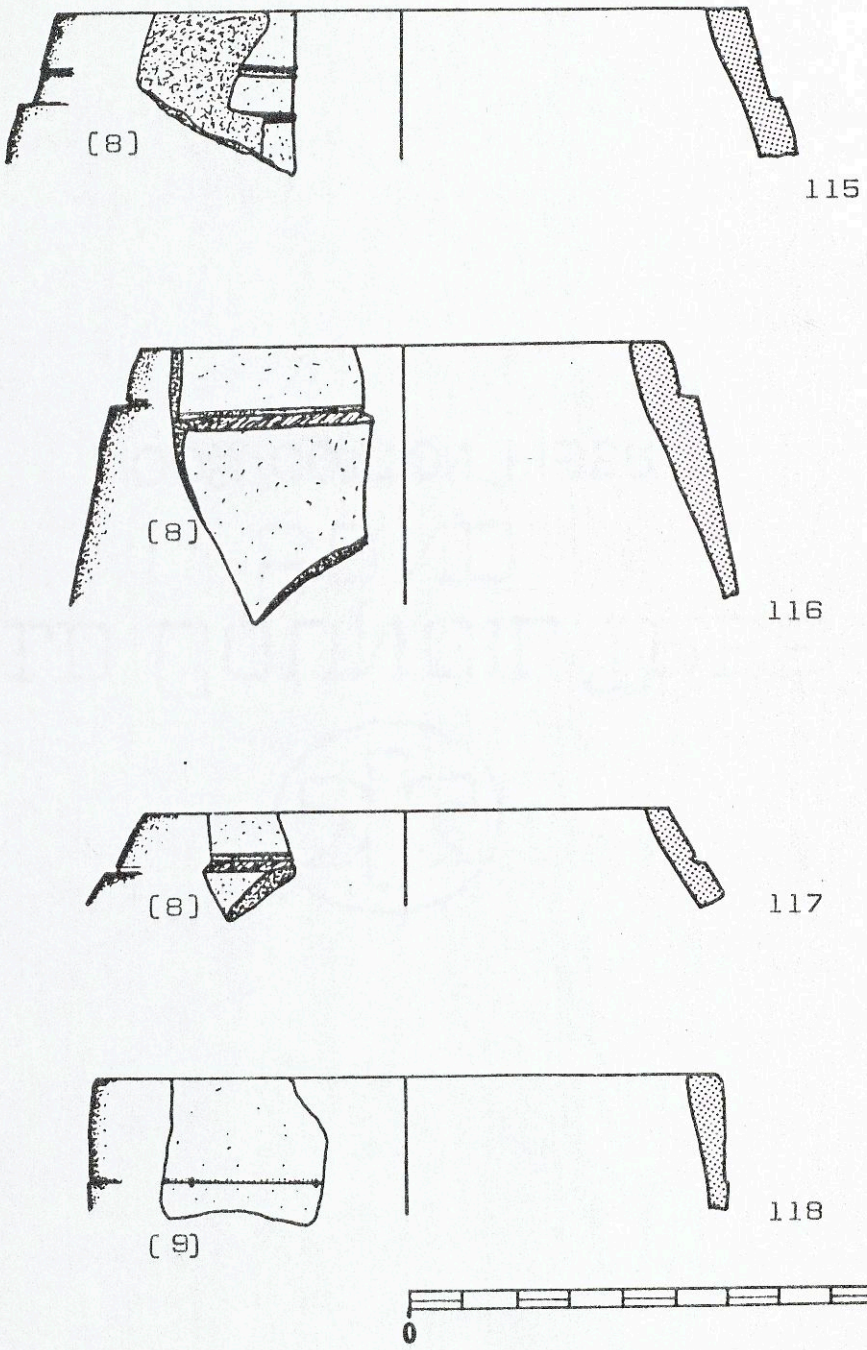


Plate: XLIX. Muyu Moqo style, Phase C-D. "Intermediate" vessel forms. See Key to Illustrations.

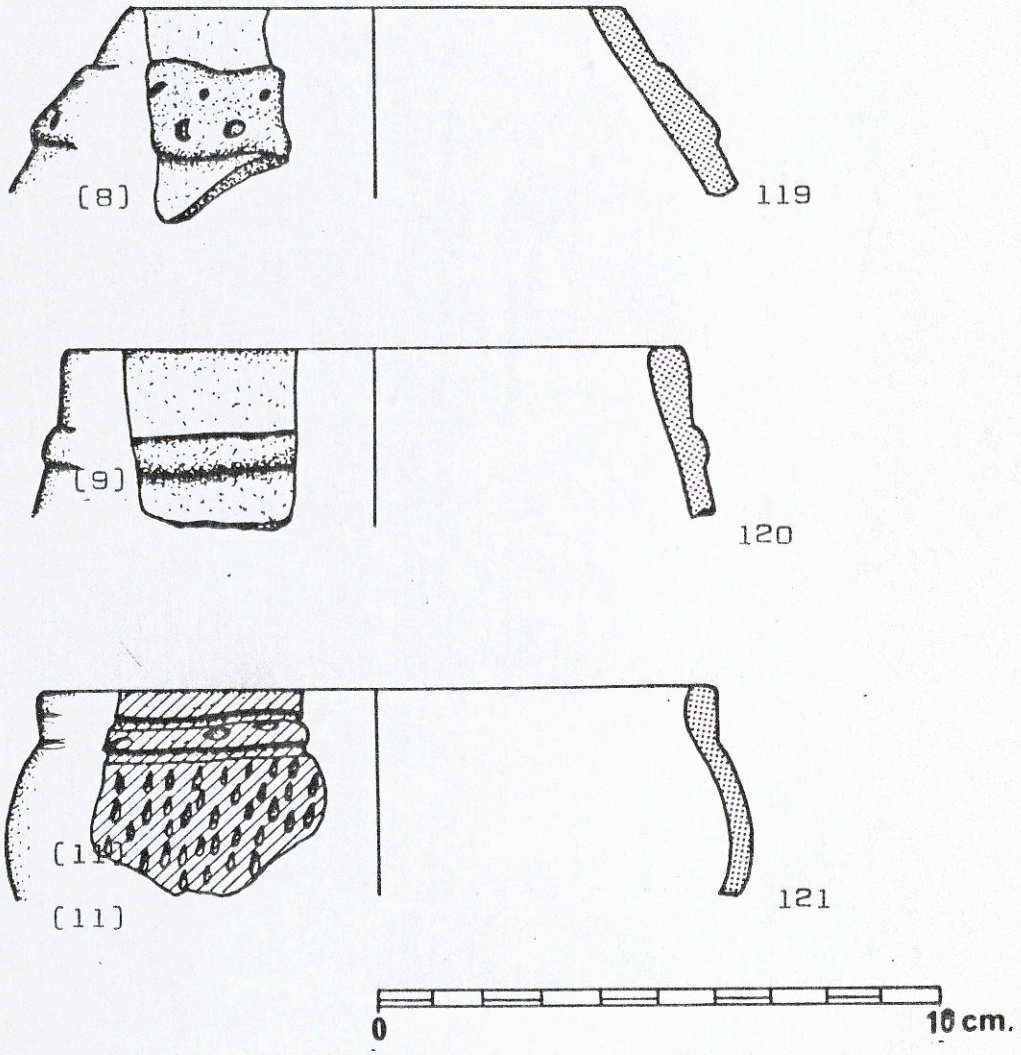


Plate L. Muyu Moqo style, Phase C-D. See Key to Illustrations. Fig. 121 has a thin red slip over a design field of punctations.

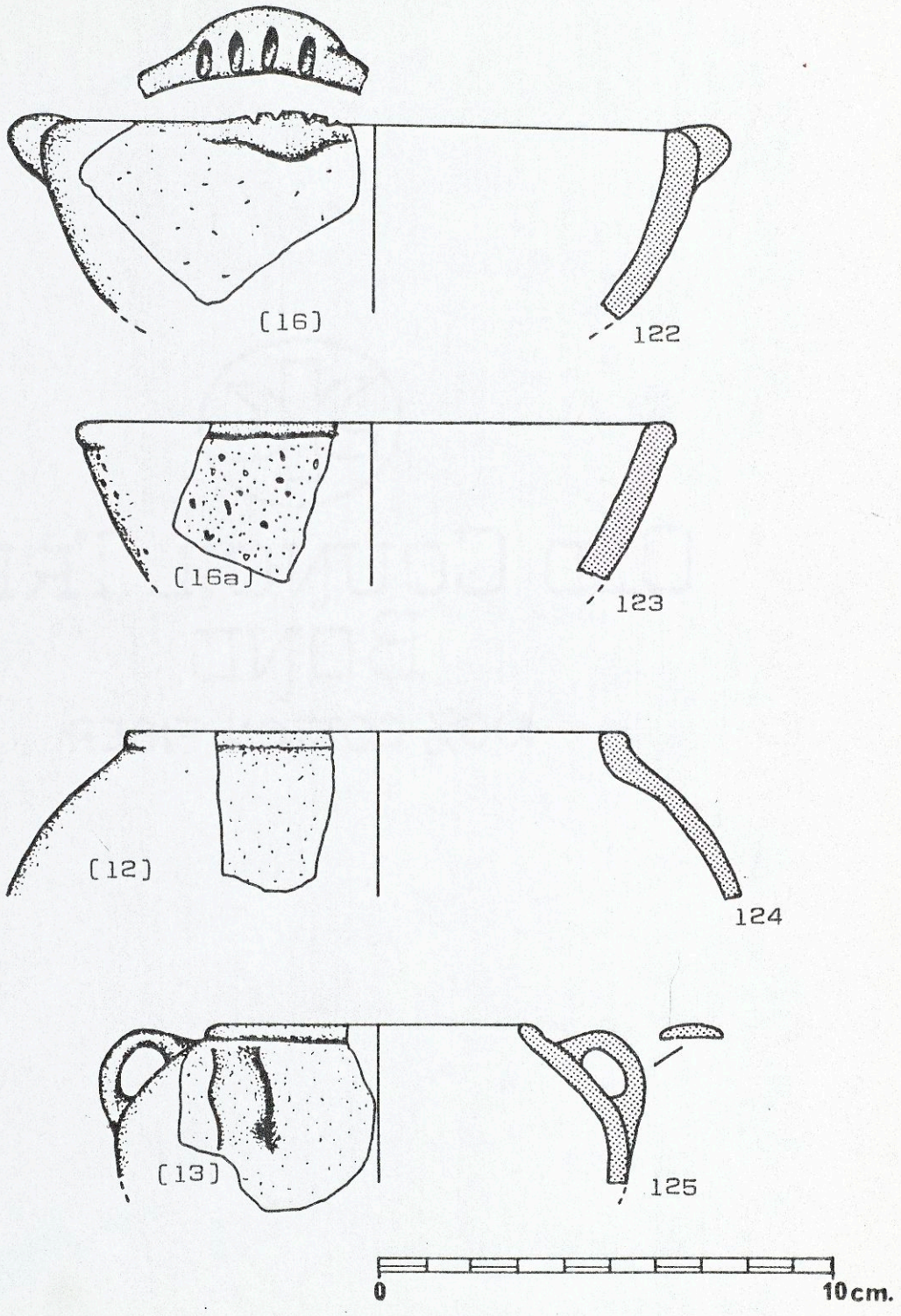


Plate: LI. Muyu Moqo style, Phase C-D. New, non-traditional, vessel forms. See Key to Illustrations.

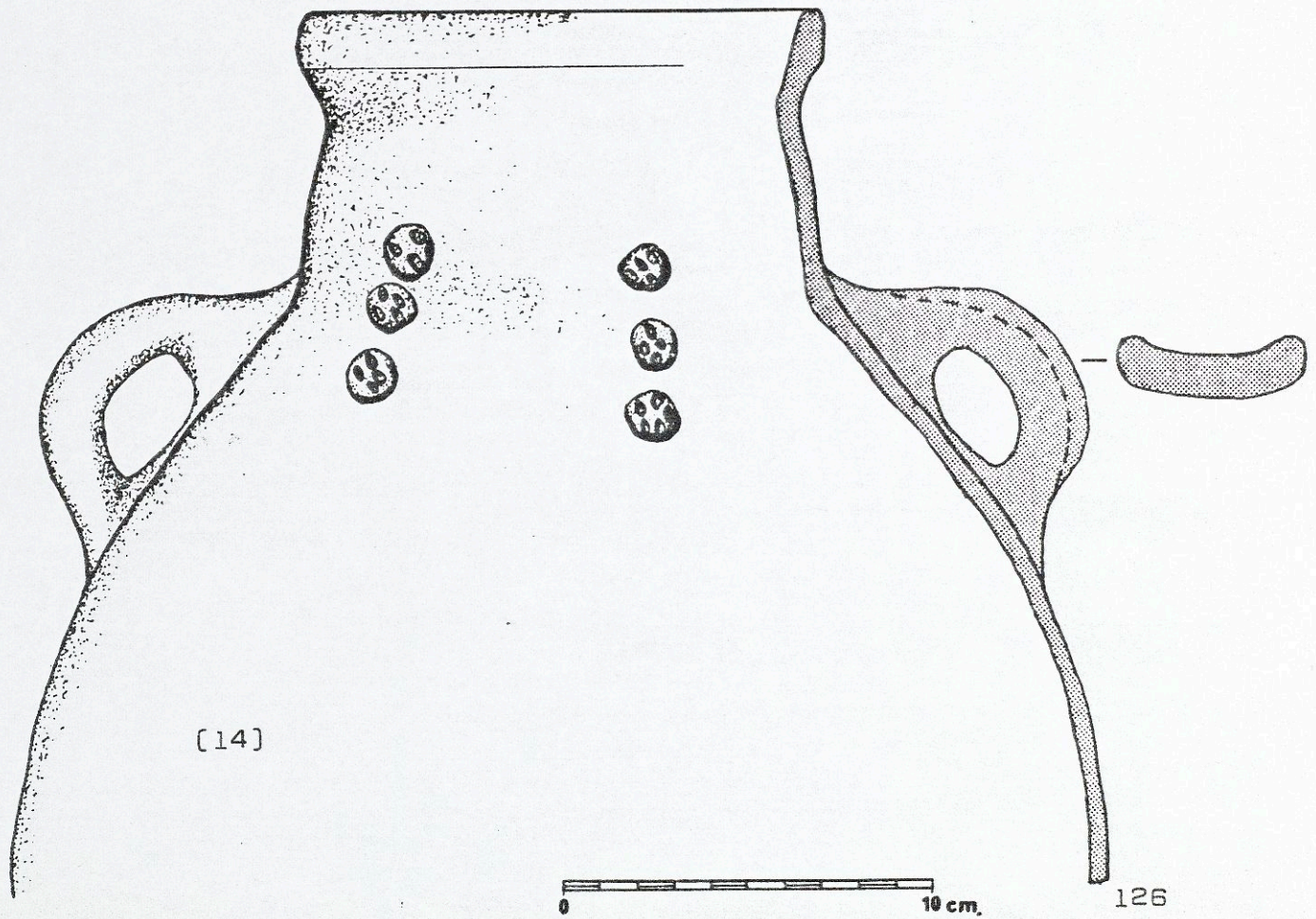


Plate LII. Muyu Moqo style, Phase C-D. Large necked jar. See Key to Illustrations.

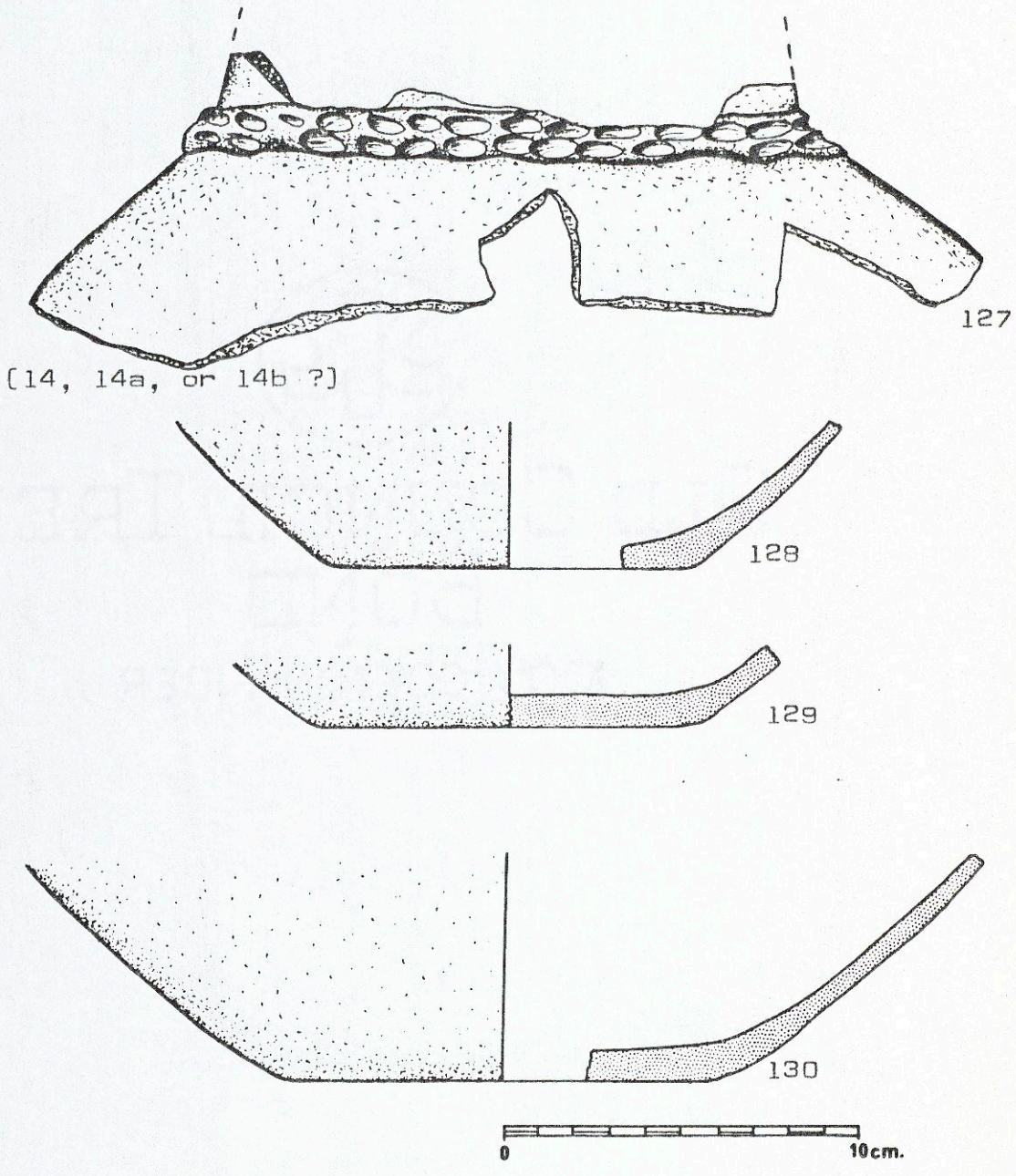


Plate:LIII. Muyu Moqo style, Phase C-D. New, non-traditional, large jar neck and bottoms. See Key to Illustrations.

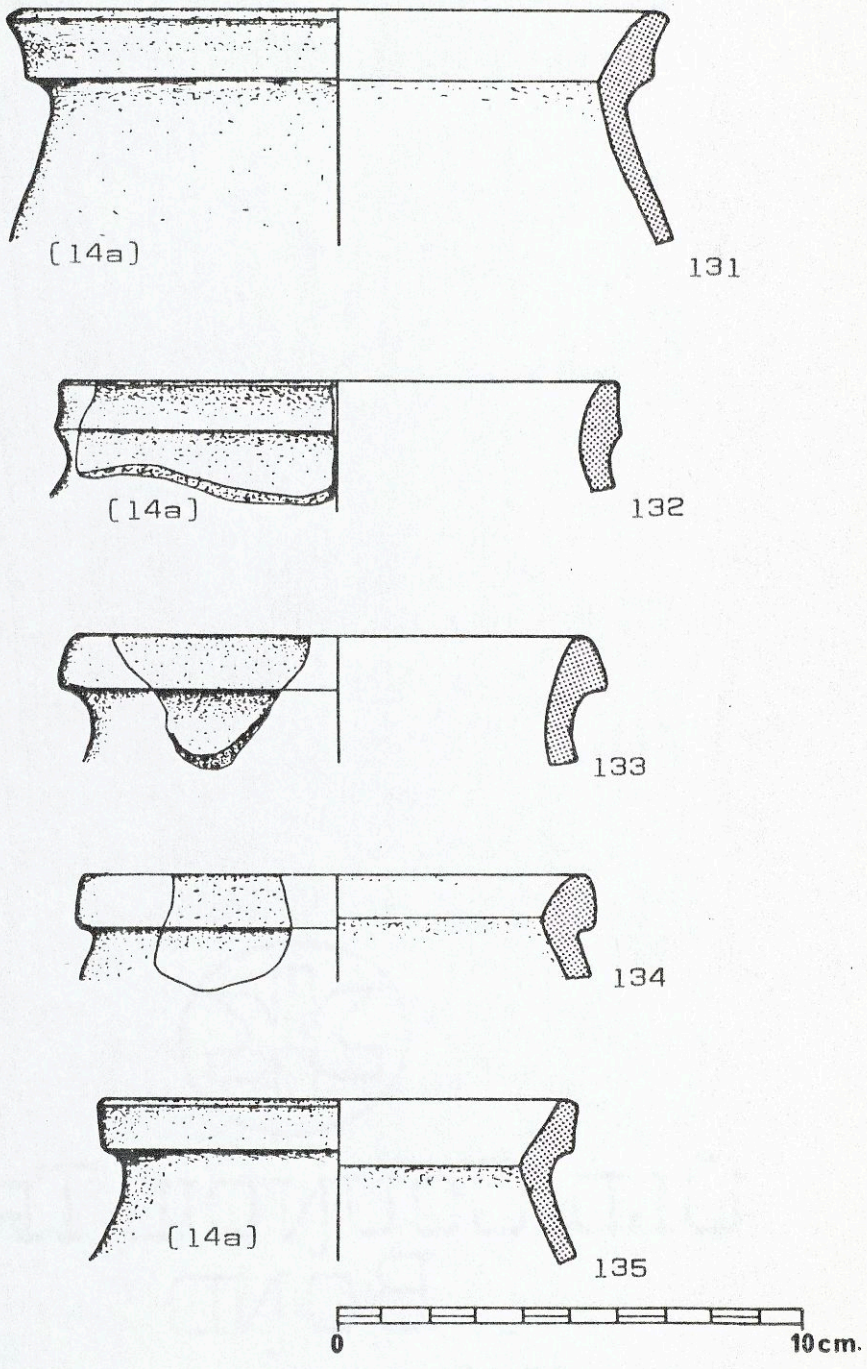
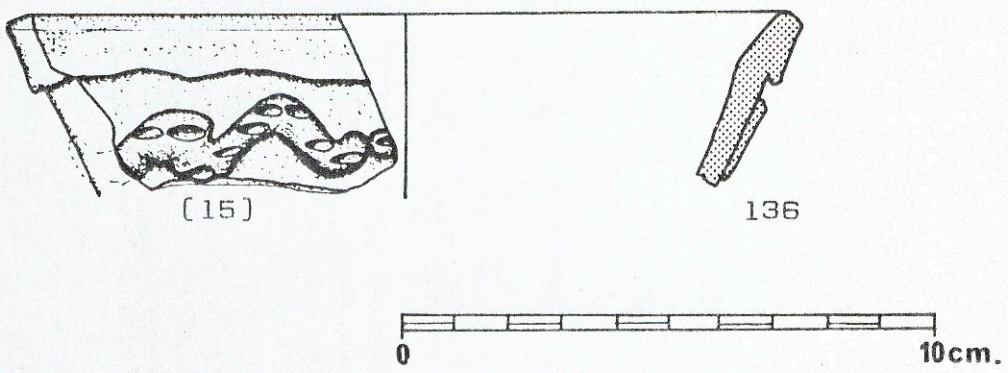


Plate: LIV. Muyu Moqo style, Phase C-D. Jar necks.
See Key to Illustrations.



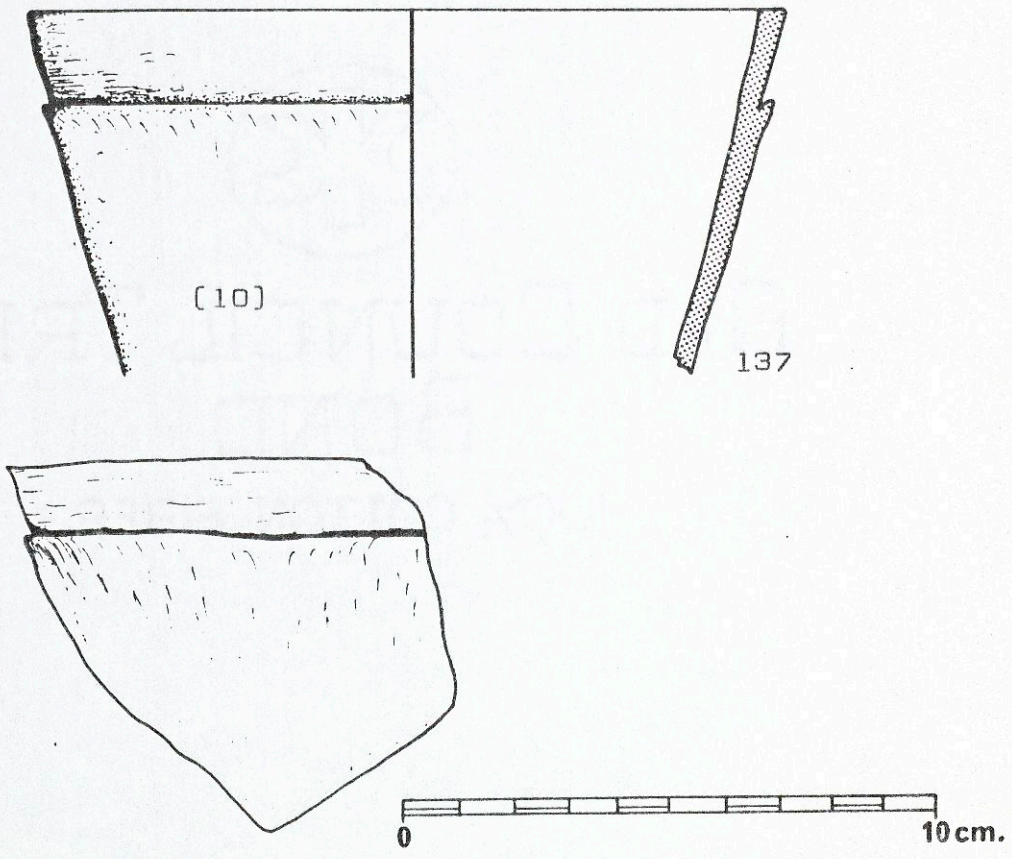


Plate: LV. Muyu Moqo style, Phase C-D. Fig. 136, large jar neck with wavy appliqué fillet below rim. Fig. 137, Straight sided flaring cup or bowl. See Key to Illustrations.

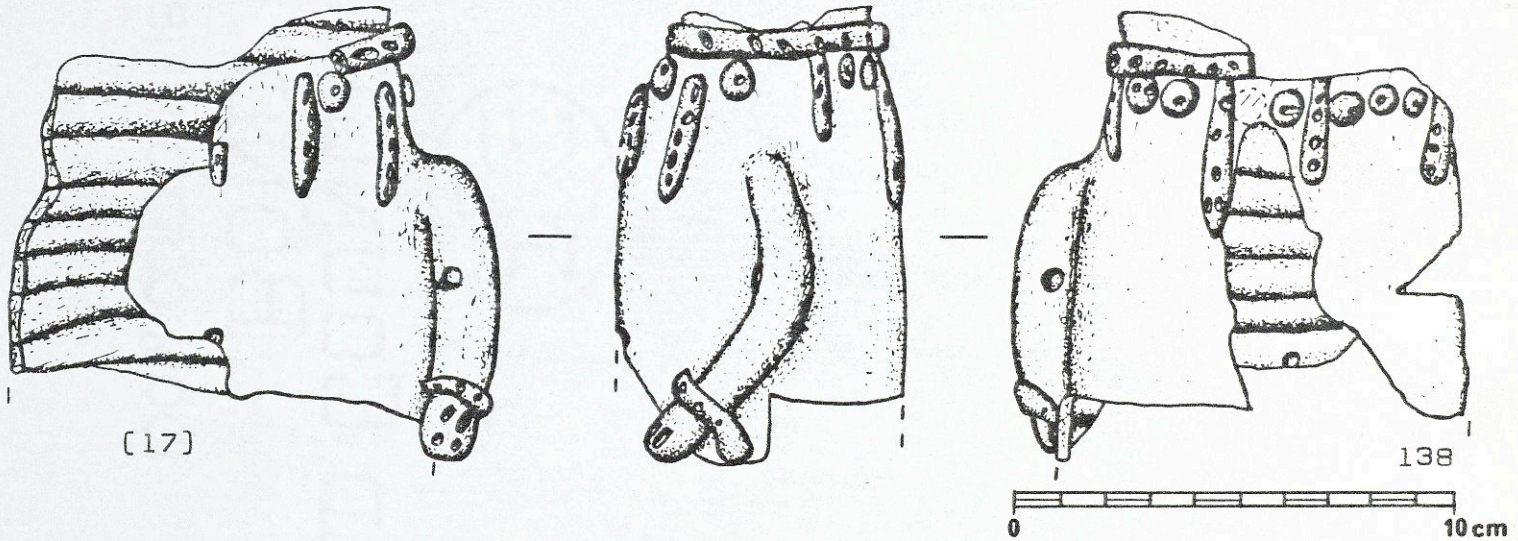


Plate: LVI. Muyu Moqo style, Phase C-D. Torso fragment from anthropomorphic figure vessel. See key to illustrations.

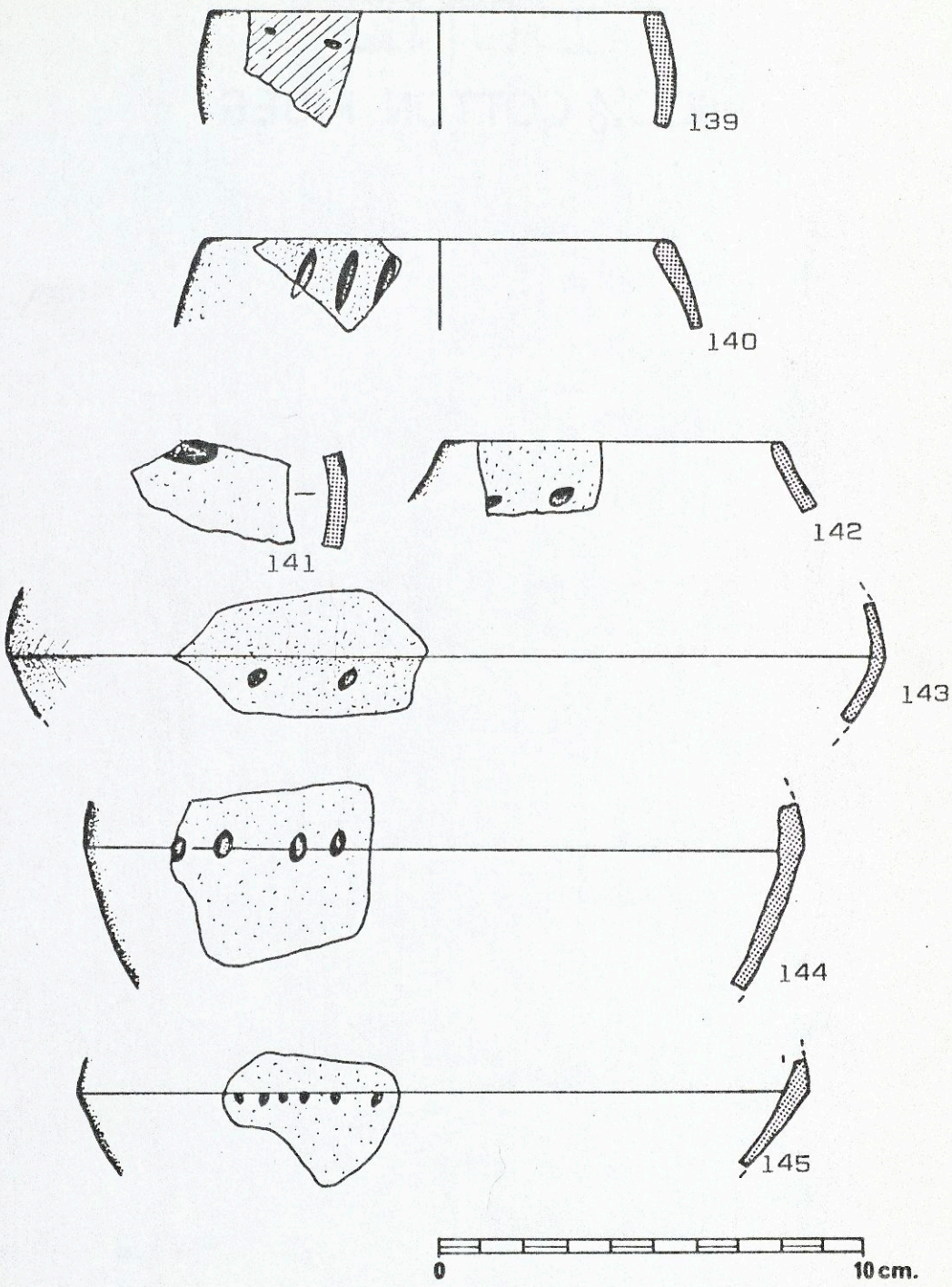
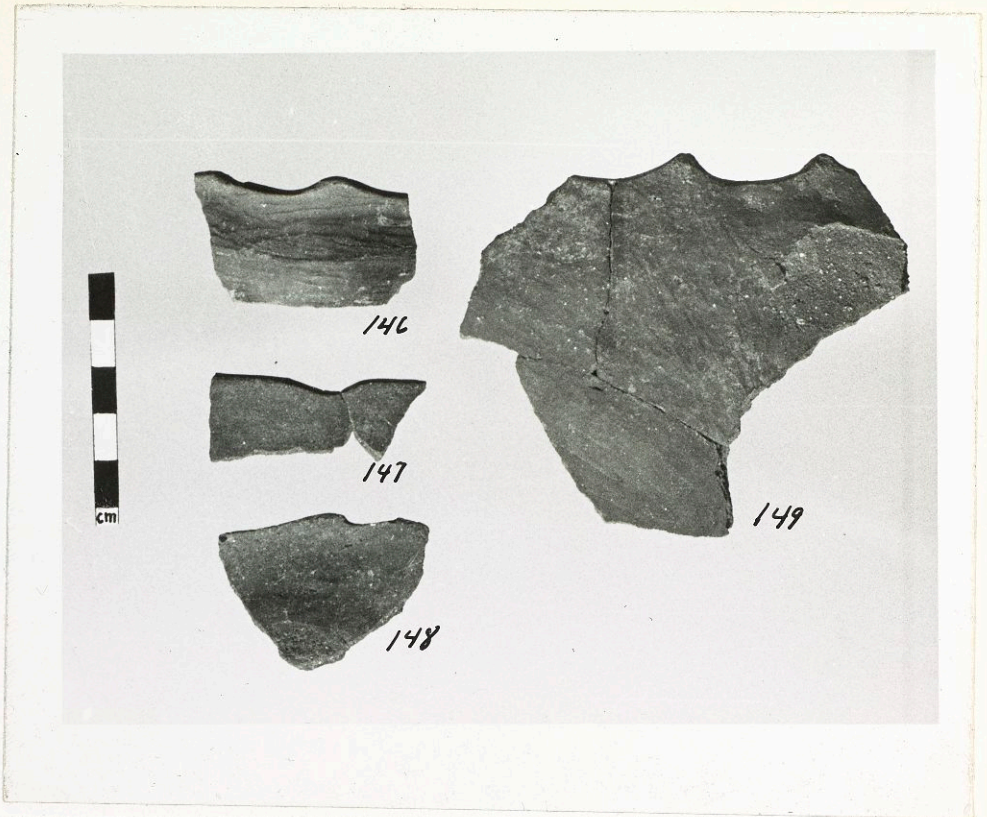


Plate: LVII. Muyu Moqo style. Phase C-D[figs. 139-144]. Phase B[?][fig. 145]. Fig. 139: possible ocre burnished. Fig. 141 shows post-fire pigment in oval depression. Figs. 143-145: carinated body sections with vertical notches or oval impressions at shoulder.



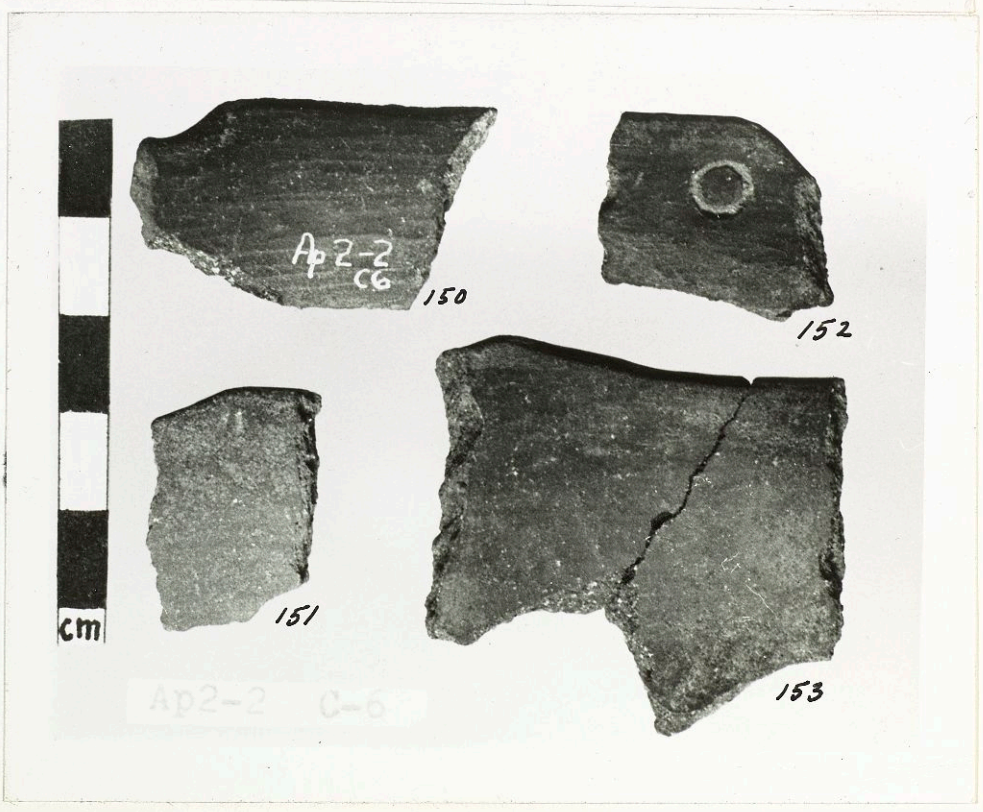


Plate: LVIII. Muyu Moqo style scalloped lips. See Key to Illustrations.

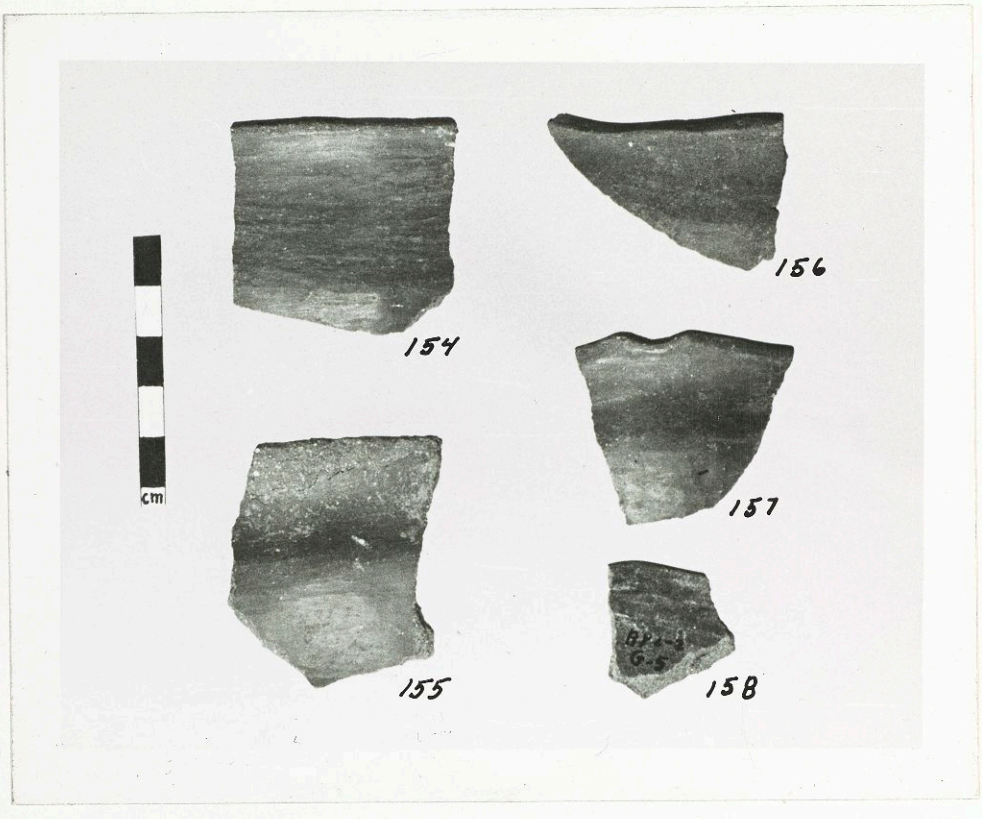
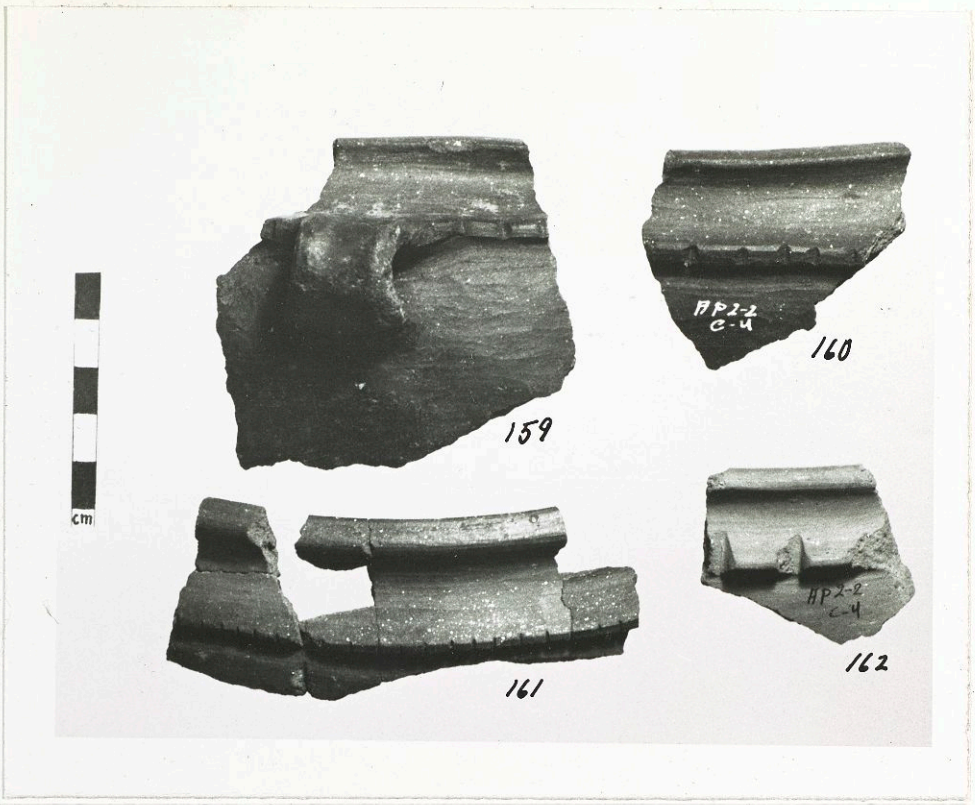


Plate: LIX. Muyu Moqo style scalloped lips. See Key to Illustrations.



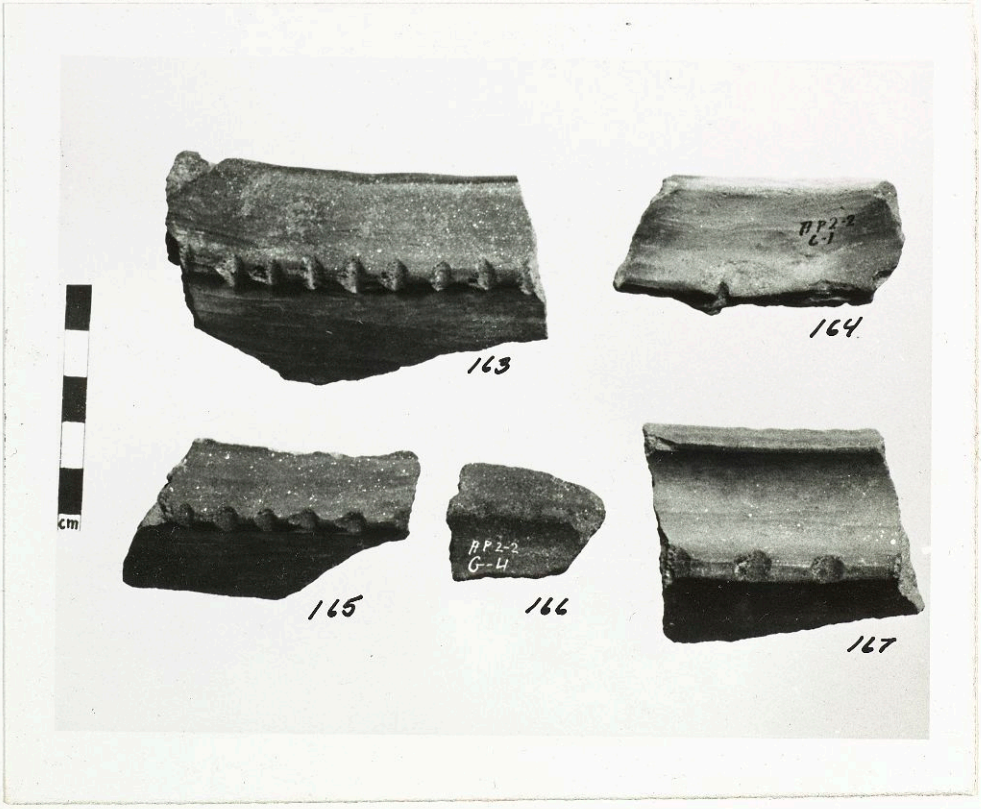


Plate: LX. Muyu Moqo style, Phase C-D. Vessels decorated with a notched horizontal ridge. See Key to Illustrations.

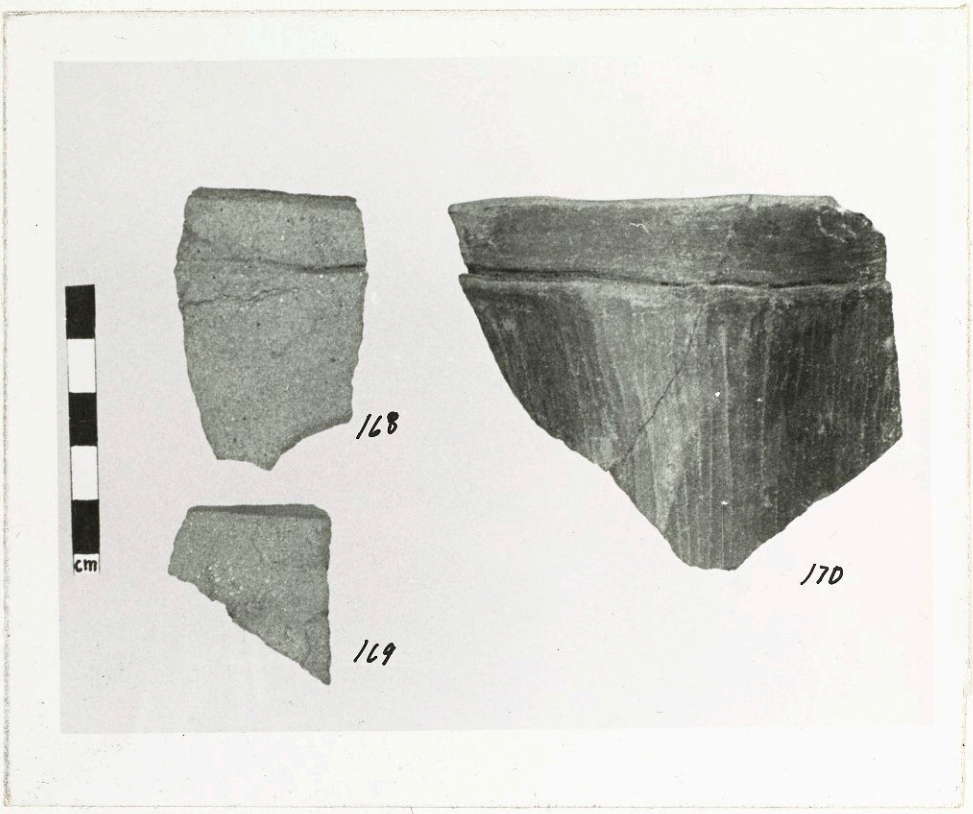
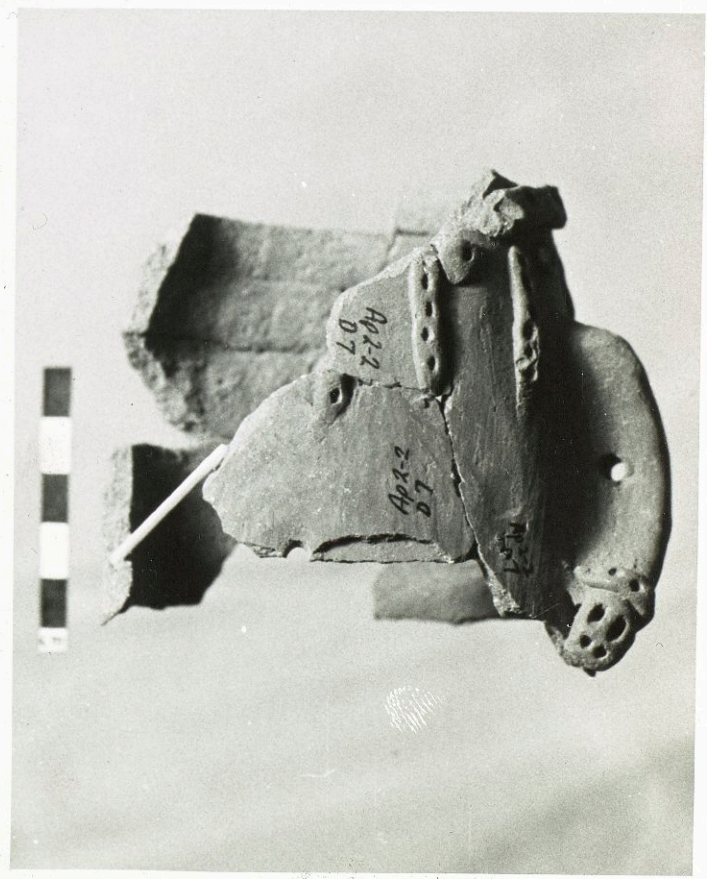


Plate: LXI. Muyu Moqo style, Phase C-D. Form 9 and 10 vessels witn an inverted step below the lip. See Key to Illustrations.

171



172

Plate: LXII. Muyu Moqo style, Phase C-D. Left: Form 14 jar fragment with appliqué pellets. Right: torso segment of anthropormorphic vessel with appliqué pellets and fillets. See Key to Illustrations.

173

174

Plate: LXIII. Muyu Moqo style, Phase C-D. Left: body sherds decorated with applique fillets from the fill of the Intrusive Rock Filled Pit. Right: rim and body sherds from the general refuse above the pit. The two rims (fig. 174, top) are from the same vessel.

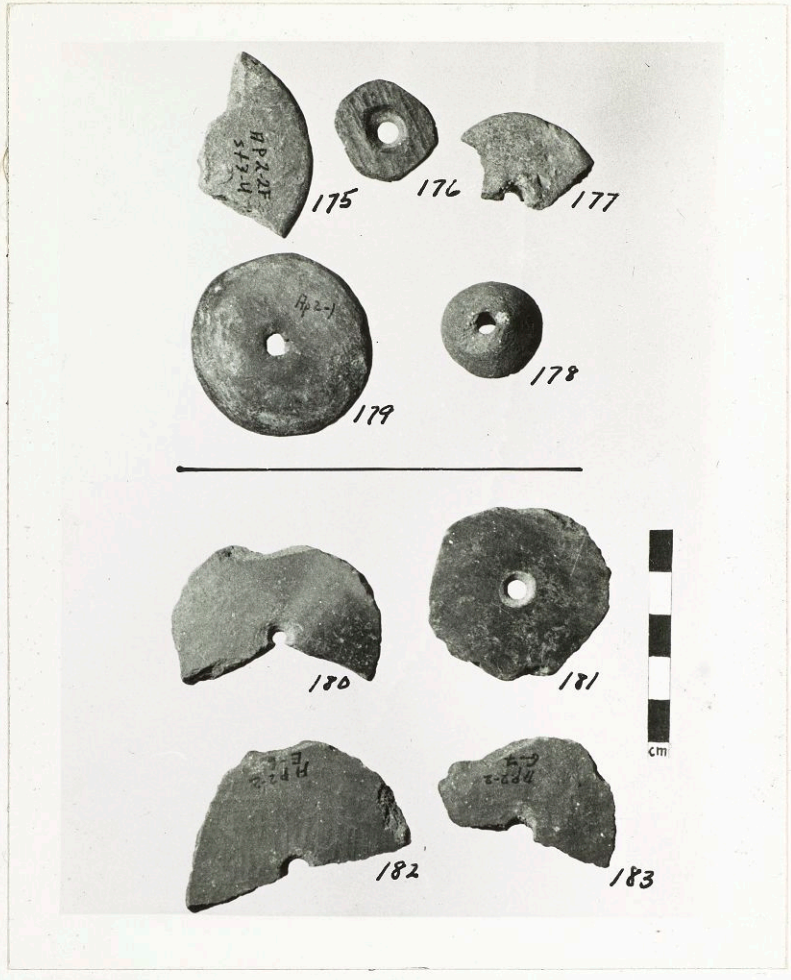


Plate: LXIV. Pottery spindle whorls. Above: modeled Qasawirka style whorls [figs. 175, 177, and 179]. Qasawirka or Muyu Moqo C-D examples from mixed refuse [figs. 176 and 178]. Below: Phase A [figs. 182-183] and Phase B [figs. 180-181] Muyu Moqo style whorls ground from plain body sherds. See Key to Illustrations.

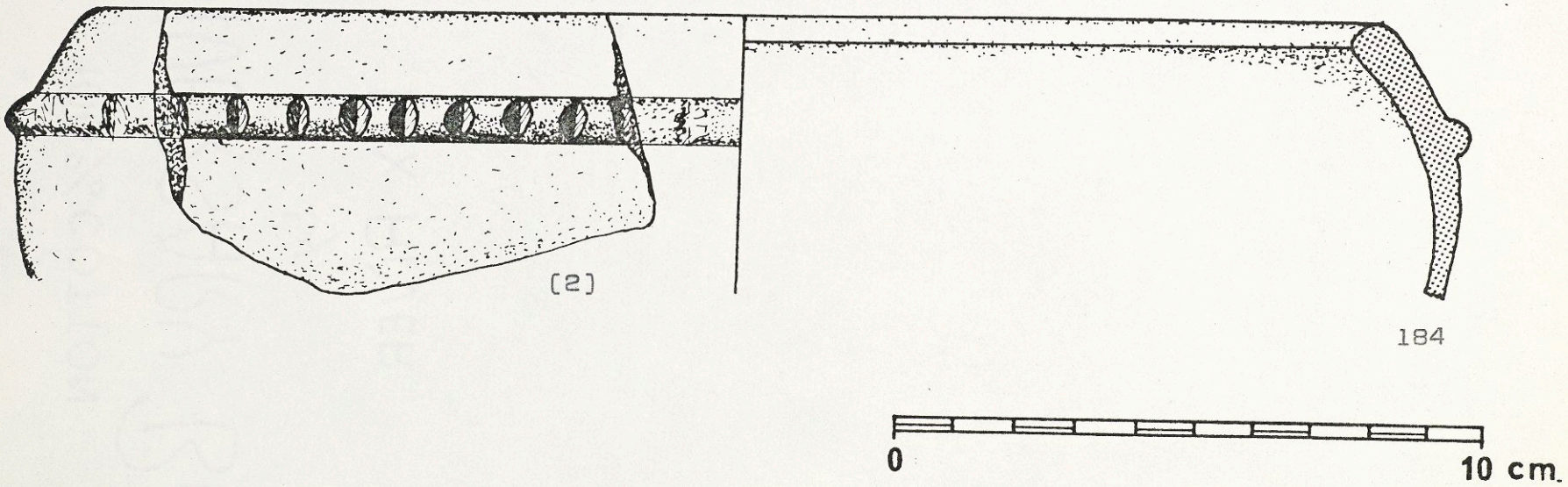
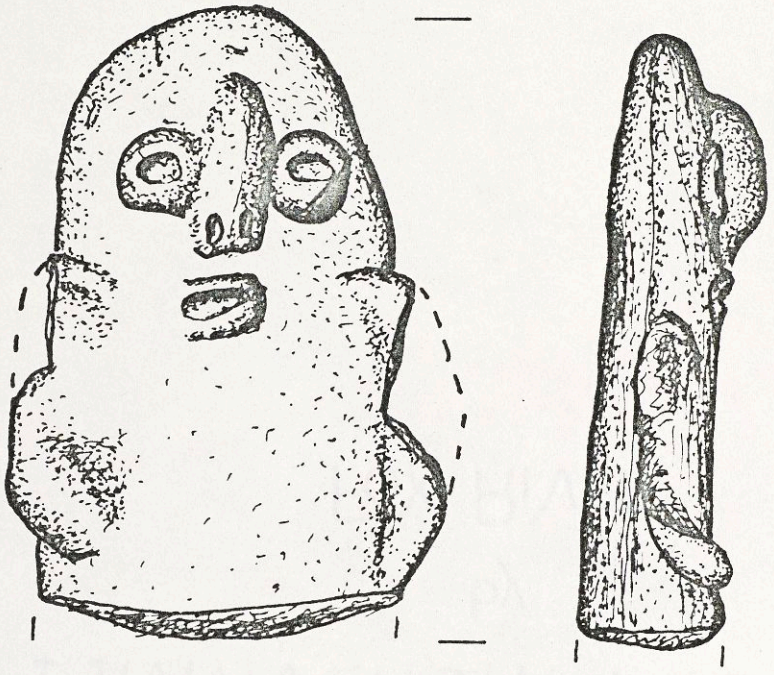


Plate: LXV. Unique example of horizontal ridge with notches occurring on Form 2 rim instead of on the Form 1 variant as is generally the case. Phase C-D, Muyu Moqo style (Unit G, Level VI).



185

Plate: LXVI. Solid clay figurine collected from the surface of Waywaka in 1946. Muyu Moqo style, Phase C-D. Actual size.

186a

Plate: LXVII. Qasawirka style male figurine. Actual size. Note bands of oxblood red slip across each cheek. The rest of the face and body is unslipped.

Plate: LXVIII. Qasawirka style male figurine. Actual size.

Plate: LXIX. Qasawirka style: modeled face from jar neck, (fig. 187); modelled head fragments from hollow figurines (figs. 188-189). Traces of oxblood red slip on "infant" face at left(fig. 188). The head on the right has a base of oxblood red slip with cheek bands slipped in dark grey. Traces of grey are also visible on eyebrows(fig. 189).

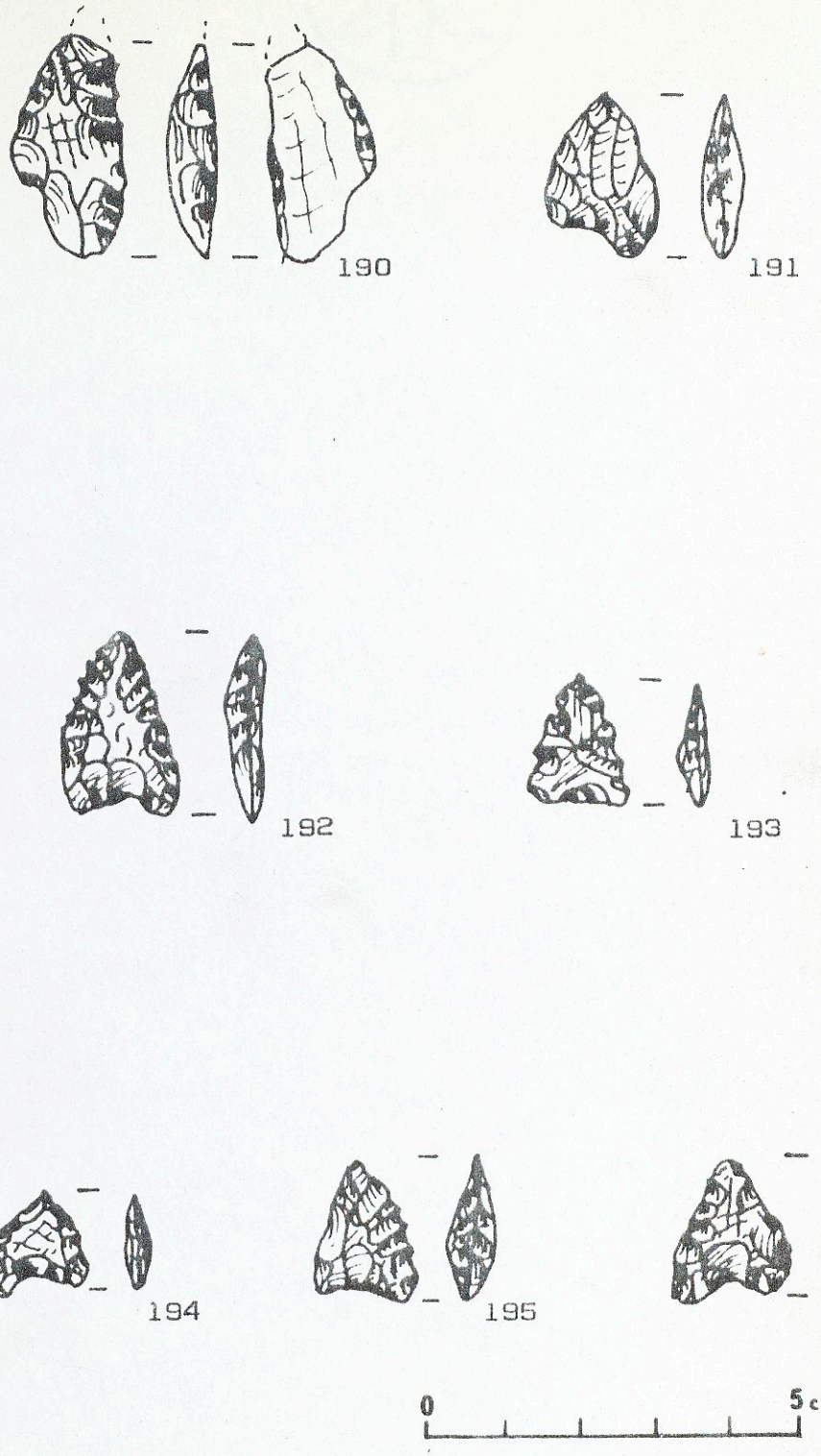
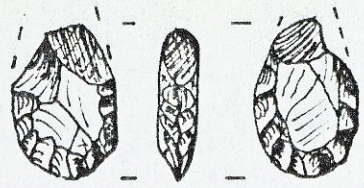
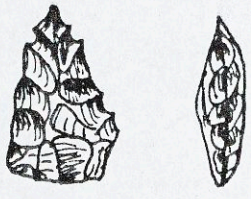


Plate: LXX. Muyu Moqo style chipped obsidian points.
Phase A: figs. 194-196. Phase B points: figs. 192-193.
Phase C-D: figs. 190-191. See Table IV, p. 138.

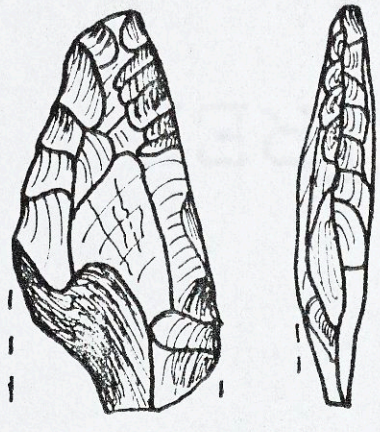


197



198

199



200

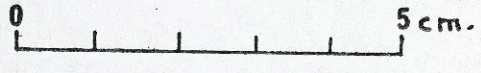
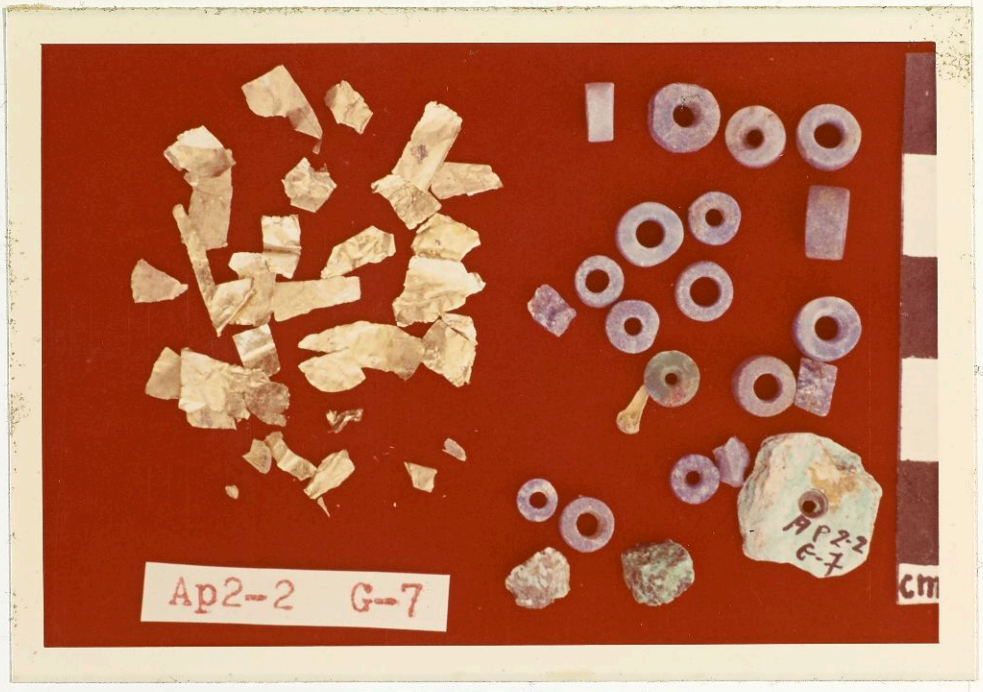
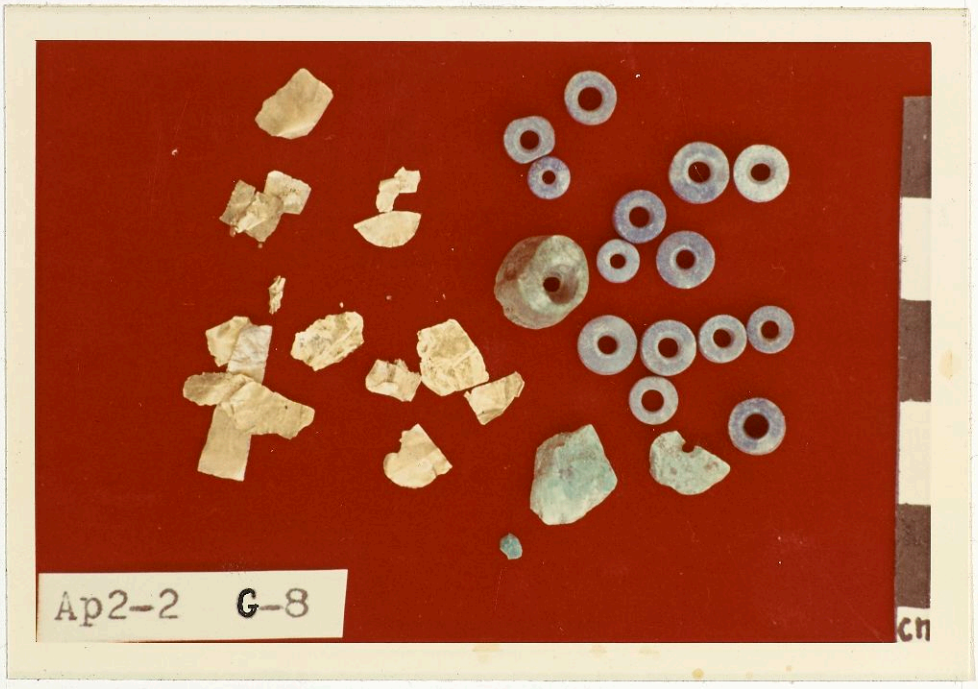


Plate: LXXI. Chipped obsidian tools. Qasawirka point(fig. 197); points from mixed Muyu Moqo C-D and Qasawirka refuse (figs. 198-199); Qasawirka or Muyu Moqo C-D knife (fig. 200). See Table IV, p. 138.



201



202

Plate: LXXII. Gold foil and semi-precious stone beads from lower Muyu Moqo occupation refuse. Top: Mixed Phase A and B associations. Bottom: Phase A associations.

203

204

Plate: LXXIII. Left: The two stone bowls containing the gold working tools as first found resting on sterile subsoil in the lowest Muyu Moqo Phase A refuse level. Right: The Kit in situ with cover removed showing gold working tools inside.

208 209

Plate: LXXIV. Anvil, hammers and flake of gold foil from inside the tool kit in Level IX of Unit G. Muyu Moqo, Phase A associations. See Key to Illustrations.

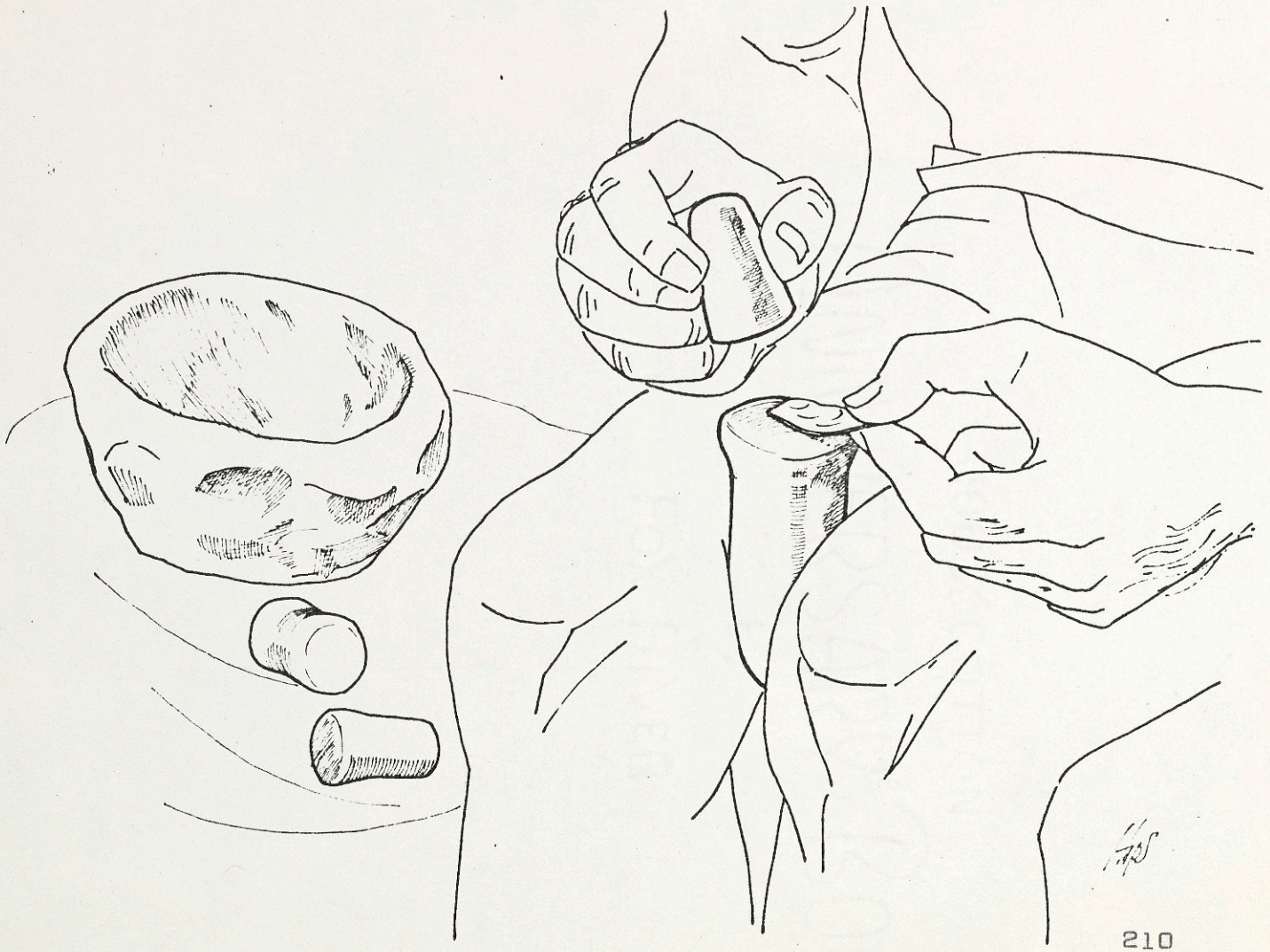
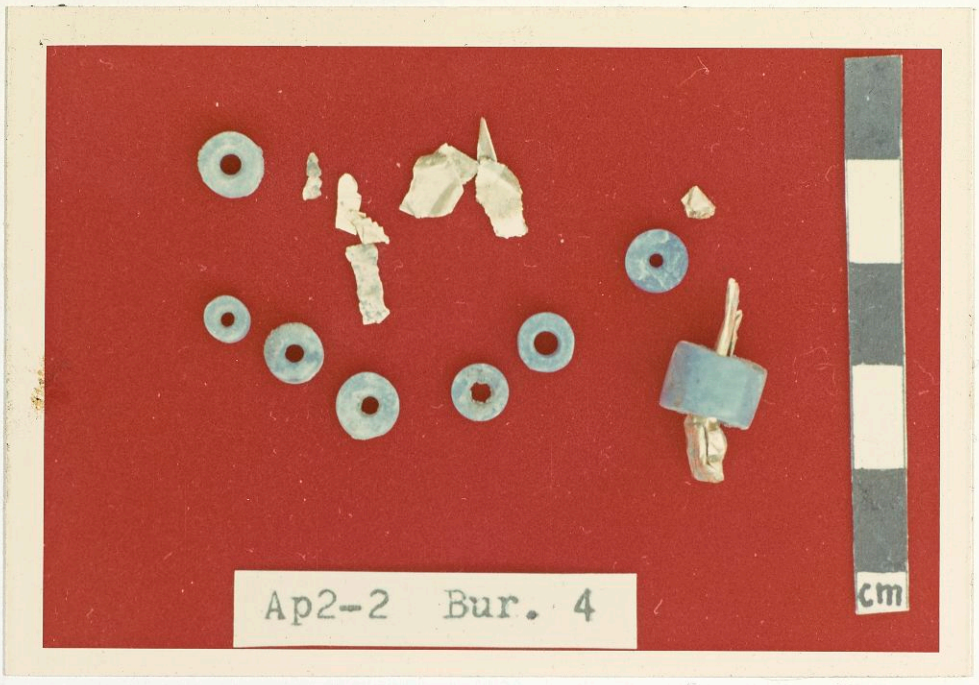
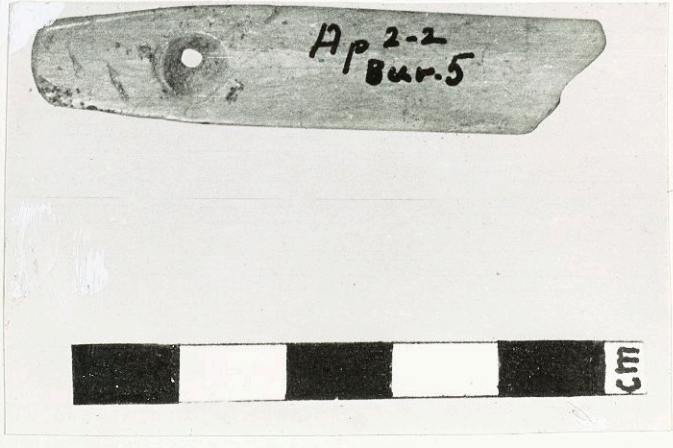


Plate: LXXV. Reconstruction of how the anvil and hammers may have been used.



211



212

Plate LXXVI. Muyu Moqo grave associations, Phase A or B.

213a

213b

Plate: LXXVII. Front and back views of chunk of burned daub from the lowest Muyu Moqo Phase A refuse.

214a

214b

Plate: LXXVIII. Front and side views of large ground stone from burned pit in Level V of Unit E.

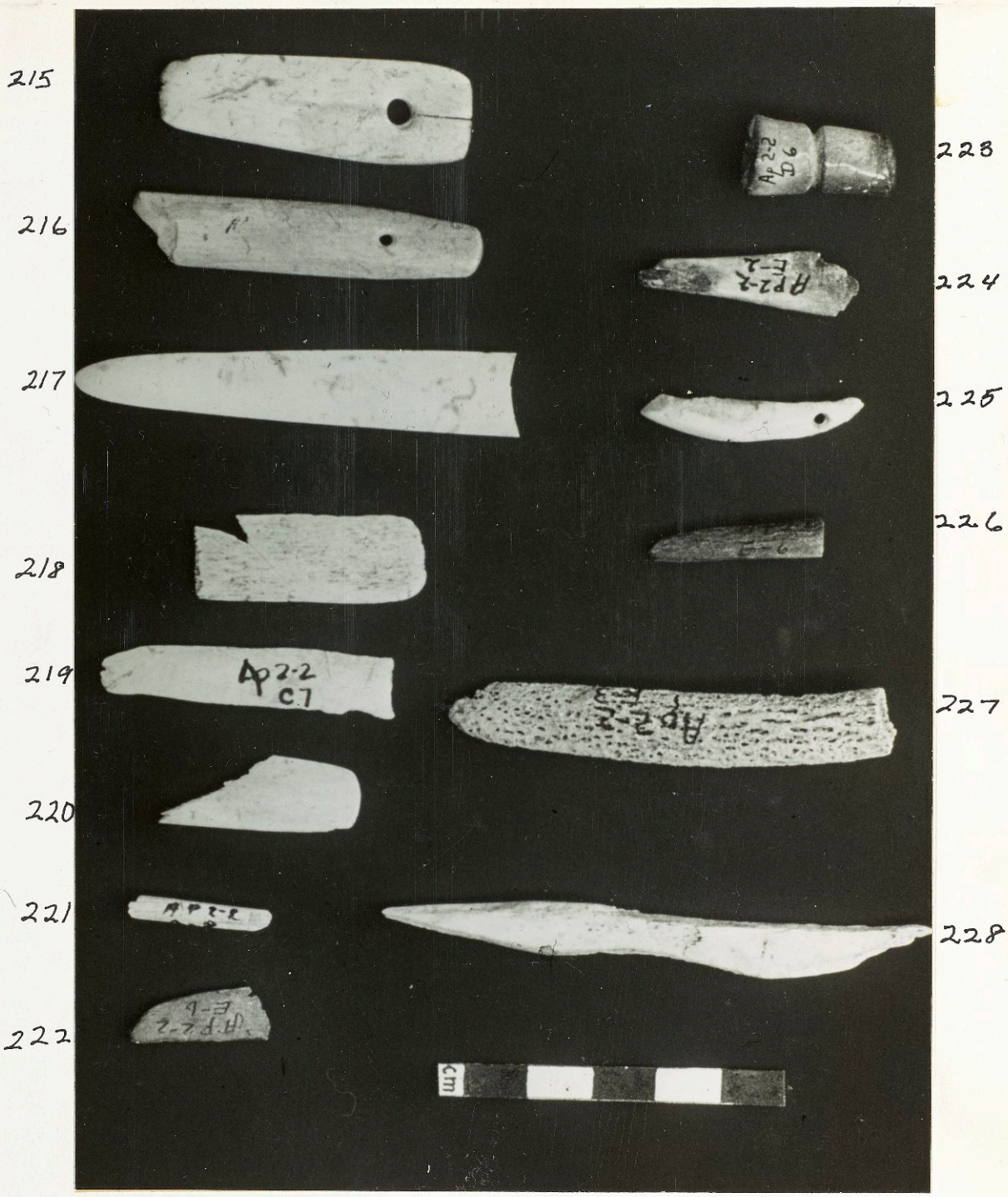


Plate: LXXIX. Bone artifacts from Muyu Moqo refuse levels. See Key to Illustrations.

Plate: LXXX. Qasawirka modeled faceneck jar fragment. Note perforation in lower lip suggesting labret. Height: 12.6 cm. See Key to Illustrations.

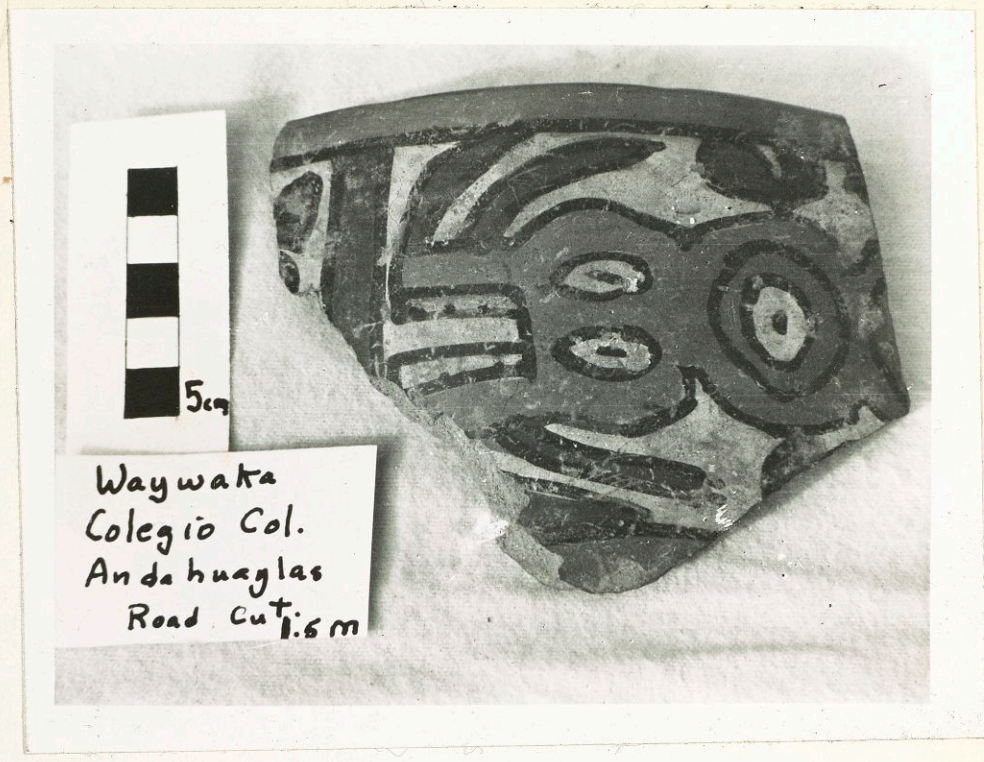


Plate: LXXXI. Chakipampa B "Ayacucho Serpent" bowl fragment. Middle Horizon IB. Photographed by the author at the Colegio de Andahuaylas in 1971. A teacher at the school reported finding this sherd in a road cut at Waywaka "several" years before. This piece is just one of many pieces of evidence showing that Huari influence was being exerted at the site of Waywaka as well as at other sites in the region of Andahuaylas at least as early as Epoch iB of the Middle Horizon.