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Cerro Trapiche and the Wari Frontier Experience in the Middle Moquegua Valley, Perú

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Cerro Trapiche and the Wari Frontier Experience in the Middle Moquegua Valley, Perú

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy

in

Anthropology

by

Ulrike Matthies Green

Committee in charge:

Professor Paul S. Goldstein, Chair
Professor Guillermo Algaze
Professor Geoffrey Braswell
Professor Christine Hunefeldt
Professor Elizabeth Newsome

2015

The Dissertation of Ulrike Matthies Green is approved, and it is acceptable in quality and form of publication on microfilm and electronically:

Chair

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ACKNOWLEDGEMENTS

The research and writing of this dissertation would not have been possible without the contributions, collaborations and support of many colleagues, friends and family, all of whom I want to thank for their support, guidance and encouragement.

I am very garteful to my committee members for their patience and support throughout my extensive graduate career. I want to thank Dr. Paul Goldstein, my doctoral advisor, for introducing me to Moquegua and the Cerro Trapiche in 2003. Paul taught me everything he knew about local ceramics and he continues to be a great resource about anything Huaracane and Middle Horizon, both of which figured greatly in my research. I also owe Paul many thanks for providing logistic and financial support as well as housing in the field on many occasions. His insightful and supportive comments on my work have been essential in shaping this thesis.

I would also like to thank Dr. Geoff Braswell for being a member of both my Masters and dissertation committee. One of the first classes I took with Geoff inadvertently set me on the course of this dissertation early on. Our discussion on World systems theory and core-periphery models got me very interested in how we understand and view the mechanics of ancient states and empires. Geoff has also been an encouraging graduate advisor over the years with an open ear and good advice on how to navigate some of the more treacherous waters of graduate school.

Dr. Guillermo Algaze has been a reliable and speedy advisor on this project. His comments, especially on my theoretical arguments have been very valuable, even though we did not always agree on interpretations. His suggestions were immensely helpful in pointing out the grey areas in the sometimes black and white world of academic arguments.

I am grateful to Dr. Elizabeth Newsome for her many suggestions beyond the archeological realm that included a more experience driven perspective and which got me to think outside the Andean box on many occasions. I very much enjoyed our conversations about the nature of frontier identities and the challenges that people in these dynamic spaces faced. I am also looking forward to exploring some of the new avenues of research on borderlands she suggested after reading my work.

Dr. Christine Hunefeldt was an important voice for historical advice on the early drafts of my dissertation proposal and her ideas helped me greatly to reevaluate some of the ways we think about societies that do not leave textual evidence behind. I am pleased that I was able to offer her a small insight into archaeology as a data driven field, especially in the absence of texts. I am also grateful for the many wonderful opportunities she provided for the Andeanist graduate students through her work at CILAS, whether it was presenting research, funding, or the meeting of new colleagues.

UC San Diego has been a major source of funding for my work in Peru throughout my entire graduate career beginning with a grant from CILAS to support pre-dissertation research in 2004. My field research was funded through the 2007/2008 F.G. Baily Fellowship and many annual travel grants from the Dean of Social Science made it possible for me to continuously present my research at conferences. I want to thank Nikki Gee the graduate program coordinator in the anthropology department who always had an answer for the most complicated procedural questions and who helped me on many occasions to meet important bureaucratic deadlines at the last minute. I am also grateful for the support of my fellow graduate students. Special thanks go to Tara Carter and Sonja Schwake for their encouragement and for cheering me on over the years. Thanks also to Alicia Boswell, Benjamino Volta, Sarah Baitzel and Beth Plunger for sticking it out together in the lab and in the field. Many thanks also to Dr. Corina Kellner for her support, friendship and advice.

Of course I would never have embarked on this endeavor had it not been for the support of the many friends and colleagues I have met over the last fourteen years and who encouraged me to take this big step. If not for Dr. Aimee Plourde, who invited me on my first trip to Puno and turned me into an expert illustrator, I would never have learned about the wonders of the altiplano. I believe life in the Puno house is somewhat of a rite of passage into the real world of Andean archaeology. Drs. Alexei Vranich, John Janusek, Liz Klarich, Sarah Abraham, Ilana Johnson, Liz Arkush, Carol Schultze, and Andy Roddick thank you all for sharing with me your passion for archaeology and Peru in those first years. Thanks also to Dr. Chip Stanish whose friendship, encouragement, and advice helped me decide to pursue a graduate career in Andean archaeology.

My research in Moquegua project was greatly helped by the work of Patty Palacios, my Peruvian director, and her husband Luis Gonzalez. Heartfelt thanks to their tireless work on permits, reports, and inspections for this project. I am also very grateful to have wonderful friends like Barbara Carbajal and David Oshige who saved my sanity on many occasions. Waiting for the permits would have been much more stressful were it not for Barbara and David, who welcomed me into their home in Lima for weeks on end. The everyday field work would have been impossible without the organizational skills Barbara, who was my right hand and my rock when things got rough (and they did of course). I very much hope that we will have a lot more opportunities to work together in the future.

I owe a lot of thanks to my field crew without whom this project would not have worked. Our local crew members, Don Mariano, Jose, Vilma and Valeriana worked many long days and never despaired despite the obstacles we faced. I especially want to thank Eloy Calizaja who for many weeks took on the treacherous task of driving us to the site via tedious bumpy back paths filled with potholes and mud lakes. Arturo Rivera was another lucky addition to our crew. His excellent excavating skills and great sense of humor made our days easier. Much of the supervising in the field went smoothly because of his happy and friendly way of working with everyone. Thanks also to the students form Lima especially Cesar Repetto and Lizette Sanchez who were essential to the initial stages of excavation and mapping of the site.

I am also greatly indebted to the Museo Contisuyu and its staff, who were always a source of information, support and knowledge. Particular thanks to Antonio Quiche, Yamilex Tejada and Patty Palacios. Thanks also are due to Kenny Sims who put me in touch with the Pinto family, who rented me their upstairs apartment many times and which was home during the excavation project and the analysis.

The analysis stage of this project also benefitted from the help of many people. I want to thank Dr. William Whitehead and his students from Ripon College for the microbotanical analysis of the soil samples. I learned a great deal about processing botanical materials from Bill when we spent days building screens and sifting all the materials. I sincerely hope that the database he created will be a valuable tool for future comparative work in Moquegua. I am also grateful for Kaleb Cestle's time to sit down and provide me with a basic analysis of my faunal materials. They were not very well preserved and yet he was able to extract at least some basic information.

Finally I owe a great deal of gratitude to Monika Barrionuevo, who has been a great friend and colleague since my first time in Moquegua in 2003. Working on many projects with her over the years she has taught me everything there is to know about running a project house. Her training has helped not only to set up field schools but also run this dissertation project with some kind of plan in mind. Monika was also a great help in identifying and analyzing my shell samples.

Of course there are also many other friends and colleagues in Moquegua that I have relied on over the years. I want to thank Dr. Michael Moseley for initially suggesting Cerro Trapiche as an interesting research project and for always asking about and encouraging my work. I also want to thank Dr. Donna Nash and Dr. Ryan Williams, I am very glad for their support and friendship over the years. Donna, I thank you for always having an open ear and the right words both as a friend and a colleague. And Ryan, I appreciate all your help with equipment, organizing trips, logistics and of course getting my samples out. I am looking forward to many more years of collaboration with both of you.

I am also thankful for the Betty Olabezal and her hospitality in Lima and Moquegua. Betty always has a way to cheer you up and put things into perspective. Nikki Sharratt was an invaluable friend in the field and I am grateful to her for sharing resources, ideas and good times, and of course her wonderful tea. Thanks also to Andrew Mitchell and Ina for always making me feel at home in el Conde.

Aside from the support in the field I also want to acknowledge my colleagues who have helped me present and publish my research. I want to thank Antonio Quiche for inviting me to present my research at the Congreso Contisuyu in Moquegua and Justin Jennings for inviting me to the Wari symposium at the SAAs in Vancouver. I very much enjoyed writing my contribution to the resulting “beyond Wari Walls” volume. In this context I must also thank Paul Goldstein, my co-author and William Isbell for his very insightful comments on our chapter. It was also great to visit Justin’s project in Arequipa and nerd out over ceramics.

I would also like recognize the exciting collaboration with Kirk Costion that has driven much of our work over the last few years. Although we are interested in different time periods the overlapping of our work in the early Middle Horizon has opened new doors for research on cross-cultural interaction that we both find fascinating. Together we have organized a number of successful symposia and co-authored multiple papers. I am very much looking forward to the publication of our co-edited volume on ancient borderlands in the next year.

Although much our work takes us archeologist away from our families, they are never far from our hearts and their love and support are the most important foundation for our success in the field. This is true for me in many ways. I am forever glad that my mother shared with me her love of ancient civilizations when she took us to work at the Pergamon Museum in Berlin and let us roam in the basement among Egyptian sarcophagi and Greek statues. Although she was not able to see me follow my dream she was the one who inspired it. I am also grateful that my dad encouraged me to do what I love even if it meant moving a world away.

I am very lucky to have siblings who understand the challenges, sacrifices, and rewards of graduate school. Who else has two siblings working on anthropological dissertations at the same time? Tim and Bettina, I especially want to thank you both for listening to the endless tirades about field work, chapters, tables, figures and general complaints about all things graduate school. Tina your straight forward advice kept me grounded in the field and through the writing. Thank you for your care packages and phone calls and for listening. Tim, without you I would never have figured out pivot tables and your advice often helped me to put things into perspective and find the trees again when the forest got too big.

I am also incredibly grateful for the continuous and unwavering support my loving husband has shown me over the last ten years of graduate school. Whether it was a phone call at impossible hours to complain about things gone awry in the field, or changing tickets and sending out equipment, Ron has been my biggest supporter on this journey to fulfill my dream from the beginning. In the last few years, of course, his support has shifted to caring for our two daughters so I could finish these last few chapters and I couldn't be more grateful for that. Finally, Emma and Clara, my smart, strong, and beautiful girls, you have already contributed so much to the finishing of this great task and I am very excited to see what the future holds for all of us. This is for you!

CURRICULUM VITAE

EDUCATION

2015	**Ph.D.** Anthropology, UC San Diego
2007	**C.Phil.** Anthropology, UC San Diego
2005	**M.A.** Anthropology, UC San Diego
2001	**B.A.** Anthropology, *cum laude,* UC Los Angeles
1999	**A.A.** Orange Coast College, Costa Mesa, CA

RESEARCH INTERESTS

Anthropological Archaeology (South America), Household Archaeology, Ceramic Analysis, Archaeology of Colonialism, Social Complexity, Archaeological Method and Theory, Identity Formation in Frontiers and Cross-cultural Contexts

RESEARCH EXPERIENCE

Field Research

2007- 2008	Directed excavations and laboratory analysis of Proyecto Arqueológico Cerro Trapiche (Moquegua, Perú)
2006, 2007	UCSD Rio Muerto Fieldschool (Moquegua Perú), directed by Dr. Paul Goldstein
2006	UCSD Rock Pile Project (Moquegua, Perú), directed by Dr. Paul Goldstein
2004	M.A. Research at Cerro Trapiche, Moquegua Perú, supervised by Dr. Paul Goldstein
2004	Moquegua Archaeological Survey (Moquegua, Perú), directed by Dr. Paul Goldstein
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2003	UCLA Programa Collasuyu Project (Puno, Perú), directed by Dr. Carol Schulze
2002	UCLA Programa Collasuyu Project (Puno, Perú), directed Dr. Carol Schulze
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GRANTS AND FELLOWSHIPS

2011	Dean of Social Sciences Travel Grant (UCSD)
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2007-2008	F. Bailey Dissertation Research Fellowship (UCSD)
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2005-2006	Graduate Student Fellowship, Department of Anthropology (UCSD)
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2004	Pre-dissertation Research Grant, Center for Iberian and Latin American Studies (UCSD)

PUBLICATIONS

Published

2010 Green, Ulrike M. and Paul S. Goldstein. ”The nature of Wari Presence in the Mid-Moquegua Valley” in *Beyond Wari Walls.* Pp.19-36. edited by Justin Jennings. Albuquerque: University of New Mexico Press.

Under Review

Green U. M. and K.E. Costion. ”Modeling Ranges of Cross-Cultural Interaction in Ancient Borderlands”. In *Frontiers of Colonialism* edited by Christine Beaule. University of Florida Press.

Green, Ulrike M. and K. E. Costion (editors). “What happening on the Fringe: Testing a new Model of cultural Exchange in Ancient Borderlands”. University of Florida Press.

In Preparation

Costion, K.E. and U. M. Green. “Rethinking the Local Experience: Varied Responses to the Middle Horizon Colonization of the Moquegua Valley, Southern Perú

Goldstein P.S. and U. M Green. “Popular Colonization vs. Outpost Colonialism: Expansive States and Indigenous Labor on the Tiwanaku-Wari Frontier.”

Field Report Contributions

2008 Informe Proyecto Arqueológico Cerro Trapiche 2008, submitted to the Cultural Ministry of Peru

2007 Informe Proyecto Rio Muerto 2007, submitted to the Cultural Ministry of Peru

2006 Informe Proyecto Rio Muerto 2006, submitted to the Cultural Ministry of Peru

2004 Informe Moquegua Archeological Survey 2003-2004, submitted to the Cultural Ministry of Peru

PROFFESSIONAL CONFERENCE PARTICPATION

Panels Organized/ Chaired

2014 Organizer and Chair of the Symposium" What's happening on the Fringe? Testing a new model of Cross-cultural Interaction". at the 79th annual meeting of the Society for American Archaeology, in Austin, Texas.

2009 Co-organizer and Chair of the Symposium "There are Two Sides to Every Story: indigenous responses and motivations in the peripheries of state level societies during the Middle Horizon", at the 74th annual meeting of the Society for American Archaeology in Atlanta, Georgia.

Presented Papers

2014 Marcone G., Kirk E. Costion, and U. M. Green. "How Did Locals React to External Political Changes at the Onset of the Middle Horizon? Investigating the Interplay of Feasting and Ancestor Veneration at Lote B, Lurín Valley, and Among the Huaracane of the Middle Moquegua Valley**".** Paper presented at the 54th annual meeting of the Institute for Andean Studies at UC Berkeley. Jan.10-11.

2014 Green U. M. and K.E. Costion." Seeing What's Happening on the Fringe: Exploring Visual Representations of Cross-Cultural Interaction". Paper presented at the 79th annual meeting of the Society for American Archaeology, in Austin, Texas. April 23-27.

2014 Costion, K. and U.M. Green. "Modeling the Prehistory of Regional Interactions in the Moquegua Valley, Southern Peru". Paper presented at the 79th annual meeting of the Society for American Archaeology, in Austin, Texas. April 23-27

2013 Green U. M. and K.E. Costion. "Modeling Ranges of Cross-Cultural Interaction in Ancient Borderlands". 78th annual meeting of the Society for American Archaeology in Hawaii.

2011 Green U.M., A. Boswell, S. Baitzel, and P. Palacios. "The Rio Muerto Project 2006-2010: Mummy Preparation, Mortuary Practice, and Social Identity in the Tiwanaku State (AD 500-1000)." 7th World Congress on Mummy Studies in San Diego, California.

2011	Green, U. M. "Meeting in the Middle: Rethinking Culture Contact in the Moquegua Valley, Peru." 76th annual meeting of the Society for American Archaeology in Sacramento, California.
2009	Green, U.M. and K.E. Costion: "Rethinking the Local Experience: Responses to Middle Horizon Expansion in the Andes." 74th annual meeting of the Society for American Archaeology in Atlanta, Georgia.
2009	Costion, K.E., and U.M. Green: "Responding to the Colonization of the Moquegua Valley: the changing of Huaracane identity through the selective adoption of colonial Traditions." 74th annual meeting of the Society for American Archaeology in Atlanta, Georgia.
2008	Green, U. M. "La presencia Wari en el valle medio de Moquegua en Cerro Trapiche." Congreso 25 Aniversario de Investigaciones Arqueológicas en Contisuyo, Moquegua, Perú.
2008	Green, U.M. "The Nature of Wari Presence in the mid-Moquegua Valley: Domestic Contexts at Cerro Trapiche." 73rd annual meeting of the Society for American Archaeology, Vancouver, Canada.
2007	Green, U.M.; S. Baitzel, L. Munoz, and P. Goldstein: "Rock-domed tombs at Rio Muerto: An Omo style variant of Tiwanaku mortuary architecture in the Moquegua valley, Peru." 72nd annual meeting of the Society for American Archaeology, Austin, Texas.
2007	Carbajal, B.**,** U.M. Green, P.F. Palacios and P. Goldstein "Tiwanaku offerings and offering practices at the Rio Muerto M70 site, Moquegua, Peru" 72nd annual meeting of the Society for American Archaeology, Austin, Texas.
2006	Green, U.M. and P.S. Goldstein. "Expansive states and local populations: spatial analysis of Wari and local ceramics at Cerro Trapiche". 71st annual meeting of the Society for American Archaeology San Juan, Puerto Rico.
2005	Green, U. M. "Multi-ethnic frontier interaction in Pre-Columbian Peru: a case study from the Moquegua Valley", paper presented at the Graduate Student Conference at the Center for Iberian and Latin American Studies, UCSD.

Invited Lectures

2014	"Plans for Pots…and People: Pre-historic Pottery Production and Cultural Transformation in the Wari Empire." Lecture presented at the Max Planck Institute for the History of Science, Department III," Histories of Planning" Research Group. Berlin, Germany, January 15th, 2014
2009	"Inka and Wari: Empires in the New World". Lecture presented for Dr. Mathew Herbst's class on the Medieval Heritage of the Modern World

	(MMW3). UC San Diego, June 2009.
2007	"Cross -Cultural Interaction in the Wari Periphery - a Household View from Cerro Trapiche", Moquegua, Peru. Lecture presented for Dr. Paul Goldstein's class on the Empires of the Middle Horizon. UC San Diego, November 2007.

APPOINTMENTS

	Adjunct Faculty
2008-Present	Orange Coast College, Costa Mesa, CA
	Archaeological Fieldschool Instructor
2008	Proyecto Arqueológico Cerro Trapiche, Peru (Pontificia Universidad Católica del Perú)
2008-2007	Rio Muerto Fieldschool Moquegua, Peru (UCSD 2007, 2008)
	Teaching Assistant
2005 – 2011	Making of the Modern World, Eleanor Roosevelt College, UC San Diego
2006	Department of Anthropology UC San Diego
	Research Assistant
2004	Department of History, UC San Diego Professor Deborah Hertz
	Laboratory Assistant
2003- 2013	UC San Diego, South American Archaeology Lab, Directed by Dr. Paul Goldstein
	Reader
2005	Department of Anthropology UC San Diego
2012	History Department, UC San Diego

ACADEMIC SERVICE

Peer Review

2012	Oxford University Press
2011	Oxford University Press

Faculty Service

2013	Faculty Advisor of the Secular Student Alliance at OCC
2012 - present	Faculty Advisor of the Anthropology Club at OCC
2012	Faculty Volunteer for Program Review Committee
2011- 2014	Faculty Volunteer for Committee for Student Grievance
2011- present	Faculty Advisor for OCC Bookstore Advisory Committee
2011-present	Faculty Volunteer Organizer for Community Science Night at OCC

PROFFESSIONAL MEMBERSHIPS

since 2013	Registry for Professional Archaeologists (RPA)
since 2005	Society for American Archaeology (SAA)
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ABSTRACT OF THE DISSERTATION

Cerro Trapiche and the Wari Frontier Experience in the Mid-Moquegua Valley, Perú

by

Ulrike Matthies Green

Doctor of Philosophy in Anthropology

University of California, San Diego, 2015

Professor Paul S. Goldstein, Chair

This dissertation presents research from the Site of Cerro Trapiche in the Moquegua Valley in Southern Peru. Initially the thesis examines the general archaeological exploration of prehistoric expansive state societies and then extends them to the understanding of the expanding Wari Empire during the Middle Horizon Period (AD 600-1000) into the Moquegua valley in Southern Peru.

In order to expand traditional frameworks of imperial control over peripheries I consider models of frontier interaction as a potential approach to examine the complex layered exchanges at the far ends of the Wari empire. Such models view the frontier zone in two ways. Either as a linear political boundary that set the state apart from the foreign

other or they understand the frontier as wild landscapes that need to be encultured and thus focus on the frontier experience as a multidimensional process of change that includes newcomers as well as existing populations and natural resources.

Viewed through a lens of frontier interaction, new data from the residential terraces and ceremonial sector at Cerro Trapiche in the Moquegua valley of Southern Peru is presented in chapters 5 and 6. This data offers critical insights into the processes of cultural exchange in the frontier between the Wari and Tiwanaku states of the Middle Horizon Period and the indigenous agrarian population. I suggest that both local Huaracane and foreign Wari groups engaged in direct cultural exchanges at this site and eventually created a mixed settlement reflecting the changing cultural landscape in the middle Moquegua valley.

This scenario complements both existing as well as newly emerging research models that examine the influence of Wari expansion during the Middle Horizon. The Cerro Trapiche evidence suggests that the Wari used very specific strategies to accommodate both diplomatic ties with Tiwanaku as well as the local population in the Moquegua valley.

The application of a frontier approach to the study of ancient empire peripheries has great potential to enhance our understanding of the multitude of complex cultural, political, economic, and social exchanges that take place at the fringes of expansive states.

CHAPTER 1: MEETING AT THE EDGE OF EMPIRE: CHANGING INTERPRETATIONS OF COLONIAL ENCOUNTERS

Introduction: Examining Cross-Cultural Exchange in Ancient Borderlands

The way archeologists understand of the nature of peripheries, including the complex processes of cultural exchange along these fringes of ancient states, has changed quite a bit in the late 20th and early 21st century. Today's scholars, for instance, construct theoretical frameworks that borrow from fields such as frontier and borderland studies as well as postcolonial theory when aiming to untangle the complex web of intercultural relationships in colonial encounters. The understanding of cross-cultural exchanges in peripheries has also been invigorated by the incorporation of new perspectives from the fields of *Practice* theory and by a focus on agency. This chapter introduces the main theoretical frameworks that provided the basis for my analytical approach to colonial encounters in imperial provinces.

Historically archaeologists approached the process of colonization and the consequences of cross-cultural interaction in two ways: from either a core-centric or a peri-centric perspective. The first method assumes a viewpoint from the core society and its needs to expand. This often means that the core (society) itself is the main subject of study. Any research that is conducted in the periphery also seeks to understand that area from a core perspective by illuminating colonial influence and control over local social, political and cultural structures. The second perspective focuses exclusively on the periphery as the locale of scientific investigation. This approach was early on accompanied by core-centric interpretations but has also experienced a shift toward an understanding of cross-cultural interactions in peripheries independent of core influences. Whereas the core-centric perspective produced a limited understanding of colonial encounters, peri-centric approaches developed into numerous nuanced models.

In this chapter I consider four main schools of thought that are based on these two camps and that are clearly distinguishable in a number of ways. I have categorized these as “Core-Periphery Models”, “Acculturation Models”, “Postcolonial Models” and “New Frontier Studies”. Each school employs a distinct and unique vocabulary that implies a specific understanding of power relationships in colonial encounters and accompanying cross-cultural exchanges. Each also poses different ways in which archaeological correlates can illuminate these cultural interactions. And finally, each school of thought emphasizes a different aspect of colonial relationships that in turn define ideas about cross-cultural exchanges. In the following pages I examine these four categories in more detail and evaluate their potential for understanding the colonial/frontier circumstances in the Moquegua valley.

1.1. CORE-PERIPHERY MODELS

Prior to the mid 1960’s culture change was viewed by many archaeologists as a result of the migrations of populations, the diffusion of ideas and technologies or environmental shifts (Shortman and Urban 1992a, Trigger 1992). Core-periphery models emerged in the 1970’s with the rise of dependency theory (Frank 1966, 1967) and World Systems theory (Wallerstein 1974) in the field of economics. Applied to the ancient world and in archaeology these new models stepped away from previous explanations and instead for the first time considered permanent structural economic, political and cultural ties between ancient state level societies and their colonies (Adams 1984; Algaze 1993; Gunder Frank and Gills 1993). Archaeologists employed this new tool to consider the existence of sustained, systematic links between societies and to explore the relationship of these linkages to culture change (Jennings 2006b: 347). These novel ideas also introduced a new vocabulary of "cores", "peripheries", "hegemonies", "direct control", and "prestige goods" that could be used to model interactions in the past. These interactions are well described in Doyle's (1986) "metrocentric" framework for core-periphery relationships in which the needs of the imperial capital or metropolis regulate the relationships with imperial provinces. Jennings (2006b) also uses the term *radial model* to describe the structural set up of core-periphery model that understands cultural contact in hinterland areas from the perspective of the needs of a dominant core society. In other words, control over the structural ties with the periphery only emanates from the central core.

1.1.1. Theoretical Underpinnings

The core-periphery model emerged as a result of adopting theoretical frameworks of dependency theory and word systems models of cross-cultural interaction from the field of economics when emphasizing the nature of colonial interaction in terms of political and economic control of a core society over a variety of geographic peripheries.

When André Gunder Frank developed dependency theory in 1966 and 1967 he proposed a systematic structural link between prosperous and impoverished nations that was defined by a “metropolis-satellite” relationship. This structural phenomenon could be observed on an international level wherein western industrialized states, like the US or Great Britain were metropolitan centers and their colonies the exploited satellites. Within colonized regions these patterns were then continuously perpetuated so that urban centers became the local metropolis which extracted resources, labor and goods from smaller satellites sites which in turn were metropolitan centers for the rural areas (1966:20). Thus the first and third world were connected through a structural bond of exploitation of labor and extraction of third world raw materials. Furthermore as a result of the colonialist restructuring of local economies the third world became depended on first world high-value, finished goods. However, the gap between the first and third world could never be bridged because the first world’s colonial intrusion had permanently restructured the political economies of the third world in order to comply with Western political and economic interests (Frank 1966:21. In fact, the ”regions, which are the most underdeveloped and feudal-seeming today are the ones which had the closest ties to the metropolis in the past” (1966:27). This was especially obvious in periods of temporary waning of colonial influence like during the first and second world wars or the great depression. In these times only the areas that were metropolitan centers were as structurally limited to development whereas satellites were abandoned and “the already exiting economic, political and social structure of these regions prohibited autonomous generation of economic development” (1966:28). With this work Frank laid out two of the most important characteristics that defined early core-periphery models. First he described the structural set up of metropolitan urban cores and peripheral satellites, and secondly he proposed permanent structural links between the two that included a unidirectional flow of goods from the satellites to the metropolis.

Wallerstein's idea of the world system (1974) further expanded Frank's initial understanding of structural relationship between the metropolis and its satellites. The world system, according to Wallerstein, includes three zones, a core, a semi-periphery and a periphery, which are connected through a world market of bulk commodities that are necessary for everyday life. Each of the three zones has its own economic structure and labor control; however they are all dependent on the core. It is the core government, for instance, that is the strongest and that supports industry and wage labor, whereas states in the periphery are weak and primarily engage in coerced labor and monoculture of staples. The semi-periphery includes states and semi-strong states with limited industrialization.

According to Wallerstein, surplus wealth flows into the core from both types of peripheries and as a result strong states in the core increase and sustain the flow of wealth through extra-economic means (Jennings 2006b: 348). In this structural setup, labor organizations, resource extraction, accumulation of wealth and market relations, for instance, result from relationships that integrate vast areas, and frequently, many political independent states.

1.1.2. Application in Archaeology

Applications of this model to expansive state societies of the past have had varied success. Gunder Frank and Wallerstein themselves disagreed on how applicable these new ideas were to the study of the ancient world. Wallerstein, for instance, argued that they could not be applied to pre-capitalist states (1974:15-16) because ancient states lacked sufficient control over peripheries and because the system did not possess technologies necessary to produce a significant surplus. He nevertheless conceded that some “world empires” had emerged which exerted economic control over large areas of the world through administered tribute payment systems that reflected strong economic ties between the core and its peripheries (1974:16).

Despite Wallerstein’s (1974) initial reservations the world-systems model has been widely applied to early empires, because some scholars disagree with some of Wallerstein’s notions about pre-modern empires. Gunder Frank, for instance, proposed the “interpenetrating accumulation model” arguing that macro-regions are often organized through economic relations that exceed political boundaries (Gills and Gunder Frank 1993; Gunder Frank and Gills 1993). Gunder Frank also suggested that the modern world system was the result of thousands of years of evolution. In his later work, for instance, he connected the Uruk expansion of fourth millennium BC Mesopotamia to the present day through cycles of capital accumulation and core-periphery relations (Frank 1993, Frank and Gills 2000).

To many archaeologists in the 1980’s and 90’s the world systems model was quite attractive as it allowed them to link political, economic and geographic lines of evidence that are expressed in material culture (Stein 1999, 2002). The model found application in different regions of the world and time periods and across a wide range of societies (Chase-Dunn and Hall 1992; Kardulias 1999; Rowlands et al. 1987). On a large scale, Nash (1987), for example, applied the model to the Roman empire and its relationships with it various peripheries including the Middle East, northern Africa and Germany. Algaze (1993) suggested an Uruk world system in Mesopotamia with a resourcechallenged core exploiting the resource abundant hinterland to which it was connected by river systems. Chase-Dunn and Hall (1991) expanded on the idea of world systems to far smaller scale societies among the California native Wintu and their neighbors. Kuznar (1999:228) and LaLone (1994:34) directly applied Wallerstein's idea to the Inka empire. They argued that integrating various economic regions and resources in the Cuzco core exemplifies this theoretical approach.

While some scholars embraced the world systems approach, as described above, many also had reservations and proposed critical reevaluations of its application. Jane Schneider (1977), for instance offered one of the most important early critiques of the application of world systems theory to ancient contexts. She pointed out that economic ties between different regions were not exclusively built of the extraction and movements of bulk goods but that trade of prestige items also played a large role in the interconnectivity of different regions and conferred status to those that acquired these items. Blanton and Feinman (1984:676) in their assessment of the usefulness of Wallerstein's model to describe an Mesoamerican World System "agree with Schneider (1977) that the dichotomy that Wallerstein draws between luxuries and bulk goods is a false one that wrongly ignores the potential systemic properties of ex-changes involving luxury goods". They propose that only by redefining the systemic properties of luxury trade within Wallerstein's concept of world economy can this be a useful model to understand regional exchanges in the ancient Mesoamerican world (1984:679). Others were skeptical about the existence of semi-peripheries and the perceived long-term stability of the core (Blanton and Feinman 1984, Ekholm and Friedman 1979, Kohl 1987).

One of the results of the critical engagement with the world systems model in archaeology was the development of more nuanced core-periphery models to describe interregional interaction in ancient states. These approaches highlighted the great variability within each core-periphery system and pointed out that the relationship between cores and peripheries was quite different for each ancient society and also varied between different peripheries (Berdan et al. 1996, Malpass 1993, Schreiber 1992).

One such perspective examines power relationships on a scale that is framed by *territorial* and *hegemonic* models, which evaluate strategies of imperial rule depending on their intensity and mix of military, economic, political, and ideological power (Mann 1986). They have been applied, among others, to the Inka (D'Altroy 1992), Roman (Luttwak 1976) and Aztec empires (Hassig 1985). These two models suggest a range of imperial control over peripheral areas ranging from direct administration to relative autonomy of peripheries, which were bound to the core society trough tribute payments. Schreiber's 1992 "mosaic " model of the Wari empire, for instance, employs the territorial/ hegemony paradigm, acknowledging that a range of strategies may to be employed by imperial cores in different peripheries.

On this scale of strategies, *hegemonic* rule is the least intensive strategy, resulting in a rather loose, indirect kind of imperial rule (Doyle 1986; Hassig 1985:100-101, Luttwak 1976). In this approach the core state dominates a series of client polities remotely through means of diplomacy or conquest. Hegemonic rule aims to keep its control at a low cost. Thus a low investment in administration and physical presence often results in low resource extraction and limited control over the subject peoples. Doyle (1986) contrasts the hegemonic rule of Sparta over its allies with the territorial rule of Athens over the members of the Delian league (54-60). The Aztecs, viewed from a hegemonic angle, included client states in their empire. Although a number of client states were not listed on tribute lists like the Codex Mendoza, they appeared instead on lists of imperial conquest or statements recognizing the dominant position of Tenochtitlan (Smith 1996:137).

The opposite end of the spectrum of imperial rule is marked by the *territorial* strategy (D'Altroy 2002; Doyle 1986; Luttwak 1976; Schreiber 1992), which presumes an intense and direct rule over subject peoples in the empire. This economically costly approach requires investments in administration, security against external and internal threats and the physical infrastructure of imperial rule like roads, provincial centers and frontier defense (D'Altroy 2002:7, Doyle 1986). However, this elevated cost may be necessary in order to keep the empire in existence or to satisfy elite demands. First century Rome and the Han Chinese are good examples of territorial empires. It is important to keep in mind, however, that hegemonic and territorial strategies, although contrasting, are not mutually exclusive. They could both be applied concurrently and sequentially in various situations or parts of the empire. Their flexible use also depended on the type of organization in the core polity and on the nature of societies an empire came into contact with.

1.1.3. Challenges of Core-Periphery Models

One much debated weakness of traditional core-periphery models is their rootedness in a core-centric understanding of empire and imperial motivation. This means the strategies that these models describe are based on the desires and needs of a more powerful and complex imperial core. Thus how the relationship between the core and its periphery is viewed in terms of space and power is based on the underlying assumption that cores are more complex and sophisticated than less developed peripheries (D'Altroy 2002:8, Stein 2005:6). This view assumes a relationship of inequality between the heartland and the surrounding areas. This was not always the case and some imperial societies dominated, at least for a time, peoples who surpassed them in technology, population, social hierarchy and economic specialization. D'Altroy (2002: 18) and Moseley (1992) specifically point to the Inka conquest of the large and powerful Chimu Empire to the north of Cuzco as just one example, which clearly challenges the idea that conquered peripheries have to be less complex than the empire core.

A second challenge of the core-periphery model is that its application frequently overemphasizes the power of the core society (D'Altroy 2002:8; Dietler 1998). Historical documentation can provide evidence that many empires rose to power through coercive means, but conquest was often coupled with diplomacy backed by force. Thus the relationship between cores and peripheries was much more dynamic and fluid than proposed in earlier scholarship. Barfield (2001:10-41), for example, explains that rather than extracting resources, Chinese emperors of various dynasties paid tribute to the steppe nomads to keep them at bay. This arrangement in turn created an interdependency of both groups as the nomads became dependent on this economic relationship as well.

A third concern about the application of core-periphery models is their primary focus on activities of core elites and their interaction with other peripheral elites. As research in peripheries and local communities is increasing, it becomes evident that non-elite groups in these areas also mediated much of the imperial and subject relationship.

Peter Wells' research (1992, 1998) on Germanic burial contexts along the frontier of the Roman Empire, for instance, shows that Germanic groups in the borderlands selectively incorporated Roman style metal cups and ornaments as expressions of social status within their society. Thus foreign elements were often used to negotiate local social power and identity from within a cultural group and on different social levels and were not manipulated by a core society. Because core-periphery models privilege core influences, and particularly elite core influences, they have long engendered core-centric approaches to frontier cultural interaction under models of *acculturation* and *emulation.* Add evaluation for uses in Moquegua case

1.2. ACCULTURATION, ASSIMILATION, AND EMULATION: EXPLAINING MECHANISMS OF CULTURAL EXCHANGE

Despite its challenges, the core-periphery model provided an important structural framework for analyzing colonial encounters and other cross-cultural exchanges. Nestled within this structural model, a variety of perspectives addressed the nature of intercultural exchange by emphasizing the flow of cultural changes in colonial encounters. Early studies in this field were directly tied to implications of power and political dominance as is evident in paradigms like Hellenism or Romanization in European archaeology. North American scholars treated the Colonization of the Americas in a similar fashion by focusing much of their attention on the westernization of indigenous peoples rather than on mutual cultural influences. These approaches were clearly linked to attitudes that prioritized core-centric motivations and assumptions of their superiority within such colonial exchanges. Archaeologically this meant that the sheer presence of core-style artifacts in a provincial site expressed core-control and that the abandonment or disappearance of local styles was evidence for colonial power and cultural superiority. Local traditions were thus happily abandoned in the face of this cultural betterment. Over time, with the critique of imperialist interpretations, a new view of acculturation emerged and is constantly changing (Silliman 2005).

Acculturation describes a process during which smaller, less powerful groups, so-called “recipient cultures,” gradually become like the larger, powerful “donor cultures” that control them. As unidirectional processes, “acculturation” by the host community reflects “assimilation” by the colonizers (Cusick ed. 1998). These two terms have been adopted from the work of anthropologist George Foster (1960) who originally addressed the process by which Spanish, or donor, cultural traits were accepted and integrated into recipient, Mesoamerican indigenous, cultures. The acculturation process was marked by the borrowing of specific cultural traits and in the end lead to the absorption of the smaller society into the larger group. Acculturation theory was based on an a priori assumption that the “traditional” recipient societies have a natural desire to adopt the intrusive material culture and other aspects of the donor societies, or are too weak to prevent such infiltration (Cusick 1998:132). Or, in Malinowski‘s words, acculturation reflects “the impact of a higher, active culture upon a simpler, more passive one” (1945:15).

Acculturation studies were the dominant interpretive framework used by European scholars who studied colonial circumstances in the classical periods and is reflected, for instance, in the concept of “Hellenization”, “the idea that a desire for Greek objects, and Greek culture in general, was a natural and inevitable result of contact" (Dietler 2010:45). The concept of Hellenization characterized ancient populations in opposing categories of either civilized Greeks or barbaric other, immediately assuming an innate superiority of Greek culture. This was coupled with a mirrored expectation that barbarians had a natural desire to emulate Greek material culture as soon as they have been exposed to it. Under the Hellenizing model, Greek culture transformed all that came into contact with it, and research approaches that followed this approach focused mainly on recording the stages of that progress. In other words, Hellenization studies simply:

> measure[d] the "degree" of Hellenization during different periods of the Iron age by equating the different forms of borrowing with different depths of cultural assimilation, without really grappling with the potential social functions or ramifications of adopted techniques, objects, and practices in native systems. (Dietler 2010:46).

Since Hellenization studies were mostly concerned with documentation of degrees of Greekness they did not explore the underlying processes or motivations that may have led to the adoption of Greek styles. Such ideas clearly illustrate the uni-directional nature of the acculturation model, which for instance, did not consider why local populations might want to emulate Greece in the first place. Rather, assumed acculturation ignores many unintended consequences of such consumption on indigenous culture because it assumes a cultural dominance of the core society. Jean-Paul Morel (1983) pointed to the limits of this model and argued that Greek culture was not passively emulated wholesale but rather that local populations were selective about what particular aspects of Greekness should be incorporated into local culture or rejected.

"Romanization" is a similar concept, which has been used to explain transformation of cultures and identities among colonized subjects in the Roman Empire although “such transformations have been generally more obviously profound and have involved many mimetic adaptations of Roman practices.” (Dietler 2010:46). Once again this perspective assumes an inevitable and one-directional flow of cultural influences that suggest a complete assimilation of Roman culture and identity by native groups.

Again, the German-Roman borderlands illustrate the shortcoming of these assumptions. Many well-made Roman prestige goods, mostly metal drinking vessels and precious metal jewelry, have been found in graves that were located well beyond the Roman frontier in the so-called “Free Germany” (Wells 1992, 1998). Interpretations of these burials indicate that they conformed to the traditional indigenous burial practices of the region suggesting that indigenous German elites were utilizing Roman imports to assert status through their connection to the Roman Empire. There is no indication that these German elites were attempting to become Roman or emulate the Roman elite classes; instead as Wells points out, the Roman imports were simply reinterpreted within traditional German practices of acquiring and maintaining prestige (Wells 1992, 1998).

Acculturation was also the dominant interpretive framework for the interaction of European colonialists with Native Americans, wherein a uni-directional view of culture flow from European to indigenous populations was enforced. This attitude was present in early North American frontier studies (Rodseth and Parker 2006) and also served as an explanation of the cultural changes that followed the Spanish conquests of Meso- and South America (Foster 1960). Both instances were permeated with the underlying assumption that European culture prevailed not so much because it was backed by force but because it was intrinsically superior to indigenous ways of life.

1.3. PERIPHERY OR FRONTIER; HINTERLAND, BORDERLAND OR COLONY?

I characterize “New Frontier Studies” a fourth group of scholarly approaches to the social interaction between people in geographical or other spaces that transcend discrete political, cultural, economic or ethnic boundaries. These *New Frontier Studies*, like *postcolonial studies,* also integrate motivations and power relationships of local and colonial agents. What distinguishes *New Frontier Studies* from the previous category is that they clearly focus on the cultural entanglements in shared spaces, the frontier, and specifically address the nature of boundaries and border (lands) and the ranges of interaction that are unique in these areas. In B.J. Parker’s words “they are the places at the edges of cultural spheres and therefore embody the loci within which culture contact takes place” (2006:77), which does not necessarily include colonial conditions. In other words, frontiers may exist at the edges of empires but may not be structurally tied to them at all. And, while elements of core culture (s) may be present in frontiers, the underlying processes of how they got there may be entirely due to processes that originated in and are unique to the particular frontier location. Frontier studies expand the postcolonial frameworks further by investigating instances of cultural hybridity and ethnogenesis in shared physical and imagined places.

1.3.1. History of Frontier Studies

In a very general sense, frontiers are cultural contact zones that have been interpreted in a number of ways across the world and throughout various time periods by scholars in in archaeology, history and anthropology. In American scholarship the idea of the frontier was long bound to the specific historical context of the American West of the 19th century and linked to the American school of thought associated with Frederick Jackson Turner (1861-1932). Turner's frontier thesis has greatly influenced the way American anthropologists and historians thought about and perceived cultural contact, peoples and transformations. Essentially Turner argued that American society and national character were not simply extensions of European civilization but products of the unique American frontier experience. With this conclusion Turner shifted the focus of investigation of cultural change from the "center" to the "periphery"; from Western Europe to the American West (Rodseth and Parker 2006).

Over time, however, Turner's Frontier concept has been reevaluated by many scholars and has been regarded as ethnocentric and centered on Victorian ideals of rugged individualism associated with manifest destiny thus limiting its usefulness for a nuanced understating of frontier experiences (Limerick 1987, 1991; Worster 1987, 1991). Although by the mid-20th century, some American historians still defended Turner's ideas to some extent (e.g. Hofstadter and Lipset 1968, Putnam 1976, Billington 1977), most of it gave way to extensive criticism of his thesis by the 1980's (Limerick, Milner and Rankin1991; Malone 1989, Worster 1987). Patricia Limerick (1987), for example, rather than focusing on the spirit of triumph and hope and the emphasis on white settlers that permeated Turner's vision, drew attention to other frontier processes of conquest and marginalization of groups that were pushed aside by white settlers and the federal government, including Indian tribes, Mexicans and Asian Americans. Similarly Glenda Riley (1993), laments the male centric nature of Turner's theory that makes the frontier essentially a male phenomenon that excludes women's viewpoint altogether.

European ideas of frontiers, on the other hand, were mainly formulated in the fields of history and geography. For European scholars a frontier was usually an imperial boundary, not so much open wilderness fostering rugged individualism like Turner's idea, but a zone of contested political control that would have to be surveyed, mapped, and perhaps invaded and occupied before proper borders could be drawn (Rodseth and Parker 2006b:6) . Studies of such boundaries could be applied to ancient times. Fortifications such as Hadrian's Wall or the Limes and other remains of imperial frontiers have been of great interest to classical historians and archaeologists. Some of the major works in Roman history and archaeology actually focused on frontiers (Luttwak 1976, Dyson 1958, Isaac 1990, Elton 1996) and have been applied to research in other parts of the world as well.

Anthropologists have come to the study of frontiers though their interests in diffusion and ethnicity. Diffusion or "borrowing" and "flow" of cultural materials from one population to another were a central concern of anthropologists in the early twentieth century (Lowie 1937, Stocking 1995). By the 1920's attention was beginning to focus on the power relations that framed the processes of diffusion, what Pitt-Rivers called the *Clash of Culture and the Contact of Races* (1927). North American anthropologists rather than interpreting white-Indian relations as a civilizing process began emphasizing the history of conquest and colonial domination (Lesser 1933, MacLeod 1928).

Both the Turner thesis and the European conquest frontier perspective gave way in anthropology to "acculturation studies". Redfield et al. 1936:149 define these as "phenomena which result when groups of individuals having different cultures come into continuous first-hand contact". The incorporation of periphery-oriented interpretations of culture contact through acculturation models was in some ways a flawed approach as it ignored unbalanced power relationships in colonial conquests. What was needed was a shift onto the independent nature of interactions that take place in frontiers and that happen outside of a core-periphery paradigm.

An important contribution to understanding the cultural exchange that occurs in frontiers came from the ethnographer Fredrik Barth, who was interested in elucidating the exchange between ethnic groups in contact zones. Barth (1969) suggested that when ethnic groups come into contact, that boundaries between these groups tend to solidify rather than blend or blur. This meant that as a result of cultural contact ethnic groups would reinforce ethic identity boundaries in order to maintain their distinct identities. Barth's focus on the boundaries between groups aimed at understanding the simultaneous process of maintained ethnic identity and flow of material goods across these boundaries (Rodseth and Parker 2006b:7).

Expanding Barth's premise and considering multiple ways in which ethnic identity can be shaped in frontiers through ethnogenesis; Lars Rodseth (2006:86-89) distinguishes between differed processes that lead to the formation of new ethnic identities. The first process is hybridization or merger which is related to increased interaction between groups of people, which tends to blur the boundaries between groups and reduces the number of ethnic groups (2006:88). This includes the blending of distinct features into new combined forms. The second process of fission or fragmentation results from an increased separation between previously unified cultural groups. According to Rodseth, this process multiplies the number of ethnic groups as social networks become untangled and by reducing the exchange of personal information between them. A third process, which Rodseth calls *juxtaposition,* "involves the paradox of ethnic differentiation through interaction" (2006:88). Juxtaposition is like fission in that it emphasizes differences between groups. A case in point is differentiation of ethnic groups within the American melting pot where being "Italian" meant to be not-German, or not-Irish. It also is like a merger because it depends on the interaction between previously separate groups and can merge less comprehensive identities (Saxon, Hesse, Bavarian) into a new one (German).

The ideas of fission, merger and juxtaposition also occur in different types of frontiers. Fission is enhanced by the frontier viewed as wilderness, whereas merger and hybridization are fostered in frontiers perceived as contact zones.

1.3.2. New Frontiers

New ideas of frontier have been formulated with renewed vigor since the 1990s (Cusick et al 1998; Lightfoot and Martinez 1995; Shortman and Urban 1992a, 1998; Parker 1996, 2002, 2006). Since the early days of acculturation theory, there has been a shift in anthropological understanding of frontiers as complex multicultural spheres of cultural interaction within which agents and groups of agents directly or indirectly manipulate power relationships and identities. The new frontier studies focus on the nature of boundaries, borders and the fluidity of exchanges that shape the existence of all participants in such cultural exchanges.

Frontiers themselves, while somewhat definable geographic areas, are by definition not static but imbued with a sense of fluidity and constant and dynamic change (Cusick ed. 1998). This revised approach to frontier zones is evident in Parker's concept of “Continuum of Boundaries Dynamics” (2002:374) which he developed to better understand the Assyrian Empire’s Anatolian frontier during the Mesopotamian Iron Age. Using Elton’s (1996: 3-9) description of frontiers as zones with different types of overlapping boundaries as a starting point, Parker’s model conceptualizes frontier zones as a mix of shared geographic, political, demographic, cultural, and economic boundaries each of which can range along a continuum from relatively closed or static boundaries to more dynamic, open and fluid frontiers (Parker 2002: 374, 2006: 82). He suggests that as frontiers incorporate multiple types of boundaries, a complete analysis of any frontier zone must also include multiple lines of evidence and perspectives to truly understand the dynamic of such regions (Parker 2002: 374- 375). Using this model in his analysis of the Assyrian Anatolian frontier, Parker found it politically and geographically restrictive while demographically, culturally and economically porous.

The takeaway message for archaeologists is that only by investigating multiple lines of evidence can we illuminate the multifaceted and dynamic nature of frontier regions. This includes artifactual categories and a broad range of contexts but should also consider comparisons between multiple sites within a region. Furthermore site size and cultural affiliation plays an important role. Favoring the investigation of smaller and indigenous sites over larger, foreign, and intrusive sites provides answers to local reactions to foreign settlements or cultural exchange. Equally important is the incorporation of comparative regional site data that may reflect cross- cultural exchange beyond the local level.

1.4. POSTCOLONIAL STUDIES AND REGIONAL INTERACTION MODELS: A NEW FOCUS ON THE PERIPHERY

A new framework for the analysis of cultural interaction emerged as a response to the rise of post-colonialist literature with particular influence of Edward Said's *Orientalism* (1978). The postcolonial transition in the social sciences profoundly changed anthropologist's understanding of empires and their underlying relationships with their peripheries. Experiencing a postcolonial world, scholars began to focus on social, ethnic, political and economic exchanges that took place away from the core society and within and between the former peripheries. It became clear to anthropologists and archaeologists alike that previous core-periphery models and acculturation based interpretations did not suffice in understanding the cultural complexity of modern or ancient colonial encounters (Cusick ed.1998, Dietler 2010; Gosden 2004; Jennings 2006b; Lightfoot et al. 1998; Shortman and Urban 1987, 1992; Stein 2002, 2005; Van Dommelen 1997, 2005). Shifting away from models of causation dependent on economic dominance and uneven development, the post-colonial school of thought focused on negotiated power struggles and identity formation in regions where complex cultural identities were often the drivers of social and cross-cultural interaction. Thus postcolonial or *regional interaction* approaches to cross-cultural interaction directly addressed the limits of the radial and acculturation models in the previous section.

Rather, in colonial contexts, they address issues of "colonial" identity in both local and foreign participants. Unsatisfied with the limits of acculturation approaches, postcolonial scholars of colonial encounters turned to anthropology and colonial studies, two fields concerned with the effects of colonialism on the daily lives of colonized peoples in the modern world. Furthermore these models consider agency as an important factor in cross-cultural encounters alongside with patterns of cultural *Practice*. A third theme that permeates this postcolonial literature is consumption and its relationship to agency and material culture in various cultural exchanges in peripheries and colonial encounters.

1.4.1. The Language of Post-Colonialism

As the postcolonial discourse explored new ways of teasing apart the intricacies of colonial interactions and cultural entanglement, postcolonial scholars refocused and expanded their interpretations of colonial encounters onto the effects on all participants. Using Michael Dietler's (2010:45-53) succinct summary of the main terminology used by postcolonial archaeologists, I want to briefly describe the language used in analyzing colonial encounters as it provides great insights into the meaning and importance that archaeologists place on various parts of the puzzle.

Changes in the comparative study of cross-cultural entanglements are linked to developments in the intertwined fields of history, anthropology and archeology, which have become invigorated by a focus on agency, identity formation, resistance and indigenous perspectives. These perspectives consider culture as both an agent and a historical product and explore the role of local agency and resistance to understand local experiences of colonial encounters and subtle transformations of culture, consciousness and identity (Dietler 2010:50). The most important shift in perception that resulted from this was the awareness that all parties engaged in a cross-cultural encounter are transformed. Consequently studies of such exchanges must include investigations of all perspectives including that of local peoples, colonists, and distant cores.

As a result of this shift many postcolonial scholars tend to emphasize the processes and results of mixing and blending that occur in colonial exchange. Reflecting this focus are three slightly different terms that dominate the discourse on these topics: hybridity, creolization, and metissage/mestizaje.

The first term, *hybridity* (Bhabha 1994; Young 1995), illustrates the blending of different cultural traits, customs of material culture. In a similar fashion, the second term, *creolization*, (Bernabé et al. 1993; Brathwaite 1971; Hannerz 1992) is a linguistic term that refers to the use of two languages in a new structure and application that is different from it original use and thus creates a new language. Applied in anthropology, the term was used in the study of African slave society in Jamaica by Brathwaite (1971) where he describes the blending of different cultural practices and ideas.

Ferguson (1992) refers to *creolization* when assessing material culture in plantation studies and responds to acculturative interpretations of European contact with Native Americans and Africans in colonial America. He described that although African slaves were only given European utensils they used them in an African way when preparing and serving food. In the material record it might appear as if African slaves completely adopted European culinary customs by exclusively using European tableware. However, what may appear as acculturation was actually an appropriation of European style things in a traditional African way in the slave households thus creating a new identity, lifestyle and materiality.

Jane Webster (2001) also uses the term *creolization* when examining the emergence of new religious ideas on the Romano-Celtic frontier that cannot be described as mixing or blending but which incorporate the use of old beliefs in creating new meaning.

The last term, *métissage* (Amselle 1998; Turgeon 2002) or *mestizaje* in the Spanish world refers to biological hybridity and addresses the birth of “interracial” children as result of intermarriage between (colonial) men and (indigenous) women in colonial contexts. This concept has been explored by scholars interested in French colonial history in Asia and North Africa and the Spanish conquest of the New World (.

These ideas are useful when detangling the complexities of cross-cultural context because they successfully illuminate how new syncretic and synergistic, social and cultural forms emerge from the mingling of people, practices, ideas and beliefs in complex cross-cultural engagements.

1.4.2. Identity and Agency in the Periphery

A short coming of traditional core-periphery models, and the accompanying models of frontier acculturation, is that they only present different grades on the scale from direct to indirect interference (equated with control) in the inferior periphery, which is evaluated based on the degree of imperial presence in the archaeological record (imperial architecture, imperial style artifacts like pottery, burials, textiles etc.).

While the acculturationist view described above has also been widely applied in the study of the European conquest of the Americas, it has been questioned and amplified by new models for frontier and borderland interactions and cultural exchange that acknowledge cultural contact zones as active platforms for negotiation of power and identity by local agents (Cusick ed. 1998; Deagan 1983, 1998; Lightfoot et al. 1998; Shortman and Urban 1998). For instance, Kathleen Deagan (1998) has argued that cultural change in Spanish America was not a unidirectional process of acculturation, but rather a formation of new creolized identities through a process of transculturation and ethnogenesis. Based on detailed spatial analysis of gendered activities and the distribution of utilitarian artifacts in households in St., Augustine Florida, researchers were able to show how marriage between Spanish men and Native American women formed the economic and cultural basis for a new colonial culture (Deagan 1983, 1998, Ewen 1991). Cultural practices, identities and artifacts were blended and effectively created new hybrid identity.

Similarly, Lightfoot et al. (1998) studied the Russian fur trade at Fort Ross on the north coast of California. In their scenario, Alaskan Aleut men, who were hired by Russians as seal hunters, married local Kashaya Pomo women and lived together in intercultural households in a distinct neighborhood adjacent to the fort. Both examples illustrate that interregional contact during the 16-19th century was more complex and involved interactions on multiple levels with a multiple number of different groups and was not just the interaction Europeans and local populations. Secondly, the supposed European control and cultural influence over the indigenous peoples was far less pronounced than acculturation models would assume. Lastly, the interaction between groups and the resulting changing social identities, reveal a necessity to incorporate social identity and contexts of practice in archaeological analysis (Stein 2002: 906).

These examples illustrate a more recent response of anthropological theory to developments in social theory and postcolonial studies, shifting the focus from top-down approaches that concentrate on the ruling elite to exploring the lives of the provincial populations who comprised the majority of the empire (Wolf 1982), paving the way for a focus on the political, economic, and social implications of imperial rules within the provincial community and at the household level.

Other recent archaeological approaches to interregional interaction recognize that the incorporation of agency (Dobres and Robb 2000, 2005), social identity (van Dommelen 2005, Rogers 2005, Stein 2005), and practice (Spence 2005) greatly enhance our understanding of complex societies especially in peripheries. Dobres and Robb (2005), for instance, use agency as a “framework for understanding how material culture relates to everyday social action, to longstanding cultural institutions, and to wholesale culture change” (Dobres and Robb 2005:159). They focus especially on the link between observable material patterns and agency of ancient social reproduction and discuss how to address the role of material remains in the process. Dobres and Robb propose that agency is a two-fold phenomenon consisting of both materiality and social reproduction. This means that the “material world is not just ‘central’ to social reproduction but that material culture actually *constitutes* social relations and meaning making.” (Dobres and Robb 2005:162).

Van Dommelen (2005) investigates ancient interaction and the development of new, colonial, social identities in his study of Phoenician and Punic colonization of Sardinia in southern Spain and Ibiza during the 1st millennium B.C. He highlights and addresses the resemblance and differences between Carthaginian and Phoenician colonial settlements and connects this with the different backgrounds of both colonial and indigenous inhabitants in several colonial situations in the Mediterranean between the 6th

and 1st millennia B.C. Van Dommelen directly considers a larger phenomenon that researchers face, namely the directionality of colonization. He asks whether different colonial situations should be grouped together under headings such as “Carthaginian colonization” or whether the specific local nature of the different colonial experiences should be emphasized in describing the nature of the colonization process (2005: 111).

This contrasts with Stein’s (2005) *trade diaspora* example of Assyrian merchants in the 2nd millennium B.C. in Anatolia who, except for their writing seals technology and method, completely adopted indigenous material culture and residential architecture. In the multiethnic community of Karum Kanesh, Assyrian, Anatolian and Syrian merchants lived together. Letters and other economic communications like seals show that Assyrians maintained close contacts with their homeland through caravans but probably also married local Anatolian women to cement trade relationships (2005:160). These factors support an intact maintenance of Assyrian identity in language and status as foreigners in the community. On the other hand, these foreign merchants also adopted local-style architecture, ceramics and other forms of material culture. Importantly, Stein points out that if it had not been for the presence of Mesopotamian cylinder seals in some of the houses, which identified owners as Assyrians, the residences would have been identified as local (159-162).

Spence (2005) also uses a *trade diaspora* model in his study of the Zapotec ethnic enclave in Tlailotlacan in the urban center of Teotihuacán (ca. AD 200-650), although he uses the concept of individual *habitus* in the productive technology, style, and use of material culture as a key element in forming Zapotec diasporic identity. These examples illustrate that an inclusive approach to interregional interaction is imperative because it integrates the relationship between social structures and individual or group actions as major factors in the reproduction and change of social organization in complex societies.

1. 4.3. Postcolonial Frontier Studies in Archaeology

Alcock et al. (2001) provide a number of examples of views of cross-cultural interaction and imperial strategies from the perspective of an empowered periphery. Barfield (2001:15-17), for instance specifically addresses the initiative taken by the Xiongnu nomads on the fringes of Han China (202BCE -220CE). He argues that to survive and succeed the nomads had to influence decision making in the high courts, where frontier policy was made. In order to be perceived as a constant threat of violence to the Chinese empire, the nomads conducted violent raids in the borderlands and extracted trade privileges within China and the border market. "China [on the other hand] disguised the true nature of this appeasement policy by devising an elaborate 'tributary system' in which large payments to the nomads were described as gifts given to loyal subordinates come to pay homage to the emperor " (Barfield 2001:17). This led to a symbiotic relationship between the Chinese state and the nomads, who in the end replaced the Han dynasty under the Northern Wei after the fall of the empire in the 3rd century.

Similarly, in his 2001 presentation of the Portuguese *Estado a India*, Sanjay Subrahmanyam laments a "focus exclusively on the official hierarchy of viceroys, governors, and aristocrats (*fidalgos*)" and calls for a shift towards investigating "other social categories, ranging from [married] trader-settlers (*casados*), to renegades, to mixed –blood (*mestico*), and other groups such as [local] Christian converts who participated willy-nilly in building the edifice of the Portuguese presence in Asia.” (Subrahmanyam 2001:45). Only by including perspectives from multiple groups of participants, who were on the forefront of cultural interactions, are explored can a more complete picture of cultural exchange can emerge.

A last example, Amélie Kuhrt integrates the peripheral perspective when discussing the relationship between imperial power and local particularism in the consolidation of the Achaemenid Persian empire (ca. 550- 330BCE; 2001:118-1123). She argues that the interaction at the regional level between Persians and local elites should not be underestimated. Such marriage “alliances gave local elites a potential foothold in the Persian system of honors” (2001:119). This clearly illustrates that motivations of local elites played an important role in the interaction with the empire, a perspective often ignored by core-periphery models and territorial approaches.

Following in the same vein, Cusick et al. (1998) address motivations for exchange and interaction in frontiers and borderlands. D’Altroy and Hastorf (2001) specifically investigate the impact of Inka domination at the household level in the Mantaro valley, Peru. They find that with the arrival of Inka practice of intense maize beer consumption in public and ceremonial contexts, the maize consumption changed within local contexts in that local leaders also appropriated this practice for their own benefit. In the introduction to their volume on interregional interaction, Shortman and Urban (1992: 1-15) propose specific strategies of how to link different types of changes and exchanges evident in the archaeological record in cross-cultural frontiers, with scenarios of social change. Finally, Stein (ed. 2005) presents a number of case studies that convincingly place local perspectives above core motivations and strategies in the periphery and look beyond the colonizer and colonized dichotomy. The impact of some of these views on the discussion on new approaches to colonial encounters is discussed below.

1.4.2. Social Science and Post-Colonial Theory - Defining Colonialism

Scholars engaged in the colonial encounters debate are concerned with an important distinction between *colonies* and *colonialism*. Dietler (2005: 54) defines colonialism as the "projects and practices of control marshaled in interactions between societies linked in asymmetrical relations of power and the process of social and cultural transformation resulting from those practices". It is a form of unequal social relations between cultural groups or polities and implies political, military and/or economic dominance by foreign intruders over local populations (Stein 2005:24). This view is largely based the western experience of colonialism in the Americas, Africa, and south Asia from the sixteenth through the mid-twentieth century. From this perspective western scholars have produced models that analyze the structure of colonial encounters as western experiences that are closely linked to historically specific experiences as the particularly western views of colonialism show.

The underlying assumptions of colonialism are similar to core centric perspectives, associated with a European experiences of domination of a foreign minority, and consequent assumptions of cultural and racial superiority over materially inferior local community, and a technologically advanced civilization with powerful economy (Stein 2005:24-25). Similarly, *colonization* from an archaeological perspective has used the language of acculturation and *assimilation* models. As discussed previously archaeologists following these models have used the presence of artifacts from the more powerful core culture in assemblages of the smaller, recipient culture as a direct indictor of acculturation, an approach frequently used in studies of Roman and Hellenistic sites in Europe (for instance Barrett 1990; Okun 1989).

As post-colonial approaches acknowledge that colonial agendas and intensity of local colonial interaction change over time (Rogers 2005; Schreiber 2005; Stein ed. 2005) they distinguish between various definitions and models of how colonization takes place. Cross-cultural interaction between groups of people occurs in a variety of ways. First, contact may be voluntary or involuntary. Voluntary contact may be the result of trade relationships or long distance interaction. The spread of religious ideas or other ideological concepts by pilgrims or travelers also may lead to interregional contact. Involuntary contact involves some kind of conflict and most often is related to conquest or warfare based on resource control by a powerful core society or by resource competition within a region. It could also be based on interregional political conflict and competition for political power. Competition for resources in certain areas may bring people into contact away from their home territories with migrants from other areas.

On the broadest archaeological level such cross-cultural interaction is characterized by the presence of foreign-style objects of material culture in the society of a different culture (Stein 2005:16). Whether this presence is the result of trading or long distance exchange between polities or if it represents a permanent foreign ethnic enclave needs to be discerned from a number of factors. The presence of foreign-style objects in a social group that is different from the group associated with the foreign objects is the main indicator of foreign contact. Nevertheless, foreign objects can be interpreted with a number of scenarios of varying degrees of interaction. Cross-cultural interaction can take many forms and there is a variety of interaction types in frontier settings, colonial situations and diasporic conditions.

Some important examples underscore the importance of texts in postcolonial frontier studies. The frontier narrative is greatly informed by texts, marriage and birth registers, and census documents in St. Augustine, Florida, and written records in Fort Ross, California (Deagan 1983, 1998, 2001; Lightfoot et al. 1998). As Stein (2005) points out, if it were not for the Mesopotamian seals, the Assyrian merchants' presence could not have been proven in Anatolia, because it was the letters and trade communication, as well as seals that identified the ethnic identity of the house owners. This illustrates two important concerns: Texts clearly illustrate that people do interact and integrate into new life ways, on the other hand it may be hard to accurately interpret the nature of such interaction from the archaeological record alone. How then can we discern ethnic identity or the nature of multiethnic interaction from material remains in societies where no written records exist that may help to shed light on such interaction? Evaluating cross-cultural interaction is a question of degree. How closely did people interact, in what way, and what effects did this have on both sides?

The presence of foreign style objects in a social group that is different from the group that is associated with the foreign objects is the main indicator of foreign contact and can be interpreted in numerous ways. Stein (2005:15) cautions that it should not be immediately assumed that the presence of foreign objects is reflective of a foreign enclave, and that it is important to consider alternative interpretations for the presence of foreign styles of material culture. In order for archaeologists to discern the nature of culture contact, Stein presents a set of criteria and contrasting patterns between the foreign and local artifact assemblages to distinguish intercultural long-distance trade in the absence of a colony from emulation by local elites who are adopting status symbols from a different culture (through import or imitation). In other words it matters who has the foreign objects, where and how much of them.

The archaeological signature of a long-distance exchange should consist of only portable trade items. Foreign public or residential architecture would be absent as would be foreign food preferences and preparation practice in spatially discrete contexts (Stein 2005:16). This does not exclude that foreign-style architecture might be emulated, but the construction technique may be following local preferences. Long-distance exchange contact can be inferred, for instance, from burial patterns were exotic luxury items (like foreign fine ware pottery, jewelry, or feathers) may be placed as a sign of the deceased's social status and control over economic resources.

Contrary to burials, where foreign offerings may be easily introduced, households are contexts that reflect people's daily lives and thus provide a more accurate picture of ethnic identity and its change or continuity. Stanish (1989:10-13) argues for instance that modern Andean peasant households have been greatly influenced by Spanish colonization and political influences during the 18th and 19th centuries, and as a result became more homogeneous in structure by favoring the development of small, bilateral nuclear family units, moving away from traditional community authority. This means that diversity in household organization in Prehispanic Andean cultures may have been much greater and that this diversity may be an indicator of ethnicity (1989:10). Stanish posits that by using the household as a unit the variable of ethnicity can be controlled. As the household is embedded within and mediated by organization of social and political structures, ethnic differences between societies should therefore be reflected in nature, size, composition and material correlates of the household. Stanish explains that artifact assemblages can reflect ethnic differences or continuity within a settled area as follows:

> An economic colony, being ethnically identical to its territory, should have material similarities in *both* domestic and nondomestic contexts. Sites with similar domestic and non-domestic components in different ecological zones may therefore by hypothesized to be of similar ethnic composition. In contrast, sites that are ethnically distinct but that maintain economic exchange relationships should have stylistic similarities between classes of nondomestic artifacts. The domestic architecture and artifacts this latter case should be influenced by distinctive, local styles, while nondomestic contexts should contain non-local items. (Stanish1989: 14)

Households can also serve as measures of elite emulation. In contexts of interaction that consist of local elite emulation of foreign styles, we would expect to see imports or imitation limited to local elite or higher status household context whereas commoner or lower status households should exhibit a continuation of local customs. Within elite contexts, Stein argues, the foreign influence would be confined to the public and ritual areas while retaining local styles in domestic life (Stein 2005:16).

On the other hand a colony or discrete ethnic enclave of foreign people living in a local setting should also be distinguishable from local patterns in material remains in a number of ways. In this situation foreigners may keep a distinct identity that sets them apart. Patterns of material remains indicate that colonists preserve their otherness, which is reflected in separate architecture and household items identical or similar to their homeland (although the maintenance of seals alone in the Assyrian case is clearly an example of the opposite). In a situation of indirect colonization ethnic lines may be blurred, foreigners intermarry with local people and mix customs and material patterns (as we see in the Fort Ross and saint Augustine examples), or they completely absorb local material culture (as do the Assyrians colonists in Stein's example). The first two cases we can test archaeologically, the latter poses some problems and relies on the identification through written texts. Since written documents do not exist in the prehistoric Andes, useful strategies for my research are models that focus on contact through long distance trade, colonization and ethnic enclaves, and elite emulation.

1.4. CONCLUSION CHAPTER 1

Archaeologists have had a long-lasting fascination with the complex mechanisms that operate at the edges ancient states and empires. As a result they formulated multiple models of how we might understand the archaeological record as a reflection of cultural relationships between the different participants in colonial encounters. The most prominent is the core-periphery model, which has permeated and driven scholarship forward for many decades and which even after undergoing multiple changes still has substantial relevance today for the study of colonial encounters. Built on the critique of core-centric approaches, a group of postcolonial interaction models reflected a new peri-centric understanding of cultural interaction in marginal zones of empires and states. Finally, a tradition of constant revision in Frontier studies offer a third avenue to understanding the nature of expansive states by understanding the processes that take place in their borderlands where boundaries are fluid and ever changing.

Since its recognition as an ancient state society in its own right, the Wari empire of the Middle Horizon has been interpreted through the lens of all the categories described in this chapter. Political unrest prevented the investigation of the core of Wari society at its capital at Huari during the 1990's and much of what we know about this state comes from extensive excavations in the peripheral and frontier zones. While this did not prevent the direct application of traditional core-centric models to the Wari Empire, it did promote an understanding of Wari peripheries in their own right.

During the Middle Horizon Period (AD 600-100) the Moquegua Valley can be considered a periphery as well as a frontier zone. It delineates the political border of both Wari and Tiwanaku empires but it is also a fluid zone of cross-cultural interaction that required both local and foreign groups to negotiate boundaries and explore ecological niches. Cultural interactions were based on carefully structured exchanges of artifacts and space. Thus considering a frontier model approach in tandem with a postcolonial perspective has a lot of potential in illuminating the complex cross-cultural exchanges in the Moquegua Valley. In the following chapter I will discuss the main models of Wari statecraft and evaluate their usefulness for an understanding of the southern Moquegua frontier.

CHAPTER 2: WARI COLONIALISM AND WARI PERIPHERIES

Introduction:

This chapter briefly summarizes the history of Wari scholarship and introduces the main characteristics of the Wari culture and the archaeological correlates used to identify Wari presence in regions outside the main city of Huari[1]. Following this introduction I present the main interpretations archaeologists have proposed for explaining the Middle Horizon expansion of the Wari style throughout Peru as both a cultural and political phenomenon. I will then evaluate these positions with regard to the categories that were introduced in the previous chapter. The last part of the chapter situates the archaeological investigations of Wari colonial expansion in the Moquegua valley within the research history of the Wari state and introduces my research agenda.

2.1. WARI: THE LONG DISCOVERY OF AN ANCIENT CIVILIZATION

The site of Huari was first mentioned by Pedro Cieza de León who visited the site in 1548 only sixteen years after the arrival of the Spanish in Peru. Even in the sixteenth century he was impressed with the obvious antiquity of the large site that he described as being quite older than the current Inca Empire based on its worn and crumbled appearance, but also because its architecture looked different from the distinct Inca style. When Cieza travelled to the altiplano he visited an equally impressive site, ”Tiaguanco”,

[1] Following the naming convention proposed by William Isbell (2008), I use *Huari* and *Tiahuanaco* for the archaeological sites and *Tiwanaku* and *Wari* when discussing the widespread cultural phenomena and civilizations that were initiated by these sites.

where he described large ruined buildings and monumental stone sculptures which he thought were also from a time long before the Inca (Cieza 1986 [1553]). It is not clear why, but perhaps because of their antiquity, Cieza thought that both Huari and Tiahuanaco were built by the same people who had lived long before the Inca (Isbell and McEwan 1991). Beyond Cieza's description, however, Huari remained in obscurity for almost another four hundred years until it was rediscovered in the 1950's. The highland site of Tiahuanaco, on the other hand, was continuously mentioned in historic sources and received much attention from early Andean archaeologists who visited and studied in detail the impressive site south of the Titicaca lake like Bandelier (1919), Squier (1877), Stübel and Uhle (1892) and Wiener (1880). Max Uhle for instance demonstrated the pre-Inca antiquity of the site by using historical references and analyzing in detail the style of the large sculptures from the site that Alfons Stübel had carefully documented (Stübel and Uhle 1892).

It was Uhle's familiarity with the Tiahuanaco art style that led to an important discovery when he excavated at the site of Pachacamac near Lima a few year later in 1896. At this site on the central coast of Peru, Uhle found graves at different depths that contained well preserved textiles and pottery of distinct styles. The lowest of these had artifacts that looked very similar to the art from Tiahuanaco. The burials in the top layers had Inca style art, whereas the in-between located graves were associated with art of a local style. From this Uhle inferred that the graves were placed in three successive phases. the spread of Inca style art was the latest and the Tiahuanaco looking style was the oldest. He also concluded that, like the Inca style (that had spread from the Cuzco capital), the Tiahuanaco style had likely dispersed to the coast from that highland city in an earlier time and that between the two there was a time when local styles dominated (Isbell and McEwan 1991:3; Uhle 1903a). Further relying on the importance of stratigraphic evidence he also identified a pre-Tiahuanaco local style and consequently published the first four-phase regional archaeological chronology for the New World (Uhle 1903b). Although Uhle described the Pachacamac material as Tiahuanaco in style it did not seem pristine to him, but rather like an inferior version of the highland style which he called “Epigone”. And while he proposed that this might be the result of the spreading of a religious cult from Tiahuanaco to the coast and throughout the central Andes he was not sure about the temporal and stylistic relationship between the Pachacamac and Tiahuanaco materials (Jennings 2010:2; Uhle 1903). Max Uhle excavated at a number of other Peruvian coastal sites and the continuous artifact similarities convinced him that there existed a Tiwanaku era (or horizon) during which this distinct style had spread from the Bolivian highlands (Uhle 1913).

A second generation of archaeologists like Alfred Kroeber, William Strong, John Corbett, and Rafael Larco Hoyle (Schaedel 1993:227) were intrigued by Uhle’s idea and further investigated spreading of the style and confirmed the horizon-like spread of Tiwanaku like materials, by now known as “Coast Tiahuanaco” style (Kroeber 1930). They agreed with Uhle that this style had spread far and wide from its highland origin but like him they were unsure about what the temporal association and the significance between coastal and highland styles might be.

In the 1930’s the brilliant and well-known Peruvian archaeologist Julio Tello suggested that there must have been a central Peruvian highland center that was responsible for the diffusion of the “Coast Tiahuanaco” style and he began the first excavations at the site of Huari in 1931 in search for this Peruvian source of the coastal style. Tello soon observed that the ceramics at Huari looked a lot like the "Coast Tiahuanaco" ones and declared the Ayacucho site to be indeed the source of this style (1942). Although this conclusion was met initially which much skepticism, Huari was a little known site until then, others like Kroeber (1944:115), Rowe (Rowe at al.1950) and Willey (1945:55), once they visited the site, supported Tello's conclusion.

By the 1950's Huari was widely recognized as a monumental city comparable to Tiahuanaco in terms of size and importance. This was due in large part to Wendell Bennett's 1953 excavation, which silenced the skeptics once and for all. In the face of the growing evidence for a Wari civilization, John Rowe (1956) saw enough proof to chronologically link the Wari and Inca cultures by suggesting a new chronology of horizons, eras marked by a wide spread cultural unification, and intermediate periods that saw regional independence and fractionalization. The *Late Horizon* referred to the time of the Inca Empire (AD 1476-1532) and the *Middle Horizon* marked the time of Wari expansion (Rowe 1956:628, 1962:40). Despite some initial criticism, (Schaedel 1993:225-227) Rowe's chronology has become the standard one used in the region today.

Isbell and his students explored and described Huari architecture at the site under the Huari Urban Prehistory Project in 1974 and between 1977 and 1980 and defined in more detail what Huari style architecture was (Isbell and McEwan 1991; Isbell et al. 1991). Much of what was known about Wari was discussed and consolidated in a roundtable conference at Dumbarton Oaks and published by Isbell and McEwan in 1991. A second major Wari publication was produced by Katharina Schreiber in 1992, in which she developed the idea of a "mosaic model" of control that the Wari state applied to extracting resources from its various provinces. During the 1990's much of Wari research was confined to provincial centers since the *Sendero luminoso* made work in Ayacucho unsafe. This allowed scholars an extensive insight into different areas of the Wari phenomenon and prompted much interest in figuring out what the extent of Wari influence was and how it came about (Brewster-Wray1990; Glowacki 1996; McEwan 2005, Nash 2002; Nash and Williams 2005). Although a classic conquest approach seems to be the most popular (Isbell 1978, 1991; McEwan 2005; Menzel 1968; Nash and Williams 2005; Schreiber 1992, 2001, 2005 Williams 2001), some see the Wari style as the reflection of interregional connectivity and exchange of religious ideologies (Jennings 2006a, 2010; Shady Solis1981). A third position suggested Huari as a secondary center in a larger Tiwanaku ruled state (Kolata 1983; Mosley 1983, Ponce Sangines 1976). In 2010 Justin Jennings initiated the collaboration of Wari scholars who provided new perspectives that moved "Beyond Wari Walls" and whose work concentrated on a more detailed understanding of the peripheral experiences at the fringe of Wari influence. In the following pages I provide a description of what archaeological correlates are used by researchers to define Wari style.

2.2. WHAT IS WARI STYLE?

2.2.1. Ceramics

After the groundwork was done the next significant step in Wari studies was the stylistic analysis of its ceramics. There existed a multitude of early descriptions and names of Wari style artifacts by the time Huari was recognized as their source. Uhle initially described much of the coastal Tiahuanaco style and identified some main themes like the front face deity and condor; however he also considered it inferior to the highland style. He sent much of it California where it was studied and contrasted with the related Nazca and Tiahuanaco styles. At the same time other scholars also studied the coastal ceramics and noticed differences within the "Coast Tiahuanaco" style. They suggested a number of regional style names that could be grouped under the umbrella of "Coast Tiahuanaco" (Larco 1948). By the time Wari was broadly accepted in the 1950's scholars used many names for the various styles like "Epigone", "Coast Tiahuanaco" and other names for Wari wares and there was no certainty about how to interpret the temporal and regional relationship between the numerous Wari substyles (Jennings 2010). Tello, for instance, correctly identified similarities to the coastal Nasca style, however, he incorrectly saw Huari as its source. In response Kroeber (1944) showed that the similarities between Huari sherds and Nasca pottery fell into a phase after the initial appearance of the Nazca style on the central coast and therefore eliminated a Highland origin for Nasca wares.

During the 1960's Dorothy Menzel (1964, 1968) conducted an ambitious and long term project of stylistic seriation of Wari ceramics. She was able to isolate a number of distinct styles and to link then in a relative chronological order for the Middle Horizon. She identified a distinct division of styles that she grouped into four main phases: Middle Horizon 1-4. The first two phases were related to Wari culture and further subdivided into phases A and B. Menzel proposed that the Wari style emerged at Huari in in the Ayacucho valley during Middle Horizon 1A and spread throughout Peru in Middle Horizon 1B (Menzel 1964:68). The original Ayacucho 1A styles associated with this are

Conchopata, Chakipampa, Ocros and Black Decorated which developed out of local and Nazca antecedents and contained religious iconography. By Middle Horizon 1B Wari styles, especially Chakipampa B, were widely spread throughout Peru.

Menzel saw the Middle Horizon 2 phase as the period of greatest Wari expansion and influence accompanied by a proliferation of regional styles (1964: 35-36). In Middle Horizon 2Aa the Viñaque style dominated in the highlands with its famous imagery of floating heads of front face deity and angels. In the coastal areas Menzel describes the emergence of regional Wari styles with local distinctions, like Pachacamac on the central coast and Ataro on the south coast. This regional differentiation continued into Middle Horizon B when the empire "expanded rapidly and reached its maximal extend" (Menzel 1964:70). By Middle Horizon 3 the Wari empire had collapsed. Menzel suggested that the spread of Wari style resulted from a cultural expansion based on military conquest and directed by a central authority. She also proposed that a religious ideology played a large role in this (1977). Over time the Wari ceramic sequence was further developed by Lumbreras, Benavides, Pozzi-Escott, Isbell, Knobloch, Cook, Glowacki.

John Rowe connected Menzel's stylistic chronology to absolute radiocarbon dates (1962, 1967) based on association of pots with textiles and other carbon-based materials. He dated the beginnings of Middle Horizon1 to AD 605, Middle Horizon 2 to AD 723, Middle Horizon 3 to AD 800, and Middle Horizon 4 to AD 892 (Rowe 1967:24). Both Menzel's seriation, and Rowe's dating of the Middle Horizon between AD 600 and AD 1000 are the standards used today, although some scholars have offered guarded criticism. Patrician Knobloch (1983), for example, redefined much of Menzel's early seriation based on stratigraphic excavation. She discovered that the strong Tiwanaku influence on Wari style only began during the Middle Horizon 1B. This was further confirmed by excavations at Conchopata (Isbell and Knobloch 2006:342:243).

Other criticism Menzel's seriation faced was its connection of radio carbon dates to specific phases. If one follows the logic that only the introduction of the principal Wari style should mark the beginning of the Middle Horizon it should have occurred closer to AD 650-7000 (Jennings 2010) and the end of the Wari stylistic period should be placed between AD 900-1000 (Ketteman 2002; Williams 2001). Especially problematic is Menzel's Middle Horizon 4, which she only identified based on based on ceramics from coastal sites of Nasca and Ica but which includes no highland material (Menzel 1964:65-66). As Jennings (2010) correctly asked, does this mean the Middle Horizon 4 did not exist in the highlands? Another contention centered round Menzel's Middle Horizon 2 and 3. According to William Isbell (2001a) the Middle Horizon 2 styles also continued to be used in many places outside Ayacucho until around AD 1000 and the Middle Horizon 3 seems now to date to a period of abandonment of Wari centers in the heartland from AD 900-1000.

In order to reflect the changing cultural developments in tandem with relative ceramic and C14 chronologies more simply, Jennings (2010:5) suggested a division into just two phases: an Early Middle Horizon which dates from AD 600-800 and a Late Middle Horizon that dates to AD 800-AD 1000. According to this grouping, Menzel's Middle Horizon 1 styles fall into the Early Middle Horizon and her Middle Horizons 2 and 3 fall into the Late Middle Horizon. This new divisions honors the important change that Menzel suggested happened during the Middle Horizon 1-2 transition and which was critical both in terms of ceramic styles and Wari expansion (1964:36) This transition dating to AD 800 has also been described by other scholars (Ketteman 2002:91-92; Schreiber 2001:189; Williams 2001:80-81). I follow Jennings' divisions for the remainder of this text.

2.2.2. Architecture

A second important trademark of Wari culture is a distinct architectural style that emanated from the capital and that was replicated in many provincial sites. The site of Huari in the Ayacucho valley was a city of enormous size. At its height the site covered almost 15km^2 and housed as many as 70,000 people (Isbell 2001b:106-107, Isbell et al. 1991:24).

Like the archaeologists who recognized the spread of Huari artistic imagery and ceramic styles, Isbell (1991:294) also identified an architectural horizon, which seemed to have appeared abruptly during the Middle Horizon Period. This architectural style is marked by specific types of buildings and construction technologies as well as particular patterns of spatial organization that often emphasize privacy and power through controlled access. Most notable about Wari architecture is its rigidness which implies a great deal of planning. Isbell et al. (1991) provide a thorough description of Huari architecture and site planning that can be recognized in sites abroad as well.

Architecture from the late Early Intermediate Period, a time of local decentralization where the Huari community was just one of many settlements in the Huamanga Basin in the Ayacucho valley, was found on the lowest western edge of the Huari archaeological zone with a view of irrigated valley floors. Walls from this period were made from stone set in mortar and angular agglutinated buildings were made of several unattached parts. Terraces were added in the latter parts, which seems to suggest that terracing was not a prerequisite of Wari domestic buildings. Structures and constructional methods seem irregular and there were no planned streets or compound enclosures that are typical for later Middle Horizon Wari architecture (Isbell et al.1991: 45).

The Early Middle Horizon Period was a period of rapid urbanization at Huari. Large ritual and funerary complexes like those at Cheqo Wasi and Vegachayoq Moqo were constructed early in this period (Middle Horizon 1A) and formed an impressive core to the city (Isbell 2001b) that which had become both a residential and ceremonial center (Isbell et al. 1991-45). This phase is also marked by the appearance of megalithic dressed stone architecture which lasted to MH 1B. The semi-subterranean temple at Moraduchayuq was entirely built with this method and dates to MH 1A. Some aspects of this building are linked to Tiahuanaco style architecture in that it seems to have been a public building with an open court (46). The complex at Vegachayoq Moqo on the other hand has architecture that was peculiar to Huari and the Ayacucho valley, especially a D–shaped courtyard enclosure. Another architectural feature that developed during this time: dressed stone chambers which were discovered at several locations at Huari. These came in a variety of sizes from large buildings to individual cists with dressed stone lids sealed below room floors. Again these were likened to similar but much less varied chambers at Tiahuanaco. Some chamber complexes include multi-roomed and multistoried chambers. Some of the individual cist chambers included burials. Dating of some of these chambers at Cheqo Wasi puts this development in MH 1 and not 2. The distribution of the dressed stone buildings at Huari inMH1 suggests that the city grew in size and contained numerous ceremonial complexes and that its success may have been closely related to innovation in religion and ceremony. The connection to Tiahuanaco might be found in the stone dressed stone technique but sunken temples existed in Ayacucho before. It appears that the ceremonial aspect of Huari made it attractive for an increasing population. Furthermore Knobloch 1991 argues that Tiwanaku I –related iconography was introduced to Huari in MH1b not 1A which suggests that both Tiwanaku influences arrived at different times. This would suggest a longer and quite complex Tiwanaku-Wari cultural exchange.

Soon after AD 700 Huari was a bustling metropolis and at the height of its power (Isbell 1997:186). The 1.5km^2 core of the city was turned into a series of great rectangular compounds where the city's growing elites lived (Isbell et al. 1991). These compounds were built in a new style, the so-called orthogonal cellular (Isbell 1991), which included modular units of repetitive of long corridors and central patios. Schreiber (2001) also describes this aspect of Wari architecture as unique and easy distinguishable by large rectangular enclosures that were regularly subdivided into square or rectangular cells. These individual cells often included one or more open patios and were surrounded by long narrow galleries.

Urban space was also gradually being organized by walled compounds. Streets divided these compounds and eventually created an orthogonal grind within and between them. At first building within these compounds were arranges loosely, flexible and orientation did not correspond to orientation of compound walls. By the end of Middle Horizon 1 (MH1B) orientation within the compounds was determined by the larger urban grid visible through a hierarchical order of wall construction within the compound. Patio groups were organized into orthogonal cellular blocks within the compound in the same fashion that compounds were organized on the city street grid.

Multistoried architecture was commonplace now. The two storied and patio groups architectural characteristic may have been based on influence from Huamachuco in the north were long rectangular multistoried rooms may have inspired Wari architects obsessed with orthogonal planning. The Wari-Huamachuco style is also evident at sites like Pikillacta, Viracochapampa, Azángaro, Jincamocco and Jargampata.

Patio group architecture was more prominent in the northern part of Huari were it was part of large scale renovations. Isbell links this to a centralized political authority which is corroborated by ceramics that suggest a midlevel administrative function for the patio groups. Possibly this part of the Huari city was the administrative part and occupied by lesser functionaries. The patio group phase sequence at Huari also suggests that some Wari provincial styles predate the patio phase which Isbell et al. based on presence of Huari pottery. Architecture at Cerro Baúl in Moquegua, for example, seems to conform to early forms of orthogonal planning yet the patio group may not have been present while circular structures were built.

The construction of great walls marks the late Middle Horizon 2 phase. This phase included the construction of walls that were often several meters thick and very tall. The orthogonal grid sectioning of the patio group phase is absent in this time of construction, as the massive wall are frequently curved and trapezoidal and elongated triangles were preferred building shapes. Although the walls were tall there is no evidence for multistoried floors or upper rooms and this construction method is very distinct from patio group construction. Perhaps it can be seen as resistance against orthogonal structure and resurgence of older Ayacucho ideals?

Aside from their unique spatial arrangement, Wari structures are also distinguishable by their specific construction methods (Isbell et al.1991:294-95) that included quarried stone laid in mud mortar and thick high walls, often double faced, with clay and ruble cores. These walls sat on well-constructed foundations and both walls and floors were often plastered with clay. Furthermore stone lined canals under floors intended to drain buildings that often contained complex layering of earth and plastered floors (Isbell et al.1991: 295).

Movement through the buildings was often manipulated through high walls and narrow passage ways regulating access to specifically constructed spaces. McEwan (2005) argues that this was done to create the experience of mystery and power for local people who were summoned for audiences with Wari elites at these sites. These may have included private feasts but it seems that the rooms were not constructed for large public events but rather small secluded and perhaps secretive or ritual or religious engagements. This is quite contrary to Tiwanaku architecture (Conklin 1991), which features a number of large open gathering plazas at the site itself and in provincial sites as well.

Outside of the capital, Wari architecture has been continuously identified and analyzed. Gordon McEwan, , for instance, proposed a simplified architectural typology at the large site of Pikillacta based on three architectural features: patios, niched halls, and small conjoined rooms (2005:25). When evaluating other provincial centers he found that not all adhered to the same rigid planning or used the three types in the same way as at Pikillacta. Sites like Viracochapampa in the North seem to be comprised of the same architectural units as Pikillacta whereas at the site of Azángaro in the Huanta Basin of the Ayacucho valley only two sectors of the site employ McEwan's type and a third sector radically differed from the rigid Pikillacta-like planning and architectural elements. Martha Anders (1986) suggested that it might represent local domestic architecture. Other sites like Jincamocco, excavated by Schreiber, seem to be constructed with patio group compounds with long corridors surrounding open courts. Other structures like niched halls or small conjoined rooms were not identifiable there at all according to McEwan's typology. The Wari center at Cerro Baúl in the Moquegua valley has quite different architecture, altogether lacking a rigid rectangular site plan. While there are no niched halls or small conjoined rooms, variations of the standard patio group are present (Williams 2001; Nash 2002).

Like the stylistic indicators derived from ceramics, textiles and art, the architecture in Huari and its periphery have been become part of the package that archaeologists use to analyze the Middle Horizon state and the motivations behind its expansion as well as the means by which it maintained its political power over such a vast territory.

2.2.3. Settlement Patterns and Agricultural Landscapes

The site of Huari itself was very large and underwent several stages of construction and reconstruction. Architectural elements changed and the city presents a palimpsest of buildings and developing styles. Much of Huari distinct architectural style can be observed in Middle Horizon settlements throughout Peru at sites like Pikillacta, Honcopampa, Viracochapampa, Cerro Baúl etc. These carefully planned sites, are many hectares in size and of orthogonal layout that include the typical Wari style buildings that include compounds with small rooms centered on patios and double faced walls. Numerous sites in Peru have been assigned a Wari affiliation because their structural remains follow the canon of Huari architecture. In addition these sites also revealed impressive amounts of Huari style ceramic and textile evidence.

The Jincamocco site in the Cahuarzo, for instance, is a large rectangular enclosure ca. 130x 260m in size which is subdivided in the southwestern half into 24 room blocks. Northeastern block has nothing, modern cemetery. The enclosure itself covers some 3.5 ha and the occupation area is about 17.5 ha. Most of the architecture is made up of regular compound style constructions (Schreiber 1991:199).

Martha Anders who worked at Azángaro describes a regular formally planned installation that measures 175x 447 meters covering 7.8 ha. It is divides into three sectors with distinctive relatively homogenous patterns of internal division. Some of these include traditional patio groups nod some are simple rectangular structure. Most interesting are small cell like- rooms in the middle sector. Long narrow rooms built alongside corridors and subdivided into smaller cells. There also two zone of irregular buildings that she assigns to local construction technique rather than Wari style construction.

Pikillacta, a large Middle Horizon Wari style settlement near Cuzco also exhibits the orthogonal style in the extreme. Gordon McEwan's work at the site revealed its size at 1680x 1,120m or almost 2 km^2. The site includes several large walled compounds that seem to have served a number of different functions. Within these enclosures orthogonal layout McEwan identifies three main elements (rectangular enclosure, peripheral gallery, small rectangular building) that are used consistently in combination to form five structural types found repetitively throughout the site (1991:100). He later revised these types and focused on three smaller and more basic elements: small patio groups, niched halls and small rooms (2005). It is also clear that construction at Pikillacta was never finished.

The architectural assemblage, especially in provincial Wari centers, has often been interpreted as evidence of intimated power over local populations by Wari colonial administrators (Isbell1991; Jennings and Craig 2001; McEwan 2005; Schreiber 1992, 2001, 2005). The sheer presence of these distinct, massive buildings was meant to intimidate whereas the manipulative use of space for ritual and feasting was used in influencing and controlling local leaders. Another important aspect of Wari architecture is the placements of settlements. Huari itself is located in the Central Peruvian highland in an area that requires use of construction methods adapted to mountain slopes. However, Wari outposts and administrative centers are found in two type of location (Jennings and Craig 2003) on the valley edges or in the center. They relate the location of Wari settlements to the level of social and political complexity of the local population. In area were local organization was simple Wari centers tend to be placed in the valley center. Because of a lack of hierarchical political relationships the state had to fist built up infrastructure to extract wealth from this population. In areas were political organization had progressed and elites already engaged in long distance exchange, Wari settlements tend to be near the valley edge to function as gateway keepers at the margins of society controlling or at least profiting from inter-valley exchange (Jennings and Craig 2003:36). Furthermore Schreiber (1992) correlates the arrival of Wari settlement in some areas also with reorganization of valley agricultural production and local settlement patterns.

2.3. ARCHAEOLOGICAL CORRELATES AND (WARI) STATE EXPANSION

One of the most challenging tasks in understanding cross-cultural interaction as a result of state expansion is identifying such influences in the archeological record. The presence of foreign cultural artifacts in local contexts can lead to many interpretations and depending on the theoretical model, different parameters may be applied when evaluating the archaeological contexts. Analyzing the mixing of artifactual remains and architectural as well as landscape features can reveal important changes in a group's social, ideological, political and economic life style. It may also provide clues to whether where such change originated; from within or through external influences. The following section presents a summary of some trends in the interpretation of archaeological evidence associated with the various models of cross-cultural exchange in the peripheries of expansive states that were described in Chapter 1 and that have also been used in describing the Wari empire.

2.3.1. Archaeological Correlates for Core Centric Core-Periphery Models and Acculturation Studies

Following the premise of core-centric and acculturation models, the political and economic control exerted by core societies would also be represented in an increased presence of artifacts, architecture and cultural practices from the core (society) in the periphery or a copying of core style culture in these areas. Implied in the presence of the core style is a unidirectional influence from the core over its peripheries. A number of categories of archaeological correlates are often considered essential in showing such core influence.

(1) *Material remains* like pottery, metal objects, lithic and other tools, or textiles of core style begin to appear and dominate local contexts. This suggests that as foreign settlers appeared, bringing their wares and artifacts with them, these items were directly incorporated into local cultural practices. Within metro-centric core-periphery models this would be interpreted as the result of core control over a periphery. Within an acculturation framework this may be seen as evidence of the dominant culture absorbing and replacing local traditions and reshaping them into extensions of the core-culture. The presence of Roman style objects in the Germanic and British periphery, for instance, has long been interpreted as a marker of Roman cultural and political dominion over these territories.

(2) Aside from artifactual evidence local *cultural practices* like burial preferences may change to core style and core style burials may appear in the local archaeological contexts. This may indicate the presence of individuals from the actual core like administrators who were buried in the core-culture's style. The shift in, local burial patterns to core style internments suggests that local people over time preferred these styles as well, due to the continued influence of the core society and its control over local customs. Both core-periphery models and acculturation models would interpret such a shift in the archeological record as driven by the core-culture and absorption by local groups due to cultural and political impotence/ powerlessness/ weakness.

(3) A third indicator of cross-cultural interaction through control of a core culture

over a periphery can be found in changes in *architectural practices*. Local traditions of house building styles may disappear and become more foreign in style including both architectural features, spatial arrangements, or building materials used. This may signal the presence of foreign administrators and a change from local preference to a superior building style or cultural understanding of architectural space aligned with changes in ideology prescribed by foreign intruders. The appearance of Hellenic style architecture throughout Western Asia is considered by many classic archaeologists as a sign of Greek control over these areas following Alexander's conquest. Simultaneously it has also been interpreted as an eager adoption by local groups because of the assumed innate superiority of Greek culture (Dietler 2010). The widespread Greek architectural elements during the Hellenistic period were also associated with the diffusion of other cultural practices like religious events and art (theater, temples, sculpture, paintings) educational and social activities (academy, public baths, gymnasiums, sport competitions)

(4) *Household composition* patterns including diet and food practices become also more like core culture. This would suggest a restriction or reorganizing of food production by foreign administrator for the benefit of the core society, using the periphery as a resource for bulk goods. Cash cropping practices in British and French colonial contexts of the 18-20th centuries illustrate a radical reorganization of local subsistence strategies in favor of growing crops only beneficial to colonial exports and that diminished local self-sufficiency. Similarly the Inka in Peru and the Aztecs in Mesoamerica restructures local production patterns for surplus production of staple foods for the state. Hastorf and D'Altroy (2001) for instance describe in great detail the increase of maize in local Xauza consumption with the arrival of Inka state control in the

area. This was in part due to the increased production of maize, but also to the incorporation of maize beer into local practices/ and the increased participation of locals in performance of Inka feasts that used maize beer.

(5) Overall *settlement patterns* are rearranged to benefit a core-centric control pattern. This includes the movements of whole populations (like the Inka did) and/or the shift of settlements patterns to more defensive position or into more agriculturally viable land. Particular settlement patterns unique to the core society may also appear. For instance large administrative centers may be built for a whole region with smaller satellite centers to control a larger periphery. Local settlements may be regrouped around these new centers of control and commerce.

Within Wari studies this approach is reflected early on in the understanding that as the Wari state expanded it also was absorbed into local culture. The presence of Wari style material culture like pottery, textiles or imagery therefore was considered a direct analogy of Wari imperial presence and control of a region. Within this framework the appearance of Wari style architecture anywhere also implies the arrival of Wari administrators and of direct control over local economic production, political, and cultural institutions. The spread of Wari stylistic attributes is therefore direct measure of Wari political expansion and is most often associated with traditional models of Wari imperialism. Consequently research based on such an understanding also focuses on sites that bear distinct Wari signatures; distinct architectural compounds like at Pikillacta in Cuzco or Cerro Baúl in Moquegua, Jincamocco or more recently Pataraya in the Nasca valley (Edwards 2010, Edwards and Schreiber 2014). Furthermore changes in local practices like agricultural production in tandem with appearance of Wari style material culture are viewed as implemented by the state for purposes of extracting bulk resources for consumption in the core (Schreiber 1992). In other words:

> Evidence for agricultural intensification coupled with Wari influenced architecture and/or artifacts, for example, is taken as evidence for Wari extraction of agricultural products and the eventual consumption of much of these products in the state's core. Wari ceramics and textiles in a region points to Wari influence over an area, and shifts in political organization and settlement pattern are attributed to Wari manipulation of local populations. (Jennings 2006:352)

2.3.2. Archaeological Correlates in Postcolonial and Frontier Models

Contrasting with the interpretations in some core –centric models, postcolonial and frontier perspectives consider that foreign and local materials can occur together in blended contexts or in isolation without immediately attributing the presence of foreign objects to external control. Rather they consider that the incorporation of foreign styles may be the result of other types of cross-cultural interactions with third groups or participation in interregional exchange patterns.

(1) Emphasizing a cross-cultural exchange between social groups that exists outside a core-driven view, postcolonial and frontier interaction highlights the appearance of *hybridity* in the material record as wells as in cultural practices. Cultural artifacts like ceramics, tools, architecture, art etc. may undergo change that reflects a blending of different styles for a number of reasons. Local groups may begin to incorporate both imported materials and local materials not because they are forced to do so but because of other motivations like status enhancements, availability, appearance and aesthetics. Similarly the appearance of local versions of foreign styles does not necessarily signal the imposition of new stylist guideline by outsiders, but rather a preference by locals.

Emulation of foreign styles by local elites is often considered to enhance one's own status in the local community and may occur entirely outside a direct relationship with that foreign culture.

(2) Similarly local *cultural patterns* like mortuary practices do not always change but may stay the same. In cases of cross-cultural marriages burial practices may become composites of both cultures or one style might be chosen. However, this may not indicate a forceful adoption of foreign practices; it may simply refer to practical choices like elite emulation. One example that illustrates this is the hybrid style of Egyptian burials in the Ptolemaic period (Landvatter 2013), which was marked by the intense cross-cultural interaction between Greeks and Egyptian's. He points out that style of burial practice was often not so much a reference to cultural identity but rather shaped by socio-economic status (2013:3).

(3) *Architecture* styles may remain the same and not change because of contact with a foreign group. Similarly not all foreign looking buildings are necessarily built by foreigners to exert foreign control in a region. In many instances they may be local versions of foreign styles that appealed aesthetically or allowed local elites to support their social positions. Topic and Topic (1991) for instance pointed to the Wari style center at Viracochapampa as built not in Wari state fashion but rather in a local version of Wari style architecture. Consequently they propose that this architectural complex should be viewed as a Wari ordered administrative installation but instead represents a local emulation of Wari architectural style. Therefore, far from being controlled by the Wari state, local groups simply used Wari style building techniques for the construction of a new local architectural complex.

(4) On many occasions the archaeological record provides evidence for the emergence of new styles that represent *blending local and foreign styles*, creating a new class of hybrid artifacts that are neither local nor foreign, but representative of the blending of social, cultural and materials aspects of cultural interactions.

Creolization, or the appropriation of foreign materials in local contexts (Webster 2001) is on such facet of hybridity. As described in chapter 1, on American plantations the material culture of one culture (European style ceramics and house building) were used to express existing cultural practices and ideas of a different group (African slaves) (Ferguson 1999). The archaeological record only presented European style artifacts and could have been interpreted as a complete adoption of European practices by African slaves, however textual evidence allowed for a revised interpretation of creolization as an alternative scenario. Similarly *mestizaje* created hybrid contexts. The marriage between foreign men and local women, for example, is often associated with mixed household assemblages wherein small, portable foreign objects (like jewelry, textiles, etc.) are commonly found alongside locally made larger and bulkier types of artifacts like pottery. This is especially important in cases where pottery production occurs at the household level and is associated with women (Skibo and Fischer 2002:87). *Mestizaje* may thus produce a variety of new identities and cultural practices that are expressed in material culture (Van Pelt 2013). Spanish colonial culture in the New World is also a good example of hybridity, especially associated with *mestizaje* and has been documented extensively (Carrera 2003; Deagan 1988; Ewen 1983; Katzew 2005; Loren 2007; VanValkenburgh 2013:314).

In some regions of the Wari empire scholars have also suggested scenarios that point to cultural mixing as an explanation for the appearance of Wari style ceramics or architecture in local contexts and which are not quite replicas of imperial Wari style. Examples of these include, for instance, the discussion of Viracochapampa's architecture by Topic (1991), the analysis of ceramic styles in the Cotahuasi Valley by Jennings (2006b) and in the Cuzco area by Covey et al. (2013). In all of these case studies the authors emphasize the hybrid nature of local and foreign styles and techniques over a wholesale adoption of Wari style.

2.4. INTERPRETING WARI AND THE MIDDLE HORIZON

Many opinions have been voiced about the nature of the Wari culture and given the historic circumstances of the discovery of the Wari polity particular ideas are often closely tied to a specific understanding of the larger Middle Horizon period. There is agreement among scholars on the big picture of regional changes that occurred in the time period AD 600-1000. There is also concurrence that the Tiwanaku and Wari styles share similar religious iconography and artistic expression and that they spread widely throughout this time in in the southern and northern parts of the central Andes respectively. However, opinions differ concerning the interpretations of the how and why of the Middle Horizon period and the relationship between the two polities and their regional influences. Isbell and McEwan (1991:6-10) identify three main camps on this subject at the time and they point out that a scholar's reasoning in each category is often driven by his/her area of interest, the archeological features they find important, and the training they have received (Isbell and McEwan 1991:5). Scholars in the first group see

Huari as the capital of a Middle Horizon conquest state, whereas people in the second group insist on a Tiahuanaco conquest state that installed a secondary center at Huari. The third group includes researchers who view the archaeological evidence of the Middle Horizon as a time period of peer polity interaction. Since much research has been done since the 1990's more models have also been proposed for interpretation of the Wari phenomenon. The most recent views (Jennings ed. 2010) tend to focus on the interexchange of cultural practices between Wari and local populations that happened outside the Wari state control. Following a brief summary of these four groups I will evaluate these interpretations within the framework of cross-cultural interaction that was discussed in chapter one.

2.4.1. Wari: an Expansive Middle Horizon Conquest State

Scholars in this category have worked at Huari and closely related sites in Ayacucho. They believe that the widespread Huari style is evidence of a conquest state centered in Ayacucho at the site of Huari. According to Isbell and McEwan, scholars in this groups fall into four different categories. The first group of scholars includes the Peruvian scholar Luis Lumbreras and his associates and students at the Universidad Nacional de San Cristobal de Huamanga and from the Universidad Nacional de Mayor de San Marcos. These scholars emphasize Marxist evolutionary ideas and their interpretation has roots in Tiwanaku and Wari inspiration. Lumbreras believed that Huari started its expansionism by copying Tiahuanaco's religiously based policy but once under way Huari achieved a unique and devastating form of territorial expansion. The sequence may have been started by pilgrims from Ayacucho who visited Tiahuanaco and returned home with new religious art and critical new religious ideas (Isbell and McEwan1991:10; Lumbreras 1974:165).

A second group of researchers consists of William Isbell and his students at the State University of New York at Binghamton. They focus on evolutionary interpretations based on conceptualizing culture as an adaptive mechanism. In 1978 Isbell and Schreiber used settlement patterns, architecture and ceramic evidence to test and propose state organization of Huari. Isbell also argued that Tiwanaku iconography was not presented long enough in Tiahuanaco to be diffused to Huari. He suggested instead that both styles derived from the earlier Pukara style, an earlier polity located north of Lake Titicaca, which was diffused to both Wari and Tiwanaku groups (1978: 386). This implies that both states developed parallel and while they probably interacted with each other, none ever dominated the other. The research by Katharina Schreiber at Jincamocco in the Charahuarazo valley (no date; 1984) and by Gordon McEwan (1983, 1984, 1991, and 2005) at Pikillacta in Cuzco supports Isbell's idea of an administratively strong and complex Wari polity.

Another group of scholars who believe Huari to be the center of an expansive conquest state is associated with John Rowe and his students at UC Berkeley. They have worked in many parts of Peru especially Cuzco and the south coast. The influential interpretation of Huari as culture history and style is largely based on Dorothy Menzel's work on the ceramic seriation and stylistic analysis (1964. 68, 777). To her the ceramic style suggests diffusion from a southern Tiahuanaco or related style to Huari through religious ideas. It was used by Wari leaders and coopted in their practices to establish a power empire in highland and coastal Peru with a center at Huari. In short the style was related to southern religion but she does not to mention Tiahuanaco directly as the source. By this group Huari was considered a strong militaristic state with a far reaching administrative hold over its provinces.

The fourth group of scholars who consider Wari an expansive state inlcudes Richard Schaedel at the University of Texas and Gordon McEwan. Both worked in Southern Peru and Cuzco as well and were concerned with idea of state formation and development of urbanism as closely linked phenomena. By the mid-60's Schaedel (1966a, 1966b) called attention to architectural innovation and massive changes in Middle Horizon settlements patterns on the north coast. He identified specific intrusive settlement forms and specifically a secularization trend in settlement systems as a reflection of state sponsored reorganization that was mainly economically interested. He interpreted this as Huari intrusion and occupation on the North coast (1978). McEwan's work at Pikillacta in Cuzco has focused on the urban nature of administrative centers within the Wari network.

2.4.2. Huari: a Subsidiary Administrative Center Of Tiahuanaco

The idea that Huari was somehow controlled by Tiahuanaco emerged among researchers who were working in the Titicaca basin and especially in Tiahuanaco itself. The most vigorous proponent of this idea was Carlos Ponce. He and his colleagues presumed that pan-Andean similarities in artistic style reveal a unified political sphere. In one of his interpretations he refused Menzel's interpretations and instead proposed that the Middle Horizon was the result of a two wave military invasion from Tiwanaku. The first episode (in Tiwanaku Phase IV) was marked by Tiwanaku enclaves and expansion in various regions. In Phase V Tiwanaku achieved complete control created vassals who were under a strong administrative control for centuries. Local variations in art and architecture existed depending on specific circumstances: “where control was imposed on well-developed cultures, cultural mixture – *mestizaje* – would be the result of partial assimilation of the conqueror’s culture” (Ponce cited in Isbell and McEwan 1991: 5). This is the scenario he also suggested for Huari; a variation of Tiwanaku style, modified by a well-developed, but conquered, culture group.

Alan Kolata (1983:253) also fits into this group but he viewed Tiahuanaco as a less dominant Middle Horizon polity. Initially, he suggested that Tiahuanaco experienced important evolutionary advances and then gave rise to Huari. Later on Huari, however, became a more or less independent political capital. He even put forth the idea of “dual capitals” that controlled the northern and southern parts of the empire respectively, drawing inspiration for his interpretation from other historical examples like the Roman and Inca empires.

2.4.3. Wari style as a Reflection of Middle Horizon Regional Interaction

Scholars associated with this school of thought believe that the various large Middle Horizon sites, including Huari, are politically independent regional centers during that time and that the political unity emphasized in the other two models is greatly exaggerated. Most scholars in this group follow some environmental-deterministic theoretical view and worked predominantly on the coast and not the sierra. In essence they believe that environments and resources availability determines caloric intake and thus potential for population size and cultural developments, which is to be fund more so on the coast with richer resources than in the highlands (Isbell and McEwan 1991:121)

This group also includes Peruvian scholars Alfredo Torrero, Ruth Shady Solis, and Alberto Bueno who work mainly on the central coast. They also see the Middle Horizon as a time of independent polities with regional centers. While they emphasize environmental determinism they rely even more on linguistic research (as opposed to people from the north coast). Izumi Shimada and his colleagues on the far north coast also express doubt about the extent of Wari influence in the Middle Horizon, especially about Huari's role as innovator of urbanism. Scholars in this group generally support a Tiahuanaco role in the Middle Horizon as a center of diffusion of the style and possible state center. They consider the Altiplano to be more agriculturally productive and able to support denser populations than the Ayacucho Valley.

2.4.4. Beyond Wari Walls

The research of scholars in this 2010 volume, edited by Jesting Jennings, is informed by a new trend in the study of colonial encounters and cross-cultural exchange that emphasizes research outside large Wari administrative centers and that examines the cross-cultural interaction between Wari and local populations or the lack thereof. The authors in this book contribute a larger regional perspective of the Middle Horizon that often includes the observation of Wari style adoption by local cultures outside the Wari imperial structure (Bélisle and Covey 2010; Jennings 2010; Owen 2010; Nelson et al.2010). Overall the volume seeks to illuminate connections between the local, regional, and interregional changes that were brought on during the Middle Horizon and reflects the broad facets of research trends within Wari archaeology.

2.5. UNDERSTANDING WARI COLONIAL ENCOUNTERS FROM CULTURAL INTERACTION PERSPECTIVES

The presence of many large sites with Wari style ceramic and architectural characteristics has raised many questions about the nature of Wari culture and its influence over these regions. Because of interruptions by the *Sendero luminoso* guerrilla group in the Ayacucho area in the 80's 90's the work at the city of Huari was suspended and archaeological attention turned to sites that had clear evidence of Wari architecture or artifacts in the periphery. This in turn perpetuated interpretations of Wari control over these vast areas, based on the principle that if Wari built here then they must be controlling this area. While peri-centric by necessity, these investigations viewed Wari expansion from a core-centric perspective and were initially permeated by anthropological attitudes prevalent in the studies of other ancient empires throughout the world. In short people wanted to understand Wari better so they studied only Wari sites albeit in the periphery. However, the main intention was to investigate Wari strategies and to reflect upon how the Wari empire worked, i.e. what the core needed and extracted. Only a handful of interpretations of the presence of Wari style artifacts in the vast regions of Peru and of the Wari state could be categorized as a post- colonial or frontier approach.

2.5.1. Core-Periphery Approaches

As was evident in the previous section, much of the early history of Wari was related to the identifying, comparing and seriating of ceramic and artistic evidence. Once the city of Huari was discovered and recognized as the source of the “coast Tiahuanaco” ceramic style by Tello and Bennett the most common interpretation was that the Wari ceramic style spread to coastal areas in tandem with a religious ideology. This belief reflects the intellectual climate within archaeology and anthropology in the 40’s and 50’s, which emphasized the construction of (regional) cultural history through stylistic sequencing. Echoing the changes in archaeological and anthropological thinking by the early 1960’s, Menzel proposed that the spread of Wari ceramics beyond the city itself spread was the result of political power that radiated from the Ayacucho valley (Menzel 1964, 1977). Following this approach many more sites were identified that had evidence of both Wari ceramic and architectural styles throughout Peru. In 1978 Isbell and Schreiber used evidence from settlement hierarchy to show that the spread of Wari sites throughout Peru was the result of an expansive state polity who operated from its capital at Huari and which controlled its peripheries through the placement of numerous administrative centers throughout its realm.

This marks the beginning of a core-periphery perspective that provided the immediate and long-term framework for core-centric interpretations of the Wari culture. The most obvious of these is Isbell’s work at Huari itself, trying to understand the beginnings and developments of the state itself. It was crucial in developing the architectural criteria that could be used in recognizing Wari affiliated sites outside and thus define the state’s influence sphere. Once people could identify a Wari settlement it was interpreted as direct Wari control over this area. A Wari homeland was described as the sites that were in immediate vicinity or a close distance from Huari. This includes sites like Conchopata, Azángaro, and Jargampata. Other sites that had Wari architecture outside this vicinity were Viracochapampa and Honcopampa in the North, Jincamocco and Pikillacta in the Southwest, Pataraya at the central coast and Sonay and Cerro Baúl in the far south.

Isbell's early version of a core-periphery model presents Wari as a classic conquest state and leans on the Inca model of expansion and imperial strategies. Isbell argued that Wari state formation and consequent expansion was based on a hydraulic model similar to Wittfogel (1957) by suggesting that the development of a centralized hierarchical system resulted from hydraulic management requirements in Ayacucho. This involved extensive terracing for intensive agricultural production of maize on the mountainous slopes in the Andean Highlands. The system is viewed as a fictitious reciprocal relationship between state and citizen in order to extract labor (Isbell and Cook 1987:90). In addition the development of state sponsored storage and exploitation of contrastive eco-niches was implemented to serve as state energy-leveling mechanism (Isbell 1978). The Wari system thus incorporated selective advantages that allowed the system to respond to ecological pressures by territorial expansion.

In 1986 Isbell expanded this model by directly linking and comparing the Wari to the later Inka empire, arguing that they operated in the "Inka mode of production" (193), a term introduced by Maurice Godelier (1977) for the centralized system of infrastructure, tribute collection, and labor taxation of the later (Late Horizon) empire that connected the Cuzco capital with its periphery. Isbell's 1986 approach reflects an emerging focus on Wari archaeology in the 1980's on the urban core of Huari and the replication of its parts in provincial centers as part of an elaborate control system of administrative centers in the periphery. He views the Wari state as" innovative and progressive, establishing a new stage of socio-cultural complexity in the Central Andes…[that] achieved urbanism, as well as an hierarchical and centralized administration based on a secular bureaucracy" (1986:190). Most of Isbell's work of the Wari Urban Prehistory Project particularly focuses on architecture in the core city. He suggests that at its peak the capital occupied ca. 500 hectares with a population density of between ten and twenty one thousand inhabitants (1986:191).

The widespread distribution of intrusive state architectural compounds in Wari style represents archaeological evidence for this model at sites like Viracochapampa, Azángaro, Jincamocco and Pikillacta (Figure 2.1). According to Isbell, these sites represent centers of state storage and administration; they are major nodes in the hierarchical administration of the empire. Isbell bases this association on architectural layout that is similar to the capital at Huari, in that "rectangular-to-square enclosures were divided into room blocks each with a central patio. The central patio was surrounded by low benches, and behind these were elongated corridor like rooms that usually consisted of two or more stories" (Isbell 1986:195). He posits that centers like Pikillacta, Viracochapampa, Jargampata and Jincamocco could have been barracks-like living quarters for specialists and workers. Some of the architectural features are interpreted as massive storehouses similar to Inca facilities. At the site of Jargampata for instance the artifact assemblage of rectangular enclosure shows an increasing use of bowls, jars and other vessels indicating that serving food and drink was a major activity in this administrative compound, documenting this "Inca mode of production" (1986:195). Katharina Schreiber (1978) originally followed this model and its conjunction with the Inca model in describing her research the Jincamocco site.

Similarly Gordon McEwan (2005) interprets the function of the Pikillacta site near Cuzco through a core-centric approach. The site is very large and displays many of the stylist hallmarks of an imperial administrative center such as typical Wari architecture found in the heartland and Wari style artifacts. This together with numerous construction periods between A.D. 550 and A.D. 1100 lead him to believe that it “was built at the command of the Wari state”(2005:147). He also proposed that the different construction episodes of the site reflect changes within the Wari state. The fact that numerous other sites were constructed at the same time in the Wari empire in Peru shows the enormous strength and wealth and power of the highland state. He points out that

> not only was the empire capable of maintaining its expansion with the large bureaucracy and field armies necessary for this task, but it also commanded sufficient surplus to divert tremendous resources into construction projects. (McEwan 2005:148)

Flowing from that he continues that the center at Pikillacta must have been administrative in function (148). Examining how and why the Wari coopted Pikillacta’s physical and socio-political landscapes he proposes that Wari provincial complexes served a combined ritual/ceremonial and administrative function. This in turn highlights a large religious component in Wari ideology, which builds on Menzel’s initial interpretation from stylistic seriation of Wari style. McEwan suggests that the Wari invented large-scale political manipulation through kinship, fictive kinship and ancestor worship and that they used this to developing and controlling their empire (149). Centers like Pikillacta and Viracochapampa therefore represent physical manipulations of this state policy. McEwan also draws on Inca analogy in interpreting patio group architecture as a state administrative pattern.

2.5.1.1. Indirect Control and Nuanced Core-Periphery Approaches

Paralleling the changing views archaeologists proposed for the structure of empires, Wari scholars also explored a number of interpretations of the Wari state that diverged from a strictly core-dominating approach. The interpretation of the Wari empire, proposed by Martha Anders (1986, 1991), for instance, offers a different explanation of the structure and degree of its centralization. She also saw the Wari state as an antecedent of the Inca empire but her model differed from Isbell's in two important ways. First, in her opinion Wari was a decentralized empire that relied on relatively autonomous local-level lords and traditional reciprocal networks to maintain integration (Anders1986: 214-216). Based on analogies with the later Chimu empire, she further suggested a dual-based authority structure that integrated local-level lords and traditional reciprocal networks to maintain integration, effectively emphasizing horizontal interdependent relationships over hierarchical ones as characteristic for Wari imperial structure. This approach incorporated a core-periphery approach as well as hints of a post-colonial model. It moved away from a core centric perspective and focused on specific cross-cultural interactions in the periphery that were not necessarily dominated by the core in the way Isbell's model suggested. This was especially significant since the site of Azángaro is not located in a distant periphery but within the direct influence sphere of the capital at Huari at a distance of ca. 20 km.

Following Isbell's initial focus on architectural Wari style, Anders investigated the "differentiation of architectural configurations and their probable correspondence to different functions with different spatial requisites" (Anders 1986:202) at the site of Azángaro in the central Peruvian Highlands that was built over a period of ten years and occupied for about 100 years from the early 9th to early 10th century when Azángaro was abandoned rapidly during the Middle Horizon 2B period.

Anders described the built complex as a combination of irregular and regular buildings that were constructed in stages from north to south respectively, suggesting a preconceived planned construction of the site. Access to the site and between the spatial units was complex, with closely restricted access to traffic and all movement into the site was channeled through a multi-roomed, irregular structure (1986: 205-206). She noted that irregular structures were used as housing for temporary or seasonal workers, based on scarce domestic refuse, partial provisioning by control units in the south of the sector and restricted access to both areas. Additionally ceramic data support this. A greater proportion of rare, non-prestigious wares and a large number of such jar and bowl forms were found in the north and central sectors. This pottery appeared to be from other areas in the Ayacucho basin, which suggests that these workers brought their implements with them.

The most informative aspects of the site in term of administrative activities are revealed in the access patterns and the dichotomy between formal and irregular structures. According to Anders restricted access and repeated checkpoints represented two levels of control: irregular structures controlled entry into the site as a whole as well as to certain sectors of the site. Formal architectures in the center of the site took over supervision within that sector. She proposed two types of authority at the site: on one hand there were the people who lived and worked in the irregular buildings, the other side was represented by people in the control units at the south end of the central sector with the formal architectural units. This division was related to the purposes of the site where the first groups presided over agricultural activities and the second supervised activities connected with state authority and related to calendrical and ritual cycles (Anders 1986:214, 1991:194).

Anders' interpretation of the distinct rectangular architectural complex at Azángaro as a highly specialized calendrical/ ceremonial center, and her focus on religious motivation for state authority, contrasts starkly with most models that emphasize a more secular Wari state. Nevertheless she emphasizes a local collaboration with the state over strictly coercive means of control as implied in Isbell's approach. While this model intrinsically assumes a core-centric type of structural relationship between the state and its provinces it nevertheless illustrates a shift in how some Andeanists viewed the way that power within the Wari empire was distributed. It also accords some attention to the agency of local leaders.

The most comprehensive description of the Wari empire and its form comes from Katharina Schreiber (1992). She follows Isbell in that she sees Wari as a centralized bureaucratic state but she presents a refined view of the previous territorial approach. Schreiber's "mosaic" model of imperial control incorporates a multitude of methods of regional domination employed by the Wari that varied with local conditions that they encountered. This flexible approach could be tailored to the requirements of the region with respect to the degree of local social complexity, population density, resource base and strategic importance.

This is similar to pragmatic approaches that Hassig (1985) documented for the Aztecs and their client states. He described the means by which the Aztecs maintained a hegemonic empire based on tribute payments of client states. Tribute payments were not uniform throughout the empire but rather accessed on a sliding scale (Hassig 1985:102) based on the cooperation of the city in submission to Aztec control. Lesser resistance meant lower tribute payments. Similarly, the Aztecs did not always replace local rulers with their own administrators, only when the local rulers were perceived as hostile or their territory was located in strategically important locations. But even as they replaced local rulers, Aztec nobles also married into local ruling families to guarantee that their offspring would be rulers in the following generation, thus maintaining a tight control over local administrations but also creating a new creolized identity (Hassig 1985:104-105).

Alternatively, D’Altroy (2002:249-260) discusses the varieties of Inca provincial rule and their strategies that focus on pragmatic control over resources. These ranged from complete resettlement of local populations to new areas to construction of large administrative centers in the provinces. These centers were physically connect by an extensive road system and maintained by officials appointed by the state. An important factor connecting this system of economic and political control was the uniform use of a decimal counting system that permeated the whole Inca administrative structure. Other Inca strategies included replacement of local hierarchies with state officials but also dealing with local rulers directly. The decision seemed to be based on population density and cooperation of local rulers. In more densely populated areas Inca control was more intense in order to prevent uprisings. Local ruling elites were replaced and people were physically moved around in the landscape in order to prevent resistance. A good example of mixed strategies is the Inca conquest of the Chimu on the coast of Peru. While the Chimu king was held hostage in Cuzco, control was divided among local lords. Irrigation engineers were sent to the south coast to oversee canal systems, while other colonists went to work at *tambos* (way stations) ore were sent to the mountains to pottery making communities (D'Altroy 2002:252-253). The highland Lupaqa for instance had a direct tribute obligation to the Inca, yet their dual kings remained relatively autonomous in their own political sphere at Chuiquito because they had supported the Inca conquest of the remaining polities in the Collasuyu. The Ayaviri on the other hand were dispersed and the rebellious Qolla were employed as masons and soldiers from Cuzco to Equador, while Topa Inca Yupanci claimed their lands as personal estates (D'Altroy 2002:256; Murra 1968).

Aside from addressing the variety of control strategies the Wari empire possible employed, Schreiber (2001) also emphasizes the archaeological challenges of detecting Wari strategies in the provinces in an empire without writing. She estimates Wari control based on the distribution of built infrastructure, such as the series of administrative centers, or military garrisons and a road system in an architectural style that is unique, unmistakable, and clearly associated with Wari. This also means that contrary to Topic and Anders, she sees Wari provincial architecture as a reflection of direct Wari presence and as some level of control over or involvement in local affairs.

2.5.2. Acculturation Models

In the Andes perspectives of acculturation are mostly associated with the Spanish conquest of the Inca Empire but not so much with prehistoric cultures. When acculturation of local populations is discussed within early Wari studies it is mainly in the form of adaptation of Wari material culture like ceramic styles and intrusive architectural complexes, observations which are clearly embedded in the core-centric research approaches described above. In the early research on Wari it was more important to simply identify Wari presence as opposed to Wari integration or interaction with local populations. It was simply assumed that they wanted to extract some type of research and that's what they did. Archaeological sites that were selected for investigation were by nature already considered Wari settlements which presumably housed Wari colonists. Since Wari centers like Pikillacta or Jincamocco were built from scratch they didn't often include presence of local people living there. In Azángaro Anders attempts to investigate the relationship between Wari administrators and local laborers and elite's to some extent when she argues that the laborers were seasonal and thus didn't leave much behind that would give a clue to the reaction or interaction between local populations and Wari. Embedded in these approaches was of course the idea to learn more about the Wari itself and how they maintained a political economy based on conquest. The conquered people were not so much part of this debate.

Isbell and Schreiber for instance operated from a strictly Wari oriented perspective. Schreiber, even in her mosaic model of control focuses exclusively on the Wari interest and their reorganization of particular regions. Jennings and Craig (2003) in their spatial analysis of Wari center locations hint at the consideration by Wari of local levels of social complexity when positioning the sites. They put settlements in the middle of a valley if local complexity is simple and new infrastructure needs to be built from scratch and on the valley edge when local elites already engage in long distance trade and then Wari settlements serve as control points of transport and to profit from existent exchange. In all of these the emphasis is on Wari intrusion and local assumption of Wari style culture. Gordon McEwan (2005) also ventures a look at the local experience of encountering the Wari but also from a controlled core perspective in which locals are to be impressed with the peculiar architecture that was designed to manipulate.

The actual variety of different levels of cultural exchange that is supposed to be the center of acculturation scenarios is not addressed in Wari studies until the turn of the century. And although for long period only peripheral centers were excavated, their interpretation was always in the light of the core-centered empire models and thus illustrated a local adoption of Wari material culture in tandem with its political interests, even when they were linked to religious ideologies. And although Menzel and Knobloch identified many local styles of Wari derived ceramics these are always interpreted to be the result of emulation or were simply state produced.

Reports that emphasize local developments in ceramic traditions that were not induced by the state but rather as local variation and thus emphasize agency come from Jennings (2006 and 2010), as well as from Owen and Tung's research at the site of Beringa in (Owen 2007). The Topics' work at Viracochapampa falls into this perspective and will be discussed below.

It is interesting that nearly all the contributions in the 1991 Volume on Huari are on the description of sites and the identification of architectural or ceramic styles belonging to Wari. Not much discussion is given in any of these to the possible interaction with local population other than the intention to extract resources and to procure labor.

Some of the explanations of a Tiwanaku-ruled Middle Horizon also reflect an acculturation approach, especially Ponce's idea that the Tiwanaku style remained pure in less socially developed provinces like Cochabamba or San Pedro, but that among groups of increased social complexity like Huari, local variation would result from *mestizaje* or cultural mixture. It would be the result of partial assimilation of the conqueror's culture".

2.5.3. Interregional and Post-Colonial Models

John Topic's work at Viracochapampa in the north offers a first inside into the local perspective into Wari relationships with the periphery (1991). He argues that Wari never controlled the Huamachuco area but that the large Wari center there was related to long-distance exchange on a pilgrimage route to the local oracle at Cerro Amaru. He argues that the majority of Wari presence is expressed in architectural remains at a distinct distance from local settlements, and combined with a low occurrence of Wari pottery leads him to believe that Wari did not control this region. There does not seem to be Wari domination in place as Wari presence postdates a period of massive growth and expanding power at Marca Huamachuco as well as an increasing level of interaction of Huamachuco with other regions. He argues that Wari presence was brief and only involved a small number of people. Local people who helped build the Viracochapampa complex adopted Wari construction methods and hybrid styles can be seen in local masonry after the abandonment of Viracochapampa. Dated by seriating the architecture (A.D. 500-700) Topic suggests that Viracochapampa was built as one of the first architecturally planned provincial centers in Wari expansion during the early Middle Horizon. Its style is not as rigorous as the later planned sites at Pikillacta, Jincamocco or Azángaro. Some of the most distinct Wari architectural features like the patio group may possibly even be derived from earlier Huamanchuco (Topic 1991:158-162). Some attention in this model is given to the nature of interaction with local population through emphasis is on administrative architecture and its construction with the help of local workers. Topic offers a scenario of interaction based on trade exchange and religious motivation, similar to parts of Anders' model. While coercion may accompany both types of interaction, Topic does not see any evidence of Wari coercion at Viracochapampa. He suggests that at best this site can be considered a hybrid Huamachuco-Huari site and he points to the abrupt termination of construction as an indicator of rapid and unplanned Wari departure possible as a result of Huamachuco military force (1991:162) that presents a picture of a much less dominant Wari intrusion in local affairs.

Justin Jennings produced yet another alternative interpretation for the area in the Valley of Cotahuasi, were he documents an uninterrupted occupation by a local population marked by a distinct artifact style and ceramic tradition. However, Wari style artifacts appear during the Middle Horizon Epoch 2B, generally known as the expansion period in what is described as a local version of traditional Wari images, forms and shapes. Jennings then opens up the question of whether this illustrates the direct influence and imperial control of Cotahuasi valley by Wari or if alternate explanations might be more suited to the specific artifact assemblages. Based on appearance and distribution he concludes that yes the local people did develop their version of Wari style items, but why? He proposed that they were part of a cultural network that exposed them through trade and other connection to that type of imagery and the associations of wealth power etc. that came with them. Thus they simply emulated them to be part of a larger cultural exchange network and this adoption had nothing to do with any structural or administrative connections to the Wari heartland but rather was completely self-serving.

The implications of this example are evident: interpretations of archaeological context can be variable and needs to be considered in a framework of multiple possible explanations. Jennings (2006) uses a somewhat “postcolonial” approach in reinterpreting the “Wariness” of the Cotahuasi valley in Peru. Originally he assumed the appearance of Wari style artifacts in the area was a reflection of Wari control asserted as part of the traditional “mosaic” style expansion from the Huari core (Jennings 2001). However, upon reflection and further investigation he also noted that none of the traditionally expected markers of core control like administrative centers etc. were identified. Rather he explained the sudden appearance of local variations of Wari style ceramics as a form of emulation by local potters as a means to be part of a larger regional exchange system that seemed to favor Wari style objects.

2.5.4. The Wari Periphery as a Frontier Zone

By default of circumstance much of the Wari research was done in the periphery and in its frontier zones, yet as we have seen the analysis of cultural interactions in these areas as spaces of transformation and flowing boundaries are very limited. While it seems logical to use such provincial data to illuminate the rich cultural-exchanges at the margins of the Wari expansion, research in this direction is only recently appearing (Jennings 2010). In chapter one I proposed that the idea of a frontier model could be a very effective way to address a number of different issues that arise when investigating colonial encounters in peripheries because it considers the process of cross-cultural interaction from multiple perspectives and includes both indigenous and colonizer’s perspectives. In terms of practical approaches this means the combined investigation of archaeological sites that are colonial in appearance as well as smaller and local sites (Green and Goldstein 2010). A move toward the investigation of archaeological sites outside the main Wari centers is critical in evaluating local responses to the presence of this Middle Horizon Polity (Jennings 2010: Introduction). Only a joined approach can illuminate the full extent of cultural mixing that happened when the Wari moved into a new region and this includes both a strictly colonial and post-colonial approach. In other words, regardless of Wari strategy used in a given region (Schreiber 1992) it was inevitable that both locals and colonizers were affected by this. Sometimes this resulted in cultural mixing like *mestizaje* or cultural isolation and resistance, highlighting that if we consider the Wari sites in the periphery as locations of fluid processes of migration and cultural change we gain a deeper understanding of the players in the Middle Horizon period. Frontier research is also concerned with the expression, maintenance and fluidity of boundaries. Archaeological evidence from Huari can be re-evaluated in this light as well, for Wari architecture certainly is demonstrative of defining boundaries and controlling physical spaces as McEwan, Schreiber and Isbell concluded. On the other hand, experiences that were created within these alien spaces often referenced local customs and tradition (McEwan 2005) so that a blend of local knowledge rebound in Wari experience emerged.

When considering cross-cultural cultural interaction in the places that were influenced by the Wari we also have to take into consideration regional exchanges that happened outside or alongside an exchange with the Wari state. Jennings' 2006 reevaluation of the Cotahuasi valley evidence is an example of this. While Wari adapted artifacts are abundant, once they are considered in tandem with evidence of developments of ceramic styles at local sites it becomes clear that a regional emulation and participation in an overarching exchange network provides a better explanation for the presence of these Wari style ceramics than a direct Wari intrusion into the valley.

Jennings' 2010 volume, the most recent publication on Wari and the Middle Horizon brings together new important research that emphasizes the criteria I consider important for an frontier approach. All of the chapters focus on marginal sites in the Wari periphery and are intent on illuminating the experience that local population may have had. Lastly a Frontier approach is useful because it does not exclude cultural isolation or resistance. In the archaeological record this may take the form of absence of Wari style or influenced artifacts, architecture etc. However this may not mean that Wari people didn't live there often outsiders assimilate into local traditions without a material trace of their origin (Stein 2005)

Local adaptations of Wari style and possibly the presence of some core artifacts. On the other no pristine Wari style artifacts may be found at all but perhaps Wari influence may be visible in locally adapted architecture or terraced agriculture and food preparation where a mixing with local style and the developing of new styles is possible.

2.6. THE WARI –TIWANAKU FRONTIER IN MOQUEGUA

The Moquegua valley in southern Peru represents a unique frontier situation during the Middle Horizon. At this time both Wari and its south central Andean contemporary Tiwanaku established colonies in the Valley. Tiwanaku colonies centered in large settlement clusters at Omo, Chen Chen and Rio Muerto in the mid valley

(Goldstein 2005). Using intensive canal irrigation they extended the floodplain of the river, which did not interfere with local Huaracane agricultural methods of simple floodplain agriculture. The Wari on the other hand, using their trademark terrace agriculture settled in the mountainous upper valley exploiting yet another ecological niche. The presence of these three groups in Moquegua represents a unique setting in which a number of scenarios for cross-cultural interaction in frontier settings can to be considered. While my work specifically focuses the interaction between Wari and local Huaracane populations, it will also on a broader level address Wari- Tiwanaku relationships and by comparison Tiwanaku's interaction, or the lack thereof, with the local people.

2.6.1. Cerro Baúl: A Classic Imperial Colony

In the Moquegua valley, the southernmost edge of Wari influence, archaeological approaches to Wari strategies have centered on the large hilltop city of Cerro Baúl and the adjacent Cerros Mejía and Petroglífo in the upper valley (Figure 2.2). Researchers Williams and Nash similarly view the site as a regional political and religious center enforcing Wari control in the upper Osmore drainage (Nash 2002; Williams 2001; Williams and Nash 2002), implied by the imposing presence of Wari elite colonists at this large hilltop city. This interpretation puts them in the centralist camp supporting a scenario of direct regional control by the Wari in the area. Their argument is in line with Isbell's stance of intrusive Wari administrative centers in ecologically valuable regions. This is true especially in the upper Moquegua valley where the control of water may be possible and could be perceived as a potential motivation for Wari settlements and agricultural production. Interpreting Cerro Baúl as a regional center is also somewhat similar to Schreiber's interpretation of the Jincamocco center in the Sondondo valley.

Implied in Williams and Nash's conclusions is the move of many Wari colonists from parts of the empire to this location in order to sustain the colony through agricultural production (Nash 2002, Williams 2001, Williams and Nash 2002). This assumption is based on excavations in the elite sector of the site on top of the mountain and public architecture on the adjacent Cerro Mejia, which represents the Wari commoner sector where production took place. However, research at Cerro Baúl rarely considers Wari activities in the previously inhabited middle valley at sites like Cerro Trapiche, and therefore limits a more inclusive and comprehensive understanding of the nature of Wari expansion in the entire Moquegua valley. My research at Cerro Trapiche directly addressed these two problems by investigating the relationship between local Huaracane population and Wari in the middle Moquegua valley.

Investigating commoner households allows insight into processes of change on the most basic social level and illuminates how local people dealt with the interruption of their normal lives by a foreign power with demands for food and craft goods that greatly surpass previous low production in the valley. In Moquegua local Huaracane villages were small in size, with an average settlement area of 0.44 hectares (Goldstein 2005:124), and spread out along the valley bottom. Agricultural production was based on simple flood plain irrigation. Although some social differentiation is evident in the prestige goods found in Huaracane cemeteries there is no indication of a valley-wide paramount chiefdom, suggesting a simple chiefdom structure for the villages in the area (Goldstein 2000, 2005:123), perhaps including numerous simple chiefdoms. With the arrival of the

Wari newcomers (as well as Tiwanaku colonists) in the valley during the Middle Horizon, population density increased and agricultural production areas were monopolized. While Wari implemented their highland system of terrace agriculture on the slopes of Cerro Baúl, Tiwanaku colonists built extensive and complex canal systems to claim extensive areas on the fringes of the mid valley at Omo and Rio Muerto (Figure 2.3).

Research at the center at Baúl indicates a population capacity of about 1000 people of the hilltop city and adjacent slopes (Williams 1998). Furthermore, the public and private architecture suggest numerous ritual aspects of the site, which has also been interpreted as a possible pilgrimage center or as a meeting place where Tiwanaku and Wari negotiated their common occupation of the Valley (Williams and Nash 2002:261). Excavations in 2004 uncovered a large brewery with a 1,800-liter capacity, where *chicha*, a maize beer used in Andean ritual, feasting, and labor compensation, was produced in large numbers. If feasting and ritual activities played a large role in the occupation of the site and if the population density at Baúl increased because of new colonists arriving from other part of the empire, demand for agricultural production would have increased as well. More maize was needed to accommodate the increased demand for *chicha* used in ritual ceremonies at the hilltop and to support craft specialist and elites.

The occupation of the Trapiche site may have been a based on a Wari strategy with similar effects as Schreiber proposed for the Sondondo valley. Given the low level of local social complexity in the Moquegua valley, according to Schreiber's model, Wari control over resources would be attained by creating a level of administration to which local leaders answered. If Schreiber is correct, then the Wari should have attempted to reorganize local production and built Trapiche as a center for storage and redistribution in a strategic place, and resettled local villages if necessary in less defensive positions in low altitudes and to increase agricultural production.

2.7. CONCLUSION CHAPTER 2

The Wari clearly were a state society that expanded beyond its homeland in great strides. And, yes, at times the consolidation of these territories probably included direct interference with local economic and political structures. But as Schreiber showed, strategies may have differed by location and as others suggest sometime perhaps there was not even a strategy and some sites are just ephemeral Wari as Jennings suggests. What is clear is that any in-depth understanding of the Wari state and by extension the Middle Horizon phenomenon must include an understanding of the uniqueness of each peripheral area and its possible (non) connection to the Huari capital. The Moquegua valley is one such unique periphery with its own place in the Wari universe it allows for investigations into a variety of aspects of Wari statehood. Some data from the site of Cerro Baúl, the southernmost outpost in the realm, support the idea of a powerful state flexing its proverbial muscle. On the other hand new evidence from Cerro Trapiche suggest also a softer more locally oriented interest in the mid-valley, where interactions with local people may have played a larger role. This clearly reflects a diverging from traditional models and will enhance our understanding of the variety of ways that Wari presence can be understood in the Andes. The next chapter introduces my research at Cerro Trapiche in Moquegua Valley as a Middle Horizon frontier zone.

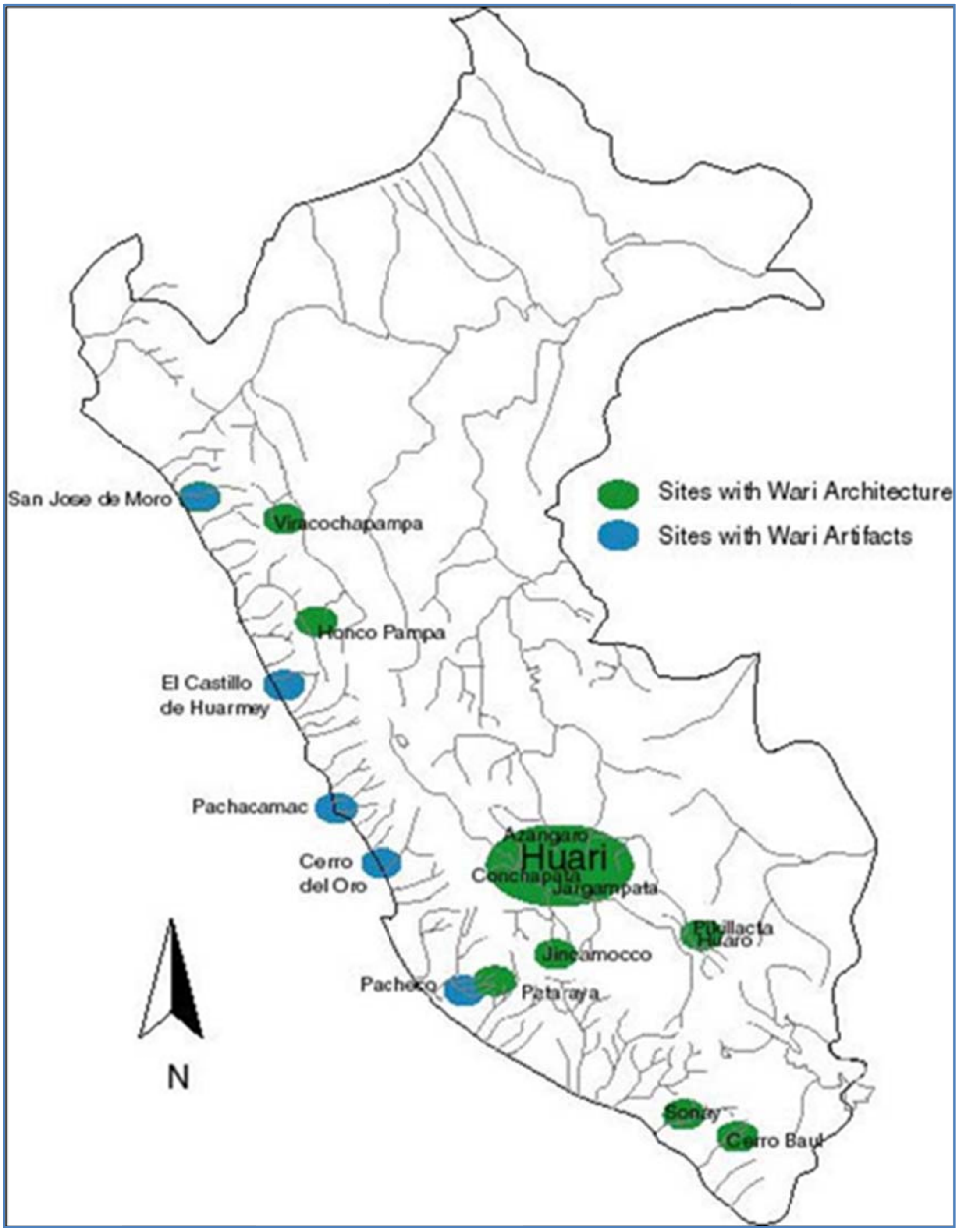

Figure 2. 1 Map of the Wari empire during the Middle Horizon with sites mentioned in the text (after Nash http://www.uncg.edu/ant/moquegua/)

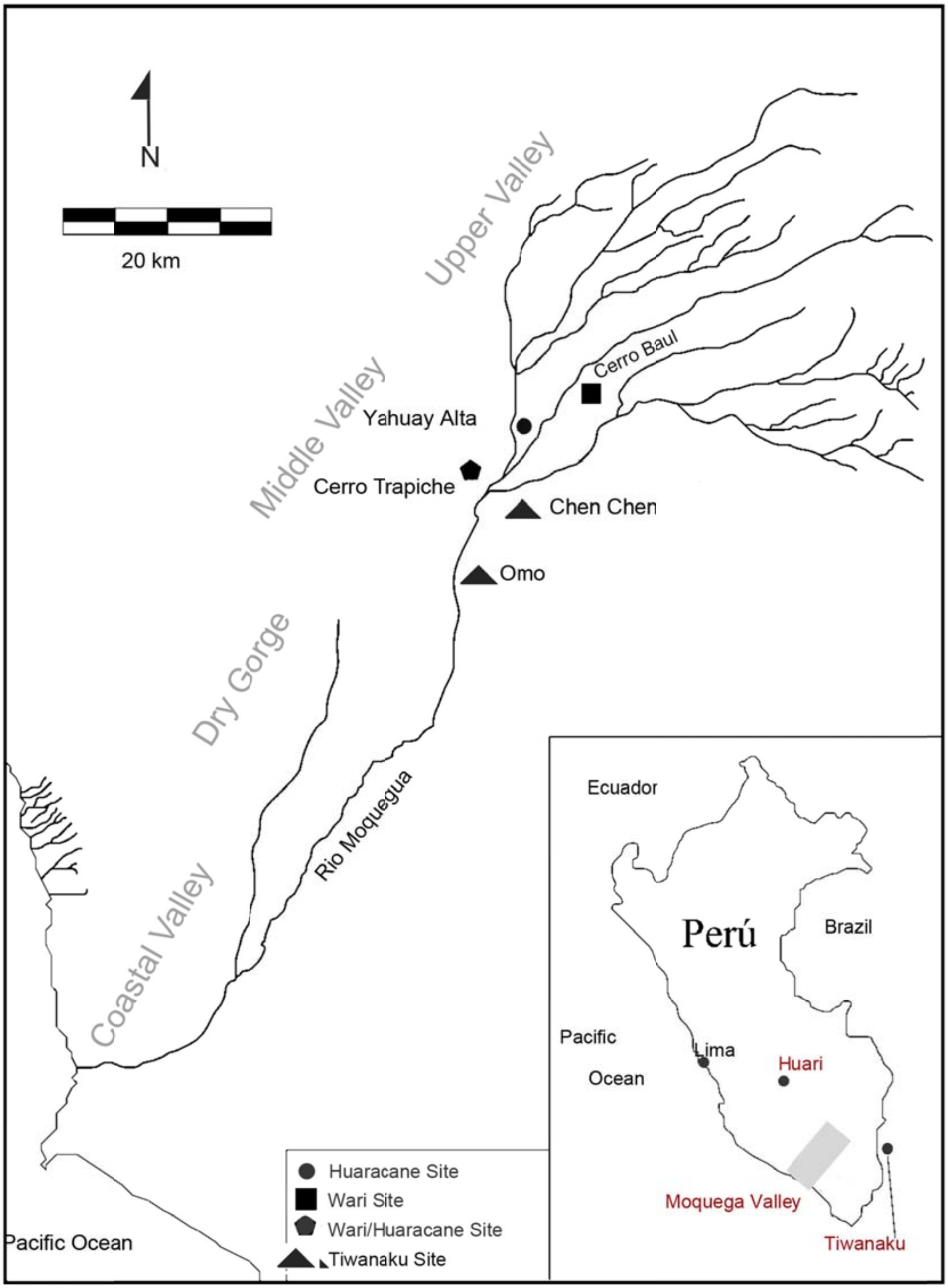

Figure 2. 2 Distribution of Wari, Huaracane and Tiwanaku sites in various ecological niches in the Moquegua valley

CHAPTER 3: THE MOQUEGUA VALLEY, A MIDDLE HORIZON FRONTIER ZONE

Introduction:

The Middle Horizon period was an era of much activity in the Moquegua Valley. In addition to an indigenous population both Tiwanaku and Wari highlanders ventured into this largely unknown territory and established formidable colonies in the valley for the first time. Each group claimed dominance over distinct geographic spaces in this frontier and exploited unique ecological niches to their advantage. What appears to be spatial and cultural isolation may have been the result of the different motifs for colonizing the valley in the first place and intent to peacefully share this new space with locals and each other. In this chapter I argue that by focusing only on the major settlements, this interpretation does not consider all data available from the middle valley. It is therefore guided by precisely the attention on large and exciting settlements that obscure a comprehensive understanding of the Moquegua frontier in the Middle Horizon. I suggest that the middle valley region saw cultural engagement between all groups where both Wari and Tiwanaku engaged in selective interaction with each other and where both developed distinct relationships with the local population in the middle valley.

Following an introduction of the geographic and ecological settings of the Moquegua valley this chapter first presents what we know about the local population associated with the Huaracane ceramic tradition that inhabited the mid Moquegua valley throughout the Formative Period. Then I turn to the Middle Horizon when this area witnessed a dramatic shift in settlement landscape which transformed the Moquegua valley into a spatial and cultural frontier zone where local settlers coexisted with new arriving Wari and Tiwanaku colonial outsiders in various ecological niches. I propose that the participation in the inevitable cross-cultural interactions between these groups were shaped by their unique cultural identities and purposes for colonization of the valley as well as by the nature of their frontier experience.

3.1. THE MOQUEGUA VALLEY: GEOGRAPHY AND ENVIRONMENT

The Moquegua Valley is located in southern Peru near the border to Chile. Like many Pacific coastal valleys it is part of a larger tributary system, the Osmore drainage that provides runoff waters from the high peaks of the Western Andean Cordillera through the dry coastal desert into the Pacific Ocean. Based on unique geological features which provide different types of support (ecological niches) for human agricultural activities, the river system can be divided into four main segments (Rice 1989)

The upper part of the Osmore drainage originates in the high puna and contains the run off from the snow-capped mountains at altitudes about 5000 meters above sea level (m.a.s.l.) and runs to ca. 1600m.a.s.l., about 5 km upstream from Moquegua town. This part includes many narrow, steep tributary valleys that include occasional irrigable slopes. Above the modern city of Moquegua the upper valley includes the confluence of the Huaracane, Torata and Tumilaca tributaries. The river valleys at these higher elevations are constricted and narrow and make agricultural use difficult. It is not until the Middle Horizon that the Wari using terraced agriculture to settle on Cerro Baúl in the

Torata valley and were able to sustain a large population in this challenging terrain.

The middle section of the Osmore River, also called the “Moquegua Valley” is between 26 km (Owen 2005) and 29 km (Rice 1997) long and extends from about 1600m.a.s.l. to ca. 900m.a.s.l. (Owen 2005). Here the single channel river runs fairly straight and is flanked by dry sandy hills. The valley bottom is wide and flat and provides the largest area of arable land of ca. 2,810 hectares or 6,182 acres (Rice 1997:458). The widest part in the valley is the middle valley. The irrigable flood plain of the Moquegua Valley spans ca. 8 km at the confluence of the tributaries at Moquegua town and 3-4 km in the alluvial plain of the Moquegua River (Goldstein 2005:115). Precipitation is low in this area but in the summer, the runoff from the Andes can make the river swell and flood quite dramatically. However, despite regular flooding events like El Niños which take place approximately every seven years (Magilligan and Goldstein 2001) the region remained very arid throughout its history (Goldstein 2005:115).

The middle part of the Moquegua Valley can easily be tapped for floodplain agricultural production through simple canal irrigation (Goldstein 2005:1150. This made the Moquegua valley a very attractive place for local settlers and highland colonists who have exploited the agrarian potential of the valley over a long period of time. Huaracane village dwellers began agricultural exploitation in the Formative period (385 BC) (Feldman 1989) and the Middle Horizon saw the arrival of Tiwanaku colonists from the altiplano who found this area ideal for intensive maize cultivation (Goldstein 2005). Spanish sources also report a flourishing agricultural production in the mid valley in the immediate pre-Hispanic period. Sixteenth century sources for instance describe that the altiplano Lupaqa had sent colonists who cultivated crops like maize, coca, peppers, cotton and other temperate crops in the middle valley (Diez de San Miguel 1964[1567]; Goldstein 2005, Julien 1985, Murra 1968, Pease 1980). During the colonial period Moquegua continued to produce both indigenous fruit like avocados but also introduced plants like olives and apricots and other fruits were important crops. Moquegua also became known for its vineyards in the later colonial years (P. Rice 1987). Today canal irrigation by local farmers steadily increases the production, which in turn now threatens many archaeological sites, as previous societies living in the valley practiced similar techniques and actively used irrigation techniques to expand planting surfaces.

The Moquegua valley portion of the drainage system ends when the river disappears into a 31 km long dry gorge, which isolates the middle and coastal valleys of the Osmore River. Exiting the gorge the Osmore river (or Rio Ilo as it is called in this part) reappears and runs out into the Pacific in a wide coastal valley that is ca. 25 km long and descends from about 325m.a.s.l. to the sea. It is deep and the floor of the valley measures an average of 115 meters across in the upper 10 km. The last 15 km of the valley widen to ca. 300 meters and the stream arrives in the ocean north of the port of Ilo. Outside the valley bottom, where the only plant growing is possible, vegetation appears only in the form of *lomas* fog vegetation. Archaeological evidence, however, showed that the river had year-round water flow at some times and that coastal Osmore habitation, represented by the Algodonal early ceramic culture (Owen 1993a and 1993b), was similar to Huaracane settlements in the Middle Osmore section. Later coastal traditions include Chiribaya and Ilo/Tumilaca/Cabuza cultures (Owen 1993a, 1993b, 2005). Coastal resources like guano were important as agricultural fertilizer and brought to the Moquegua valley and the altiplano via caravan trade. Colonial sources also describe that specific highland ayllus claimed and exploited particular Guano islands on the Osmore coast (Julien 1985, Rostoworowski 1986:131). Other coastal products like fish or seafood were exploited by ethnically distinct maritime specialist and traded inland along the river.

While Moquegua is characterized by a long indigenous occupation from the Archaic to the Late Intermediate Period, the Middle Horizon presents a much more active period when the valley becomes the frontier between the local tradition and colonists of both Tiwanaku and Wari states.

3.2. MOQUEGUA'S FIRST AGRARIAN SETTLEMENTS AND THE HUARACANE TRADITION

As a direct connection between the Andean highlands and the coastal desert, the Osmore drainage has long played an important role as a complementary resource zone for altiplano populations. This began in the late Archaic Period (ca. 5000-3000 BP) with seasonal camps of hunter-gatherers in the upper portions of the valley. By 4500 BP the Moquegua valley was a consistent part of seasonal rounds when Llama pastoralism began (Aldenderfer 1993a, b; Kuznar 1990:65). While there is abundant evidence for Preceramic subsistence activities in both the coastal areas and upper drainage (Aldenderfer 1989a, b, 1998; de France, et al. 2001; Kunzar 1989; Sandweiss, et al.1989; Wise 1989, 2001), very few settlements dating to this period have been found in the Middle Moquegua valley. This is to be expected as irrigation is needed to access the fertile land in the middle valley. Thus for a time, evidence of human activities was confined to the coastal Osmore valley and to the upper section of the Osmore drainage above 4000 m.a.s.l. where foragers could find abundant natural resources.

The Formative Period provides the first evidence of agricultural cultivation and trade networks with altiplano groups in the middle Moquegua Valley. Archaeological surveys of this part of the valley, conducted by Goldstein and the MAS project in 1993 and 1998, have revealed a long occupation history for the area. Originally Goldstein (2005:128, Table 5.2) dated the Huaracane occupation of the Mid Moquegua Valley to between 385 cal BC and A.D. cal 340 at the 2 sigma range. However, recent work at the site of Yahuay Alta by Kirk Costion extends Huaracane presence in the Moquegua valley into the 7th century AD, clearly overlapping with the arrival of both Tiwanaku and Wari groups in the Middle Horizon. Following is a summary of what we know to date about these early agriculturalists of the Moquegua Valley.

3.2.1. Settlement Patterns

Origins of agrarian occupation and the beginning of an indigenous ceramic tradition in the Moquegua Valley were first recognized in surveys in 1983. This local tradition is known as Huaracane. Found at many sites in the valley, it is named after the type site of Pampa Huaracane (Feldman 1989). In the 1990's the MAS project identified 169 habitation sites affiliated with Huaracane. These sites are spread out along the river in the middle valley at even intervals. Goldstein (2005:123) identified a site pattern in which all Huaracane sites are within a distance of ca. 421 meters from the flood plain of the river. Most sites are located the bluffs overlooking the plain at a height of an average of only 48m above the floodplain. As suggested earlier the location of these sites close to the floodplain of the river suggest that agricultural traditions relied on simple valley edge canals, markedly distinguishing the Huaracane strategy from complex canal and terrace systems of politically more complex societies (Goldstein 2000). Sites are relatively small and uniform in size but reflect a dense population of the valley (Goldstein 2005:123).

The collective domestic area covered by Huaracane sites is 73.5 hectares. These habitation sites are associated with semicircular domestic terraces without stone facing, which show evidence of organic super structures (Goldstein 2000:356, 2005:123-124). Villages did not show evidence of defensive walls or public architecture leading archaeologists to believe that these villages were largely autonomous. In terms of size the villages could be characterized as hamlets or small village (Wilson 1988:79, Goldstein 2005:124). Settlements were small with a means are of 0.44 hectares per domestic component. All but five settlements were less than 2 hectares in size and rarely have evidence for defensive architecture. Only the larger sites like Cerro Trapiche, Yahuay Alta, and Montalvo show evidence modest public architectures or elite mortuary contexts (Goldstein 2005:125).

There is no evidence that would support a regional or primary center in the valley, thus a generally low level political and economic integration is proposed for the Huaracane tradition. Goldstein (2005:125) produced a rank-size graph that indicates the absence of any large paramount site in the valley.

3.2.2. Ceramic Repertoire

The Huaracane ceramic assemblage is associated with three distinct paste types. *Huaracane Arena* is a sand tempered paste and *Huaracane Vegetal* a fiber tempered paste. Both are associated with plainware vessels. Sherds with the paste type are often poorly fired and exhibit a grayish core. Their exterior is brownish to red and mainly wiped or smoothed rather than slipped

The Huaracane plainware vessel repertoire was relatively simple and included mainly *olla* forms. These vessels are often short necked (*olla casi sin culleo*) or neckless (*olla sin cuello*). *Ollas* are associated with the sand tempered *Huaracane Arena* and *Huaracane Vegetal* fiber pastes and are often severely burned on the outside suggesting that they were mostly used for cooking and storage of foods. This suggest a limited cuisine of one pot stews (Goldstein 2003) that was either consumed out of the pot directly or served in organic bowls made from gourds. No drinking vessels like keros or cups are found in Huaracane domestic contexts.

The third paste type, *Huaracane Fino,* is a hard, extremely dense and well fired paste that has a distinct pink color and is easily identifiable. Contrary to the above described plainwares, The *Huaracane Fino* paste is associated with a specific bowl shape that is understood to be elite serving ware (Costion 2009, Feldman 1989; Goldstein 1989, 2000b, 2005).

The bright pink color of the *Huaracane Fino* paste suggests that these vessels were made using a different process than the one used for making plainwares. *Fino* sherds and vessels are associated with the other two paste types but occur with different frequencies in the Moquegua valley (Goldstein 2000). Furthermore, Feldman and Goldstein distinguish between two forms of *Fino* bowls a red variety and a black one which reflect different firing methods. The red type, or *Huaracane Fino rojo*, is more common and include a reddish- yellow slip whereas the oxidized core is red or pink in color (Feldman 1989). The black Fino variety, *Huaracane Fino negro,* is reduced and has a light grey core. The exterior is often covered with a light brownish grey slip. Fineware bowls are round and shallow with average rim diameters between 15-20 centimeters (Feldman 1989; Goldstein 1989, 2000b). Goldstein associated these with elite practices and thought they were high priced serving vessels.

The Huaracane vessel repertoire included two categories: simple utilitarian *ollas* that have some resemblance to both southern coastal and altiplano style plainwares and fancy serving bowls that represent a unique fineware tradition of the Moquegua Middle Valley. The Huaracane ceramic assemblage is considered to be indigenous of the Moquegua valley although superficial similarities of the *Huaracane Vegetal* paste with altiplano grass fiber plainwares led Feldman (1989) initially to believe that this valley assemblage derived from some altiplano culture. However neckless *ollas* were a common vessel shape in both altiplano and coastal traditions across the Peruvian coast and thus only relying on fiber paste was not enough, but actually dispelled an altiplano origin of Moquegua settlers' pottery (Bandy 1995; Cohen et al.1995; Goldstein 2000b, 2005). Since no coastal or highland finewares resemble the *Huaracane Fino* bowls in any way, this supports an independent Middle Moquegua origin of the Huaracane ceramic tradition (Goldstein 2000b: 341).

3.2.3. Agricultural and Dietary Practices

As discussed previously, Huaracane settlers practiced floodplain agriculture that relied on simple canal irrigation. This is still practiced widely by farmers in the middle valley today and involves the planting of seedlings and then a periodic flooding of the fields through basic canals that are directly dug and fed from the river water. Because of this very simple technique fields have to be close to river and evidence for Huaracane agricultural fields confirms this (Goldstein 2005). Huaracane habitation sites are also located close to the edge of the floodplain and on hill tops at ca. 48m above the flood plain, which supports the idea of floodplain cultivation. This also suggests that agricultural investment did not go beyond the floodplain of the river and cultivation of larger areas did not occur.

Very little is known about Huaracane subsistence and local diet has only recently been looked at in more detail at the site of Yahuay Alta. Subsistence for Huaracane populations consisted of a diverse diet and non-specialized agrarian subsistence strategy (Goldstein 2000:341, 2005). The following summary is based on Paul Goldstein’s (2000,2003) descriptions and Kirk Costion’s work at Yahuay (2009), which provides the first detailed botanical analysis of Huaracane contexts to supplement Goldstein’s survey data.

There is no evidence that maize was a substantial part of Huaracane diet or agricultural practices as only few cobs have been found at Huaracane sites like Yahuay. Maize did not really play a large role in the Moquegua Valley until the arrival of Tiwanaku settlers who grew this crop in large quantities to supply their homeland in the highlands. So what did the locals grow in the flood plain fields? Based on ceramic evidence from multiple Huaracane sites Goldstein (2003) suggests that the Huaracane ceramic assemblage supports a diet based on stews or porridge cooked in large thick walled ollas. There is no evidence in the ceramic data for serving vessels that could have been used for drinking maize chicha (Goldstein 2003). The shallow nature of *Huaracane fino* bowls for example does seem not very useful for the consumption of libations associated with maize chicha.

Huaracane diet was also supplemented by marine resources and the overall subsistence was likely based on mixed farming and herding (Goldstein 2003). What is interesting is that the plants which are traditionally very common in Andean diet like potatoes, and quinoa are absent in Huaracane archaeological contexts (Goldstein 2003:163; Costion 2009). Instead at Yahuay Alta the root crop *arracacha* has been identified abundantly in the context although it cannot be confirmed that this root served as a staple food at this community (Costion 2009). However its common boiled use would support Goldstein's assertions about Huaracane cuisine and cooking inventory.

Goldstein suggests based on nitrogen analysis from Huaracane burials at the Omo boot tomb complex that Huaracane diet was similar to that of early Ceramic Period individuals. Marine resources (23-50%) made up a large portion of the diet that also included substantial dietary quantities of C3 plants (50%) and or animal grazing on C3 vegetation (Goldstein 2003:163). Maize and C4 plants made only a minimal contribution to Huaracane diets (3-8%).

3.2.4. Society and Mortuary Tradition

Social structure for Huaracane societies includes some beginning of elite differentiation but not a valley wide hierarchical site organization. Social status has mainly been investigated and suggested through differential mortuary practices. Huaracane burial tradition includes a variety of types that may be indicative of social standing of the buried person.

The most basic interment of individuals or groups was in the floors of houses where they put them in isolated in simple pits or cylindrical cists. These were in flexed position and no pottery offerings were found with these types of internment though they were associated with grave goods like shell or bone beads. Because these burials seem informal they also constitute the simplest form of Huaracane burial perhaps indicate the lowest status individuals (Goldstein 2000:347).

A second type of burial is the *túmulo* or mound burial that was found at 44 cemetery components identified by Goldstein in the MAS survey. Most *túmulo* burials are found adjacent to domestic terraces suggesting that they also served as community burial places (Goldstein 2000:249). In Moquegua *túmulos* are clustered circular or irregular mounds of sand and loose stone (2-7m in diameter and up to 3m in height). It seems that they were constructed of layers of sterile sand and gravel with layers of grass, reeds, sticks or other vegetable matter. Evidence of secondary internments at the Tres Quebradas site, for example, shows that sections could be added if necessary for careful reburial of ancestral remains in family burial grounds. *Túmulos* excavated had no pottery and grave goods were limited to textiles, cotton, wood, and human hair (Goldstein 2000:249).

The third type of Huaracane burial is the boot tomb. This is a unique type of burial not found anywhere else in the southern Andes and only eight such burial cemeteries have been reported in Moquegua by Goldstein. Boot tombs received their name from the resemblance of the tomb chamber to a boot. Whereas the tomb shaft is similar to the shaft of a boot, the actual burial chamber at the bottom often occurs at a sharp turn, thus forming the boot part. This part is usually the main place where interment is concluded. The body is placed in the earthen cavern and the shaft is filled with earth.

Often, one boot tomb includes multiple burials as numerous people were interred over time. This might be related either to kinship ties or simply the reuse of space. Boot tomb cemeteries are located away from Huaracane domestic sites which is quite different from the other two burial types. Cemeteries located by Goldstein are typically on bluffs with views of the valley. These cemeteries are heavily disturbed and have the appearance of rubble fields they are distinguished by circles of 2-3m in diameter of stones and conical depressions of loose sand and gravel and voids. Examples of boot tomb cemeteries were found at Omo (M10), Cerro Echenique (M4), and Cerro Trapiche (M7). Boot tombs appear late in Huaracane tradition and have no precedence in Andean altiplano highland tradition. Perhaps they replaced the *túmulo* tradition. Goldstein suggests that the shift in the use of burial space could be indicative of a shift in social complexity in some Huaracane sites. Perhaps emerging elites were buried separate from the rest of the population? Another difference, which would support such a scenario, is the presence in boot tombs of fancy pottery like *Huaracane fino*, elaborate polychrome basketry, textiles, carved wooden lime dippers and anthropomorphic spoons and elaborately made beads of shell, bone and wood (Goldstein 2000).

3.2.5. Dating the Huaracane

Huaracane sites documented by Goldstein have published radiocarbon dates between 385 cal. BC and cal. AD 340 at the 2 sigma range (Table 3.1) (Goldstein 2000b: Table 3, 2005: Table 5.2). At that point it seemed that Huaracane settlement occupations did extend into the Middle Horizon and it was not clear when most of the local settlements were abandoned. The first hint that the local tradition might have continued into the Middle Horizon came from the site of Trapiche where Middle Horizon materials was consistently mixed with local wares (Green 2005; Green and Goldstein 2006, 2010). Since then our knowledge about Huaracane culture has been greatly improved by the dissertation research of Kirk Costion (2009) who worked at the Formative site of Yahuay Alta in the upper portion of the Moquegua valley. Costion's research shed new light on the nature of Huaracane society and the time frame of their existence. He suggests a Late Huaracane Phase occupation at the site which dates to the end of the traditional time period and a Terminal Huaracane phase that extends into the Middle Horizon and that is marked by a shift in Huaracane social practices. His assertions are based on eight radiocarbon samples from Yahuay Alta which showed two distinct clusters indicating that there were two phases of occupation at Yahuay Alta (Table 3. 1). The first cluster consists of three dates that range between cal. AD 79 and cal. AD 323 at the 2 sigma range. The median dates place this occupation of Yahuay Alta in the 2nd century AD. This falls toward the end of the previously established Huaracane sequence. The second cluster consists of five dates that ranged between cal. AD 676 and cal. AD 885 at the 2 sigma range. The median dates place this occupation of Yahuay Alta in the 8th century AD, positioning a portion of the occupation of Yahuay Alta squarely in the Middle Horizon.

This new time frame verified earlier suggestions that local population interacted with Middle Horizon colonists (Green 2005, Green and Goldstein 2006, 2010) and resolved the issue of whether these communities existed in the valley at the same time and thus had opportunity to interact.

Furthermore, three new dates were processed as part of the current project. The dates range between cal. AD 581 and cal. AD 875 at the 2 sigma range (Table 3.1). These dates place the occupation of Cerro Trapiche site directly in the time frame Costion suggested for the terminal Huaracane. As will be discussed in detail in later chapters, this provides important support for a Huracane /Wari exchange scenario.

3.3. THE MIDDLE HORIZON: MOQUEGUA BECOMES A LIVELY FRONTIER ZONE

In the Middle Horizon the Moquegua valley opened up to the world around it and saw the arrival of foreign settlers from outside the valley. Archaeological evidence suggests an active local exchange with and between altiplano populations from Tiwanaku and Wari cultures. The valley location was directly on the edge of both empires and formed the northern most line of Tiwanaku influence and the southern-most line in the Wari influence sphere. Both states founded colonial enclaves in the area and were able to successfully carve out living spaces that did not interfere with each other. What the exact relationship between these two states was is still not clear but many interpretations have been suggested and will be addressed throughout the following discussion.

A review of the evidence for Middle Horizon colonial settlements makes clear that the positioning of both Wari and Tiwanaku enclaves was dependent on three main factors: 1) the valley's location and settlement intentions 2) its resource distribution and 3) technological adaptations by the colonists. Furthermore I will argue that the conventional view of cultural isolation in the middle valley between the three groups is not supported by both previous and new data. Instead I suggest that we have to understand the middle Moquegua valley as a zone of active cultural exchange between all three groups in the Middle Horizon, in short an active frontier.

3.3.1. Tiwanaku Colonies

Tiwanaku colonization in Moquegua has been widely studied and the interpretation of the process has been illuminated by much research. The Tiwanaku occupation is associated with three ceramic styles, Omo, Chen Chen, and Tumilaca. The first two are associated with settlers who came directly from Tiwanaku heartland whereas the last one refers to a post Tiwanaku local tradition descendent from the original colonists. Because of their distinct attributes, scholars viewed the Omo and Chen Chen stylistic segregation also as a chronological variation, in which the Omo phase described the initial settlements and the Chen Chen phase a subsequent colonization wave at a later time after a short Wari interruption (Moseley et al. 1991). New radio carbon dates, however, suggest that the groups who used these two styles lived together at least for a portion of the Middle Horizon. Scholars (Goldstein 2005, Owen 2005) now suggest that the stylistic differences between Omo and Chen Chen styles points perhaps more to the settler's ethnic or social affiliations rather identity than their arrival time. This would also explain that both styles are frequently found at the same sites albeit in spatially distinct contexts.

3.3.1.1. Omo style and settlements

Settlements surveys by Goldstein and Owen documented a number of important Tiwanaku settlements that appear in the Moquegua Valley in the Middle Horizon. Omo, the largest of these settlements sits atop a bluff some 10km south of the city of Moquegua. It is associated with five settlements that covered an area of over 38 hectares and is located near one of the most productive springs in the valley (Goldstein 2005:144). Using the springs for irrigation Tiwanaku settlers were able to cultivate a large are away from the floodplain. Omo is also connected to the Chen Chen sites via caravan paths that lie outside the valley in the desert, probably used for caravan trade between the coast and the altiplano.

Omo is the type site for one of the distinct Moquegua Tiwanaku Ceramic styles which included red-slipped and black polished finewares. Vessel forms of this style included keros, jars and zoomorphic forms that are stylistically different from Chen Chen styles. Omo red and black wares are indistinguishable from altiplano Tiwanaku wares of the same period which leads Goldstein to suggest that they were directly imported of brought by the settlers or at least made locally by Tiwanaku trained potters. Both types of vessels were representative in all households suggesting no elite association with them.

Settlements with Omo-style ceramics were located in the middle Moquegua valley in open areas between 1000 and 14000m.a.s.l. Fifteen site components have been associated with the style in the mid -alley. Omo-style sites were clustered in large residential sectors at Omo, Los Cerrillos and Rio Muerto. There seems to be no site hierarchy and no smaller village sites attached to these clusters. The only small Tiwanaku sites are near valley edges or at ritual places like at La Cantera in the upper valley

(Goldstein 2005, Owen 2005).

Goldstein suggests that early Omo-style colonists were Pastoralists who followed a long tradition of altiplano camelid herders and caravan travel transporting resources between the coast and the altiplano. The locations of Omo, Los Cerillos and Rio Muerto at the valley edges, where they could avoid potential conflict with farmers over water and land suggest a strategic advantage to pastoralists. Similarly the absence of Omo –style cemeteries at Omo may reflect pastoralist burial traditions that could include way side burial, exposure or cremation.

Habitation components at Omo-style sites also support a pastoral origin for these as they include a number of non-permanent features. Tent like structures dominates these settlements which are indicative of the temporary nature of pastoralist camps. Even later, more permanent Omo-style settlement structures retained these shapes, perhaps as Goldstein suggest, as a marker of ethnic differentiation. Omo-style house lacked permanent features or furniture and portable facilities like grinding stones are much smaller than in and less frequent that in other Tiwanaku settlements. Finally Omo –style households do not include storage features which are abundant in neighboring Chen Chen style settlements.

While Omo-style settlers seem to be closely connected to a pastoral origin they did overlap in colonizing the Moquegua valley with a somewhat later group of settlers from the Tiwanaku homeland, these people are associated with the Chen Chen style discussed below.

3.3.1.2. Chen Chen Style and Settlements

The Chen Chen style is the most common Tiwanaku ceramic style in the valley and also represents the most substantial occupations by any Tiwanaku enclave. The style is named after the vessels found at the Chen Chen cemetery the first published Tiwanaku site in Moquegua. Like Omo- style ceramics, the Chen Chen style is indistinguishable from the altiplano homeland ceramics.

Chen Chen vessel function is similar to Omo style vessels but Chen Chen style ceramics include different technology, form and decoration than Omo style wares. Chen Chen style assemblages, for instance, do not include any blackwares and Chen Chen style redwares have lower firing and slightly greater vessel thickness. Their surface is less carefully burnished and potters used a lighter range of reds for surface slip colors. Chen Chen serving forms include more standardized vessel forms and decoration although modeled variants common to the Omo style are not present (Goldstein 2005):158. Chen Chen vessels, like keros, are taller and more flared than Omo style wares and a new vessel, the *tazón*, appears. Another unique vessel is the *fuente* a thick serving platter. Dates for Chen Chen style in Moquegua range from cal AD 785-1000 at the 1 sigma range. This puts the appearance of this style approximately 200 years after the first Omo-style settlers (Goldstein 2005:158).

Chen Chen –style settlements cover 54.6 hectares of domestic area and an additional 10.4 hectares of cemeteries. Chen Chen Style settlements are found in sectors of the four large town of Chen Chen, Omo (M10) , Rio Muerto (M43, M48,and M52), and at Cerro Echeníque (M2 and M4)(Goldstein 2005:158), which are all located near large canal irrigable pampas (Williams 1997:90) or near productive local springs adaptable for agricultural production. Village plans include multiple habitation sites surrounded by cemeteries.

Chen Chen domestic site plans differ from Omo style habitation sites in that they included autonomous patio groups with functionally specific activity areas, contiguous roofed rooms, open patios and mud-plastered stone cists that served as storage units. This domestic compound structure indicates significant difference in household organization, size, and productive activities. Chen settlements also reveal that importance was placed on ritual and ceremony as the location of some sites, like the temple at Omo which is in direct line of vision to important mountain peaks like Cerro Baúl indicates.

The Chen Chen type site is a cemetery (more than 10ha) that has 29 different components above the modern city of Moquegua. Over 10,000 tombs estimated, placed late in the Tiwanaku sequence. Habitation sector of the sites by Goldstein shows single cultural affiliation with some 20 hectares of settlement area distributed into 10 distinct sectors and with a canal that supported a huge area of 90 hectares of agricultural fields (Goldstein 2005:148; Williams 1997, 2002).

One Tiwanaku site, Cerro Echeníque, stands out from the previously described settlement pattern for the altiplano colonies. Cerro Echeníque (M2) is situated on the opposite (west) side of the river in the middle valley. Like Chen Chen it sits atop a mountain but unlike Chen Chen it seems fairly isolated and also has a defensive wall surrounding the higher parts above the plateau on. It is covered in hill side terraces and like Omo it has a disturbed Huaracane boot tomb cemetery on the plateau (M4), although no reburials by Tiwanaku people has been reported here as at Omo. It is ca. 6 hectares in occupation size and of Chen Chen style occupation. Cerro Echeníque is also unique among Chen Chen style occupations because of its proximity to the Wari outpost of Cerro Trapiche, which might explain the fortification. What little is known about Cerro Echeníque points to a Tiwanaku occupation in both the plateau and the terraced hillsides, where Huaracane ceramics were also identified in 1980's excavations and surveys.

3.3.1.3.Settling on the Fringe: Tiwanaku's Perfect Niche

The valley location: The Moquegua valley is not very difficult to reach from the altiplano. It takes about 8 hours by car and long-term evidence for Llama caravans traveling past Moquegua to the sea suggests that this has been a means of exchange for quite some time. Goldstein suggests that ancient pastoral highlanders have long traveled and paused in Moquegua on their way to the coast. They would halt at the outer fringes of the valley were natural springs provided their animals water but no interaction with mid valley farmers was necessary other that for exchange of rare goods. However, the animals would not be in the way and the farmers would be ok with that. That would suggest that even before the Middle Horizon, the middle Moquegua Valley played a role as a complementary resource zone for altiplano societies (Goldstein 2000). During the Middle Horizon the valley served as one of the most productive maize cultivation regions for the highland state. It was at a reasonably distance and easily accessible, well known for its crop cultivation potential since earlier altiplano pastoralists must have known about mid valley agricultural production by local Huaracane. Settling in the valley would also have provided an important strategic stop for caravan trade between the altiplano and the coastal areas.

Resource distribution: As Tiwanaku sites appear on the valley edge it seems that colonial settlements were not met by local resistance. Overall Tiwanaku settlements collectively occupied over141 ha in the Middle Moquegua Valley (Goldstein 2005:134) indicating a higher population than during the Huaracane period. The Tiwanaku intrusion also saw a radically different set of settlements but in site organization and in site dispersal from local patterns. Tiwanaku sites are distinguished into three styles named after Moquegua type sites named Chen Chen, Omo and Tumilaca styles. Contrary to the steady sprinkling of Huaracane sites close to the floodplain along the entire riverbed in the Moquegua valley, Tiwanaku sites are located further away from the river bed outside the floodplains and not as widely spread out. Rather they appear as clusters of numerous settlements that are spatially distinct suggesting that they represent different ethnic groups from the altiplano. All sites are located on the southern side of the riverbed and used extensive canal irrigation to grow maize, albeit away from the valley flood plain. Goldstein links the location of Tiwanaku settlement to previous highland pastoral caravan traders who discovered the natural springs and wanted to keep their animals away from local farm land, thus establishing a highland tradition of valley fringe settling. When colonists arrived who wanted to cultivate maize and other crops in earnest for the capital these valley edges seemed advantageous, because they supplied an independent water source so that no conflict with flood plain agriculturalists would ensue. Presumably these settlers also still had strong ties with pastoral herders and thus the settlements patterns of these new agrarian colonists blended with those of their pastoral ancestors and contemporaries. Living at the southern valley edge also placed these settlements closer to the ancient caravan route that connected Tiwanaku and the coast, and that ran parallel to the south side of the valley. This certainly aided the swift transport of Moquegua products to the Tiwanaku hub. In sum, the unique distribution of water sources in the middle valley allowed for separate enclaves of agricultural production that did not need to compete for resources.

Rio Muerto, the third largest Tiwanaku settlement group, for instance, is located at the lower end of the Moquegua Valley. It includes three Chen Chen style areas (M43, M48, and M52) and one Omo style cemetery (M70) and one Tumilaca affiliated area (M44). These sites are about 1 km from the river bed and above a dry quebrada and away from valleys flood plain. Like at Omo, a set of natural springs may have been the deciding factor in placing the settlements here. Geomorphological investigations showed however that the spring waters would have been inadequate for extensive agricultural irrigation except perhaps during years of flooding. That such events took place in A.D. 700 and A.D. 1300, bracketing the Tiwanaku occupation, was documented by Magilligan and Goldstein (2011).

3.3.1.4. Tiwanaku frontier experience

The reasons for altiplano interest in Moquegua seem to have varied over time, beginning with Omo style pastoralists frequently passing by the valley and establishing semi-permanent settlements at the valley edge close to springs and the caravan routes. The purpose of this may have been a long tradition of vertical exchanges for products from the valley and coast that were transported up to Tiwanaku. The usefulness of the Moquegua valley increased with social changes taking place in the highland metropolis which required more maize for making chicha in religious and state feasting and thus the Moquegua colony became part of a large trade network.

By the beginning of the Middle Horizon ca. AD 600, the first Tiwanaku colonies appear in Moquegua. Represented by Tiwanaku IV style ceramics this represents a major change in the political control of the valley. The site of Omo is a principal focus of Tiwanaku settlements Goldstein characterized the initial Tiwanaku occupation in the Omo phase as an intrusive imperial colony. Imported ceramic rather than local imitations suggest ethnic Tiwanaku settlers and house form correspond to Tiwanaku altiplano style living not local cultural tradition (Goldstein 1989). The Chen Chen phase Tiwanaku colonists were firmly engaged in large scale maize production for the homeland and had become the bread basket for their capital. Although far away from home they clung tightly to their different identities that they had embraced in the home land and which they replicated to the tee in diaspora. Archaeological evidence from both domestic and mortuary contexts reveal this intentional segregation in all Tiwanaku occupation sites throughout the valley with exception perhaps of the later Tumilaca phase.

In terms of frontier experience it is clear that Tiwanaku ideas did not include the exchange with local population but rather that they were determined to avoid interaction at all coats. This may have its beginning in the Omo style pastoralist exploration of the Moquegua area along desert caravan routes and the reluctance to interact with local agriculturalist. Pastoralists and farmers have inherently hostile relations as the needs for water and land are often topics of fierce competition. Tiwanaku pastoralists may not have wanted to disturb and anger local farmer and when finding natural springs along the valley edges this was also not necessary. Later on the knowledge of such water sources away from the valley floor may have been the motivation to settle and farm without competition or interference from local Huaracane agriculturalists.

What is puzzling, however, is that Tiwanaku settlers apparently did not consider the reaction of locals in the destruction or reuse of local elite cemeteries. Unless these were no longer in use or of significance this would have been cause for local distress. Previously this was explained with data that suggested that the local population was no longer around, but as has been discussed above some Huaracane settlements did continue into the MH period. Perhaps a closer look at comparable Huaracane sites and more refined settlements dates for all Huaracane sites can shed light on this. Perhaps the villages that built these cemeteries did no longer exist and communities like Yahuay Alta were only the last remaining ones on the brinks of the valley, too small and insignificant to fight back. Another explanation could be that Boot tombs were no longer in fashion and new ways of recognizing elite social status were in vogue and not marked through mortuary practices.

The later Tiwanaku phase of Chen Chen seems to have been more intense and oriented toward actively exploiting agricultural resources of the valley for supplying maize to the altiplano. Tiwanaku colonist seem to maintain complete isolation from locals and from Wari although Williams et al. seem to think that there was some sort of diplomatic exchange at Cerro Baúl and that in the late MH crisis in Tiwanaku society prompted internal break in which Tumilaca people go up in the upper valley. Tumilaca pottery is very similar o Tiwanaku and seems to be a continuation of Tiwanaku settlers rather than a local phenomenon. This is supported by Goldstein (2005) and Owen (2005) who argue that the site of La Cantera close to Cerro Baúl may have served as some sort of intermediary contact spot for both groups.

3.3.2. Wari Colonies in the seventh and eight centuries

The valley location: The Wari occupation of the Moquegua valley has both surprised and intrigued Middle Horizon Andeanists of both Tiwanaku and Wari camps, precisely because it is the most southward outpost of the Ayacucho Empire. Wari settlement began around A.D. 550 during the first significant period of Wari expansion in MH 1B (Williams 2001; Williams and Nash 2002). Because of the timing it can be assumed that the Moquegua valley was not chosen because of its agricultural potential to the state. The valley is located too far away from Ayacucho to regularly transport large amounts of maize or other staples to the highland city. No evidence at Cerro Baúl or Mejia and Trapiche suggest intensive agricultural production for export on that scale (compare hectares of Wari and Tiwanaku field investments). Thus it can be assumed that another reason must have prompted this settlement. Most scholars (Isbell 1991; Moseley et al. 1991; Williams 1997, 2002; Williams and Nash 2002) suggest that it was the contemporaneity with Tiwanaku and the close link in religious ideology that spurred a political motivation for creating a colony in Moquegua, right on the line that separated both states' influence regions. Nash and Williams for instance argue that Baúl was somewhat of an embassy where representatives of both states met. The fact that there has been discovered no evidence as of yet that would support a military conflict between the two states in the valley would further support assertions of diplomatic motifs for Wari settlement.

Resource distribution: Like the Tiwanaku settlers, Wari colonists chose a specific ecological niche were they could build their settlements unhindered. They chose the upper Moquegua valley which was sparsely inhabited and not fit for local floodplain agriculture. Like Tiwanaku settlers they selected an area where they would-be undisturbed and not disturbing to local and other populations. This makes sense if the purpose for settling in Moquegua was related to Tiwanaku diplomatic interaction. On the other hand it does not make sense given the extreme distance between Tiwanaku and Wari settlements. Perhaps the interaction between the states was fragile and a certain distance was appropriate between their settlements. Competition over middle valley resources might have caused conflict with either local populations or Tiwanaku groups which should been avoided in cautious diplomatic encounters.

Two interesting observations need to be made that may further illuminate Wari settlement strategies in the Moquegua Valley. First, the idea that Wari only settled in the upper valley is not correct as Cerro Trapiche the second settlement is located directly in the mid valley where competition for resources could have taken place. However it may have served diplomatic purposes as relationships between Tiwanaku and Wari were gaining strength. On the other hand the Trapiche settlement dates to about the time of the Cerro Mejia abandonment so perhaps a change in resource availability in the upper valley prompted a move down into the valley. A second observation that follows from the previous is that interaction between middle valley farmers and Wari were inevitable once the Trapiche settlement was there and thus the position of complete isolation must be revisited.

<u>Technological Adaptations:</u> Another factor that played to everyone's advantage was Wari agricultural hydraulic technology. Wari expansion was the first to open the high sierra to agricultural production (Williams 2002) and in the Moquegua high sierra there was little to no occupation before the Wari arrived (Owen 1994). From experience

in their homeland, the Wari colonists were experts in cultivating crops in difficult mountainous circumstances. The valleys in the Ayacucho are steep and only Wari technology of terraced field agriculture was able to produce agricultural yields large enough to feed an increasing population in the growing city of Huari.

Wari expertise in canal building to irrigate terraced fields represents another technological advantage that came to good use when settling the uninviting upper part of the Osmore drainage. Williams (2002:365) estimates that the Wari canals irrigated 2.5 times the area per volume that was irrigated by the Tiwanaku systems in the middle valley. He links this to the location of the Wari fields at higher altitude and closer proximity to the rainfall above 3500 m.a.s.l. and decreased loss of water due to evaporation. This suggests that Wari agricultural production was twice as efficient in water use as Tiwanaku crop cultivation.

Wari occupation in the Torata valley has documents six sites that are connected by a canal system. Settlements is centered on Baúl and the other Wari sites are on the 13knm long canal upstream and downstream of Cerro Baúl. Connected with these canals are remnants of agricultural terrace groups (which are heavily eroded and don't seem to illustrate the extensive Wari agricultural project. Williams effectively showed that Wari cultivation areas were much greater based on size ratios of modern fields to settlement habitation area size however (2002:366). The average is 1:750 and Baúl fields only come to 1:100, so there must have been more fields in the MH. Secondly hydraulic analysis of the canals system shows also supports that. Excavation through the canal at the El Paso site revealed that the maximum discharge of the river was 400 liters per second there, which could irrigate ca. 65 hectares. However the terraced field below El Paso only covered 25 hectares, so there must have been other fields for all that water to go. Lastly Williams suggests that a lot of modern canals are used Wari canals and that the area cultivated by Wari should include all irrigated lands in the modern lower Torata district and the terraces associated with the Wari terraced areas.

Both terracing and complex canal irrigation differ from Tiwanaku and local crop cultivation practices observed in the Middle Valley and clearly show that it was technological expertise that complemented nicely with Wari intentions. Being able to settle in the steep and previously uninhabited upper Moquegua valley without disturbing the local agrarian production, or Tiwanaku's fringe valley cultivation and would have been in accordance with diplomatic motifs for founding a colony in the Moquegua frontier.

To sum up then a combination of terraced agriculture and canal irrigation technology allowed for an undisturbed Wari colonization of the upper part of the Moquegua valley. This would have been appropriate if the reasons for settlement were to observe rather than to directly engage in competition with the other colonists in the middle valley. The lack of interaction with local crop production in the upper valley also supports this idea.

3.3.2.1.Cerro Baúl: Wari settlements in the Upper Valley

The upper Moquegua Valley Wari colony was dominated by the large city built on the summit of the Mesa Cerro Baúl at 2590 m.a.s.l. (Williams and Nash 2006) that majestically rises in the upper valley visible for many miles. The large administrative complex on the summit of the Mesa was accompanied by six other settlements on the three mountains that divide the Torata, Tumilaca and Huaracane tributaries. The Mesa dominates the landscape in the area and presents a very defensible position. Perhaps it was also chosen because it was a sacred landmark, as many mountains in the Andes are. This would have lent an added significance to this mountain that can be seen from many sites in the upper Moquegua valley. Today the Mesa is the site of many processions of religious nature and locals frequently visit the high summit for prayers and ritual ceremonies. These sites were connected by a large canal system that provided irrigation for terraced field agriculture along the slopes of these sites (Williams 1997, 2002; Williams and Nash 2002).

Williams and Nash (2006) suggest that religion also played a part in the choice of settlements at the top of this mountain massif. They propose that not only was Baúl considered a sacred site itself but it was also an important vantage point that connected to other *apus* as well. View shed analysis, done by the team, shows that many other important peaks in the region are visible for different areas on the summit of Cerro Baúl thus connecting the local *apus* to a larger regional system of scared mountain peaks. Eventually larger geographic regions can be linked together and Cerro Baúl could be connected to the regional sacred landscape via the *apu* network. Williams and Nash (2006) also point out that much of the summit's ritual architecture can be attributed to *apu* worship, which means that the southernmost Wari colony was also an important religious center.

Architecture on the summit of Cerro Baúl is consistent with classic Wari double faced stone masonry and the majority of this settlement included administrative and ceremonial compounds. Evidence further suggests that both elites and artisans resided at the site (Nash 2002, Williams and Nash 2002). Architectural remains include ritual buildings like sunken courts and two D-shaped structures as well as areas for public gatherings. Elite habitations areas were also identified alongside a brewery which suggests a life style that combined elite craft production and ritual performance combined with public consumption events. Secondary Wari sites in the upper part of the Valley can be found at Cerro Mejia where similar architecture can be found although smaller in scale (Nash 2002, Williams and Nash 2002).

The Wari occupation at the upper valley sites occurred in two phases. The original settlement took place in the seventh century around A.D. 650 (Williams 2002) or between AD 550 and AD 800 (Williams and Nash 2002). During that time there was little to no interaction with Tiwanaku people in the region, possibly related to tensions over water rights because it was a relatively dry climate phase (Williams 1997, 2002; Williams and Nash 2002).

The second phase of Wari occupation is dated to between AD 800 and possibly the late 13th century AD (Williams and Nash 2002). Excavations suggest that there were many major changes that occurred during that time. First Cerro Mejia was abandoned by ca. AD 800 as part of the reorganization of Wari settlement pattern (Nash 2002; Williams and Nash 2002). A second change refers to the dramatic reconstruction effort visible at the summit of Cerro Baúl between AD 800 and AD 900. This shift also coincides with important changes that took place in the Wari empire as a whole, including at the capital in Ayacucho (Moseley et al. 2005; Williams 1997, 2001; Williams and Nash 2002). Lastly this second phase also holds evidence for Tiwanaku and Wari interaction in the upper valley as several small Tiwanaku settlements seem to have been established there in that period (Williams and Nash 2002, Goldstein 2005, Owen 2005). Cerro Baúl and the surrounding colony were abandoned by AD 1200 and were accompanied by systematic burning of several monumental surface structures on Baúl (Moseley et al. 2005, Williams and Nash 2002).

3.3.2.2. Cerro Trapiche: a Wari outpost in the middle valley

While most of the work on Wari settlements in Moquegua has focused on Cerro Baúl and its satellite sites the middle valley site of Cerro Trapiche has received little and only recent attention. First discovered and identified in the 1980's it was first understood as a local Huaracane site and especially associated with a late Huaracane period, the so-called Trapiche phase (Feldman 1989) in the valley. Reevaluation of the site in the 1990s and early 2000s have a documented a Wari occupation as well and some surface material also points to a later Tumilaca use phase.

Today Cerro Trapiche is in many respects considered a traditional Wari site and yet also quite unique and different from the Wari occupation in the upper valley. First, it's location in the mid valley is diverging from the isolated Wari presence in the Torata valley. Secondly, Trapiche is located not only clearly visible from the floodplains and potential Huaracane sites; it is also within direct sight of Cerro Echeníque, the only Tiwanaku site on this side the river. Its own fortified location on a large mountain combined with the evidence of a fortification wall on the slopes of Echeníque may suggest that these two settlements were aware and perhaps wary of each other's presence. This evidence points to a middle valley frontier arena that was a carefully negotiated space of cultural exchange that nevertheless was marked by guarded interaction and perhaps suspicion.

Because of its unique location and set up the Wari occupation at Trapiche has been the object of my research for the last few years. Supported by previous work of the MAS team in 2003 and 2004 I suspected that this site was a prime location for cultural exchange between Wari and Huaracane, and by extension also Tiwanaku settlers in the mid valley frontier zone. The rest of the dissertation will be concerned with research at Trapiche and results of my work there. Illuminating the various forms of cultural exchange at Trapiche informs our perceptions of colonial encounters in a number of ways. On one hand it provides a unique opportunity to investigate the ways in which complex states confront frontier expansion and interaction with other states. On the other hand, understanding the Trapiche settlement also allows us to highlight the local perspective and indigenous reactions to the intrusion by two competing culture groups. Finally I believe that the insights from Trapiche can be viewed from a specific Andean, Wari and Middle Horizon perspective but that they also contribute to archaeological interpretations of colonial encounters or frontier settings elsewhere.

3.3.2.3. The Wari frontier in Moquegua

The Wari experience in the Moquegua Valley was quite different from that of the Tiwanaku settlers in both intent and follow through. Free of the intentions that prompted the altiplano settlers to invest in large scale agricultural projects in the middle valley, Wari colonist were able and equipped to build and support an impressive colony in the steep Upper Moquegua valley. This isolation allowed the uninterrupted creation of a large settlement at Cerro Baúl that was supported by crop cultivation on elaborate terraced fields on nearby slopes. Like Tiwanaku and local settlers, Wari were able to explore and exploit an ecological niche that suited their unique needs and abilities and which promoted resource independence from the other two groups. However unlike the Tiwanaku, these settlers at least to a degree sought the exchange with other groups in a variety of ways. Interaction with Tiwanaku representatives may have come in the form of diplomatic exchange at Cerro Baúl or Cerro Echeníque in the middle valley and interaction with local groups may have been promoted at Cerro Trapiche.

3.4. CONCLUSION CHAPTER 3

The Osmore drainage is a typical coastal riverine valley system fed by the snowy peaks of the Andean Cordillera. Like many other such valleys it is marked by a distinct geography and a long history of human occupation beginning in earnest with the settling of agrarian Huaracane groups along the river in the middle valley in the Formative period. During the Middle Horizon the valley became a space of exploration and discovery. In short, a frontier for both Wari and Tiwanaku. Pastoral altiplano groups expanded their occasional complementary resource extraction from the valley to a permanent settlement system where Tiwanaku farmers produced an enormous surplus of maize on the valley fringes through complex irrigation techniques for their homeland. Simultaneously Wari settlers occupied the steep upper valley at the large center on Cerro Baúl. They supported this colony by means of terraced field agriculture and irrigation and were probably more interested in monitoring their southward border with the Tiwanaku influence sphere. This development was accompanied by the continuous local settlements of local Huaracane groups along the river flood plain. Highlighting the cultural vibrancy of the middle valley the following chapter introduces the site of Cerro Trapiche as a unique settlement in this active cultural landscape during the Middle Horizon Period.

Table 3. 1 Dates for Huaracane occupation in the Moquegua valley from various sources (a. Goldstein 2005, b. Costion 2009, c. new dates from P.A.C.T. 2008)

Sample #	Site	Context	Material	14C Age BP	Error	1 sigma range	2 sigma range	Source
AA38030	Tres Quebradas	Huaracane Túmulo	Wood	2220	42	364-207 251,232,217 and 213 cal B.C.	385—181 cal B.C.	a
Beta-120262	M17 sector A	Huaracane Túmulo post	Wood	2140	50	205-100 cal B.C.	365 -45 cal B.C.	a
AA38029	Tres Quebradas	Huaracane Túmulo	Wood	2112	42	198-54 cal B.C	349-2 cal B.C.	a
UCI-43615	Yahuay Alta	Unit 1	Carbon	1825	20	AD 138-227	AD 131-228	b
UCI-43616	Yahuay Alta	Unit 2	Carbon	1790	20	AD 177-318	AD 137-323	b
UCI-43707	Yahuay Alta	Unit 5	Carbon	1235	20	AD 710-856	AD 690-871	b
AA102757	Cerro Trapiche	Sector D, Terrace 4	Wood	1385	38	AD 622-668	AD 581-757	c
AA102758	Cerro Trapiche	Sector D, Terrace 6	Wood	1381	31	AD 633-670	AD 603-682	c
AA102579	Cerro Trapiche	Sector D, Terrace 7	Wood	1249	32	AD 685-766	AD 675-780 AD 788-875	c

CHAPTER 4: CERRO TRAPICHE – A LONG-TERM INFLUENCE IN THE MIDDLE MOQUEGUA VALLEY

Introduction:

Whereas the previous chapter illustrated the unique circumstances that enabled multiple cultural groups to coexist in the Moquegua Valley during the Middle Horizon, this chapter introduces the site of Cerro Trapiche and explores its geographic setup and research history, which reveals a unique relationship to the other Middle Horizon settlements in the valley.

For clarity the chapter is divided into three main parts. The first part is an introduction to the site; it describes Trapiche's geographic location and archaeological sectors of the site based on the site's research history. Trapiche's location in the Middle Horizon frontier landscape was geographically advantageous topographic makeup of the site as a mountain of unusual shape suggests it might also have held an important symbolic meaning. From its discovery in 1984 to the most recent research in 2004 the changing interpretation of the site's sectors were linked to new insights into the larger Moquegua settlement history.

The second part of the chapter explores the link between changing views of Cerro Trapiche and its place in the cultural history of the Moquegua Valley. The Cerro played an important role early on in the understanding of the Moquegua valley population and its connections to the altiplano in the Formative Period. Interpretations of what that role was have differed over time and reflect the changing understanding of the importance of

The Moquegua Valley during the Middle Horizon (Bandy 1995; Cohen et al. 1995; Costion and Green 2009; Feldman 1989; Goldstein 2000, 2005; Green and Goldstein 2010).

The third part introduces my dissertation fieldwork at Trapiche in 2008. This includes a discussion of the goals of my investigation and research questions as well as a brief overview of the methodology applied in excavations and artifact analysis.[2] The conclusion of the chapter summarizes Cerro Trapiche's importance in the middle valley during the Middle Horizon and considers the potential of Cerro Trapiche as an active player in a "middle valley cultural interaction zone".

4.1. GEOGRAPHIC LOCATION

Cerro Trapiche is a majestic mountain site that is located on the west side of the Moquegua River overlooking the middle Moquegua valley, where its strategic position allows for controlling the lower neck of the valley (Figure 4.1) as well as a sweeping view of the wider upstream middle valley. The site is surrounded by floodplain to the east and to the south where the river bed runs today and the desert environment on the north the west side. Trapiche is positioned south of the confluence of the Huaracane, Torata and Tumilaca rivers and this part of the valley thus has a steady supply of water even during the arid winter months. In months of January through April however the river can swell quite dramatically with the melted snow runoff from the highlands that is carried

[2] This chapter only deals with the initial research design. Specific results of the data analysis are discussed in chapters 5 and 6. Detailed excavation notes and tables from the data analysis can be found in Appendices A and B.

into the lower valley by all three rivers. The site sits just across the valley from the modern town of Moquegua. The site name means “sugar mill” in Spanish and is related to the colonial period agricultural production of sugar cane in the valley that was used in the production of brandy in the many bodegas (Rice 1989).

Cerro Trapiche, part of a larger mountain massif on the west bank of the Osmore, rises from the valley floor to approximately 1500 m.a.s.l. at the highest peak. Shaped in a crescent form, its slopes ascend out of the river floodplain and lead up to a large geological terrace at ca. 1350masl that is very flat and approximately 500 meters long and 100 meters wide. The plateau narrows to the south and has abundant archaeological evidence including multiple cemeteries, at least three large structures, and terraced side slopes. On its wider north end a steep hillside covered in terraces leads up to a peak that is dominated by the remains of a large rectangular building. This peak is connected by a wide ridge to a second hilltop also covered in small terraces and which has evidence of at least two smaller buildings. The double knolled ridge terminates in a third, larger architectural group on the summit that is covered in stone masonry terraces all around and that is separated from the lower peaks by a moat.

The site is surrounded by agricultural fields maintained today by the people who live on the lower slopes of the mount. Unfortunately due to this agricultural advance many of the lower archaeological sectors have been destroyed and a gorge cuts though the site today where a deep canal was dug in the 1990s to irrigate the southern slopes. The occupation areas of the site, Sectors C-F, are situated much higher than the average Huaracane floodplain settlements in the middle valley described by Goldstein (2000, 2005), with the exception of occupation of Yahuay Alta in the northern most part of the middle valley which is located at an average of 1600 m m.a.s.l. (Costion 2009:42).

4.2. RESEARCH HISTORY

4.2.1. Discovery and Early Research 1984-1989

The Trapiche site was first discovered during a reconnaissance survey of the Programa Contisuyu led by Michael Moseley in 1983. During this initial visit some ceramic materials were collected from the site's surface and the site sectors A through F were designated for purposes of later more thorough surface collection. In 1984 Moseley's team surveyed and described the site in more detail, designating sectors J though K (Figure 4. 2). This expedition also performed some test excavations and determined based on artifacts analysis that the site had multiple cultural associations, mainly Tiwanaku, Tumilaca, Huaracane, and Wari (Moseley 1984). Ceramic evidence of coarse tempered plainwares and zoned incised sherds from this initial research formed the basis for the first assumptions about a connection between the Moquegua valley and the Pukara altiplano population from the Titicaca region (Feldman 1989).

4.2.2. MAS Research 1994-1999

A second, more in depth, exploration of the site took place as part of a larger valley wide research project by the members of Paul Goldstein's Moquegua Archaeological Survey (MAS) project in 1993/94 and 1998/1999. In the early 90s the site was partially mapped and artifact distributions in the various sectors were noted in detail (Bandy 1994). Like Moseley earlier, this team also noted the mixed artifact assemblage that was evident in sectors C, D, E, and F, where Wari, Tiwanaku and Huaracane ceramics were identified on the surface. During these field seasons the Wari association of the site became more distinct. However, the field notes also relay certain puzzlement, as there is a continuous association of this evidence with Tiwanaku and Huaracane materials. A mapping project by Goldstein was also undertaken, and on the available sketch maps sectors K, L, M, and N were added to the original sector count by Moseley (1984) and which seem to denote additional cemetery features in Sector A (Figure 4.3).

In 1999 another season of the MAS under Goldstein completed a 50% systematic surface collection in Sector C at Trapiche that included the rock pile area and part of the adjacent Structure 3. Artifactual evidence from this collection supported earlier observations about a Wari association with the site as a number of Wari Chakipampa and Ocros sherds were identified in the Sector C surface collection near Structure 3. Secondly the rock pile area was identified as a looted or destroyed Huaracane "boot tomb" burial ground based on associations with both Huaracane plain and fine wares, and the Pukara style materials were recognized as a trade component (Goldstein 2000). Both the Wari and Huaracane associations were further explored in the 2003/04 field seasons.

4.2.3. MAS Research 2003 and 2004

During the 2003 and 2004 seasons the MAS project returned to Cerro Trapiche and a more specific research emphasis was placed on both the Huaracane and the Wari aspects of the site, especially in Sector C where the boot tomb cemetery and three structures of potential Wari masonry were previously identified (Moseley 1984, Goldstein 2000). The 2003 MAS team excavated in two locations of Sector C. Unit 1 was placed in the Huaracane cemetery and revealed a complete and intact Boot tomb burial. Data from this unit confirmed previous interpretations of the cemetery complex in Sector C as a Huaracane elite burial ground. Unit 2, one of the two rooms of Structure 3, was fully excavated. Here we found material related to chicha beer production and food preparation. Three large *batánes,* aligned on the south wall, served as grinding stations, possibly for spices to add to the brewing mixture (Goldstein et al. 2009). In addition a number of pot rests were identified, probably to hold large fermentation jars. Furthermore we discovered evidence of feasting activities in the form of tumbler fragments. These fineware cups were decorated in typical Wari fashion: one displayed geometric pattern and another fragment from the surface collection in 1998 at this location produced a face neck jar fragment.

The 2003 field season results confirmed a definite and active Wari presence at the Trapiche site, especially in Sector C, on top of the former Huaracane cemetery complex. The results of this work supported previous assumptions about a Huaracane boot tomb cemetery. New radiocarbon dates and excavations in Structure 3 revealed an active Wari presence at Cerro Trapiche that led to new understanding of the site's use in the Middle Horizon Period. Analysis of the 2003 excavation data revealed a mixed Huaracane and Wari artifact assemblage in Structure 3. This evidence was surprising given that no Huaracane settlement had yet been dated to the Middle Horizon and suggested for the first time a potential extension of local populations into the Early Middle Horizon and secondly perhaps a shared use of the Trapiche site (Carter 2004, Carter and Goldstein 2005, Green and Goldstein 2010).

On the other hand, although a definite Wari presence was documented at the Sector C excavations at Cerro Trapiche; little was known about the rest of the site. A Wari occupation had been tentatively assigned to sectors F and E (Bandy 1994; Feldman 1989) based on architecture and some non-systematic surface collection, however, no specific investigation had been made into this topic previously. Based on the results of the 2003 filed season in sector C, I felt hopeful that a detailed analysis of systematically collected surface material from sectors D, E, and F could offer some insight into the occupation of these sectors.

These new insights led to my own Masters research at Trapiche in 2004. As part of the continuous MAS efforts I conducted systematic surface collections in Sectors D, E, and F in order more clearly define the Wari presence at the site and to compare it with Huaracane affiliations of these sectors. The analysis took into consideration many different elements, such as location at the site, present architecture and identification of ceramic materials and revealed a consistent mixing of Wari and Huaracane materials in sectors C-F of the site. The frequency and spatial distribution of ceramic and lithic surface materials confirmed the initial suspicions of a collaborative occupation by locals and colonial newcomers (Green 2005, 2006). From this I was able to draw some tentative conclusions about the nature of the Wari occupation at Cerro Trapiche. It appeared that at Cerro Trapiche Wari occupants may have lived together with local Huaracane populations and that in shared households they used an inventory of local plainwares that was augmented by imported Wari finewares.

What this research did not answer was how exactly these people interacted at Trapiche. At the time I suggested a variety of scenarios ranging from mixed marriage households to the adoption of local servants to simply the using of local wares by Wari households. Only more in-depth research in the domestic areas like Sector D could answer these questions. That was the goal of my dissertation research and the *Proyecto Arqueológico Cerro Trapiche* (PACT) in 2008, which are addressed in more detail following the site description below.

4.3. SITE DESCRIPTION

The sector division below (Figure 4.3) is based on the first 1984 field report. Initially the sectors of the site were assigned based on topographic differences rather than cultural indicators and are still in use today. I list the sectors in alphabetical order as they were first designated by Moseley in 1984 and each sector is discussed based on geographic location and topographic description followed by a summary of its initial cultural affiliation, augmented with insights from the MAS projects in the 1990s and 2000s. It is clear that continuous research at the site has shifted archaeologists' perception of the various sectors and the interpretation of the importance of the site in the Moquegua prehistory.

4.3.1. Sectors A and K

The first sectors designated by Moseley are the lower sectors directly above the flood plain, Sectors A and K. Sector A, which comprises the most of the southern area of the site, is located on the lower geological terrace near the river flood plain and the archaeological remains in this sector include stone-faced agricultural terraces on the steep slopes. The construction of an access road exposed profiles of the lower terrace in sector A but this produced no domestic refuse, rather the profile revealed evidence of layers of dark humorous soils, indicating cultivation along with charcoal debris, vegetable deposits and occasional ceramic sherds. Moseley posited based on these irregularities that the soil was accumulated and was not naturally occurring in this area. He suspects that this was the result of soil transfer from upper slopes and deposition on the lower terrace (Moseley 1984:3). Ceramic sherds found in the 1984 surface collection were identified as Huaracane, Wari, and mostly, Tiwanaku.

Modern agricultural production in the areas has deeply disturbed areas A and K making a culture reconstruction for these sectors difficult. Some evidence suggests at least two activities for the areas, domestic and agricultural. The stone-faced terraces perhaps were related to Sector J in use. Although of Tiwanaku occupation, the stone face terraces sit atop earlier Huaracane habitation terraces in Sector K. The additional presence of Huaracane sherds, suggests thus two possible phases for the sector. However, this data does not allow a full understanding of how the area was used, if it was contested or shared by these groups. It is impossible to say if the Huaracane moved or shared the space with Tiwanaku as both followed similar agricultural strategies in the valley.

Similarly, more work is required to determine the extent of Wari interference in the sector, if it at all exists. The MAS 1994 surface collection produced some Wari type ceramic sherds, which could suggest some Wari presence. An explanation for their presence is complicated, as they could simply be the result of taphonomic processes and been transported from upper slopes through erosion, however, research makes it plausible that they may be related to the Wari occupation in Sectors C though F.

In summary, it can be suggested that three groups used this lower terrace of Sectors A and K, but if this was a contemporaneous use cannot be established at this time. Although more work needs to be done in order to sort out the temporal issues at this part of the site, these sectors were not examined in the 2003 and 2004 seasons. Regrettably, modern cultivation and houses have most certainly eliminated the chance to do so in the future.

4.3.2. Sector B

Sector B is located within the large upper geological flat terrace of the site. It consists of residential terraces and exhibits a dense concentration of domestic refuse including ceramic sherds. Ground stone, fragments of animal bone and mussels shells were also found. No intact architecture is visible because the entire sector is covered with well-preserved canals of the irrigation system found in sector J. Ceramic material recovered from this sector has been identified as Tiwanaku only and no other occupation has been proposed, though some ceramic material was interpreted as possible Huaracane or Wari plainwares. Moseley posits that the agricultural use was Tiwanaku and adds that the area was possibly residential in nature but was reused as agricultural terrain with the introduction of the irrigation and canal system in sector J (1984:3). It is not quite clear whether the Tiwanaku occupation was the only occupation at the area. As in sectors K and A there is the possibility of multiple groups residing these but unlike sectors K and A, area B is predominantly Tiwanaku.

4.3.3. Sector C

Sector C, the most intensely studied sector at Trapiche, is situated on the upper geological terrace of the Cerro, where it represents the flattest plateau on the southern slope of the site complex. To the east the sector turns into a steep slope that ends in the flood plain but the upper part of this area was made usable through the construction of several large stone-faced terraces. The western limit of the sector is determined by the Sector G cemetery and to the south it buds against Sector J. The slope of Sector D delimits the north. Overall the sector measures ca. 150 meters in width and 500 meters in length and makes up almost 50 percent of the whole geological terrace.

Sector C's most striking feature is a larger area that is covered in loose stones (Figure 4.4), something described as a "Pitted Stone Pile" (Moseley 1984:3), and which Feldman and Moseley initially interpreted as a destroyed burial platform associated with the Pukara culture of the altiplano (Feldman 1986). Re-examination of the M7C rock pile in 1998 yielded evidence that compared with earlier data from other sites in the valley resulted in the redefinition of this part of the site as a Huaracane "boot cemetery" (Goldstein 2000:349, 2001). The 2003 excavations in the cemetery in Sector C produced an intact Boot tomb burial and confirmed its original use in the Formative as an elite mortuary monument.

Other significant archeological characteristics of Sector C include a large enclosed plaza area and two rectangular structures of Middle Horizon Wari affiliation (Figure 4.4). All three structures in Sector Care stratigraphically later than the burial complex, which can be observed from the fact that they were built on top of the rock piles in some areas, and material from the cemetery was used in their construction.

Structure 1 lies west of the Huaracane cemetery area and although looted describes a well-preserved rectangular room with internal subdivisions. On its north and southeastern corners remnants of wall masonry extend from the building which extends into the “rock pile” area. These have added later and are not as substantial as the buildings main walls, suggesting perhaps that later added patio feature. Inside the structure Moseley’s team uncovered a looted burial, which might have been a dedicatory offering (Moseley 1984:5) However, the burial could not be dated since no diagnostic artifact were recovered.

Structure 2, located north of the burial complex, is a large trapezoidal enclosure. The collapsed masonry of this feature stand out because it is “thicker and most substantial than elsewhere” (Mosley 1984:5). In the northwest corner, a looted stone-lined cist tomb was found and excavated (Berman 1984:2). The remains of an adult female were found associated with Chiribaya ceramic vessels. Construction of the cist, however, has been attributed to the Wari, due to its mortared and stone lined construction, which resembles similar cists found in sector E. In the southwest corner of Structure 2, two small walls (4-5meters in length) extend south toward the rock pile over the edge of a pit and perhaps formed a small enclosure. Given that not much remains of the original walls in terms of wall fall the current interpretation of this area is that it was a large plaza, rather than an enclosed building used for public gathering, possibly associated with the activities observed in Structure 3. Future excavation in the larger area might reveal more about the function of this structure.

Structure 3, immediately west of the cemetery, has been identified as a Wari construction based on the double walled masonry and the layout of the building. The larger perimeter of the building enclosed two smaller structures that flank a large open courtyard on the north and south sides. Symmetrically aligned, both buildings have opposite facing entrances. Initial observations of this structure do not assign a cultural affiliation and 1984 test excavations revealed that the building stands on a low terrace of the agricultural system and was built on top of the refuse of Sector B (Mosley 1984:6) suggesting that the structure was later than the Tiwanaku occupation Moseley proposed for Sector B. This initial conclusion seems a bit confusing but was probably associated with the better reservation of the structure than the Sector B walls.

The MAS surface collections from 1994 and 1999 that include Structure 3 and its vicinity identified Wari ceramics, including a Wari style tumbler and a face neck vessel and for the first time tentatively offered a Wari association with the building.

The 2003 excavations in Structure 3 produced both Huaracane and Wari ceramics as well as botanical and organic materials. The architecture was redefined as Wari patio group (Carter 2004, Carter and Goldstein 2005). Although patio groups, open spaces surrounded by adjacent rooms, occurred in various forms and sizes in the Wari architectural repertoire (Isbell 1991), they were often associated with household groups. The excavations in Structure 3 revealed that the very rudimentary arrangement at Trapiche, however, is more representative of a feasting area, similar to those described by Donna Nash (2002) at the Wari site of Cerro Baúl. Detailed Analysis of the excavated ceramics from Structure 3 (Green 2005) revealed a consistent mixture of Wari and local Huaracane materials throughout all levels, which was quite puzzling and unexpected at the time

4.3.4. Sector D

Rising up in the north, behind Sector C is the slope of sector D, consisting of a series of approximately 70 stone-faced terraces constructed from local angular stones. Today this sector is separated from the Sector C plateau by a large and deep modern canal, but it must be emphasized that these two sectors were originally connected and one could easily move between them.

Surface collections in 1984 revealed an irregular distribution of ceramic sherds (Tiwanaku and Wari). A few *manos* and fragments of animal bone and mussel shell were discovered there as well (Moseley 1984:6). Moseley proposed a similar use of these terraces as Bawden suggested for domestic terraces at Moche sites in Galindo; individual households assigning different terraces for specific activities (1984:6). Non-systematic surface collections in 1984 (Mosley), 1994 (Bandy MAS), and systematic collections in1999 (Goldstein, MAS) identified a mixture of ceramic sherds associated with Huaracane, Wari and Tiwanaku of which the majority was Wari. Additionally some lithics were identified as chipped stones of Wari style, namely obsidian and chert projectiles.

Considering the significance of Sector C for all three groups these adjacent and dominant slopes could have been of equal importance for all groups and were closer inspected through ten 10x10 meter units of a systematic surface collection in the 2004 MAS season. The analysis of the collective ceramic data from the 1999 and 2004 surface collections was aimed at a more in-depth investigation of this sector and the results more clearly illuminated the activities this area of the site. Especially the interaction between Huaracane and Wari appeared much more intense than previously anticipated as these materials made up the majority of the mixed surface assemblages. Contrasting with Sector C the artifacts in Sector D clearly showed a domestic affiliation and included a large amount of Huaracane and Wari plainwares and only a small percentage of Wari Fine wares (Green and Goldstein 2010). This suggested a possible contemporary interaction between these groups rather than an accumulation in different times. Since the remaining terraces do not show evidence of typical of Huaracane domestic terraces and the stone facing pointed toward a Wari habitation area a possible scenario suggested a shared Wari/Huaracane household setup (Green 2005, 2008, Green and Goldstein 2006, 2010). This suggestion was based on the assumption that in mixed households, plainwares would not change much over time and local wares would be brought in by wives whereas foreign Wari men might contribute finewares that are lees common and easier to transport over long distances, yet that also make up part of a serving assemblage in a combined household.

4.3.5. Sector E

The lower summit of the Trapiche mountain, sector E, is located right above sector D. It is essentially a long ridge that connects two smaller peaks, leading up north toward sector F. Located on the surface of the first peak above sector D are the remains of one or more collapsed structures. Furthermore the summit contains an open enclosure, perhaps a plaza with two large cists and two more internal rooms. The cists were identified as looter pits first and excavated in 1984. They were circular in shape with vertical walls. The first cist excavated by Berman (1984a:6) had a diameter of 1.7 m and was about 1.8m deep. The floor was stone lined, included few ceramic sherds and one unidentifiable bone fragments. The second cist measured about 2m in diameter and 1.5m in depth (Berman 1984a:6). Contrary to the cists in sector C, the floors in the circular structures in sector E were made of hard, thick plaster. Examination of the looters fill from the two cists produced human remains (a partial male mandible and cranium) and some non-diagnostic ceramic sherds (Berman 1984a: 6). Two test units in the plaza area revealed only very thin or nonexistent floors (84a:7). The slope to the east of these buildings contains domestic terraces associated with Wari, Huaracane and Tiwanaku ceramic sherds as well as Wari projectile points.

The two summits of Sector E are separated by a narrow but deep trench or moat. The higher peak however lacks major architecture like that on the lower part of the sector. The peak only had remains of several small buildings associated with several terraces (Moseley 1984:6). A surface collection produced Wari, Tiwanaku and one Pukara sherd. Although a predominance of Tiwanaku over Wari sherds was counted for this peak, it must be pointed out that the surface collection was not systematic and thus it cannot be determined from this collection which group is affiliated with this area.

Contrasting with the location of sectors C and D, E is considerably more defensive as it sits atop steep slopes that required terracing. Comparing it to the other Wari site in the valley, Cerro Baúl, this sector fits well with Wari site selection strategy. The settlers easily adapted to high elevations and skillfully turned defensive locations into most habitable spaces through extensive terrace construction. The results of the 2004 surface collection in this sector suggested two different habitation practices for the two smaller summits. The one closer to Sector D that was dominated by the remains of a large rectangular building was associated with predominantly Wari materials whereas the smaller and higher summit had evidence indicative of perhaps a small Huaracane installation. No radiocarbon dates are available for these areas so it is difficult to say whether these habitation areas were contemporary.

4.3.6. Sector F

Sector F is the highest peak of the Trapiche Mountain, separated from second peak of sector E by a dry moat and a stone wall. This explicit cultural fortification is defined by masonry architecture. Moving west from the moat one can identify a series of terraces, beginning with small ones and progressively larger ones that finally end with a series of immense residential terraces (Moseley 1984:7). Terraces are stone faced with local angular stone and the surface of terraces exhibits subdivisions and rooms made of double-faced masonry (Moseley 1984:7). Three possible structures were discovered on sector F, one perhaps a Tiwanaku the others possibly Wari constructions. The first possible Wari structure was identified in 1994 (Bandy 1994:63) and is described as a large rectangular structure with a plaza area in which multiple Wari sherds and an in situ jar-neck were found (Bandy 1994:63). Whereas a defensive wall constricts access to the area in the north of the structure, two large circular features were discovered on the south side of the wall, which have been proposed to resemble storage units.

Clearly Sector F is the most fortified part of Cerro Trapiche and includes some of the most massive terraces of the site. Plaza style architecture and the presence of two possible storage units suggested a Wari occupation at the area, and even indicated a possible elite occupation. Initially Moseley suggested a Tiwanaku occupation for sector F (1984). This idea has now been dismissed. Bandy and Cohen in their notes for the 1984 surface collection, identify Wari bowl fragments, which as they note were quite frequent on the pathway leading to the sector. Tara Carter (2004: 93) suggests the location and ceramics were perhaps storage related, like the jar fragment in situ in a small pit, or were used to serve drink and food at the peak, like in bowls. She suggests that the fortified location and artifact assemblage is indicative of a Wari occupation that was perhaps preceded by Huaracane settlement and followed by a smaller Tiwanaku occupation (Carter 2004: 93). The results of the analysis of my own systematic surface collection in 2004 supported a period of Wari occupation at this sector. Furthermore the higher frequency of Wari fineware pottery identified in the surface units on this summit also suggested an elite context for at least some of the large stone terraces (Green 2005). This might suggest a set up similar to Cerro Baúl, where the summit area of the mesa was partially dedicated to elite housing. Future excavations in this sector will be able to shed some important insights on this matter.

4.3.7. Sectors G, H, I

These three sectors are located on the upper geological terrace of the complex, and all house small, looted cemeteries associated with the Tiwanaku. A sample of ceramic sherds, collected in the 1984 survey as well as textile and kero fragments lead Moseley to propose that all three cemeteries were possibly associated with a late or even terminal Tiwanaku (Tumilaca) occupation, but certainly later than that in Sector B (Moseley 1984:7-8). He also points out that the late Tiwanaku irrigation and canal system in Sector J seems to intentionally avoid these sectors and thus the cemeteries (Moseley 1984:9). It is difficult to date the cemeteries as they are heavily looted, although they seem to indicate that sectors G, H, and I mainly have a Tiwanaku association. Analysis of the surface materials collected in 1998 by Goldstein confirmed a later Tumilaca affiliation of these cemeteries.

4.3.8. Sector J

Sector J is located in the upper geological terrace near Sector B. Moseley describes this sector as a "system of small canals, feeders, fields, and agricultural terraces that was designed to intake water at the north end of the upper geological terrace and distribute it to down-slope planting surfaces" (Moseley 1984:8). No subdivision of individual plots of land, indicative of domestic, household use, is found in Sector J (Moseley 1984:9). As described earlier the agricultural fields in Sector B (superimposed on an earlier Tiwanaku domestic area) were fed by this system. The structures in Sector C, however, seem to be constructed later than the systems; structure 3, for example is built on top of an agricultural terrace, which Moseley associated with the canal system in sector J (1984: 9-10). He posits that the canal system in sector J is contemporary with the agricultural fields as well as the cemeteries in sectors G, H, and I (1984:10). He suggested that the canals were built by the Tiwanaku and not by Wari or Huaracane people (1984:10). However, should the canals be Wari in nature, they would have to predate Wari construction at sector C. It seems illogical that, if the Wari were using this canal system, they would abandon its use and instead begin the construction effort at sector C. Moseley's explanation that these canal systems were Tiwanaku in nature is at this point the most logical. As with many other sectors more work at sector J is needed to clarify relationships between the sectors and document the activities that took place at them.

4.4. THE CHANGING INTERPRETATIONS OF CROSS-CULTURAL INTERACTION AT CERRO TRAPICHE

4.4.1. Pukara Colonists and the Trapiche Phase in the Early Ceramic Period

In 1989 the first comprehensive volume on the archaeology of the Moquegua valley, *Ecology, Settlements and History in the Osmore Drainage, Peru* (Rice, Stanish, and Scarr 1989) was published. In it Robert Feldman, summarizing the research of the 1983 and 84 seasons, divided the Early Ceramic Period into an earlier Huaracane and a later Trapiche phase. He posited that the incised polychrome sherds found at the Cerro Trapiche site had some resemblance to the altiplano Pukara style, but that they were a local variation. He further supposed that this material came from a distinct phase that was later than the Huaracane period and therefore named it the "Trapiche phase". Feldman purported that "people of the Trapiche phase made variants of Pukara style textiles and ceramics" which, "…. suggest(s) local production by a permanently resident population that was in contact with the altiplano center" (1989:216). He further suggested that Trapiche phase pottery was found at the Huaracane component at Cerro Echeníque and at Yahuay Alta (1989:213).

Feldman distinguished between two types of Trapiche phase pottery;" polychrome" and "red on black" (213) and while he admits that these are similar to Pukara material he insists that the incised designs and lines of the Moquegua sherds are different enough not to be considered imported from the altiplano (215) he furthermore makes connections to Pukara materials based on excavated baskets and textiles which he links to materials of Chilean Pukara materials from Alto Ramirez site.

Feldman dated the Trapiche phase unofficially to after AD 300 (1989:215), although he admits that not much can be said about Huaracane lifestyle based on the current data. The differentiation he observed between Trapiche and Pukara pottery included the “variations in the use of incision for outlying design areas and the preponderance in Moquegua of closed vessel forms” (Feldman 1989: 216). He suggested this illustrated local production albeit by people who were in close contact with the altiplano center and perhaps even highland colonists. This conclusion also complemented the initial interpretation of Huaracane pottery as a derivative of altiplano ceramic styles discussed in the previous chapter. Feldman also supported these ideas by including the destroyed architectural remains at Trapiche and suggested they implied the use of labor control to erect Pukara style platforms, something akin to the processes taking place in the highlands.

According to Feldman the Trapiche phase was not as extensive as the Huaracane phase, but could be the result of labor concentration at fewer sites. The Trapiche phase included the appearance of monumental architectural masonry absent in the Huaracane phase, suggesting a higher degree of labor management. He speculates that the fortifications (which were undated at the time) could be an indication of violent interaction and justified population aggregation at fewer sites. He suggests that the presence of Huaracane sherds on the destroyed surfaces at sites like Trapiche and Echeníque might suggest an overlap of these two phases. Overall the understanding of the Trapiche/Pukara pottery was part of a larger understanding at the time of vertical integration between Moquegua and altiplano groups. While vertical integration remained a common theme, how people used the evidence to support such assertions changed. Moseley at al. (1991) postulated that preliminary expeditions showed that “the Tiahuanaco occupation of the middle valley is ubiquitous and, with the exception of the Huari intrusion, there is little evident presence of either independent local traditions” (124). They also discuss Trapiche in context with a possible Wari association when they mention, “Huari sherds […] are also present in low frequencies on one group of terraces at Cerro Trapiche” (1991:125).

4.4.2. Boot tombs and emerging chiefs – an indigenous tradition at Cerro Trapiche with long-distance ties

Evidence from MAS research of the 1990s prompted a reevaluation of the Huaracane and Trapiche phases. It became clear that (1) Huaracane were an indigenous Moquegua and not a derivative altiplano population and (2) that Pukara material associated with the later Trapiche phase did not represent colonization by the Pukara highlanders but instead reflected a long distance exchange of local Huaracane elites with the highland polity.

In concert with evidence from other Huaracane sites in the valley, Cohen et al. (1995) proposed the first doubts about an altiplano origin of Huaracane settlers based on ceramic comparison with coastal (Owen 1993a) and highland pastes and vessel forms. They also established that the so-called Trapiche incised material was most likely imported from Pukara and not produced in Moquegua and that this hinted more at long-distance exchange by locals than the colonization of the Moquegua valley by Pukara highlanders. Similarly Bandy (1995) reevaluated the mortuary evidence in light of Goldstein's work and proposed a local origin of Huaracane boot tomb burial practices.

The results of the MAS research of the 90s were incorporated into Goldstein's 2000 article, which addresses the emergence of local Huaracane chiefs who have an increasing interest in power, which can be seen in the changing burial tradition that is also associated with the altiplano Pukara sherds. Goldstein rejects previous assumptions that the area with piled rubble at Trapiche is not a Pukara platform (which is what Mosley and Feldman proposed based on the Pukara style sherds) but rather suggests that it was a destroyed boot tomb cemetery that included Pukara pottery as grave goods. Goldstein further argues that emerging Huaracane elites not only set their burial grounds apart but also that they engaged in long distance exchange for exotic goods like pottery. He thus reiterates the connection to the highland center of Pukara but contrary to Feldman he proposes that the pottery found in Moquegua comes directly from that community and was not locally made. Goldstein sees this pattern repeated at other boot tomb cemeteries that he studied at Omo and Montalvo, although the Cerro Trapiche burial ground remains the largest cemetery of this kind and also produced the most Pukara sherds. This insight changed the way the Early Ceramic period was viewed in the middle valley. The idea of a "Trapiche Phase" was gradually abandoned and generally absorbed into the Formative Period designation.

4.4.3. Colonial Entanglement at Early Middle Horizon Trapiche

The most recent interpretations of Cerro Trapiche weave all previous research into a new narrative that builds upon a local tradition that entered the first stages of social complexity and inequality. Not only is the local history of Trapiche and its boot tomb cemetery important for local developments, but we now see that its importance reaches into the Middle Horizon. The more recent results in the middle valley make it clear that Trapiche continued to be closely connected to the other inhabitants of the middle valley. Wari settlers found the site attractive and interacted with locals and possibly Tiwanaku colonists from here. Interestingly this does not mirror what was happening at Cerro Baúl where no interaction with Huaracane has been documented (Williams 2001; Williams and Nash 2002). Researchers interested in the Wari colonization of Moquegua are strangely not very much interested in the mid valley site. The Wari evidence is mentioned in passing by Moseley et al. in 1991 and Trapiche is mentioned as a Wari site for the first time by Nash in 2002, and although referred to as such in some publications about the Wari colony in Moquegua thereafter (Williams 2001, Williams and Nash 2005, Moseley et al. 2005), the site is generally considered a minor and insignificant settlement by Wari scholars.

The main focus on Trapiche as a Wari site grew out of the MAS 2003/04 seasons. Tara Carter (2004), argues for a Wari intrusion and colonizing of the site, and proposes that Structure 3 might have been a venue used for feasting associated with labor control by the Wari. She suggested that Huaracane laborers were enticed through or paid with feasting for performing agricultural labor tasks on the slopes of Trapiche's agricultural terraces. The erection of the structure close to the highly symbolically charged are of the Huaracane cemetery is a further indication of intentional Wari establishment of political power and control (Carter 2004). Although the preliminary results of the excavation data might support such an idea, a more detailed analysis of the ceramic remains showed that the picture is not quite so clear as to make definite assumption about the contemporaneity of both cultures or about the type of interaction that might have taken place in this area of the site.

Similarly my own research in 2004 in the Sectors D, E, and F confirmed a consistent Wari association with all three sectors (Green 2005, Green and Goldstein 2010). Although there was potential for considering a more mixed interaction at Trapiche through the direct imperial control model (Green 2005) this gave way to an understanding of the site as a stage for independent negotiation of middle valley interaction outside the direct imperial control model (Green and Goldstein 2010). The results of the latest research at Trapiche reflect the trends in scholarly approaches that emphasize a bottom up approach and that focus on the sites that are not large centers but local settlements that inform about the actual interaction of Wari colonizers with local people or the lack thereof (Green and Goldstein 2010). From this perspective Trapiche can be viewed as an important stage upon which the cross-cultural interests of multiple groups in the valley were actively negotiated through public events and feasting but also though the more intimate cultural entanglements of mixed households. That Wari settlers had an influence of local people is evident in Costion's work at Yahuay where he documents the adoption of *molle* chicha brewing by local Huaracane community members. He argues that while the people in this upper valley settlement began using *molle* for chicha, they also remained autonomous and did not incorporate Wari feasting implements or behaviors evident in ceramic assemblages of drinking cups etc.

4.6. PROYECTO ARQUEOLÓGICO CERRO TRAPICHE 2008

4.6.1. Project Goals

As the site description and summary of the research history of Cerro Trapiche illustrate, the growing data set has revealed a complex occupation history of the site. And although some features like the Formative boot tomb cemetery and the Wari feasting Structure 3 have illuminated certain angles of the site's use at some periods in time, its overall importance in the Middle Horizon frontier has received little attention. To address this problem I returned to the site for my dissertation research under the Proyecto Arqueológico Cerro Trapiche (PACT) in 2008 and excavated in a number of locations in Sectors C and D. The goal of the project was twofold. First, in order to investigate the cross-cultural interaction at the site it was imperative to understand the use of the domestic terraces in Sector D. A second goal of the project was to embed the information available from Cerro Trapiche to date in a larger middle valley interaction zone were all three groups existed in a carefully constructed atmosphere of collaboration and independence.

4.6.2. Research Questions

In order to address these goals I developed two main research questions that are supported by a number of distinct hypotheses that guided my a my research strategy of using new excavation data in concert with what we know about other relevant sites in the valley already.

Research Question 1: Are Trapiche's domestic habitation terraces in Sector D autonomous foreign colonies, multicultural households or local households with trade evidence?

In my previous investigations of this sector I interpreted the mixture of surface materials as indicative of cross-cultural interaction possibly even within households. The test excavations on some of these terraces were designed to answer this question in more detail. However, questions of ethnic identity are notoriously difficult to answer from archaeological remains unless one constructs specific parameters by which such identities can be measured. We must ask specifically what type or archaeological correlates would we expect in culturally isolated or mixed households? This includes definitions of specific household characteristics and distinction between Huaracane and Wari households including terrace construction methods, cuisine, pottery, lithics, use of space, and status differentiation if possible. A comparison of the activity areas on the different terraces was used in an intra- sector analysis to address this question..

Stone faced terraces, for instance, are a hallmark of Wari construction and they were used for agricultural production as well as habitation. Similarly, much smaller Huaracane terraces served as living platforms (Goldstein 2000, 2005). The insights from the 2008 research were to more closely define terrace construction methods in an attempt to distinguish Huaracane from Wari terraces. In answering this question I considered three hypotheses.

(a) Cerro Trapiche is an autonomous foreign Wari enclave

Cultural isolation of local and foreign groups in colonial encounters often reflects the maintenance of a social, political, and ethnic identity of either or both groups. Such a separation may be fuelled by the newly arrived colonist's strong ties to their homeland. They may be particularly invested to maintain a specific cultural and ethnic identity in a new land. On the other hand cultural isolation could reflect relationships of power between foreigners and locals wherein the maintenance of spatial and cultural boundaries signals boundaries of political autonomy including resistance. Locals may deliberately maintain traditional customs and reject the influence of any form of foreign material culture as a means of maintaining political autonomy and to signal resistance to foreign authority.

Archaeologically such cultural boundaries should be reflected in isolated settlement locations of the involved groups and separate sets of artifact categories corresponding to each group's activities including for instance cuisine, settlement construction and mortuary traditions. If such cultural marginalization occurred at Trapiche, and it was a distinct Wari enclave in the middle valley during the Middle Horizon, this would mean that we should be able to identify households with distinct sets of artifact clusters of Wari style that do not show any mixing with local forms. This would include Wari style architecture, dietary habits, ceramic and lithic artifacts, and mortuary contexts as well a distant location in relationship to other contemporary, local and Tiwanaku settlements.

A local example of such a foreign enclave is the Tiwanaku colony in Moquegua as illustrated in Chapter 3. Goldstein (2005) showed that at no Tiwanaku affiliated settlements in Moquegua local materials, architectural or other characteristics were present. To the contrary, the large site clusters of Omo, Rio Muerto and Chen Chen are located a large distance away from the riverbed on the valley edge, extremely isolated from local settlements and agricultural spaces as well as Wari settlement in the upper and mid valley. Secondly, only foreign Tiwanaku style artifact assemblages have been identified in both domestic and non-domestic contexts. The maintenance of cultural segregation is further evident within the Tiwanaku colony itself. Intra-site analysis by Goldstein (2005) showed, for instance, that within the Tiwanaku settlement at Omo various ethnic groups lived in distinct neighborhoods and followed separate mortuary traditions in evident discrete spatial distribution of house styles, burial practices etc.

One variant of this cultural interaction would include foreign Wari settlers who maintained a cultural separation from locals, but who would locally produce items for their domestic needs at hand like cooking pottery and shelter. In doing so they could reproduce their foreign cultural patterns in these contexts but with local materials. This is a scenario that fits well with the upper valley colony at Cerro Baúl (Sharratt et al. 2009) If this was the case at Trapiche then we should be able to find Wari style cooking and serving wares made from local clay and no Huaracane style utilitarian wares in the same domestic contexts at all. Similarly lithic production should be of local stone and important Wari obsidian. In addition no local styles should be found in such discreet Wari households

In light of these possible scenarios what we must consider are the actions and possible behavior patterns that may lead to the creation of a certain set of material remains. In the Trapiche case for instance the artifact distribution in the Sector D settlement must be considered in tandem with those from the other site sectors.

(b) Cerro Trapiche is a mixed settlement- Wari Mestizaje

A second scenario we might expect could be a mixed occupation situation where Huaracane and Wari lived together at the site either as neighbors in separate households or in combined households. Again the difficultly is in sorting out the details in the material record. In light of these possibilities we must carefully consider a variety of actions and possible behavior patterns that may lead to the creation of certain sets of material remains.

Ignoring the deliberate resettlement of entire populations in Andean prehistory for a moment, the moving of foreign settlers to the edges of empire often involved long distance traveling by foot or caravan. On these journeys individuals probably did not bring a lot of household items for a number of reasons. First, they most often were single men who traveled for trade (merchants), war (soldiers), administrative or religious reasons (tax collectors, administrators, bureaucrats, priest, missionaries etc.)(add source) and thus probably did not have or care for bringing household equipment such as cooking or storage pots as activities to do with food preparation are typically associated with women in Andean households (Weissmantel 1988). Second in the absence of wheeled transportation all household items were likely carried either by llamas or people and the movement of bulky and heavy household equipment etc. was probably not very effective and only permitted to elites traveling or relocating. Thus the majority of the above mentioned male colonists would bring with them rather smaller items of value that would remind them of home and perhaps represent their origins and cultural ties like fineware vessels, worked metal, or textiles or ritual objects. Arriving in new lands and settling therefore would include making use of household items like cooking and basic serving wares that were either locally available or to make them from scratch with local materials.

Archaeologically this would then appear as a local household infused with some foreign materials and might suggest cohabitation of foreigners and locals when it was not. Likewise, if foreign men married local women then their household might look like that too as women in the Andes dominate in the organization of food preparation and cooking activities and would bring with them local kitchen wares. The appearance of such cooking and food preparation vessels has long been documented as one of the most stable indicators of cultural change precisely because they form a core of household activities that do not change much and thus don’t require alterations in form or function. The archaeological signature for such mixed households would be one of both Wari and Huaracane materials in the same artifact assemblage. Therein we would expect foreign (Wari) serving wares and fineware and local (Huaracane) utilitarian wares for cooking. If we assume that local elite women married Wari newcomers then *Huaracane Fino* bowls might also be brought into this new household.

Aside from ceramic correlates botanical evidence may also indicate dietary preferences in ancient populations. Although both Wari and Huaracane practiced some form of agriculture their diets varied quite a bit. As discussed in Chapter 3, Huaracane cuisine and culinary equipment point to a basic diet of simple stews of a variety of local plants. Both Goldstein and Costion emphasize, for instance, the very low to almost nonexistent presence of grinding tools for Huaracane contexts which suggest the rejection of maize cultivation by Huaracane groups in the in the Formative and Middle Horizon at Yahuay and other sites (Costion 2009, 2013; Goldstein 2003). This presents a striking difference to Wari intense production of maize, presumably for food, since the Wari (in Moquegua) preferred molle for a distinct *chicha* flavor (Goldstein et al 2009). An abundance of grinding stones and *manos* as well as botanical remains at the Wari settlement at Baúl and suggest that maize played a considerable role in diet (Goldstein et al. 2009, Nash and Williams 2002) In a mixed household then we might expect a combination of Wari and Huaracane style food and required equipment. This would include local cooking ollas for stews but also grinding equipment for the processing of maize for instance. Botanical remains would also be a mix of local preferences and Wari preferred foods, including molle berries for chicha.

Architecturally it would be difficult to imagine a mixed style, but the evidence of Huaracane materials in a distinctly Wari style house might support such an idea in conjunction with other patterns mentioned above. However, organic superstructures are not well preserved at Trapiche and may have been built in Huaracane style on the Wari style terraces.

A second possibility of the mixed living scenario would be a living side by side of Wari households next to Huaracane households, each of them using their own style artifacts and occasionally sharing or borrowing things from one another (although that probably happened on the level of everyday items rather than valuables). This kind of exchange of daily items could be part of a pattern of creating obligations to one another that had to be replicated at some point. In this case we would expect distinct spatial segregation of Wari only assemblages with a small amount of Huaracane materials and discrete Huaracane only artifact assemblages combined with a low percentage of Wari style items. These contexts should be spatially distinct across Sector D, meaning that we should expect two types of artifact clusters in.

(c) Trapiche is an autonomous Huaracane settlement

A third option we have to consider is that Trapiche was a continuous Huaracane settlement. In this case we should find Middle Horizon Huaracane assemblages that are comparable to other Huaracane sites like Yahuay Alta. Exotic (Wari) items, if at all present should only occur in small quantities and in particular non-domestic contexts like burials, thus following the previous tradition of trade with Pukara highlanders for exotic items. If following Costion's lead of rejecting foreign material culture we might find the adoption of particular Wari dietary habits, like a preference for *molle* chicha, in exclusively Huaracane households, without any sign of Wari style pottery for cooking or serving for instance. Furthermore food preparation should be within Huaracane style expectation, meaning no grinding equipment (or no statistically significant amounts) and an absence of maize.

One problem with this assumption is that "culturally distinct" artifact assemblages can be a false negative. As Stein (2005) pointed out for the Assyrian case where merchants traveled far and settled in foreign communities, their (foreign) households were not distinguishable in any form from local ones save for the presence of small cylinder seals that denoted their foreign origin and which could easily have been missed by archaeologists. This illustrates one of the greatest challenges of the archaeological record, namely that there is no one to one correlation between things and people. If this should have been the case at Trapiche then we should find only Huaracane looking households that may have the occasional Wari artifact that may have held special value to members of the household.

Research Question 2: How did the Cerro Trapiche occupation influence the Middle Horizon frontier atmosphere in the Middle Moquegua Valley?

My second research question addresses the broader implications of a view from the periphery and seeks to reintegrate the Cerro Trapiche data into the larger Wari research. Mainly I will position my research within Wari periphery research and lay out how we may use the Moquegua insight in understanding the workings in the larger Wari Empire.

(a) Cerro Trapiche evidence supports a cultural isolation scenario for the Middle Horizon populations Moquegua's middle valley

This hypothesis would be supported by a scenario for Trapiche of either a) or c) in the above section. Furthermore evidence from other Huaracane and Tiwanaku sites in the middle valley should support this by exhibiting equally autonomous features. All available evidence from sites in the middle valley should point to cultural isolation, meaning that no artifacts should be mixed at any site and all settlements should be defined as "pure" Wari, Tiwanaku or Huaracane settlements. Communities should be found is distinct ecological niches and far away from each other, independently operating in the middle valley.

(b) Cerro Trapiche evidence supports a scenario of cross-cultural interaction in the Moquegua middle valley during the Middle Horizon

If this scenario was likely then we should see a pattern of cultural mixing at Cerro Trapiche and should have some indication that other sites in the middle valley also have evidence for similar types of cultural exchange. Such an interpretation may be based on artifactual evidence but should also take into consideration the overall settlement distribution in the middle valley during that time.

4.7. FIELDWORK

The PACT project was able to conduct fieldwork in Moquegua with the Permission of the INC and under the direction of our Peruvian Director Patricia Palacios between December 2007 and March 2008 and analysis took place between May and August of 2008. Because the excavation portion of the project took place in the summer months we faced considerable challenges accessing the site when the river level rose dramatically due to the highland snow melts and run off and became impassable because of its depth and the speed at which the water rushed. As a result of these delays we ran out of permit time and were not able to excavate in Sectors E and F as planned. Members of the PACT team included the Director Patty Palacios, my Peruvian crew chiefs Barbara Carbajal and Arturo Rivera and four students from the Pontifica Universidad in Lima. We also had a number of local workers employed on the project mainly men and women who live on the lower slopes of Cerro Trapiche.

4.7.1. Excavations

Overall excavations took place on seven different terraces in Sectors C and D. The location was selected based on potential insights they might reveal with regards to other features of the site. In sector C two units were placed below Structure 3 to illuminate the nature of that terrace and its connection to the structure. Two other units in sector C were placed to understand terrace construction and use on the eastern slope below Structure 2. This data was supposed to illuminate the public aspect of Sector C

In sector D we excavated on four different terraces (T4-T7). The terraces were all presumed to be domestic in nature based on the results of the 2004 surface collections. Excavations in Sector D were placed to illuminate the residential occupation at Trapiche and were most pertinent to the first research question.

Some of the excavation units were divided in to areas A, B, And C if the excavation required a separation of excavation based on specific appearances. In Terrace 1 this was the case and area A refers the space above the wall that was excavated and that revealed the fill behind the retaining wall. Area B in Terrace 1 was the space of the actual terrace surface in front to the retaining wall. Terrace 4 contained a double wall, so that Area A referred to the space above the main retaining wall, area B consisted of the space between the retaining wall and the smaller wall in front of it, and area C described the rest of the terrace platform. In terrace 5 the area designations A and B refereed to two continuous areas with distinct soil color we observed over a number of levels.

Units were excavated in arbitrary levels based on changes in soil color or textual composition. During excavation all materials were screened through ¼ inch mesh and features were fine screened to ensure that small artifacts like beads etc. were also collected. All excavated and screened materials were sorted in the field and collected in separately labeled bags for each exaction layer or feature. Then they were entered into the main register for the excavation[3] One liter float samples were taken regularly from living surfaces and from each individual feature. In situ artifacts and other important materials were measured and drawn in their locations before removal. Plan view drawings and photographs were taken to documents the excavation progress of all units. C14 samples were taken when possible.

Features or Rasgos are areas in the excavation that reveled specific artifact assemblages or activity areas. Hearth features for instance were a common feature in all terraces. These Rasgos were marked by carbon concentration mixed with ash and burn debris; however these were not very formal designations as people frequently moved debris around the terrace surface in cleanup activities. This also implies that in our excavations we did not find any formally designated cooking areas. This pattern is very similar to Huaracane occupations and has been described by Costion for Yahuay Alta (2009). Similarly Nash (2002) reports such ephemeral hearths at Cerro Mejía that include features such as ash or carbon concentrations and which are often spread across living surfaces. In our excavation we distinguish between hearths and concentration of ash and carbon as separate feature, although all indicate the burning in domestic contexts. Hearths in our excavation are larger in size than concentrations and contain larger amounts of ash than the other features. Furthermore their context also combines ash and carbon as well as botanical and faunal materials. In some case we also found one or two stones placed near or in the earth that was covered in grease somewhat formalizing the hearth function.

[3] Field forms are included in Appendix D

4.7.2. Laboratory Analysis

The artifacts analysis phase took place in the project house in Moquegua between May and August of 2008. Ceramic sherds were washed; dried, labeled and diagnostic sherds were drawn. I analyzed all ceramic and lithic artifacts and provided all descriptions and drawings (see Appendix A and B for raw data, illustrations and typologies). For the ceramic analysis I used the established Huaracane typology including *Huaracane Arena, Huaracane Fino,* and *Huaracane Vegetal* paste types (Appendix A) introduced by Feldman (1989), Goldstein (2000) and Costion (2009) and augmented it two pastes, *Huaracane Arena fino* and *Huaracane Fino*, rojo, of my own. Wari plainware ceramics were identified based on two main paste categories. One was described by Nash and Williams as a biotite rich paste and another was a beige compact paste of a fine texture that had small homogenous quartz inclusions. Sherds of this paste underwent different firing processes that resulted in different color profile section, the more reduced sherd had a grey appearance, the more oxidized sherd a more orange tint, the third group was beige not suggesting over oxidizing or reducing. I called these Wari llana generally and added the color *grís, beige* or *naranja* as a subtype reflecting the firing process. It is not clear at this time whether this is reflective of vessel types or shapes as not enough diagnostic sherds have been available[4].

Lithic artifacts were not washed, but labeled and drawn if they had diagnostic significance. Lithic materials were analyzed by sorting into basic type categories of ground and chipped stone (Andrefsky 2006; Odell 2004) and by identifying a number of basic artifact categories like manos, batánes, projectile points, polishers, pebbles, cantos

[4] Detailed descriptions of ceramic and lithic analysis are listed in Appendix D

rodados, cores and flakes. Projectile points were further described according to their basic shapes which included lanceted points with concave bases, triangular points with concave bases or stemmed and notched bases. A second concern for describing projectile points was the material they were made out of. All recovered points from Cerro Trapiche were made out of obsidian or chert.

Caleb Kestle performed a basic preliminary faunal analysis in order to provide a basic overview of the variety of meat that people consumed at Cerro Trapiche. No faunal remains were discovered in direct ritual or ceremonial contexts, therefore it was assumed that remains found in trash pits or ash and carbon concentrations were part of the everyday cuisine. Overall faunal remains were very poorly preserved and analysis could only provide some basic identifications.

William Whitehead and his students from Ripon College performed the microbotanical analysis. They employed a new method of microphotography that allowed them to take microscopic pictures of all botanic materials and then analyze them in the US without having to export the materials. Whitehead and his students identified almost all botanical remains and established a very useful database (Whitehead and Biwer 2012) from which I drew my conclusions for the analysis of dietary habits at Cerro Trapiche. Botanical materials came from excavation contexts and 1-liter float samples that had been collected consistently for all excavation levels and from all features. The preparation of float samples included the dry screening of the material through 4 mm, 2 mm, and 0.5 mm screens. Monika Barrionuevo Alba was very helpful in identifying the main groups of marine shell we discovered. Shell material was counted, weighted and any modification was recorded. In the field we also recorded the wall construction in the excavated terraces that was then used to more clearly determine whether there existed a difference in construction methods in various sectors. This observation was designed to help address questions about culturally determined architectural preferences.

4.8. CONCLUSION CHAPTER 4

The imposing Cerro Trapiche did not go unnoticed by the people living in the Moquegua valley as its complex archaeological record shows. During the Formative Period the local Huaracane population viewed the mountain as an important location where they interred their dead in a boot tomb cemetery, a practice associated with the emergence of elite status (Goldstein 2000). It is not clear at this point whether this indigenous community, who buried its dead at Cerro Trapiche, also lived at the site or at a completely different location. Artifacts, like multiple Pukara sherds from the cemetery, however, have consistently influenced the interpretations of Moquegua’s ties with the altiplano in the Formative Period; whether they were viewed as evidence for altiplano colonists during a “Trapiche Phase” (Feldman 1989) or as exotic objects of long-distance trade relations between emerging Huaracane elites and the highland center (Goldstein 2000, Costion 2009).

In the Middle Horizon Cerro Trapiche is positioned in a quite different cultural landscape. The surface architecture in sector s C, D, E, and F and associated artifacts point to a substantial Wari occupation during that time. In some aspects Trapiche appears a typical Wari settlement comparable to Cerro Baúl. The defensive nature of the mountain in itself speaks to the Wari tradition observed in the Torata valley and perhaps

Nash and Williams's suggestion of apu worship at Baúl is also applicable to the settlement at this mountain site in the middle valley. Furthermore evidence for elite occupation is associated more clearly with the highest and most defensible peak at Sector F.

On the other hand, for a Wari settlement in Moquegua, the site seems quite isolated, approximately 15km away from the large Wari center at Cerro Baúl and not within sight of the large Mesa. Cerro Trapiche is also significantly smaller than the upper valley site in size and occupation. All residential architecture at Trapiche is confined to the large plateau (Sector C) and the slope (Sector D) and peaks (Sectors E and F) above it. No other adjacent sites were occupied by the Wari in the middle valley, again presenting a different picture from the Baúl colony with its supporting satellite sites. A further anomaly is evident in the artifact record of Trapiche, which includes unique assemblages of both Wari and local artifacts especially in Sector C public and Sector D domestic contexts.

Based on insights from previous research at the site I proposed two main research questions. The first question addresses the specific occupation of Sector D, which was a particular focus of my dissertation fieldwork as its domestic contest may provide important insights in the cross-cultural interaction between Wari colonists and Huaracane local settlers. In order to more clearly elucidate the occupation of Sector D in the Middle Horizon I proposed three specific hypotheses that will be explored in detail with data from excavations of the 2008 P.A.C. T. project in the following chapter 5. Chapter 6 compares evidence from Sector C and D in order to highlight the activities in each sector ad what insights we might gain about Wari Strategies in the middle Moquegua valley.

My second research question examines the larger issue of Middle Horizon frontier relationships between Tiwanaku, Huaracane and Wari in the Moquegua middle valley. The specific scenarios I proposed will be assessed based on data from Trapiche's Sectors C and D in relation to valley wide information in chapter 7.

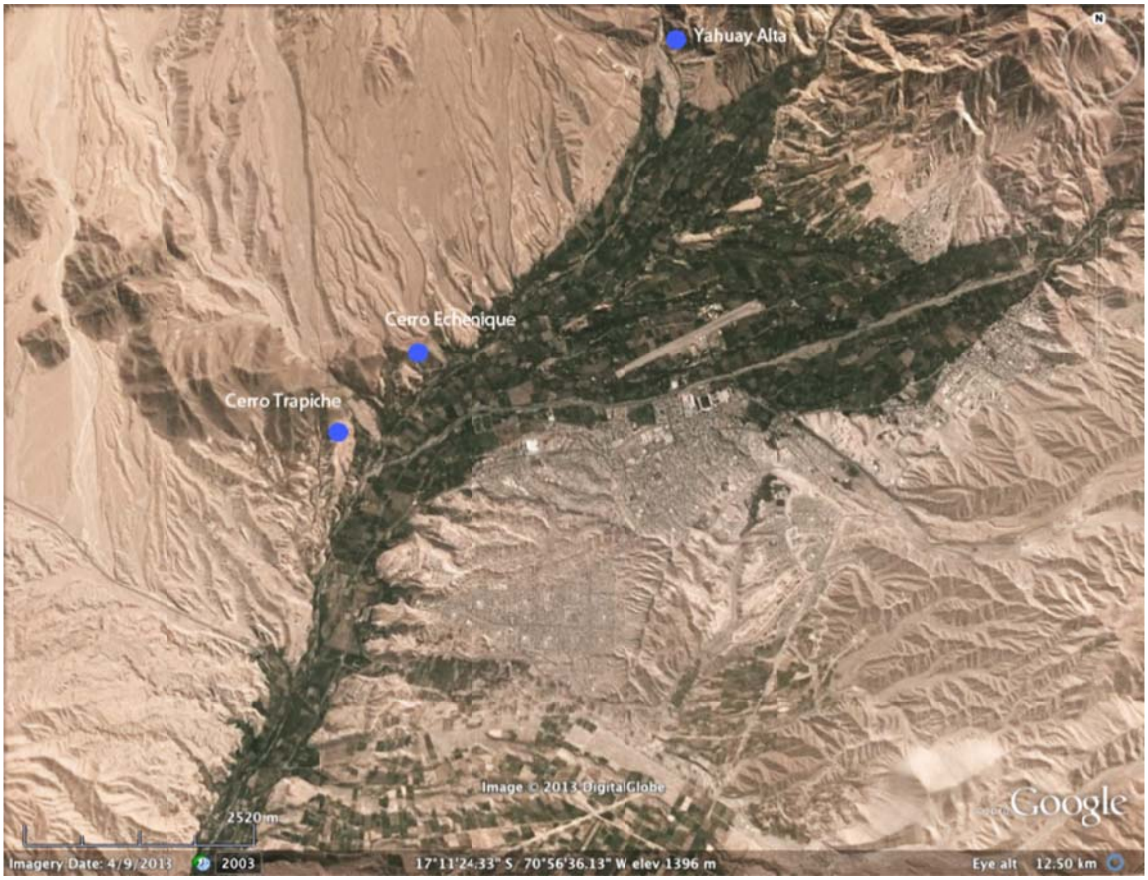

Figure 4. 1 Google image showing the location of Cerro Trapiche at the lower neck of the Middle Moquegua Valley

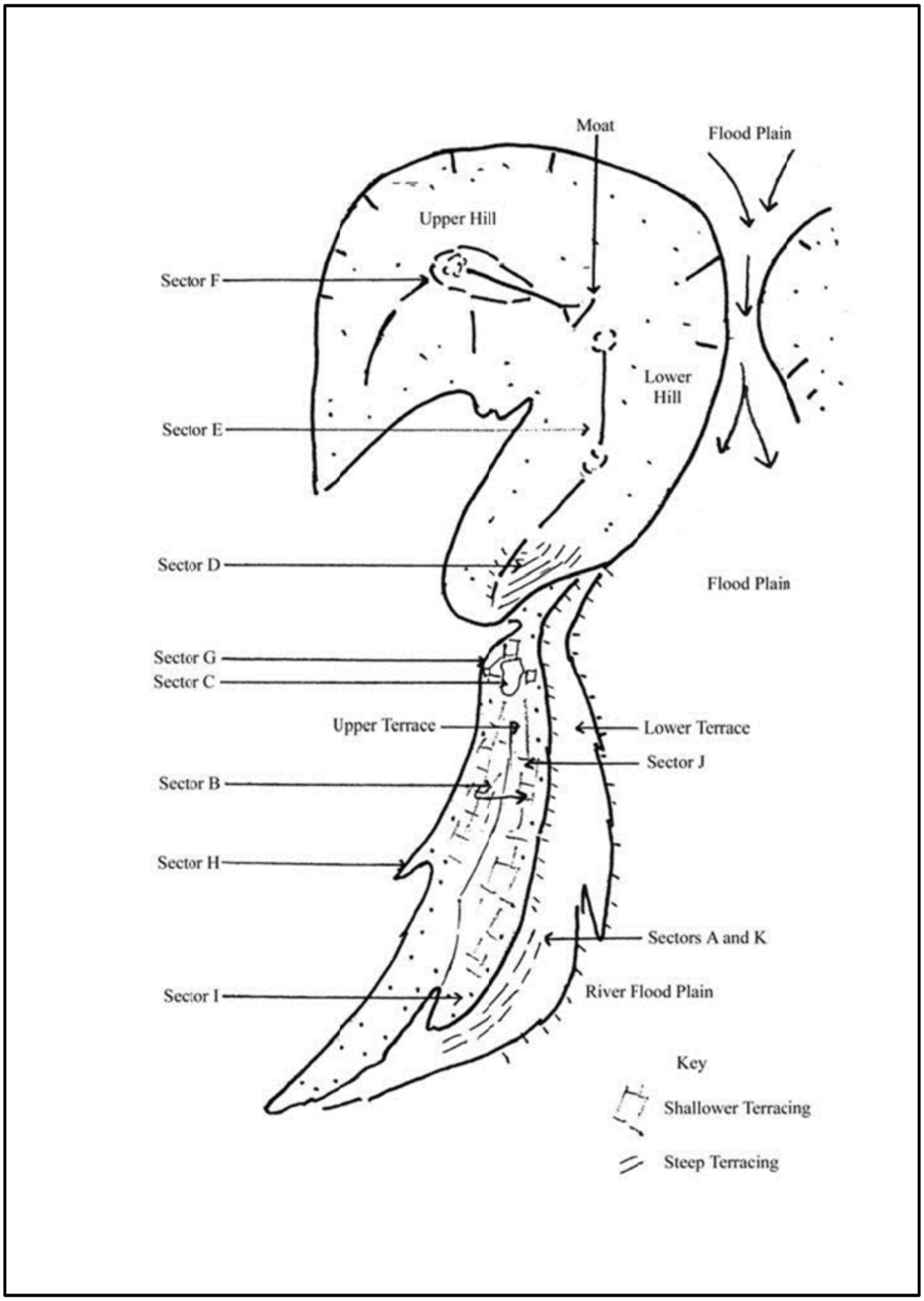

Figure 4. 2 Moseley’s original sketch map of Cerro Trapiche with topographic sector distinctions (A through J)

Figure 4. 3 Google Earth image showing the sectors of Cerro Trapiche

Figure 4. 4 Google Earth image of Sector C with Wari Structure 1-3 outlined in white and the Huaracane boot tomb cemetery outlined in yellow

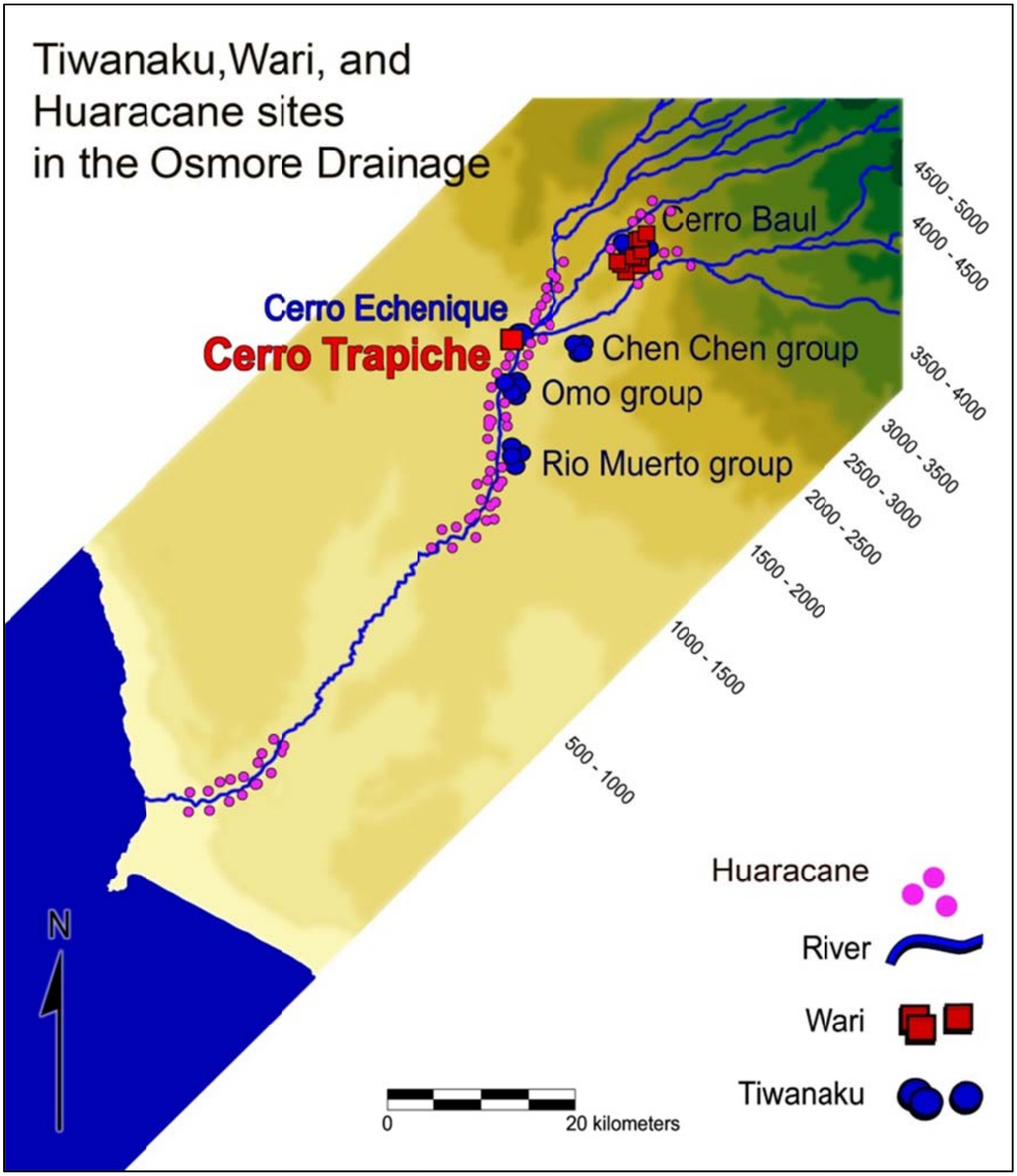

Figure 4. 5 Cerro Trapiche's location in the cultural landscape of the Middle Moquegua valley during the Middle Horizon (After Goldstein and Owen 2001)

CHAPTER 5: EVALUATING WARI AND LOCAL DOMESTIC STRATEGIES AT CERRO TRAPICHE, SECTOR D

Introduction:

Ethnic identity in the archaeological record has been linked, among other things, to cuisine, food processing and commensal activities based on the idea that the biological need for food is satisfied through culturally crafted food preferences, ways of processing foods and consumption patterns. Equally important for the identification of ethnically distinct residential pattern is the particular construction of living spaces and preferences in architectural constructions and spatial organization. Furthermore the production of craft items may provide insides into particular cultural preferences of material, shapes, and production methods for instance. In order to identify culturally distinct patterns associated with residential activities in Sector D, different sets of artifact categories were analyzed to examine activity patterns and to isolate if possible distinct cultural practices.

The chapter considers the archaeological correlates for both Huaracane and Wari domestic assemblages based on construction methods, cuisine, food preparation and consumption and tool making. The particular focus of this chapter is on Sector D and the identifiable activities related to food preparation and processing as well as the use of storage and architectural construction. The data for this discussion comes from the analysis the 2008 field season and includes ceramic, lithic, botanic, and faunal evidence. I also consider the distribution of features related to cooking, storage and trash disposal and examine the domestic architecture of residential terrace construction and housing across Sector D. In order to highlight the activity patterns of the Sector D domestic terraces I will discuss the data for each individual terrace and then compare the terraces in sector D in terms of their activities and cultural affiliation.

Lastly the three scenarios of my first research question regarding the cultural affiliation of this sector will be reviewed in light of the elements of both Wari and Huaracane domestic patterns revealed in Sector D. I evaluate whether the evidence supports a scenario for a Wari occupation, a Huaracane occupation or a mixed settlement.

5.1. ARCHAEOLOGICAL CORRELATES FOR HUARACANE AND WARI HOUSEHOLDS IN MOQUEGUA

5.1.1.Huaracane Household Markers

The signature of Moquegua's indigenous Huaracane households includes specific features like architectural and settlement patterns, ceramic assemblages (Goldstein 2000, 2005; Costion 2009), and dietary preferences (Goldstein 2000; 2005). Huaracane settlements were generally documented in locations close to the flood plain at an average distance of 421m and a c. 48m above the floodplain. Such settlements included architectural features such as living on small earthen terraces (no longer than 10meters in length) and in shelters constructed of organic materials like quincha walls and woven mats supported by wooden posts (Bandy 1995). Some buildings were also constructed with stone foundations that supported organic superstructures as is evident at sites like Yahuay Alta and Montalvo (Costion 2009, Goldstein 2005). Buildings constructed in this way were often larger and associated with communal functions (Costion 2009) or more elaborate residential use (Goldstein 2000, 2005). At Yahuay Alta Costion also describes the construction of public architecture consisting of raised platforms, artificially leveled plazas and a stone faced platform mound (2009:22) He suggest that these structures were used for public ceremonial or ritual purposes, reflecting the emerging elite activities at that site during the Terminal Huaracane phase. Huaracane houses were probably small one- roomed structures, suggesting that much of Huaracane activities took place outside or that rooms were informally separated with organic materials like cloth or cincha walls. Even in the larger stone foundations no segregated rooms have been documented in any architectural discussion.

Huaracane cuisine as described by Goldstein (2000, 2003) consisted of simple stews cooked in basic open, neckless ollas made out of the sand and vegetable tempered pastes *Huaracane Arena* and *Huaracane Fibra Vegetal* (Figure 5.1). These coarse plainware ollas also served as storage vessels (Costion 2009, Goldstein 2005). The only identified serving wares are shallow, decorated *Huaracane Fino* (and *Fino negro*) bowls that are associated with elite social status and which are not found as frequently as are plainware vessels. Instead they are sometimes found in burial contexts, especially boot tombs. Goldstein (2003:156-157) points out that Huaracane ceramic assemblage lacks utilitarian vessels specifically utilized in the fermentation, transport of storage of liquids, and that drinking out of the shallow Huaracane *Fino* would not have been very effective. This suggests that members of local Huaracane communities ate either directly out of the cooking pots and thus shared meals or that they ate individual servings from containers made out of perishable materials like gourds or wooden bowls (Goldstein 2005). Furthermore no plainware drinking vessels such as cups have been found in Huaracane assemblages, although some bottle ceramic fragments have been identified by Goldstein. This indicates that perhaps large open necked ollas were used for communal serving of drink where every individual ladled their drink directly into some vessel of organic or perishable material like a drinking gourd.

As discussed in chapter three, Huaracane diet consisted of a combination of C3 plants supplemented with substantial amounts of marine resources and hunting. While some maize has been documented at Huaracane sites it id did not play as large a role in Huaracane diet as it did for instance in Tiwanaku settlements. At Yahuay for instance no evidence for maize, potatoes or quinoa were recovered in Early Middle Horizon Contexts (Costion 2009:241, Goldstein and Muñoz Rojas 2008). That Huaracane diet was far less dependent on maize than Middle Horizon cultures is also supported by the near absence of grinding stones like *manos* and *batánes* in Huaracane household assemblages at Yahuay Alta. Costion notes that even in the Late Huaracane period *manos* (hand stones used for grinding) are relatively rare (2009:119) and possibly related to household level feasting preparations. He suggests that a slight increase in these implements in the Terminal Huaracane phase (2009:334) is likely related to an increased processing of foods associated with more public feasting activities However, Costion does not consider lithic grinding implements as a distinct marker of Huaracane cuisine and household activities. Instead Costion’s data from Yahuay Alta (2009:184-188) suggests a basic diet of a variety of local plant food, including a variety of edible grasses, and some meat that mainly came from the hunting of small animals and some marine resources during the Terminal Huaracane phase in the Early Middle Horizon.

5.1.2. Wari Households in Moquegua

For a comparative purpose of this investigation, Cerro Baúl (Figure 5.2) and its surrounding site Cerro Mejía (Figure 5.3) are the closest examples for a variety of Wari style household assemblages in Moquegua. The large stone masonry architectural complex on the summit of the Cerro Baúl Mesa is reflective of a distinct Wari style of elite housing that is consonant with the structures described for Trapiche sector C and F. Domestic activities described at Cerro Baúl included dietary habits as well as craft activities and feasting practices consistent with other Wari administrative centers throughout Peru.

Long-term excavations at Cerro Baúl have produced a large amount of botanical and faunal materials (DeFrance 2010; Goldstein, Coleman and Williams 2009, Moseley et al. 2005) that provide a baseline of information about Wari dietary habits in Moquegua. Botanic remains, for example, show that "everyone consumed maize, chenopods, beans, peanuts and chili peppers" (Moseley et al. 2005:172710). However, there is also evidence for social differentiation in diet and ceremonial use of plants and animals. Only residents at the summit, for instance, had access to prickly pear fruit, coca and tobacco and to *chicha de molle* that was produced alongside maize beer in large amount at a brewery complex on the mesa (Moseley et al.2005:17267).

Similarly the faunal data from Cerro Baúl and Cerro Mejia show that the Wari at that site ate a variety of local and coastal animal foods that included camelids, hare, and marine resources like sardines and herring. On Cerro Baúl itself the main protein resources included camelids and guinea pig. In addition a large variety of other faunal data reveals the broad access to local and exotic animals (Moseley et al. 2005; Table 2).

These included among others viscacha (Andean hare), two species of deer, does, pigeons, at least 10 species of Pacific bony fish (including anchovies and tuna, and herring) all of which were associated with the palace structure on the summit. In addition other animals that the authors identify as nonfood taxa were also recovered, including local and long distance imported marine resources. Because they are not considered food resources these remains have been associated with ritual or ceremonial value. Examples of this category include the distal phalanx of a mountain lion, one small Andean cat, two juvenile dogs, and two wing elements of an Andean Condor. Most of these exotic fauna were recovered in the palace and brewery contexts. By contrast no exotic fauna was documented on Cerro Mejía, even guinea pigs are absent from that sector of the site suggesting the animals were considered appropriate only for consumption in elite contexts (Moseley et all 2005:17270).

5.1.2.1. Chicha Production on Cerro Baúl

The most comprehensive analysis of Moquegua Wari subsistence, focusing on feasting and alcoholic beverages, comes from the contexts of the brewery on Cerro Baúl, which inspired a comparative approach to the household production of *S. molle* chicha by Goldstein, Coleman and Williams (2009). While they report the production of *S. molle* chicha they also note the low ubiquity of maize overall at the site as staple food, although Moseley et al. (2005) insist that the colonists grew maize alongside, potatoes, tubers, other comestibles, and *Schinus molle.* This suggests that, while maize made up a portion of Wari diet in Moquegua, it was not a staple food like in the Lucre valley capital at

Pikillacta for instance (McEwan 2005), nor was maize used frequently in chicha production as documented for the Tiwanaku in the Middle Moquegua valley, for instance (Goldstein 2003).

Chicha made from *S. molle* was the Wari hallmark beverage in Moquegua, made at the summit of Cerro Baúl in a large brewery Molle chicha production appears to have been a key diagnostic in the formation of distinct Wari ethnic (and social) identities (Goldstein, Coleman, and Williams 2009:139-141).Thus, the chicha beer made from *S. molle* berries at Cerro Baúl served a specific purpose: to reaffirm and display Wari ethic identity among the elites living on top of the mesa, as well as visitors (2009:141).

The investigation of *S. molle* production as an elite activity on Cerro Baúl's summit has evaluated suprahousehold, large-scale, administrative and household production scenarios of *S. molle* chicha production, using "modality" categories based on the frequency of molle seeds in particular contexts. The production scale range from large scale production in Modality 1 (n>1000 seeds) (Goldstein et al. 2009:152) to household and supra-household production (Modality 2; n=200-500 of *S. molle* seeds per single feature). Modality 3 (n<300) and 4 (n<100) were more widely found in the smaller annexes of the site, including seeds in middens, or floors and garbage features (2009:155). This may reflect a communitywide effort contributing to the *S. molle* production in the brewery by collecting them on the household level. *S. molle* related activities are conspicuously absent from Cerro Mejía, seemingly supporting the ideas of elite chicha production on Baúl's summit that was supported by collection on the lower slopes.

5.1.2.2. The Cerro Mejia Settlement

The Cerro Mejia data differ from Cerro Baúl in that each site's commoner and elite residences are distinctly associated with specific styles of architecture. Nash (2002:122) describes two distinct residential patterns on Mejía, the occupation of the summit of the mount and the residential terraced settlement on the southeastern slope. The slope residences are associated with six distinct ethnic neighborhoods containing numerous individual domestic structures (Figure 5.3) (Moseley et al. 2005; Nash 2002). The neighborhoods were separated by large walls descending the hillside. The non-elite settlements on the surrounding hillsides Cerro Mejia were established on shallow sometimes stone-faced terraces with distinct architectural remains that included open patios that were framed by low walls and joined to one or more thatch-roofed rooms used for sleeping, cooking or storage (Moseley et al. 2005:17265).

Each neighborhood included 15-18 houses spread over a number of terraces on the upper part of the slope. The lower slopes were used for agricultural cultivation fed from a canal that traverses the site. Nash's excavation in 2008 revealed at least two distinct origins for some of these Cerro Mejia occupants. Unit 17 was a small house that was marked by materials similar to those of the Majes/Chuquibamba region ca. 200km north of Moquegua and much closer that the more than the distant Wari capital. Evidence for a Majes valley affiliation included a ceramic plaque found on a subfloor burial, a tradition which, although later, is stylistically associated with burial rituals from that region. Similarly the ceramics in Unit 17 were also comparable to those for the Majes region. Unit 18, another house nearby, was completely different. It had no burial, and included a different pottery style that was not like the Majes style and not like local

Huaracane types, suggesting that people from yet a different region lived in this house (Nash 2009a). Nash suggests that these different ethnic populations were relocated to Moquegua to work for the imperial installation on the top of Baúl. She sees this as a part of the Wari expansion mechanism wherein nearby loyal subject populations were moved to the new frontier to help build and support the administrative center at Cerro Baúl. She also considers a second possibility n where “the Wari developed Moquegua as a colony for settlers seeking access to land or opportunities in a new region” (Nash 2009a). Overall however, the motivation and the process by which these settlers were convinced to relocate, remains elusive at this time.

The occupation of the Cerro Mejía summit on the other hand included a central plaza, surrounded by four stone-faced low platforms in the east and northwest. The south and north were dominated by two large residential structures that included an open rectilinear patio and that was enclosed on three sides by larger rectangular roofed rooms. The construction of the dwelling was more elaborate and substantial than the rest of the hillside and suggests an elite residence. It also appears that the architectural style used to erect this complex did follow the Wari canon of the strict rectilinear form as the Baúl summit structures for instance.

Ceramic assemblages also differ between the settlement on Cerro Mejía and Baúl. Nash reports a majority of plainware bowls and other vessels for the lower Cerro Mejia whereas Baúl has a high frequency of fineware ritual vessels in a combination with plainwares that were used for food preparation most likely.

The excavators infer that in the upper valley a variety of ethnically different populations living on Cerro Mejia supported the lavish lifestyle on Cerro Baúl. Taken together this suggests that Cerro Baúl and its surrounding satellite settlements were part of a large administrative Wari enclave that did not exchange material culture with any local groups during their stay in the valley. Overall Wari household assemblages in the upper Moquegua valley are distinct in the locations of elite, secondary administrators, and commoner residences on one hand and also display a segregation of commoner neighborhoods that contain distinct architectural and artifactual features suggesting distinct ethnic or regional identities (Nash 2002, 2011; Nash and Williams 2003) These are important patterns to keep in mind as we analyze domestic excavations from Cerro Trapiche.

5.2. EXCAVATIONS IN CERRO TRAPICHE, SECTOR D

Overall four residential terraces, numbered 4, 5, 6 and 7, were investigated in Sector D. Terrace 4 is located almost in the center of the slope, both from a horizontal and vertical perspective (Figure 5.4). Terrace 5 is located to the southwest of Terrace 4 and, Terrace 6 is situated higher up on the slope, northwest of Terrace 4. Terrace 7 was placed on the lower part of the slope north of the canal that now divides the site and where the sector would have connected with Sector C. Terraces 4, 5 and 6 were located on the steeper part of the slope and their retaining walls were clearly defined and easily identifiable. All three terraces were long (ca. 10-20 meters) and narrow (between 3 and 5m) in shape and all were marked by stone masonry on the back of the terrace, which in turn formed the retaining wall face of the next terrace above, and a retaining wall that supported it in front (i.e. the back retaining wall of the terrace below). On the surface (before excavation) the standing remains of the retaining walls were approximately 50 cm high. Measured from the foundation the wall remains stood at ca. 65cm. Along the length of the terraces, multiple divisions were visible in the form of mounded wall fall that might suggest partitions within the terraces into different segments. We included one such division in the excavation unit in Terrace 4 to investigate whether this was truly an architectural feature or just the result of collapse. Terrace 7, located on a shallow terrace on the lower slope, is positioned in the transitional space between sector D and sector C, and as such produced a variety of distinct features that distinguish it from the higher terrace spaces. As will be noted, Terrace 7 is unique both in location, size and artifact assemblage.

All terraces yielded ceramic, lithic, botanical and faunal materials, shell, and textiles, although artifact densities varied by terrace and material as will be discussed in more detail below. In addition we also identified a number of features that indicated recurring activities such as food preparation and cooking as well as some irregular features that pointed to specific activity patterns like defense and feasting preparations[5].

5.2.1. Terrace 4

Terrace 4 is located about half way up the slope of Sector D. It is a long and narrow terrace measuring approximately 25 by 5 meters. The back retaining wall of the terrace is made up of angular stone masonry that also forms the support for the next higher terrace. This wall stood ca.one meter in height, although the wall fall in front of it

[5] Detailed descriptions of the individual units, excavations, and features can be found in Appendix A

suggests that it was higher during the occupation of the site. The front retaining wall of Terrace 4 is also constructed from local stones and forms the back retaining wall of the next terrace below although it is not visible when standing on the terrace. Along the terrace length some stone accumulations are located perpendicular to the back wall suggesting fallen division walls that served to segregate various rooms or spaces on the terrace. Excavation in Terrace 4 exposed a double wall on the back of the terrace and a smaller wall parallel to it in front. The space between the two back walls (ca. 1 meter) was entirely filled with small angular rocks and no cultural material. This suggests that the second (inner) wall may have been constructed for that purpose (to collect falling rubble from the above terrace or that it was built because the wall behind it was not secured anymore (Figure 5.5). It is unclear whether they were built together or in different times, what is clear however is that the space was not used for storage or any activities. The walls were constructed in a tightly packed pattern of small angular rock, some of which had been worked to fit in tight spaces, presenting a dense and compact wall face.

The area excavated on this terrace was the largest unit in sector D and comprised a 5x5 meter unit on the western end of Terrace 4. The excavation revealed a multi-use surface that was repurposed for many different activities over time and which was probably an informal unroofed patio outside the actual covered living are of the Terrace. Below the local Huayna Putina volcanic ash layer dated to AD 1600 we found the remnants of a collapsed burnt roof made of ichu grass, suggesting a roof and perhaps an organic superstructure for this part of the terrace. The nature of such a structure must remain speculative as we did not encounter any evidence of dividing walls constructed of either stone or argentic martial like quincha or woven mats. This would suggest that the ichu grass found in the excavation was perhaps resting in part on the group of wooden posts recovered in the center of the unit and provided an extended shelter from the sun rather than comprising a structural addition to the terrace

Below the burnt organic material, we were able to distinguish two water laminated compacted surfaces, which were consistently covered by large patches of dark discolorations of organic materials. While no prepared floor surface was encountered, these living surfaces indicate that activities that took place in this area were possibly associated with the processing of organic materials.

5.2.1.1. Terrace 4 Constructions and Architecture

Three post holes (R34, 35, 36) were found with intact posts in situ (Figure 5.XX), furthermore in level 2 of the units remnant of burnt and matted ichu grass were identified which suggest some sort of roofing was held in place by the wooden posts. This suggest that rather than construction buildings from stone masonry, the occupants of Terrace 4 preferred some type of organic shelter that probably included matts of ichu grass resting on wooden posts. No evidence for other construction , like quincha walls was found in the excavation area but this does not means that such walls were not constructed in other parts of the terrace.

5.2.1.2. Terrace 4 Storage

No subfloor storage pits were discovered in Terrace 4 but at least one third of the excavated area was informally separated and used as a pen for guinea pigs evident in coprolite concentrations from these used to raise animals in the northeastern excavation area. Whereas plant foods are stored in below ground pits or ceramic vessels, animal resources can be stored long-term in the form of domesticated living animals. Raising guinea pigs on Terrace 4 qualifies as food storage of animal food resources. The excavation did not identify storage pits dug into the ground which suggests that food, if stored in the ground, was placed somewhere else on the terrace or that food was stored in containers like ceramic vessels, or perhaps that is was stored on the roof tops of the structures. The ichu grass mat that could have been a partial roof, for instance, had *molle* berries on top, where they may have been laid out to dry.

5.2.1.3. Terrace 4 Food Processing and Diet

Terrace 4 Features

One hearth feature (R26) and five charcoal concentrations (R42, 43, 44, 45, 46, R37) that were identified in Terrace 4 indicate that the terrace was used for cooking. Terrace 4 finds include five hearthstones which were identified both because of their position on the edges of these features and because they showed evidence of burning like soot. Some of them also had grease on them suggesting food preparation at high temperatures in close proximity. Furthermore, two features that were identified as trash pits (R38, R46) suggest that processed food items and organic as well as ceramic containers were discarded within the terrace. Both lithic and botanical data suggest that food processing, like grinding and boiling (R20) was also an activity that took place in this area as was the raising and storing of guinea pigs (R32, 33)[6].

Terrace 4 Botanical Material

The most common botanical remains in Terrace 4 are *Schinus molle* seeds and wood. Both suggest the Wari style *chicha de molle* was prepared on this terrace, especially in the particular context of Rasgo 20, where a large amount of *molle* seeds (20 liters) was deposited directly on a concentration of charcoal fragments (Figure 5.6). It appears that the *molle* was boiled (William Whitehead personal communication 2008) and the dregs were dumped out after the cooking process, possibly even on the remains of the cooking fire. Boiling the *molle* fruit[7] was part of the *chicha* making process, and the presence of a boiling hearth with dregs suggests that the beverage was prepared on the household level in Sector D. This is not surprising given the ubiquity of household chicha production in modern and ancient times (Camino 1987, Goldstein et al. 2009).

In Terrace 4 the density of molle seeds per feature represents a wide range from very low densities of seed count per excavated liter of soil to very high densities. The highest density comes from Rasgo 20. Additionally four other, smaller, *molle* seed concentrations were identified in the terrace area. Furthermore *molle* seeds were abundant in ash and carbon concentrations, one hearth, postholes and trash pits.

Table 5.2 demonstrates a number of important facts about the molle deposits in Terraces 4. First, the features where *molle* was found vary in size and content. Comparing the densities of molle seeds per liter of soil shows a wide range between 2844 seeds/ l

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[6] Description and pictures of Rasgos can be found in Appendix D

[7] Molle fruits were cleaned of their outer papery husks and stems and boiled. During this process the fruit flesh would dissolve and only the seeds remained intact once the beverage was strained. Thus seeds form the archaeological correlate for molle chicha production.

(R20, n= 753905) to 0.04 seeds/liter (R45, n=2). This is due to the nature of the features themselves as not all features directly represent *molle* processing activities however. Rasgos 34, 35, and 36, for instance were postholes filled with sand and small gravel, covered with flat rocks for support. Rasgos 35 and 36 had remains of posts in them and thus not much molle was swept into them when the molle processing took place. Perhaps these posts were placed before the terrace was used for molle processing. The post in Rasgo 34, which has the second highest density, on the other hand might have been placed later than the other two, when the terrace surface was already a place where *molle* processing and dumping occurred. As the surrounding soil was used to fill the posthole *molle* seeds would have been abundant on the terrace surface already. Rasgos 45 and 46 consisted primarily of carbonized wood and ash deposits below the level where the large molle deposits occurred and likely represents an earlier phase of terraces use for discarding household refuse from hearths.

Rasgos 32, 33, 38, 44 and 49 were primarily characterized as ash deposits that also included carbon and botanical materials, or as deposits of organic materials. They were not considered specific instances were only molle was discarded. The higher molle *densities* in these features do reflect, however, that wherever this refuse was collected on Terrace 4 *molle* processing did take place.

The remaining features, Rasgos 19, 20, 23, 25 and 28 were defined as deliberate deposits of *molle* seeds. Their densities range from 44 seeds/ l to the highest with a density of 2,844 seeds/l, suggests that they represent distinctive events where molle was processed at a large scale.

According to the microbotanical analysis all of the identified molle consisted of seeds of the plant. No evidence of stems or husks was reported in these contexts. This suggests that the preparation of the berries (removing of the stem and outer husk) took place elsewhere and that the activities in in this part of Terrace 4 only included the later stages of preparation like boiling of the chicha (and possible fermentation) and refuse deposit.

Features in Terrace 4 that included substantial amounts of molle seeds (between n=1348 and n=25654) include Rasgos 19, 23, 25, and 28, as well as the molle seeds collected in the fill of the excavation. A second range includes molle seeds in the amount of n=796 to n=219 in trash features (38, 46), postholes (34) as well as mixed in with coprolite deposits (R32, 33). Deposits of under 100 molle seeds (n=87-2) also were found in features like postholes (35, 36) and were mixed with charcoal in carbon concentrations (43, 44, 45and 49).Compared to Goldstein et al.'s modalities for molle seed counts, the features in Terrace 4 quite surpass the calculations for even the brewery structure at Cerro Baúl. The *molle* dump in Rasgo 20 with its 753,905 seeds alone far exceeds their modality 1 and would have be considered as large scale production by that standard (n>1000). Seven other features from this terrace also fall into this modality. Following the model from Baúl, the *molle* evidence from Terrace 4 suggest that *molle* chicha was produced on a much larger scale in this household context alone than at the brewery at Cerro Baúl. It is possible that the chicha here was produced not for household consumption but for feasting events taking place in Structure 3 in Sector C or for consumption by elite residents who lived in the higher Sector F. Another possibility that must be considered is that the modality count proposed by David Goldstein and colleagues is based on the evidence from Cerro Baúl, where preservation is not as good as at Trapiche, and it is also possible that this structure just happened to have been abandoned shortly after a major productive event. Thus the presence of more *S. molle* at Trapiche would be simply due to different taphonomic circumstances and not production scale.

In light of these considerations calculations for *molle* were also done with averages of *molle* seed counts to normalize the sample. Using all counts from the Rasgos the average count for the features is n=48,289 seeds per feature, which results in a density of 311 seeds per liter. Excluding Rasgo 20, the very large deposit, the average is n=1248 seeds per feature or a density of 56 seeds per liter. These numbers illustrate that even when averaged the general count is above 1000 seeds count and still places the feature deposits of Terrace 4 into the supra household production category. The different densities in the feature overall probably reflect that not all molle processing events were on the largest scale and that the individuals at Terrace 4 produce *molle* chicha in a variety of amounts for both household and large scale consumption

Other botanical finds from Terrace 4 include maize cobs, the seeds, rinds and stems of two species of (*Lagenaria* species and *Cucurbitae* species) and peanuts, as edible components (Table 5.3). In terms of diet this illustrates that people procured foods that were easily available locally and that they processed their food mainly through cooking, a little bit of grinding (see below), and some smashing. Comparing the amount of carbonized plant materials we can also assume that some of this material was either reused as fuel or burnt as part of trash elimination. The gourds identified in Terrace 4 include 1 stem, 97 fragments of rind and 69 seeds of the *Lagenaria* sp. (gourd) and 1 peduncle, 3 fragments of rind, 77 seeds and 3 stems of the *cucurbita (*squash*)* species. These plants could have been used as both food resources and as materials for drinking and storage vessels. Lagenaria, also known as *mate* (Camino 1987) when cleaned and dried as gourds have a long tradition of being used as drinking vessels in the Andes (Goldstein et al 2009:154). At Cerro Baúl the presence of *Lagenaria* seeds in the various chicha production contexts is interpreted as evidence for the processing of gourds into drinking vessels by scraping out the seeds, cleaning and (Goldstein et al. 2009:154). At Terrace 4 the presence of *Lagenaria* seeds can be similarly viewed as the results of production stages of scraping and cleaning in making drinking gourds.

Wood and a variety of coprolites were also quite abundant in Terrace 4. The first is easily associated with cooking procedures and fuel storage and the architecture, including three excavated posts were used as part of the construction of shelter on this terrace. The second material comes from a variety of sources and illuminates a number of activities. The majority of coprolites in this unit comes from animals and has been identified as belonging to guinea pigs, llama and other types of rodents (Figure 5.14). The raising of guinea pigs as a food source is a longstanding Andean tradition. The abundance of their feces in Terrace 4 was restricted to the northern half of the excavated area and this area was quite different from the rest of the terrace. The appearance and texture of the floor in that area suggests that it was used as a pen to raise these animals. Furthermore guinea pig coprolites were present in all excavation layers indicating a prolonged practice involving these animals. Llama coprolites are equally ubiquitous and but may not indicate actual animals present, as they may have been used as a fuel source in fires for cooking and other needs. It is possible that this small patio was used for storage of such fuel. Human excrement by contrast was only found in level one near the surface and may have been associated with a more recent use of the terrace.

Terrace 4 Faunal and Shell Materials

Diet in Terrace 4 was also supplemented by faunal and marine resources. *Choromytilus chorus* mussels make up the largest percentage of seafood which also included a variety of olive shells, periwinkle snail and turban snails as well as the *scutulus* species. This suggests that residents of the location had some access to coastal and marine resources. What should be considered here is that shell materials preserve much better than faunal remains for instance. Figures 5.9 and 5.10 illustrates that marine shell density in Terrace 4, when compared to faunal evidence in weigh and count per excavated soil liter, is lower than in other terraces on Sector D. This might suggest that marine shells were primarily used for other activities as described below, and did not make up a significant part of the resident's diet.

Faunal data from Terrace 4 was not very well preserved. Most fragments were very small and most of them remained unidentifiable and included remains of large and small mammals including numerous camelid bones. Furthermore bones of birds and rodents were generally identified; however no specific species could be attributed due to the poor preservation of these bones. Some of these bones had cut marks on them or other types of modifications that suggests that they were used for consumption in this area.

Terrace 4 Lithic Material

A total of 52 flakes, three manos and seven projectile points were recovered in Terrace 4. No *batánes*, large grinding stones, were found in this terrace, which is consistent with the appearance of whole maize cobs and entire molle berries (which are not ground up for molle chicha production). That some processing involved crushing or grating is evident in the three manos found in the unit. The relatively large number of projectile points (n=7) suggests food procurement through hunting, although Andrefsky (2006:54) points out that projectile points were also used in cutting and processing foods as well.

The majority of the flakes identified in the unit were also consistent with lithic tool production debitage and likely utilized flakes. These flakes included 3 cortex flakes 46 retouch flake and 6 larger, possibly primary flakes. Flake size varied and illustrates that refurbishing tools and reshaping lithic implements were the main lithic production processes. Of the 52 flakes in Terrace 4 36 % were less than 2cm in size, suggesting retouching and refurbishing. The majority of flakes (51.392%) fell into the size range between 2 and 4 cm. The largest flakes were between 4 and 6cm in size, and made up 11.54% of the flake assemblage. The absence of larger flakes and cores from this unit further supports a scenario of reworking tools rather than producing them in this area of the Terrace. 46 % of the flakes are chert and 14% were obsidian. 16% of the flakes appeared to be identical to the bedrock of Cerro Trapiche, 2% of the flakes were quartz, 2% of volcanic material and the remaining 20% could not be identified. Obsidian and chert are the only two of these materials associated with the production of projectile points at the site.

In Terrace 4 four chert and three obsidian projectile points were identified (Figure 5.6). Three of these points, two obsidian and one chert, were small triangular points with concave bases and retouched sides. The other obsidian point was broken but appears to have retouched sides. A broken chert projectile point had a lanceolate shape with retouched side. The remaining two chert points, of local Huaracane manufacture, were quite different. One had a triangular upper part with a very thick stem and a thickening around the middle. The second stemmed point was made of red chert and included notching around the stem. This point had a triangular upper part and was also retouched on the sides. What is interesting about this pattern is that Wari style lanceolate types with concave bases were found in both chert and obsidian. A similar observation can be made for small triangular points with concave bases, also associated with a Wari local style, suggesting that material was used interchangeably with both styles. Stemmed points only occur in chert; however none is clearly of the long stemmed type often associated with Tiwanaku (Goldstein 2005:203)

The number of lithic flakes in Terrace 4 may not illustrate specialized household production. No flake concentrations associated with intensified lithic production have been identified in this unit. Rather, larger flakes that could have been used for cutting and scraping and that may have simply been struck of the bedrock dominate the lithic assemblage in Terrace 4. Furthermore the lack of micro flakes, which are the byproduct of re-sharpening of tools, indicates that retouching was not done in this part of the terrace. Rather the flakes are larger and sometimes include cortex suggesting that they were more likely part of the initial reduction process of cores. One nodule that could have been a core was identified in Terrace 4 which lends support to this stage of lithic production of tools in the household setting. Overall the lithic data is consistent with domestic activities involved in procurement (points), and processing of food (cutting tools and groundstone implements) as well as some tool manufacture.

Terrace 4 Ceramic Evidence- cooking, storage, and consumption

1. *Huaracane Ceramics*

Of the 734 sherds analyzed from terrace 4 the majority n=428 or 58.31 %, were Huaracane paste types and n=250, or 34.06% were identified as Wari style ceramics. The remaining 7.63% of sherds could not be identified based on known paste types (Table 5.6). The majority of the Huaracane assemblage consisted of various *Huaracane Arena* types, mainly the *H. Arena fino* comprising n=199, or 27.11% of the sample in Terrace 4, and the *Huaracane Arena fino rojo* type, comprising n=144, or 19.62% of the sample in Terrace 4. The very coarse variety, *Huaracane Arena gruesa*, made up approximately eighteen percent of all Huaracane sherds and comprised n=76, or 10.35% of the overall sherd count of the terrace. I also identified two *Huaracane Fino* sherds and seven *Huaracane Vegetal* sherds.

In Terrace 4 there seems to be a preference for wares with a relatively coarse sandy temper generally. Often, coarser temper inclusions help to facilitate better heat conductivity and are thus frequently used in cooking vessels. In Terrace 4, coarse wares are mainly associated with food preparation vessels and possibly storage containers, strongly underscoring the domestic use of Terrace 4. This conclusion also complements the previously discussed lithic, botanical and faunal evidence of food processing.

Interestingly, large vessels of the heavier *Huaracane Vegetal* fiber tempered paste were not common in Terrace 4, with sherds of this paste comprising n=7, or 1.63 % of the Huaracane sherd sample (or 0.95% of the overall terrace sample). A similar low occurrence has been documented by Costion (2009:224) who observed a much lower presence of *Vegetal* than *Arena* sherds in some Terminal Huaracane excavation contexts (Units 3 and Unit 7) at Yahuay Alta, yet a reverse ratio in other collection units like Units 5 and 6. He interprets this distribution to reflect a variety of different activities taking place in these units which required types of vessels with particular properties. In the 2008 project at Trapiche the *Huaracane Vegetal* paste has only been identified in sherds from the Sector D terrace excavations and in every instance they are greatly outnumbered by *Huaracane Arena* sherds (coarse, fine and red types). Results from the surface collection in Sector D from 2004 confirm this pattern (see section on *Vegetal* paste below).

Overall on Terrace 4, the trend was towards the use of *Huaracane Arena* type vessels. It also seems that occupants preferred specifically the finer *Huaracane Arena* types since almost eighty percent of the identified Huaracane assemblage was made from the reddish well-fired type of *Arena* ware.

Two *Huaracane Fino* sherds were also identified in Terrace 4, but no complete vessels were recovered. Terrace 4 was the only excavated domestic terrace that had any Huaracane fineware in it. This is not surprising as there is little other evidence for Huaracane elite residence in this Sector. A more detailed discussion of *Huaracane Fino* wares below considers some scenarios for the distribution of this ceramic style. Additionally, one sherd in Terrace 4 was made of a *Huaracane Fino* style paste but had a Wari style bowl form and painted decoration on the exterior. Comparisons to the surface collection pattern from 2004 also show fourteen *Huaracane Fino* sherds found on the surface in sector D, primarily in one collection unit on the western side of the slope. It is conceivable that these sherds all come from the same vessel. I return to this in the second part of the chapter.

Huaracane vessel types identified on Terrace 4 included cooking *ollas* of the coarse *Huaracane Arena* variety, especially neckless types and short-necked ollas of the finer *Arena* types. This pattern might suggest that neckless cooking ollas were preferably made with coarser temper to support heat conductivity and that short necked ollas perhaps had more of a serving or other non-cooking related function, like storage, and were therefore made of the thinner and more homogenous paste. However, both demonstrate domestic activities of cooking and consumption in Terrace 4.

Unfortunately 5 of the 22 rim sherds of utilitarian vessels were too small or too eroded to measure the rim diameter. The remaining sherds that could be measured had rim diameters between 6cm and 29cm. The variety in rim sizes illustrates that a range of vessels sizes was used for cooking and/ or chicha production. It follows that this may also represent the food production on different scales including both household and suprahousehold production. Hildebrand and Hagstrum (1999:32-33), in their study of contemporary Wanka villages in the Mantaro valley, documented a variety of cooking olla sizes that were used for different scales of household food production. The range of rim diameters reflected these different size categories that included small ollas (14cm rim diameter), medium ollas (17cm) and family sized ollas (21cm). Among the Wanka, ollas of these three sizes were used for everyday food production. Large ollas, on the other hand, had rim sizes of 25cm and were used only occasionally for special events like festivals.

In order to evaluate the rim sizes at Trapiche I adjusted these sizes to ranges where small ollas had rims 10- 14cm, medium ollas were between 15-17cm, family ollas 18-21cm and large ollas 22-25cm. Any rim diameter larger than that was considered a fiesta olla. Based on this size typology one more sherd had to be eliminated; a 6cm diameter fragment that was possibly a neck of a bottle. The remaining 16 rim sherds of Terrace 4 fell into all four rim size categories (Table 5.1). It appears that the majority of rims (43.75%) were from medium sized ollas. 31.25% were from small ollas and 6.25 % were from family sized ollas. Taken together the first three categories of daily used ollas make up 81.25 % of the rims. The vessels reserved for larger scale production are evident in 18.75 % of the rims. This is quite within the range of documented equipment by Hildebrand and Hagstrum who noted that families commonly had more ollas in the range for daily cooking events and less ollas (between 1 and 4) for larger scale production like feast (199:32 Table 2).

For Terrace 4 this evidence means that food, including *molle* chicha, was prepared for consumption on both the household and suprahousehold levels, supporting the assertion that *molle* chicha was produced for different occasion and on different scales.

Table 5.1. Rim sherd and olla sizes on Terrace 4

Olla size	Rim diameter in cm	Number of rims	% of Total	% of use
small	10-14	5	31.25	
medium	15-17	7	43.75	
family	18-21	1	6.25	81.25
large	22-25	1	6.25	
fiesta	<25	2	12.5	18.75
Total		16	100	100

1. *Wari Ceramics*

Wari sherds make up approximately 34% of the overall ceramic assemblage of Terrace 4. Over half of the Wari assemblage, comprising n=130, or 52.20% of the sample in Terrace 4 are variations of Wari plain ware or *llana* paste sherds made up of a medium compact and very homogenous paste[8]. Different paste colors (*beige, naranja* and *gris*) reflect different firing processes (Table 5.5). The majority of Wari llana sherds seem to be beige, with fewer orange and about eleven percent grey (reduced). It is not clear whether the firing process that produced the colors associated with reduced and oxidized appearance was of special significance as no correlation between vessels shape and paste color could be detected. This suggests that potters made vessels according to similar templates, yet that they used a variety of firing methods. This could be due to different fuel availability for instance. Future chemical analysis might shed more light on this and provide information regarding clay sources and production methods.

[8] A detailed description of paste types can be found in Appendix D

The few Wari llana sherds that did provide diagnostic information about vessel shape suggested that most Wari llana vessels were straight sided and slightly incurved decorated serving bowls. At least two sherds were from flaring plain bowls without decoration, and two sherds might have possibly come from pitchers so that it appears that the Wari llana pastes were used for many different shapes of vessels. We did not however identify any large storage vessels made out of these pastes.   The thickness of these plainware sherds ranges from 3mm to 11mm, with both average and median thickness of 7mm.

A second Wari paste type noteworthy is the Wari micaceous ware, comprising n=48, or 19.20 % [9]of the Wari ceramic sample in Terrace 4. Also common on Cerro Baúl (Nash and Williams 2009), this distinct paste type has been found at Cerro Trapiche in all terraces, although Terrace 4 has by far the highest count. It seems to be primarily related to utilitarian type vessels and most sherds are body sherds. Of the four rims of this paste identified in Terrace 4 one was from a medium sized incurved bowl, one from a neckless olla and one possibly from a necked vessel, the fourth could not be identified.

Only one Wari *Chakipampa* decorated sherd was identified in T4, which is not surprising given the domestic nature of the terrace. Structure 3 excavation produced a few *Chakipampa* sherds but they are generally not very prominent in the Trapiche assemblage to date. Wari *Ocros*, another traditional decorated Wari paste type was better represented at Trapiche and six *Ocros* sherds have been identified in excavation of Terrace 4. The sherds of this thick orange colored paste does allow us to conclude that some type of

[9] Or 6.68% of the overall terrace assemblage

Wari storage vessels may have been used in the terrace, which might be connected to household level *chicha* production as the botanic evidence suggests.

5.2.1.3. Terrace 4 - Other Finds and Activities

Additional artifacts recovered from Terrace 4 included six ceramic spindle whorls as well as a number of different colored wool strands knotted together. Spinning and textile production was an important part of domestic activity in the Andean past. Like other specialized craft production contexts, the spinning yarn out of cotton or camelid fiber required specialized tools. Spindle whorls are round objects that are perforated in the middle to hold a stick on which to rest and wind the spun yarn. Opinions differ among experts about the impact of whorl characteristics. Some scholars have suggested that spindle whorl characteristic largely depend on the type of fiber to be spun (Conlee and Vaughn 1999, Parsons 1972, Vaughn 2000) while others propose that the length of the staple fiber is the defining characteristic of whorl properties (Ryder 1968). Overall it can be expected that a larger variety of whorls can produce a larger variety of yarns and that the shape, size and weight of a spindle whorl may be specific to the type of yarn made. According to Coleman (2010:142) disk shaped whorls, for instance, disperse the mass horizontally and would have spun a coarser yarn, perhaps used on the making of thicker yarn used in making ropes, nets or utilitarian cloth. Rounded whorls on the other hand concentrate the mass vertically around the spindle and were used to produce a range of yarn qualities from fine to coarse. Similarly the weight of a whorl is connected to its uses; heavier whorls are used in producing rougher yarns awhile lighter whorls produced finer yarns. A broader whorl produces along slow spin and smaller diameters produce a faster shorter spin (Coleman 2010). So that smaller lighter whorls make thinner threat and heavier and broader make thicker yarns.

The majority of spindle whorls found in Terrace 4 at Trapiche were made of reused ceramic sherds that were smoothed on the side to form the round shape. The middle of the circle was perforated with a hole. Of the six whorls, three had completely drilled holes, and two showed signs of the process of drilling the hole and nicely illustrate this process. One spindle whorl was also quite different in that it was diamond shaped (Figure 5.9) and clearly made out of clay with that distinct shape and was not reconstituted from broken and discarded sherds. This style has also been documented by Matthew Edwards (2009) at the Wari site of Pataraya and described by Robin Goldstein in Wari contexts at La Real in the Majes Valley (2010). The two shapes suggest that at Terrace 4 different types of yarn were spun, although it appears that the majority of whorls (5 out 6) were flat, disk shaped, whorls were used in the spinning of coarser yarn. Only one whorl had characteristics that suggest the spinning of finer yarn.

Furthermore three cactus spines were identified in Terrace 4. Sharp edged cactus spines are often used as pins, for instance, in the making or wearing of textiles. They may also have been modified later into needles by drilling holes. While the number of artifacts indicating textile production in this part of Terrace 4 is not overwhelming and does not indicate specialized textile production in this part of the terrace, they represent a number of different stages involved in such production. Spinning yarn with spindles was probably part of the domestic activities on this terrace. The evidence also suggests that yarns of different thickness were produced in the terrace for a variety of uses. This would come as no surprise as the making of thread for later use in weaving was generally done on the household level and an activity that often was executed in idle times alongside other daily activities.

In addition to evidence of spinning for textile production, Terrace 4 also produced evidence of craft production related to marine shells. Out of the 209 shell fragments that were recovered from Terrace 4, 82 showed signs of modification (Table 5.7) This included the cutting into long slices of *Choromytilus chorus* mussels and drilling of holes into *Littorina peruviana* (Periwinkle) sea snails as well as into *Oliva peruviana* shells and *Prisogaster niger* turban snails. This pattern suggests that the majority of shells found in Terrace 4 were primarily worked into beads for jewelry rather than processed as food since only the *Choromytilus* species would be the only species considered a food mollusk. However, no evidence of such beads has been recovered in Terrace 4. It is possible that the preparation of these shells was part of the activities taking place in Terrace 4 and that preforms would be send along to other locations at Trapiche where the product was finished. These patterns fit well with craft production in the Andes that was often embedded within the domestic economy (Nash 2009:234) and where households rather than specialized locations were the locus of production.

5.2.2. Terrace 5

Multiple strands of data support activities related to domestic activities in Terrace 5. The terrace itself measures ca.12x6 meters and is located east of Terrace 4 and situated slightly lower on the Sector D slope. The terrace surface was clearly delineated by a northern wall on the back of the terrace and a south facing support wall in the front of the terrace. The terrace sits on the westernmost side of sector D and has a wide view of the middle valley and the western floodplain below. The back retaining wall of Terrace 5 was well preserved and stood ca. 1.5 meter high. The wall fall in front of it suggests that it was even higher during it occupation.

A two by two meter excavation unit (unit g) was placed in the northeast corner of the terrace and included the back retaining wall and parts of the outermost western wall of the terrace. In the excavation area of the terrace no evidence for post holes or roofing was recovered indicating that all activities in this area took place in an open space. One interesting architectural feature in Terrace 5 was a narrow canal cut into the terrace surface that was discovered in excavation level 5. The canal ran parallel to the back retaining wall (east-west) and then made a perpendicular turn to the south in the NW corner of the terrace. It appears that this was a drainage canal that caught runoff water from the above terrace as it flowed down the terrace's back retaining wall and to divert it along the terrace perimeter toward the front of the terrace, effectively keeping the center of the terrace dry. Use surfaces in terrace 5 were water laminated which is concurrent with the open and uncovered nature of this space.

5.2.2.1. Terrace 5 Food Processing and Cooking

Features

The excavation of the two by two meter test pit in the northeastern corner revealed multiple features containing ash and loose sand. One of the features, Rasgo21, in the excavated area was a hearth. The Rasgo located in the northern half and adjacent to the back wall, was an oval shaped feature and included two hearth stones with evidence of grease. The feature fill included carbon fragments and ash, albeit mixed with some soil, which is not surprising since this hearth was identified in level 4 of the excavation. Rasgo 22 does not appear to have been a regularly used hearth as the loose fill and small amounts of burn earth suggest.

Three features (R27, 29, 31) were shallow depressions in the sterile terrace floor that contained ash concentrations and were mixed with remnants of botanic and faunal data, supporting the discarding of leftovers from previous cooking events in trash deposits. They varied in size from 20x30 cm to 50x29cm. Rasgo 27, for instance, located in the SW corner of Unit g in level 5, included a large projectile point of white chert that was found below a large rock. The fill of the feature contained fine, loose soil. One large stone in the west profile remained in the feature until the end. Below this large rock a mano was found in situ, as part of the Rasgo fill. The base of the feature was equivalent with the sterile mountainside, suggesting that it may have been a depression filled in order to level the terrace platform.

Rasgo 22 was an intrusive trash pit where botanic, faunal, ceramic and lithic material was discarded. No ash or charcoal was found in this feature suggesting that people disposed of trash in a variety of ways, sometimes in tandem with cleaning up of cooking events and discarding of ash and sometimes separately.

It is impossible to say whether these features can be attributed to Huaracane of Wari style patterns of consumption cooking and refuse disposal. At Yahuay Alta, for instance, Costion described similar shallow and informal hearths for multiple domestic contexts that were used infrequently and appear as accumulations of ash and carbon mixed with botanic and faunal remains in both the Late (2009:174) and the Terminal Huaracane Period (2009:215). At Cerro Mejía Donna Nash described similar pattern in the domestic structures were “all ash features could potentially be hearths because the hearths in the structures on Cerro Mejía for the most part exhibited no specific construction or structure- no circle of rocks. They appeared as dense patches of ash surrounded by a lighter dispersion of ash” (Nash 2009:97).

Lithic Material

Lithic evidence also strongly points to the processing of food in this terrace. Three *manos* were found on the surface of the terrace and one in situ in the excavation (Rasgo 27) of unit g. This suggests that grinding took place in this unit. However, Terrace 5 has only five maize specimens, which is surprising given the overall artifact density and especially the presence of lithic food processing tools like manos on the terrace’s surface. The relatively high occurrence of *manos* in this terrace would suggest that processing foods by grinding or smashing was a much more prominent part of the activities in this area. It is possible that this discrepancy is the result of sampling strategy and more substantial amounts of grindable materials, like maize, were processed elsewhere on the terrace. Similarly it is conceivable that grinding stones were part of the unexcavated part of the terrace’s assemblage. *Manos* on the other hand are smaller and more easily moved away from grinding stations to other locations for different tasks like smashing or pounding etc. Furthermore the hearth features uncovered in the test unit in the northern half of the unit included hearthstones that were covered in grease suggesting, that meat was prepared here over an open fire and the fat leaked out during the roasting process.

Diet and Cuisine

Botanic evidence from Terrace 5 primarily indicates the use of molle, gourds, and peanuts but very little maize. The amount of molle is the largest although by no means comparable to Terrace 4. This may indicate the occasional use of *molle* but no direct evidence for *chicha de molle* preparation or storage was found in this excavation unit.

Similarly, the presence of small rind pieces of the *cucurbitaceae* species suggest that squash was either processed or eaten in this area, as were peanuts. However, the percentage of these from this part of the terrace is relatively small. Maize is the least ubiquitous food encountered in this test pit which is quite different from the other excavations in Sector D as will be discussed later.

The evidence for meat consumption from this terrace included fragments of small and medium rodents, one large mammal bone fragment, bird bones and cuy bones. Bones of fish and sweet water shrimp were also identified in this unit. *Choromytilus chorus* (n=10) and marine Turban snails *Prisogaster niger* (n=17) were also found in this terrace suggesting a diverse diet that was supplemented with some marine resources. This demonstrates that occupants of this terrace had access to a variety of food resources of both plant and meat types.

Cooking

The most ubiquitous organic material in Terrace 5 was wood, used as fuel or building material. Another organic material that was very abundant was coprolites. The type of feces leads to similar conclusions as in the previous terrace. Almost 50 % of it was from llamas, a type of dung often used as a source of fuel. 27 % were human and the remaining 33 % included rodent and cuy coprolites pointing to the multiple use stages of this part of the terrace as a food processing station that included cooking and grinding activities as well as a later depositor of fuel and trash. Excluding human excrement the majority of the coprolites have been identified as guinea pig, llama and rodent. Considering this evidence in tandem with the presence of wood it is not improbable that animal dung was used as fuel in this context to supplement the use of wood.

Ceramic Material

The distribution of pottery from Terrace 5 is similar to Terrace 4. Although only 125 sherds were recovered, the density of sherds in Terrace 5 per excavated liter of soil is 0.2724 and higher than that in T4 of 0.1388 (Table 5.5). While the materials include both Wari and Huaracane style pottery all ceramic sherds in this terrace are of utilitarian plain wares. For Huaracane wares this includes a variety of *Huaracane Arena* types (*gruesa*, *fina*, and *fina roja*) and three *Huaracane Vegetal* sherds, whereas Wari wares include varieties of the *llana* types (beige, grey and orange) and five micaceous sherds. The majority of sherds could not be identified in terms of vessel form, however, one Wari rim sherd clearly was from a flared bowl and four Huaracane rim sherds could be attributed to the traditional neckless Huaracane olla (3) and short -necked olla (1) types. The remaining sherds could not definitively be associated with particular vessel types. Furthermore only four sherds were described as having soot on the surface; this may be due to the fact that there were not bases or sherds from the lower part of the vessel discarded. It may suggest that some cooking was going on. This interpretation is supported by the presence of the hearth features and ceramic vessel types that also included containers for consumption like bowls or serving like pitchers. In terms of cultural distribution 58 sherds were Huaracane (57.43) and 38 of Wari pastes (37.62%) and five remained unidentified (4.95%).

It appears that in Terrace 5 the preference for *Huaracane Arena* types is quite prominent. Vessels of these types were primarily used for cooking wares and support the identification of domestic activities in this terrace. Furthermore the presence of plain Wari types is supportive of possible consumption patterns that involved only simple serving bowls. Compared to Terrace 4 where some decorated bowl fragments were identified, evidence from Terrace 5 only includes very plain materials. Similarly, no Huaracane Fino sherds were found in the excavated area of this terrace at all. Whether this is part of a larger patterns will be discussed later in the chapter.

5.2.2.2 Terrace 5 Craft Production

Evidence for craft production at Terrace 5 comes from marine shell data. Among the terraces of Sector D Terrace 5 has the highest density of shell material per liter of soil (Figure 5.3). Furthermore the density of shell material in Terrace 5 also exceeds that of all terraces in Sector C and all of Sector D's terraces. This suggests that Terrace D either had more access to marine shells as a food source or that individuals living on Terrace 5 were engaged in other activities that for instance included shell manipulation. Terrace 5 also has the highest density of edible *Choromytilus* mussels (Figure 5.4). Three of these mussels were worked and the other shells were intact. While this may not be direct evidence of craft production in this area, the high density of shell materials in this terrace is certainly noteworthy and implies that Terrace 5 occupation has a different activity patterns than Terrace 4 for instance.

5.2.3. Terrace 6

Terrace 6 is located on the upper terraces of the Sector D slope Northeast of Terrace 4 and North West of Terrace 5. The terrace was very narrow and more ephemeral as the terraces tend to become less defined higher up on the slope. We tested a two by two and a half meter pit here to see whether people lived this high up on the steep slope. Evidence from excavation indicates cooking and disposal patterns associated with food preparation. Parts of the backing wall of the terrace were exposed and a few stones of a small dividing wall on the western side of the unit were partially visible, however much of the architectural wall construction of the terrace was eroded and wall fall made up much of the surface of the terrace. One hole with a small post was discovered toward the center of the terrace surface, which measured 5 cm in diameter. This suggests that some shelter was constructed on the terrace, which likely included some type of organic roofing like a mat. No evidence for quincha walls or other types of architectural features were found in the Terrace. Overall eight features that indicate food processing were identified in Terrace 6. Of these two hearths, one *molle* concentration and three imprints of gourds as well as an ash concentration indicated domestic activities in the area including evidence of cooking and food preparation.

5.2.3.1. Terrace 6 - Food preparation/ processing

Lithic Evidence

The evidence for lithic artifacts is sparse in this terrace and only includes ten identified artifacts. They include two projectile points, one *mano*, five flakes and two unidentified fragments. This does point to some activities that include perhaps some grinding and the manipulating of stone tools. The flakes are more reflective of initial processing of lithic materials and do not include retouched flakes Two flakes were chert and one flake was struck of a *mano* in the terrace. The two other flakes were of the same material as the bedrock and may have been struck off in the process of terrace construction. Overall this does not indicate lithic production for this are of the terrace and supports a much more ephemeral occupation higher up on the slope. The two projectile point fragments have retouched sides and are made of white chert, and are tapered toward the tip (Figure 5.8). One point consists of the basal part of a triangular small-stemmed point that is notched on both sides of the stem. The second point fragment is broken on the top and bottom so that no identification of the point type can be made; although the retouched sided and tapering suggests a triangular point shape... both projectile points are less than 2cm wide and may be evidence of hunting equipment, and appear to be of local style.

Faunal and Botanical Data

Evidence from this terrace includes nine elements of large mammals and three fragments of medium sized mammals including fox and vizcacha (Andean hare), although the majority of faunal fragments could not be identified. We can conclude that the preparation of meat took place in this area as the faunal evidence comes from features Rasgo 40, 47 and 48; two of which are hearth features which included faunal materials that were burnt. Other faunal evidence (some of it burnt as well) that could not be identified was encountered in the lower levels in this unit, eliminating the possibility that materials were the result of taphonomic processes like wild animals leaving carcasses behind. Furthermore most faunal material was very small and fragmented; this might be a result of deterioration or butchering. The only evidence for marine resources identified in Terrace 6 comes from ten pieces of *Choromytilus chorus mussel*. Figure 5.11 below illustrates that Terrace 6 has an overall low density of marine shell (in weight per excavated liter of soil), meaning less shell was transported to this terrace. Table 5.7 shows that this is also true when only comparing the Choromytilus mussel density in Sector D. The Terrace 6 sample has the lowest density with 0.0089 shells per liter. Evidently Terrace 6 occupants had some access to particular saltwater resources but at a much lower frequency than Terraces 4 and 5.

Ceramics – Cooking and Consumption

Of the sixty sherds collected from Terrace 6, nearly eighty percent were Huaracane pastes and twenty percent were identified as of Wari categories (Table 5.5). Five sherds were too small and could not be assigned to any category. Of the Huaracane sherds only *H. Arena* and H. *Vegetal* types were present. The *H. Vegetal* frequency was quite high, making up thirty percent of all Huaracane sherds and twenty three percent of all sherds in the terrace. Vessels of that type of paste are often associated with cooking or storage (Goldstein 2000; Costion 2009). The absence of any *Huaracane Fino* sherds supports the scenario of mainly preparing of foods in this terrace.

A significant discovery in this terrace were three imprints of *Lagenaria* gourds that were stacked on top of one another and which may have served as drinking vessels. This would supplement what we know about Huaracane consumption behaviors where no evidence of ceramic serving vessels has been documented. Perishable containers like gourds may have served that purpose instead. Finding evidence of gourd cups in a context without Wari or Huaracane serving vessels suggests that individuals on Terrace 6 did not have access to ceramic serving ware but utilized a lower quality material, gourds, to shape containers for food and drink consumption. This pattern may point to a lower social status for Terrace 6 occupants.

5.2.4. Terrace 7

Situated at the bottom of the Sector D slope near the flat part of Sector C, Terrace 7 is not a steep terrace like the previously disused terraces higher up on the slope, although it is delineated by some stone walls. It is a wide and very long terrace, traversing almost half the sector east to west. This large terrace is unusual for the domestic slope sector and it fits much better with the topography of sector C. As we will see below the archeological finds also suggest functional and social affinities with sector C in a number of patterns. Data support some domestic activities but also indicate patterns of defensive action that may have been implemented in this area. No architectural remains whatsoever were discovered in the excavated area in Terrace 7.

5.2.4.1. Terrace 7- Domestic Activities

Features

Terrace 7 has four features that were identified in excavation; they include one hearth (R55), a trash pit (R53), as well as a posthole (R54) and a concentration of organic material (R56). This suggests that some type of cooking was going on. Considering the botanical evidence, wood once again makes up the majority of finds; other samples include unidentified seeds, maize cobs and kernels, gourd seeds and *S. molle* seeds. Some of these are associated with feature R56 but the majority was identified from float samples in Feature R53, the trash pit. The molle was not found in concentration as in Terrace 4 but rather as part of the feature mix which also included maize, wood, peanuts and gourd seeds.

It appears that Terrace 7 was perhaps a food preparing area somewhat removed from both the plaza in Sector C and the slope of Sector D. This scenario is further supported by multiple faunal fragments recovered from Terrace 7 that include partial tarsal and phalange bones of large mammals, likely hoofed animals like camelids or deer were recovered in numerous locations in situ. Furthermore one camelid sternum and patella were recovered, supporting consumption of such animals at this location. The majority of faunal materials were very fragmented and no meaningful observation could be made about completeness or count of animals. Some of the bones displayed cut marks and were burned suggesting that the preparation and cooking of animals took place in this location and that they probably also were discarded here. Most of the wood in the features was burnt also corroborating the food preparation scenario. Compared to other terraces in Sector D the density of faunal weight per excavated liter of soil was by far the highest in Terrace 7 (Figure 5.12). This pattern may be reflective of the position of Terrace 7 on the bottom of the slope that was more consistent with the flat part of Sector C and also in closer proximity to the Structure 2 plaza where public consumption events may have taken place. It is conceivable that the larger amount of meat prepared in Terrace 7 was done so for extra household consumption events in the open area to the south. The discard pattern suggests that either the meat was cut off the bones and transported elsewhere or that some of the prepared meat was also consumed on the terrace directly and left in trash pits. Terrace 7 stands out in other artifact categories as well which supports this closer connection to Sector C of this terrace and which are discussed below.

Ceramics

Of the 292 sherds recovered in excavation, over sixty percent were identified as Wari and only thirty percent as Huaracane. This is quite different from the other terraces in Sector D where Huaracane materials uniformly make up the majority of the ceramic assemblage. Within these types all Huaracane pastes, except *Huaracane. Fino,* were represented. The majority of Huaracane materials however fall into the Huaracane Arena category (Table 5.5). The Wari sherd assemblage consisted predominately of plain wares. Only two Chakipampa sherds were identified in this area, suggesting again that domestic preparation and consumption was more likely in this terrace than elaborate feasting activities for instance.

Only sixteen rims were identified in Terrace 7, which allowed the determination of vessels shape. These included seven rims of Huaracane style neckless ollas and nine rims of straight-sided undecorated Wari serving bowls. One additional Wari u serving bowl was identified from a decorated body sherd (Figure 5.13).

Botanic Data

Evidence of plant use in Terrace 7 was ubiquitous and included a variety of different types such as *Schinus molle*, *Lagenaria sp.*, legumes like pacay but also small quantities of *Zea mays*. Other materials in Terrace 7 indicated an emphasis on fuel storage, evident in the large numbers of small pieces of wood as well as substantial quantities of llama and cuy coprolites. The density of molle in Terrace 7 is most comparable to that of Terraces 4 when excluding the large molle cache. Both terraces have a density of molle seeds that clearly exceeds that of the other terraces in sector D and suggest large-scale production of beer.

Lithic Materials

As on the other terraces in Sector D a number of *manos* were found in this excavation which points to activities that included occasional crushing and grinding. Similarly, like on the other terraces, the lithic assemblage at Terrace 7 did not include any *batánes,* which would have been needed for consistent and large scale grinding. Where the data from Terrace 7 deviates is in the number of *manos*, altogether six were recovered from this 3x2 meter excavation, this is a considerably higher amount than for any other terrace and could indicate some type of special preparation that took place on this terrace in general.

Lithic materials and artifact types that are absent from Terrace 7 include *Chrysocolla*, polishers, hearthstones, and cores. This demonstrates that production associated with lithic materials did not take place in this section of the terrace. Instead, as indicated previously, the preparation of foods through grinding and grating might have played a more prominent role in addition to the preparation of meat

Three obsidian points were also recovered from the surface of this terrace (Figure 5.8). In shape they correspond to Wari style points documented at Cerro Baúl by Vining (2005). At least one of them represents type 4 (2005:57-58), which he describes as having lanceolate bodies with straight bases, which correspond in material as well. The second point consists of a broken tip, but which also indicates a lanceolate body visible in the beginning of the curvature below the distal end. The third point is a narrow triangular point with a concave base. All three of these points can be associated with Wari lithic production as points of this style were also found in Wari contexts at Cerro Baúl (Vining 2005, Goldstein and Owen 2001) and neither at Huaracane sites nor at Tiwanaku sites.

The production of lithics with obsidian also suggests access to the Wari exchange network for this exotic material at Cerro Trapiche, something that would be expected given the other evidence pointing to a Wari occupation of the site. The recovery of these points on the surface of Terrace 7 makes the correlation of their use within the terrace somewhat ephemeral. It is not clear whether they were used in this area or simply transported down the slope through a number of taphonomic processes. What is clear, however, is that this type of point was found across the sector in numerous other contexts as well and thus it was likely a frequently used template by a specific group of settlers who fashioned these types of points. Based on material choice and typological analysis we can propose that these were likely Wari or Wari influenced individuals who adhered to these standards of material and morphological type when producing these artifacts. The use of such projectiles was manifold and included the hunting of animals as well as defense activities, which are further discussed below. Furthermore projectile points may also have been useful cutting implements due to their sharpness.

5.2.4.2. Terrace 7 Defensive Behaviors

One compelling way in which Terrace 7 stands out from the other terraces on Sector D is the accumulation of *cantos rodados* in the southeastern corner of the excavation unit. *Canto rodados* are large to medium sized (Fist sized) smooth river rock which confortable fit in one's hand. *Cantos rodados* have been previously documented in defensive contexts as sling stones. Brown Vega (2008:97), for instance, reports piles of various sized cantos rodados along the walls of the Fortress at Acaray that were probably used by slingers in defense of the structure. She also documented such stones along the exterior of the fortress walls suggesting that some of them had been shot as well. Oftentimes these stones were also used as tools and many exhibit pockmarked surfaces where they may have been employed as handstones but which could also be the nearly identical result of battering when used as projectiles (Brown Vega 2008:316). Their size likely lent itself to the handling of small daily tasks that required some form of applied pressure. The cantos at Trapiche exhibit similar surface treatments that would suggest that, while stored in Terrace 7, these stones were also frequently used in other tasks that involved hitting or grating them against other hard surfaces.

Overall 142 *cantos rodados* were excavated in Terrace 7. The clustering of these rocks in the southwest corner of the terrace suggests that they were purposely collected in that area perhaps for defensive reasons. Since such cantos were not identified in terrace wall profiles or in the Structure 3 masonry, for instance, this eliminates their use in architectural construction (Figure 5.14). Upon the discovery of this unusual concentration of these stone we also identified a number of small stone piles on the surface of other terraces that we passed every day on our way up the slope, this might suggest that this was not an unusual occurrence at Cerro Trapiche. Another explanation might simply point to clearing these stones from the terrace surfaces and gathering them in one place as part of the cleaning of terraces surface for other activities like construction shelter of leveling the floor. However, this seems unlikely since these stones are very smooth and well-rounded, an appearance that is due to longtime abrasion in the river below the site. This would imply that these stone are not part of the Cerro but were transported up the slope deliberately.

5.3. SECTOR D - DOMESTIC STRATEGIES AND HOUSEHOLD SPECIALIZATIONS IN SECTOR D

In order to get an overall sense of how intensively the sector D terraces were used and whether activity patterns differed, artifact distribution densities of the different materials for all four terraces were compared both 1) by weight per excavated volume, and 2) by count per volume. Comparing densities illuminated a variety of different activity patterns in different locations on the slope while also illustrating some common recurring practices in the sampled households. I also calculated the ubiquity of each artifact category, which means I only compared the occurrence of whether a particular type of artifact occurred within a context/ terrace. Ubiquity does not include the individual count of artifacts within that category but instead represents how often a particular artifact category appeared and thus provides an alternative to density calculations and is useful in terrace comparison. Below, data from five material categories are evaluated and explored in light of potential activity patterns.

5.3.1. Diet and Cuisine

The food consumed by the residents of Sector D included a variety of plants and animals that suggests a blending of Wari and Huaracane cuisines. While many local plants associated with Huaracane diet, like gourds and squash, appeared in the archaeological record, so did a large amount of *S. molle*, which, although a local plant, is associated with molle chicha, a drink preferred by the Wari. Similarly, other elements of Wari diet are quite evident at Trapiche, for instance, in the presence of maize throughout the sector. Maize, although cultivated in small quantities by Huaracane groups, maize and C4 plants made up between 3% and 18% of the diet (Goldstein 2000b: 324, 2003: 163; Sandness 1992: 49), in the flood plain, it was not a major crop for the local population. Costion (2009:241), however, documents a complete absence of maize in the domestic contexts at Yahuay, which is quite remarkable since moderate quantities have been noted at other Huaracane sites (Goldstein 2000b, 2003). At Trapiche's Sector C maize was found in most terrace contexts, but never in large quantities as would be expected of a

Wari colony that utilized maize crops as a staple food (Table 5.9)[10].

Moseley et al. (2005) report the presence of manos and grinding stones on Cerro Baúl as well as evidence of maize on the summit and Cerro Mejia and suggest that was part of the upper valley diet. However it was not used as extensively in the making of chicha (Goldstein et al. 2009:144) and represented less than 1% of the Cerro Baúl botanic assemblages. Additionally maize was found in larger quantities on the summit of Cerro Baúl than Cerro Mejia suggesting a status differentiation associated with the consumption of maize (Goldstein et al.2009:144)

At Cerro Trapiche maize and molle also appear in different quantities. While Terrace has the highest maize count this does not reflect that maize was more common in that terrace. A more meaningful comparison of the use of maize and molle in Sector D comes from assessing the density of these materials by count per excavated liter of soil. As Table 5.9 and Figure 5.11 show molle is present at much higher density than maize in Sector D, confirming a clear preference for molle chicha production over maize chicha. Secondly it appears that when the molle cache in Terrace 4 is excluded from calculation, Terrace 4 does not have the highest density of *molle* overall. This is surprising given the enormous amounts of *molle* that were discovered on floor levels. But clearly Terrace 7 was also heavily engaged in processing *molle,* which is not surprising given its proximity to Structure 2 in Sector C. It would not have been far to transport heavy liquid filled vessels to the open plaza for ceremonial or other public gatherings. Terrace 6 also has considerable molle density that may suggest household level production of chicha.

[10] The counts per terrace range from 6 to 566 finds as the highest incident. Maize finds consisted of empty cobs (n=736) and much fewer kernels (n=54) and cupules (n=30).

Terrace 5 has the lowest density in the excavated are, which suggest that perhaps emphasis on chicha making was not quite as intense on this terrace, and perhaps only included household level production. These numbers suggest that *molle chicha* was made for household consumption in all investigated terraces and that some of this terrace even produced extra for suprahousehold consumption like Terrace 4 and perhaps Terrace 7. This pattern of intensive production of *molle chicha* in non-elite residential contexts across Sector D is strikingly different from the upper valley where *molle chicha* was only prepared in elite contexts on the summit of Cerro Baúl but not in the commoner houses on Cerro Mejia.

All terraces had at least some access to a variety of plant foods. The distribution of numerous plant species on the terraces was fairly equal across all units, suggesting that no special access to particular varieties existed. Evidence from each terrace included a combination of maize, molle, gourds, legumes and peanuts, although in differing concentrations. Figure 5.16 illustrates the presence of each of these plants for each terrace in Sector D as a percentage of all edible botanic materials, excluding molle. Legumes were more abundant in Terrace 5-7 whereas peanuts made up a higher portion of Terrace 4's mix. Maize contributed between 30 and 40% of the botanical composition in Terraces 4, 6, and 7 whereas Terrace 5 had the lowest percentage of maize, but instead the assemblage here is made up out of 60% legumes and 30% gourds. *Lagenaria* gourd elements like seeds and rinds were found in smaller proportions in (18-10%) in Terrace 4 and Terrace 6whereas Terrace 5 has the highest percentage (30%) and Terrace 7 has ca. 20%). This might suggest that terraces with a larger amount of refuse of this gourd used for making drinking vessels were more heavily involved in producing drinking or serving containers by scraping the seeds and flesh to hollow out the gourd. It might also suggest that these were lower status containers that were used instead of ceramic wares, underscoring the non-elite nature of the domestic terrace sand even suggesting differentiation between terraces. I will return to this idea when discussing the distribution of ceramics.

Evidence from lithic data also supports the emphasis on preparing plant foods as the documentation of *manos* in all four terraces suggest. Furthermore many handstones found exhibited some form of wear on the surface and may have been used as well in crushing and grinding. However, the lack of *batánes*, stones used as a surface for grinding, in the terraces of Sector D is telling. We found three such stones aligned as work stations in Structure 3, suggesting that they were used for food processing in that particular context, but not on the terraces in sector D. This would suggest that in sector D plants like maize were not consumed in ground form, but perhaps cooked or roasted, as the evidence of intact and burnt cobs suggest. If maize would have been consumed as chicha, storage vessels for fermenting should be associated with botanical remains of maize. Similarly if maize was used as a staple food, grinding stations for processing some of this plant into flour on a larger scale would have been necessary and surely been found.

As mentioned previously Huaracane cuisine included simple cooking strategies and communal meals probably eaten out of the cooking pot (*olla*) or in elite contexts out of *Huaracane Fino* bowls. To date no plainware serving plates or bowls have been associated with Huaracane commoner households. *Huaracane Fino* Bowls which are shallow and appropriate for eating or drinking are quite rare at Trapiche and only found in Huaracane burial and elite contexts (Goldstein 2000, 2005). This pattern can be confirmed at Trapiche's Sector D, where Huaracane ceramic materials are predominately associated with the traditional neckless and short-necked olla forms. All terraces in Sector D included some evidence of Huaracane *ollas,* which suggest that these pots were the preferred cooking vessels on the terraces in Sector D. This does not, however, suggest that dietary habits in Sector D conformed only to the one pot stews described by Paul Goldstein (2003) for Huaracane communities. Faunal evidence of burned and cut bones, as well greasy hearthstones suggests that roasting of meat over open fires was also part of the cuisine in Sector D.

5.3.2. Molle Chicha Production at Cerro Trapiche Sector D

Given the importance that David Goldstein et al. (2009) placed on *molle* chicha production on Cerro Baúl and which Costion (2013) emphasized at the site of Yahuay Alta, a comparative analysis of the Trapiche data seems appropriate. Inspired by the archaeological identification of molle chicha, there exists now a growing body of research in ethnoarchaeology and experimental archaeology on the production of molle chicha. This in turn is helpful in assessing the scale of production and consumption of *chicha de molle* in archaeological contexts.

Molle trees (also known as peppercorn trees) in Moquegua grow abundantly near the river, today and in the past, and carry fruit almost the entire year. Making chicha out of the fruit of these trees requires three basic steps (Goldstein and Coleman 2004). Once enough molle berries are collected their stems and the outer papery shell needs to be removed. Then the seeds are boiled in water for a short time (ca. half an hour) and sometimes with other ingredients for flavor, like cinnamon or cloves, (Goldstein and Coleman 2004:526). After boiling the seeds, the mixture must cool down before it is strained and some sugar is added to the liquid. Finally it is poured into large ceramic vessels that are closed with a wet cloth and stored in a cool dry place for ca. ten days. Archaeological correlates of this process include molle seeds, stems, hulls and large ceramic storage vessels in which the fermentation took place as well possible hearths where the seeds were boiled (D. Goldstein et al. 2009).

As discussed above, every terrace in Sector D has widespread evidence of molle seeds, suggesting that the preparation of molle chicha was part of every household's activities. The microbotanical analysis did not identify any stems, indicating that the seeds from Sector D were prepared elsewhere, and brought to the domestic terraces for the boiling process.

Excluding the *molle* cache in Terrace 4, densities of molle seeds per excavated liter of soil were compared across Sector D. As Table 5.9 shows, Terrace 7 had the highest density, followed by Terrace 4, and 6. Terrace 5 had by far the lowest density of *molle*. As mentioned earlier this underscores that *molle* processing was a common activities across the sector and that Terrace 7 was also quite invested in the processing of molle, perhaps as a result of the proximity to activities in Sector C that required molle. However, while all terraces produced *molle* chicha on some level, the *molle* cache in Terrace 4 also suggests that the individuals on that terrace were much more heavily involved in the production of *molle* chicha than any other terrace.

Using Goldstein et al.'s modalities of production, six features in Terrace 4 can be considered to indicate large-scale production events. Clearly Rasgo 20, the large cache of boiled seeds is the most obvious as it represents the results of a distinct singular (and possibly the most recent) boiling event. However the presence of large numbers of molle seeds (n>100) in most other features suggests that making molle chicha in large quantities was part of the regular food processing activities on the terrace. Additionally the spread out nature of the other molle features across the terrace floor might suggest that these smaller concentrations represent dumps from earlier events. Moreover, the overall density of molle seeds in all excavated terraces (Figure) indicates that the seeds had already been spread around the floor as people and animals milled about, not to forget the strong winds that assault the slope every afternoon.

Although Terrace 4 has the highest number of D. Goldstein et al.'s Modality 1 features (n=7), other terraces like T6 and T7 have at least one feature that falls into the large-scale production modality. Furthermore the raw counts of molle in the excavation fill in Terraces 4, 6, and 7 also qualify for this level of chicha production. This would suggest that individuals on multiple terraces alongside some level of production for home consumption were also engaged in the production of large quantities of molle chicha that was possibly used in large public events, which were attended by large numbers of people. It is also conceivable that this production was designated for use by elites living in sector F. However given the evidence at Cerro Baúl where molle chicha production was restricted to elite contexts on the summit, it can be assumed that elites on the higher Sector F also made their own chicha.

Modality 2 production, which includes household and suprahousehold production, was also present features in Terrace 4 and Terrace 7. Excavation fills in Terraces 5 and 6 would also fall into that category, but since they do not include features they do not qualify. This type of production was likely used for daily consumption on the household or affine level and for trade at the intra-household level (Goldstein et al. 2009, Camino 1987). Given Costion's report of molle chicha production at Yahuay in the Terminal Huaracane Phase, it is possible that chicha, raw materials, and recipes were shared between Trapiche and the Yahuay community.

Modality 4 has also been identified in Sector D on all terraces except Terrace 7. According to Goldstein et al., this modality represents the molle collecting efforts of the community on the slopes in preparation for production on the summit of Baúl. At Trapiche this modality occurs on almost all terraces and in concurrence with other modalities as well. This is not surprising as it is clear that each terrace was involved in the entire chicha making process from collecting to processing boiling and also fermenting. It also appears that individuals on each terrace were engaged in the production of chicha for a number of different reasons. They made chicha for personal household level consumption, as well as suprahousehold distribution. Additionally it appears each terrace also contributed occasionally larger amounts of chicha for grand scale occasion like site wide gatherings. A conclusion that can be drawn from this data is that molle chicha production was a major activity site wide, was not restricted to any one terrace of the sector, and that chicha was produced in a variety of quantities by all households in Sector D. Given the more intensive production on Terrace 4 it is possible that the reason that this location served for intensive chicha production was its location central on the slope and not quite as high as some other terraces.

5.3.4. Consumption Activities/Scales

The presented data for Sector D suggests that food and beverage production took place on each excavated terrace. It also appears that the food processing was intended for different levels of consumption. Some data like, faunal remains and modality 4 chicha production on all terraces suggest terrace level and perhaps household consumption. Other data, like the large amounts of molle found in Terraces 4, 6 and 7, indicate production for the consumption on the supra household level or even large scale production for consumption in public events on these terraces. A similar conclusion can be draw from the domestication of cuy in Terrace 4 where no evidence for the preferred consumption of these animals was found, they were probably consumed in different circumstances.

Ceramic data in Sector D revealed mainly household level consumption. Only Terrace 4 displayed a small number of decorated serving wares that would be used in formal eating or drinking. All other terraces only include evidence of cooking and storage vessels, which might suggest consumption was not part of these terrace's activities. This is not necessarily so, as gourds often played a large role as serving containers for both food and drink in the ancient Andes. The continuous presence of *Lagenaria sp*. gourds across sector D could indicate the frequent use of such vessels. The stacked gourds from a feature in Terrace 6 further support that such plant materials had multiple functions and were likely used in this sector.

5.3.5. Craft and Tool Production

Evidence from lithic materials used in the production of projectile points suggests that individuals at Cerro Trapiche had access to local materials like chert and also acquired obsidian from distant sources. In Moquegua these types of materials and artifact types have been tentatively associated with particular cultural preferences among the Wari, Tiwanaku and Huaracane (Vining 2005, Costion 2009). Lanceolate shapes with straight or concave bases that are made of obsidian for instance are frequently found at Cerro Baúl and associated with Wari lithic production , whereas smaller bifaces with triangular bodies and stemmed bases that fit the “Tiwanaku” type are often made out of chert (Vining 2005:57). Burger et al. also describe convex sided point with straight or concave bases for Wari site but notes that such points are uncommon for Tiwanaku (2000:326). On the other hand they find that small-stemmed points are quite common at Tiwanaku itself and also appear in Peruvian contexts after the onset of the Middle Horizon. Costion found small triangular points at the site of Yahuay Alta that are made out of obsidian (personal communication 2010). Although we found a number of projectile points and some potential preforms and cores in some terraces we did not encounter substantial amounts of microlithic debitage that would indicate intense and repetitive lithic production on the household level in the excavated areas. This would suggest that the lithic production that clearly did take place at Trapiche was located somewhere else either on the sector on the site.

Other types of production that took place in Sector D include textile production and the working of shells into beads or ornaments. Although the data in support of these practices is not as abundant as for molle chicha production, for instance, the evidence from Terrace 4 suggests that spinning at least was part of the activities in this terrace where six of the seven recovered spindle whorls were found. Furthermore, cactus spine pins and some dyed woolen thread were found in Terrace 4 which confirms that at least making yarn was pursued here. The manipulation of shells by cutting, smoothing and drilling holes was also documented by the appearance of such modified shells in every terrace but especially in Terrace 4 where 82 out of 209 shell fragments showed some type of modification. No completed shell beads have been found and it may be possible that perhaps they were produced in Sector D not for household consumption but for exchange or tribute to elites in the higher sectors.

5.4 EVALUATING THE EVIDENCE FOR WARI AFFILIATION

5.4.1. Architecture

Wari construction as documented by Nash for Cerro Baúl and Cerros Mejia and Petroglífo suggest the settlers from other parts of the Wari Empire preferred stone masonry even for domestic structures. Nash (2009), for instance, was able to identify distinct construction styles similar to those in the Majes valley and the Ayacucho region at Cerro Mejia based on the use of plaster and coloration of the walls of domestic structures in the commoner barrios of the satellite sites of Cerro Baúl. If Cerro Trapiche was built as a Wari enclave we should expect some form of such masonry construction on the terraces as well. As described in this chapter, this was not the case as no stone masonry other than ephemeral dividing walls were documented in Sector D. Rather, evidence from at least three terraces revealed wooden posts secured in groups that would have served to hold up some form of organic roofing for shelter. Although no evidence for quincha walls was found it is reasonable to assume that shelters that built on the terraces were probably more like the Huaracane organic super structures (Goldstein 2000, 2005)

5.4.2. Diet

A number of data sets point to Wari style food consumption in Sector D. Most important is the production of large amounts of *chicha de molle* in all terraces. The preference for specific alcoholic beverages is often associated with expressions of ethnic affiliation and identity. Among the Inca, for instance, maize chicha was a much produced drink that spread with them to all regions of conquest were it was used as a means of politic navigation in elaborate feasting events and as commodity of status (Hastorf and D’Altroy 2001). Similarly molle chicha was considered a Wari preference as its production has been described in elite contexts throughout the empire. Green and Whitehead (2006), for example, documented deposits of large amounts of molle associated with chicha production in Conchopata. Similarly Tung (2003) identified large molle deposits in both burial and domestic Wari contexts at the site of Beringa in the Majes Valley.

In Moquegua, as previously discussed, David Goldstein and colleagues (2009) describe chicha made from molle as a specific beverage that the Wari administrators and elites used on Cerro Baúl. Williams (2009) also points out that molle chicha also served to establish a distinct elite social status among the Wari especially in a borderland like Moquegua. Williams even suggests that Wari settlers specifically picked locations where molle would grow and cultivated the trees so that many ancient Wari sites are located near places that still are named after that fruit indicating the prehistoric importance of this fruit (Williams 2009:222).

Following these examples the explicit and abundant *chicha de molle* production in Sector D at Cerro Trapiche suggests a clear Wari association. Furthermore the large scale on which this beer was produced in Sector D alone easily outpaces the numbers cited for chicha production on Cerro Baúl. However, unlike at Cerro Baúl the production of molle chicha at Cerro Trapiche's sector D is not associated with elite domestic context but was found alongside domestic activities that took place in all households. While this does not exclude production for elites it does present a quite different scenario from the upper valley site.

As at Cerro Baúl, maize did not play largely into Wari diet at Cerro Trapiche and only small amounts of this plant have been discovered in Sector D. Overall the botanical and faunal evidence from sector D support a mixed diet of a majority of plant food supplemented with meat from small to large mammals including camelids and some marine resources like shellfish and river shrimp. Overall these point to a diet that, if not for the molle, would be consistent with Huaracane food preferences. However, based on Costion's (2009) finds of *molle* storage pits at Yahuay, we cannot assume automatically that molle chicha was an exclusively Wari preferred drink. In the early Middle Horizon at least one indigenous community frequently prepared *molle* chicha within the range of modalities 1(Unit 7) and 2 (Unit 1) (Costion 2009:242), suggesting preparation for large scale feasting events. It cannot be ruled out entirely that local Huaracane settlers may have developed an interest in molle chicha independently, or via indirect introduction from the Wari. Thus the evidence for dietary habits does not clearly support a strict Wari style occupation of Sector D.

5.4.3. Consumption and Ceramics

Evidence for Wari ceramic vessels is present in every excavation in Sector D. While flared and straight-sided serving bowls and larger vessels dominate the assemblages across sector D, they are present in all terraces that we investigated. These findings are consistent with the evidence of Wari ceramics discovered on the surface of Sector D during the 2004 systematic surface collection. All of this suggests that people living on these terraces all had at least some access to such wares and probably used them in the consumption of a variety of foods and drink. Furthermore the continuous presence of Wari style materials in all excavation levels suggests that access to such ceramics was uninterrupted throughout the occupation of the sector. This evidence alone does not confirm a Wari affiliation of this sector; however, as we cannot confirm an exclusive association of Wari style ceramics and Wari style architecture. Instead, ALL contexts we excavated exhibited a mixture of both Wari and local pottery in all excavation levels.

Gourds appear to have been used as drinking containers at Trapiche as well. The presence *Lagenaria* species suggest, that these gourds were likely scraped and cleaned before drying The use of gourd vessels differs from the use of ceramic vessels in consumption contexts in that organic vessels like drinking gourds were more likely used in daily drinking activities on the household level, whereas ceramic vessels might be associated with more public drinking events and special occasions. Another possibility that Goldstein et al. propose is that gourd vessels might be associated with distinct consumption activities “probably ceremonial and involving individuals from beyond the immediate palace complex” (2009:155) indicating possibly a status differentiation associated with the use of vessels of different materials.

5.4.4. Evidence for Wari Households: Conclusion

Based on the various line of evidence presented here we must reject the hypothesis that Sector D of Trapiche was a Wari-only settlement. Given the presence of Wari style stone-faced terrace building, molle chicha production, and ceramic and lithic evidence, we can certainly identify a Wari affiliation with the terraces. However, we cannot establish the context of a clear and distinct Wari settlement free of any intrusions of local materials like Goldstein (2005) demonstrates, for instance, for Tiwanaku settlements at Omo and Rio Muerto where no evidence for any contemporary Huaracane material has been identified. There is certainly the possibility that Sector D was a Wari settlement and that occupants traded with locals for some pottery. Given the particular mixture of Wari and Huaracane ceramics, it seems more likely that there was direct cultural contact and exchange with the local population at Trapiche, something that is neither acknowledged for Wari populations at Cerro Baúl or Tiwanaku settlers in the mid valley.

5.5. IDENTIFYING HUARACANE OCCUPATION IN SECTOR D

5.5.1. Terrace Construction

The terraces in Sector D are not the small, roundish earthen terraces documented at some local Huaracane sites although Costion describes a variety of shapes for residential terraces at the settlement at Yahuay Alta. There the terraces vary in size from small and round to large and rectangular. The range of terrace size at Yahuay Alta ranges between 4m^2 to 135 m^2 which is comparable to Trapiche. Yahuay Alta domestic architecture was readily visible on the surface and includes stone foundations and walls in some terraces while other included houses of organic materials (Costion 2009:43). However, while Costion notes the use of stone walls as foundations of houses and as used in retaining walls to construct platforms, he does not mention this technique in the construction of domestic terraces; rather they seem to be cut simply out of the mountain. This confirms Goldstein's observations about earthen domestic terraces as a Huaracane preference (2000, 2005).

By comparison the stone walled construction pattern described for the domestic terraces at Trapiche's Sector D is clearly not like that documented for domestic contexts at other Huaracane sites and would point to a construction practice of a non-local group. A second observation about traditional Huaracane domestic terraces is that they are small and often round in shape, which is not the case at Trapiche. Sector D Terraces are all rectangular in shape and fairly uniform. Both these observation speak against a Huaracane pattern of construction of the terraces at Trapiche.

5.5.2. Dietary Habits

The botanic and faunal evidence from Sector D included many local plants and animals that are similar to the faunal evidence from other local sites (Costion 2009; Goldstein 2003, 2005). The diet at Trapiche is not in large parts based on staple foods like maize, again something indicative of a Huaracane preference over an imperial Wari colonial substance strategy. The absence of *batánes* as essential grinding implements for large-scale food production by grinding or grating was also not encountered at Trapiche, which is also similar to the reports from Yahuay Alta for instance, where Costion emphasizes the lack of food processing implements like *manos* and *batáne*s.

Although molle has been associated with Wari beverage production, the Huaracane at Yahuay had incorporated the making of the drink into their diet by the Middle horizon. Therefore the production of molle chicha on the terraces at Trapiche could indicate a diet preference associated with either late Huaracane or Wari people.

5.5.3. Consumption and Ceramic Evidence

A Huaracane cultural pattern of consumption might be indicated by the use of organic vessels in the non-elite contexts of sector D and is supported by the fact that very few *Huaracane Fino* sherds were encountered. This contrasts with extensive elite use of Huaracane fineware bowls at sites like Yahuay. However, the Trapiche data set is not quite comparable to the data for *Huaracane Fino* ceramics from Yahuay, for instance. The distribution of ceramic frequencies among the Sector D terraces discussed earlier also indicates that vessels that were used in consumption seemed to be oriented toward Wari style serving vessels and decorated wares. However the terraces higher up on the slope had a higher frequency of Huaracane wares, which might indicate a difference of preference in these terraces and suggests that people who preferred Huaracane pottery lived higher up on the slope whereas individual who favored Wari style wares lived on the lower part of the slope (Figure 5.16). Whether this indicates ethnic affiliation of these different areas must remain speculative at best. What we do know is that the Huaracane community at Yahuay deliberately rejected the incorporation of Wari style pottery in their village although they incorporated the making of Wari style *molle chicha*. Could some Huaracane settlers at Trapiche perhaps have broken with that tradition?

5.5.4. Lithics

Huaracane style points at Cerro Trapiche included two large irregular stemmed points as well one triangular point. All Huaracane points at Trapiche were made out of chert, which is considered a local material and has traditionally been associated with Formative lithic production. These points at Trapiche suggest that they were either made by local Huaracane people at the site or traded in from local communities. However, Huaracane points were not exclusive at the site. In addition small triangular points with concave bases identified at Cerro Trapiche were similar to those points documented at Cerro Baúl (Vining 2005:52-53), and would indicate that settlers at Cerro Trapiche were intimately familiar with this particular template of lithic production as well. At Cerro Trapiche these points were found in obsidian as well as made out of chert. In their appearance Wari style points at Trapiche also follow a lanceolate shape with concave bases that are distinct from Huaracane points. This style occurred only in obsidian at Cerro Trapiche. Other types of point identified as Tiwanaku style, (Vining 2005:57) was a small triangular stemmed point as well as a long-tipped triangular point with notched sides. At Trapiche these points were made out of chert.

A comparison of materials and projectile point styles (Table 5.11) reveals that chert and obsidian were both used in the production of projectile points at Cerro Trapiche. It is interesting that the obsidian style points were found in Terraces 4, and 7, terraces that also stand out in other material categories. Furthermore Huaracane style points were found in both sectors whereas Wari style point only occurred in terraces of Sector D. Clearly this evidence does not point to exclusive Huaracane.

5.5.5. Evidence for Huaracane Households: Conclusion

The evidence from Trapiche's Sector D does not support a scenario that describes an exclusively Huaracane domestic occupation of this sector. Nonetheless, evidence for Huaracane domestic participation comes from the construction of organic super structures on the terraces and also from the distinct Huaracane style ceramic and lithic materials, which permeate all of the excavations at Trapiche, often at a greater frequency than Wari materials. At the same time, practices that were previously solely associated with Wari ethic identity, like molle chicha production, cannot be any longer viewed as such. Based on Costion's evidence for chicha production at Yahuay Alta, it is possible that the molle chicha production at Trapiche was also performed in households that included Huaracane members and which used Huaracane ollas for processing and fermenting the chicha.

However, there are also multiple strands of evidence that point to non-Huaracane occupation, such as the distinct construction of stone terraced walls all across the sector. The shape of the terraces also does not reflect Huaracane affiliation; they are much larger and rectangular. Similarly both ceramic and lithic evidence do not point exclusively to a local occupation as the assemblages are consistently mixed with foreign, Wari artifacts. The evidence presented here does not support the hypothesis that the domestic contexts at Sector D represent either a Wari or Huaracane ethnic enclave settlement.

5.6. EVIDENCE FOR MIXED HOUSEHOLD ACTIVITIES

As the presented evidence indicates Sector D at Trapiche includes a combination of both Wari and Huaracane style domestic elements. The botanic and faunal data is also quite inconclusive in terms of specific cultural preference. The only potentially telling evidence of *molle chicha* production cannot be used alone as a Wari cultural marker at Trapiche. This is true both because of chicha brewing evidence at Huaracane sites like Yahuay Alta and in light of the mixed ceramic, lithic and architectural evidence at Trapiche.

A more likely scenario that incorporates all lines of the presented evidence includes some combination of living arrangements of both Huaracane and Wari people on the slope of Sector D. Whether that included direct Huaracane/ Wari shared households, or people of both groups residing as neighbors is not quite clear at this moment due to the limited nature of excavation. What is evident is that materials of both cultures were frequently used in the same contexts during the middle Horizon at this part of the site. This suggests that direct contact and interaction between individuals from both groups was part of the daily life in the domestic space at Sector D shared domestic space. Furthermore the variability between terraces illustrates that different activities took place in the terrace sin Sector D. Terraces 4 and 7 for instance were much heavily engaged in large scale molle chicha production whereas Terrace 5 has a higher density of marine shell that was possibly used for the production of shell beads. While there is a general similarity to the assemblages of the terraces it is clear that they were not uniform in occupation. Food processing in Terraces 4 and 7 may have been related to more public events whereas Terraces 5 and 6 represent smaller scale household production only. Similarly the distribution of Huaracane and Wari ceramic materials implies a shift in preference higher on the slope. This may be associated with an increasing distance from the public sector C or a change in household make up, wherein Huaracane style were used more in the upper than the lower slope.

5.7.CONCLUSION CHAPTER 5

Evidence suggests that Sector D was occupied quite intensely during the Middle Horizon and that it fits the criteria of a residential area of the site. Furthermore it is clear from the data that the occupation of Sector D was not an exclusive Wari style occupation like the one described at Cerro Baúl or Cerro Mejia as all contexts are mixed with local Huaracane materials. Based on this data the second scenario of an exclusively Huaracane occupation of Sector C must also be rejected. No Huaracane style architecture was directly identified (no organic structures or stone foundations) furthermore all Huaracane materials that were encountered were associated with Wari style terrace construction.

The most plausible scenario for Sector D is as a settlement where people were equally used to utilizing Wari as well as Huaracane materials. The appearance of particular Huaracane artifacts like utilitarian pottery would suggest local style food preparation, a daily task that was often performed by women. Classic Huaracane ceramic types like *Huaracane Arena* point to either a direct exchange with local people for pottery or the presence of local people at Trapiche who brought their own cooking pots with them

That defending Cerro Trapiche was a priority on the minds of its settlers is quite clear considering the topography and use of the site itself. Sector F, the elite sector of the site (Green 2005, Green and Goldstein 2010), for instance towers over the site at ca. 1500masl. It is also surrounded on one site by a large defensive wall and separated from the lower summit of Sector E by an artificial moat. Sector E is equally difficult to reach and the large structure on its summit is placed in a well defensible position. However, in order to reach any of these sectors, one must pass Sector D, which would have been an important line of defense against an attack. Therefore it does not come as a surprise to find evidence of defense preparations in this sector. The cache of cantos rodados in Terrace 7 is slightly larger in size as one identified by Brown Vega at Acaray, that included 107 cantos which were piled behind a small retaining wall and clearly associated with a defensive context (Brown Vega 2008: 3016). At Cerro Trapiche Terrace 7 the canto rodado concentration was located at the beginning of the domestic slope, which would have been a critical location at which defense of the slope would commence. It was easily supported by the occupants in higher locations on the slope and represents a transitional space between the public activities taking place in Sector D and the domestic production associated with the terraces on Sector D’s slope.

In the following chapter I will consider the evidence from sectors C and D towards new insight into how the settlement at Trapiche fit within the larger idea of a frontier setting that I proposed for the Middle Horizon period in the Moquegua Valley.

Table 5. 2 Distribution and densities of molle seeds in features of Terrace 4

Rasgo	Count	Weight in g	Volume in l	Density count/ l	Density weight/l
45	2	0.08	45	0.0444	0.008
35	18	0.13	1	18	0.13
36	26	0.22	5	5.2	0.044
44	63	0.28	1	63	0.28
43	43	0.65	1	43	0.65
49	87	0.81	1	87	0.81
46	219	3.42	65	3.3692	0.0526
33	362	6.14	17.5	20.6857	0.3509
34	793	6.3	1	793	6.3
32	605	9.69	80	7.5625	0.1211
38	796	9.9	21.25	37.4588	0.4659
19	1348	14.32	30	44.9333	0.4773
23	3997	53.33	40	99.925	1.3333
25	4265	68.24	10	426.5	6.825
28	6101	86.57	12.5	488.08	34.628
20	753905	8,455.14	265	2844.9245	31.9062
Total Rasgos	48289	8715.22	596.25	80.98784067	14.6167
Rasgo Average excluding R20	1248	17.33	22.08	0	15.9759
Rasgo Average including R20	48289	544.7	37.26	311.417	14.6189
Rasgo Mean excluding R20	362	3.42	12.5	43	0.2736
Rasgo Mean including R20	483.5	12.44	15	37.458	0.8293
T4 Fill only	29914	486.09	5179.375	13.79	0.0939
Grand Total	802544.03	9201.31	5862.465	136.8953	1.5695

Table 5. 3 Counts for botanic materials per terrace in Sector D

Family	Genus/Species	Botanical Part	T4	T5	T6	T7	Grand Total
Anacardiaceae	*Schinus molle*	Seed	802544	544	8735	7993	819816
Cactaceae	Unknown	Spine	0	0	2	0	2
Cucurbitaceae	*Cucurbita sp.*	Peduncle	1	0	0	0	1
		Rind	3	2	5		10
		Seed	72	0	12	2	86
		Stem	3	0	0	0	3
	Lagenaria sp.	Stem	1	0	0	0	1
		Peduncle	0	0	2	0	2
		Rind	97	43	11	0	151
		Seed	68	1	11	62	142
Fabaceae	*Arachis hypogaea*	Seed	1	0	0	0	1
		Shell	400	2	32	9	443
	Inga feuilleei	Pod	148	81	150	125	504
	Unknown	Seed	1	0	0	0	1
Coprolites	Coprolites	Cuy	331	38	34	950	1353
		Human	107	491	14	17	629
		Llama	205	834	6	899	1944
		Rodent	722	407	2	0	1131
Poaceae	*Arundinaria sp.*	Cane	10	0	6	0	16
	Stipa ichu	Ichu grass	40	0	0	0	40
		Leaf	18	0	1	0	19
	Unknown	Leaf	9	0	0	22	31
	Zea mays	Cob	516	4	137	79	736
		Cupule	21	1	4	4	30
		Kernel	3	1	14	26	44
Unidentified	Unidentified	Fruit	7	0	0	0	7
		Leaf	90	0	3	5	98
		Nutshell	10	0	3	0	13
		Root	1	0	0	0	1
		Seed	228	7	36	17	288
		Shell	3	0	0	0	3

Table 5. 3 Counts for botanic materials per terrace in Sector D continued

Family	Genus/Species	Botanical Part	T4	T5	T6	T7	Grand Total
		Stolon	4	0	0	0	4
Unidentified	Unidentified	Unknown	23	0	0	0	23
wood	wood	Bark	427	101	161	61	750
		Fiber	550	0	5	0	555
		Log	1	0	0	0	1
		Root	1	0	2	0	3
		Twig	1760	379	310	299	2748
		Wood	152601	12287	13424	9185	187497
Grand Total			961027	15223	23122	19755	1019128

Table 5. 4 Distribution of faunal and marine shell densities across all terraces in Sector C and D

Terrace/ Sector	Soil Vol. in l	Faunal				Marine Shell			
		Count	Density	Weight in g	Density	Count	Density	Weight in g	Density
T 1	2028.50	465	0.2292	167.88	0.0828	55	0.0271	94.90	0.0468
T2	515.00	32	0.0621	0.65	0.0013	5	0.0097	0.25	0.0005
T3	785.00	35	0.0446	0.47	0.0006	9	0.0115	5.20	0.0066
Sector C	3328.50	532	0.1598	169.00	0.0508	69	0.0207	100.35	0.0301
T4	5179.75	1052	0.2031	678.10	0.1309	198	0.0382	137.95	0.0266
T5	517.50	165	0.3188	48.88	0.0945	34	0.0657	29.85	0.0577
T6	1128.50	102	0.0904	61.79	0.0548	11	0.0097	12.70	0.0113
T7	537.00	402	0.7486	295.01	0.5494	13	0.0242	4.00	0.0074
Sector D	6918.25	1721	0.2488	1083.78	0.1567	256	0.0370	184.50	0.0267
Total	10246.75	2253	0.2199	1252.78	0.1223	325	0.0317	284.85	0.0278

Table 5. 5 Main Materials for lithic flakes in all Terraces in D

Terraces	Chert		Del Cerro		Obsidian		Unknown		Volcanic		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
T4	24	48.00	8	16	7	14.00	10	2.00	1	2.00	50	100
T5	2	4.00	2	40	0	0.00	1	20.00	0	0.00	5	100
T6	2	4.00	0	0	0	0.00	3	60.00	0	0.00	5	100
T7	0	0.00	0	0	0	0.00	3	100.00	0	0.00	3	100
Total	28	44.44	10	15.87	7	11.11	17	26.98	1	1.59	63	100

Table 5. 6 Ceramic frequencies across all terraces in Sector D

Paste	T4		T5		T6		T7		Total Sector D	
	Count	%	Count	%	Count	%	Count	%	Count	%
- *H. Arena gruesa*	76	10.35	14	11.11	7	11.67	10	3.42	107	8.84
- *H. Arena fino*	199	27.11	39	30.95	15	25.00	37	12.67	290	23.95
- *H. Arena fino rojo*	144	19.62	9	7.14	11	18.33	38	13.01	202	16.68
H. Arena SubTotal	419	57.08	62	49.21	33	55.00	85	29.11	299	49.46
H. Fino	2	0.27	0	0.00	0	0.00	0	0.00	2	0.17
H Vegetál	7	0.95	4	3.17	14	23.33	3	1.03	28	2.31
Total Huaracane	428	58.31	66	52.80	47	81.03	88	30.14	629	51.94
- *Wari llana beige*	61	8.31	17	13.49	1	1.67	161	55.14	240	19.82
- *Wari llana naranja*	41	5.59	3	2.38	0	0.00	19	6.51	63	5.20
- *Wari llana grís*	28	3.81	19	15.08	1	1.67	1	0.34	49	4.05
Wari llana SubTotal	130	17.71	39	30.95	2	3.33	181	61.99	352	29.07
Wari Chakipampa	1	0.14	0	0.00	0	0.00	2	0.68	3	0.25
Wari Ocros	6	0.82	0	0.00	0	0.00	0	0.00	6	0.50
Wari mica	49	6.68	5	3.97	8	13.33	6	2.05	68	5.62
other Wari	64	8.72	10	7.94	2	3.33	5	1.71	81	6.69
Total Wari	250	34.06	54	43.2	12	17.24	194	66.44	510	42.11
Unknown	56	7.63	5	3.97	1	1.67	10	3.42	72	5.95
Total Ceramics	734	100	125	100	60	100	292	100	1211	100

Table 5. 7 Distribution of shell modification in terraces of Sector D

Modification	Taxa	T4		T5		T6		T7		Total	
		Count	%	Count	%	Count	%	Count	%	Count	%
Attempted hole	*Oliva peruviana*	1	0.48	0	0.00	0	0.00	0	0.00	1	0.30
	Prisogaster niger	0	0.00	0	0.00	0	0.00	0	0.00	1	0.30
	Unknown	1	0.48	0	0.00	0	0.00	0	0.00	1	0.30
Broken	Scutalus sp.	3	1.44	0	0.00	0	0.00	0	0.00	3	0.89
Cut	*Choromytilus chorus*	36	17.22	3	8.33	8	72.73	1	7.6	74	21.96
	Fissurela sp	0	0.00	0	0.00	0	0.00	0	0.00	1	0.30
	Unidentified mollusk	0	0.00	0	0.00	0	0.00	0	0.00	2	0.59
	Oliva peruviana	1	0.48	1	2.78	1	9.09	1	7.69	4	1.19
	Unknown	1	0.48	0	0.00	0	0.00	0	0.00	1	0.30
Hole	*Fissurela sp*	0	0.00	0	0.00	0	0.00	0	0.00	2	0.59
	Littorina peruviana	17	8.13	0	0.00	0	0.00	0	0.00	17	5.04
	Oliva peruviana	5	2.39	0	0.00	0	0.00	0	0.00	5	1.48
	Prisogaster niger	4	1.91	0	0.00	0	0.00	0	0.00	4	1.19
	Scurria scurra	3	1.44	0	0.00	0	0.00	0	0.00	3	0.89
	Scutalus sp.	8	3.83	0	0.00	0	0.00	0	0.00	8	2.37
	Unknown	0	0.00	0	0.00	0	0.00	0	0.00	1	0.30
Rectang. hole	*Scutalus sp.*	2	0.96	0	0.00	0	0.00	0	0.00	2	0.59
Cut and worn	*Choromytilus chorus*		0.00	0	0.00	0	0.00	0	0.00	1	0.30
Not modified	*Aulacomya ater*	0	0.00	0	0.00	0	0.00	0	0.00	2	0.59
	Unidentified bivalve	2	0.96	0	0.00	0	0.00	0	0.00	2	0.59

Table 5. 7 Distribution of shell modification in terraces of Sector D continued

Modification	Taxa	T4		T5		T6		T7		Total	
		Count	%	Count	%	Count	%	Count	%	Count	%
Not modified	Camaron	1	0.48	1	2.78	0	0.00	0	0.00	2	0.59
	Chitonidae	1	0.48	0	0.00	0	0.00	0	0.00	1	0.30
	Choromytilus chorus	57	27.27	10	27.78	2	18.18	7	53.85	99	29.38
	Fissurela sp	2	0.96	0	0.00	0	0.00	0	0.00	4	1.19
	Littorina peruviana	8	3.83	0	0.00	0	0.00	0	0.00	8	2.37
	Mesodesma donacium	0	0.00	1	2.78	0	0.00	1	7.69	2	0.59
	Unidentified mollusk	0	0.00	0	0.00	0	0.00	0	0.00	1	0.30
	Oliva peruviana	3	1.44	0	0.00	0	0.00	0	0.00	3	0.89
	Perumytilus purpuratus	1	0.48	0	0.00	0	0.00	0	0.00	2	0.59
	Prisogaster niger	2	0.96	17	47.22	0	0.00	0	0.00	19	5.64
	Protothaca thaca	1	0.48	0	0.00	0	0.00	0	0.00	1	0.30
	Scurria scurra	2	0.96	0	0.00	0	0.00	1	7.69	4	1.19
	Scutalus sp.	45	21.53	3	8.33	0	0.00	1	7.69	49	14.54
	Turritella turris	0	0.00	0	0.00	0	0.00	0	0.00	1	0.30
	Unknown	2	0.96	0	0.00	0	0.00	1	7.69	6	1.78
Grand Total		209	100	36	100	11	100	13	100	337	100

Table 5. 8 Maize densities in Sector D

Terrace	Maize				Molle			
	Count	Density Count/l	Weight in g	Density g/l	Count	Density g/l	Weight in g	Density Count/l
T4	503	0.102	63.01	0.0128	50834	0.1588	780.78	10.3400
T5	6	0.012	0.15	0.0002	544	0.0134	6.96	1.0510
T6	139	0.0123	5.37	0.0057	6540	0.0884	99.76	5.7950
T7	109	0.0203	10.63	0.0192	7993	1.9937	1070.64	14.8850
D Total	757	0.1066	78.89	0.0111	65911	0.2759	1958.14	9.2868

Table 5. 9. Flake materials and flake sizes across all terraces

Terrace	Size	Basalt	Chert	del Cerro	Obsidian	Quartz	Rhyolite	Unknown	Volcanic	Grand Total
T1	< 2cm	0	3	26	0	0	1	4	0	34
	2-4cm	2	8	41	0	0	0	2	0	53
	4-6cm	0	0	12	0	0	0	1	0	13
	6-8cm	0	0	8	0	0	1	0	0	9
	> 8cm	0	0	3	0	0	0	0	0	3
T1 Total		2	11	90	0	0	2	7	0	112
T2	< 2cm	1	0	0	0	0	0	2	0	3
	2-4cm	1	0	1	0	0	0	1	0	3
	4-6cm	0	0	1	0	0	0	0	0	1
	6-8cm	0	0	0	0	0	0	0	0	0
	>8cm	0	0	0	0	0	0	0	0	0
T2 Total		2	0	2	0	0	0	3	0	7
T3	< 2cm	0	0	0	0	0	0	0	0	0
	2-4cm	0	0	1	0	0	0	0	0	1
	4-6cm	0	0	1	0	0	0	0	0	1
	6-8cm	0	0	0	0	0	0	0	0	0
	>8cm	0	0	0	0	0	0	0	0	0
T3 Total		0	0	2	0	0	0	0	0	2
Sector C Total		4	11	92	0	0	2	10	0	121
T4	< 2cm	0	9	2	4	1	0	3	0	19
	2-4cm	1	12	5	3	0	0	6	0	27
	4-6cm	0	3	1	0	0	0	1	1	6

Table 5. 9. Flake materials and flake sizes across all terraces continued

Terrace	Size	Basalt	Chert	del Cerro	Obsidian	Quartz	Rhyolite	Unknown	Volcanic	Grand Total
	6-8cm	0	0	0	0	0	0	0	0	0
	>8cm	0	0	0	0	0	0	0	0	0
T4 Total		1	24	8	7	1	0	10	1	52
T5	< 2cm	0	1	0	0	0	0	0	0	1
	2-4cm	0	0	1	0	0	0	0	0	1
	4-6cm	0	1	1	0	0	0	1	0	3
	6-8cm	0	0	0	0	0	0	0	0	0
	>8cm	0	0	0	0	0	0	0	0	0
T5 Total		0	2	2	0	0	0	1	0	5
T6	< 2cm	0	0	0	0	0	0	0	0	0
	2-4cm	0	2	0	0	0	0	0	0	2
	4-6cm	0	0	0	0	0	0	2	0	0
	6-8cm	0	0	0	0	0	0	1	0	2
	>8cm	0	0	0	0	0	0	0	0	0
	T6	0	2	0	0	0	0	3	0	5
T7	< 2cm	0	0	0	0	1	0	0	0	1
	2-4cm	0	0	0	0	0	0	0	0	0
	4-6cm	0	0	0	0	0	0	1	0	1
	6-8cm	0	0	0	0	0	0	1	0	1
	> 8cm	0	0	0	0	0	0	1	0	1
T7 Total		0	0	0	0	1	0	3	0	4
Sector D Total		1	28	10	7	2	0	1	7	66
Grand Total 1		5	39	104	7	2	1	1	27	187

Table 5.10 Comparison of densities for *molle* and maize in Sector D

	T4	T5	T6	T7	Total D
Schinus molle count	51,466[11]	544	6,540	7,993	66.543
Zea mays count	503	6	139	109	757
Soil volume excavated in l	4858.25	462.5	1045.5	522	6,888.25
Density molle count/liter	10.4600	1.1762	6.5550	15.3122	956.86
Density maize count/liter	0.1035	0.0129	0.1329	0.0208	0.1098

Table 5. 11 Distribution of point styles and materials at Cerro Trapiche

	T1	T3	T4	T5	T6	T7	Grand Total
Huaracane	1	1	2	0	0	0	4
chert	1	1	2	0	0	0	4
Unknown	1	0	1	0	1	0	3
chert	1	0	0	0	1	0	2
obsidian	0	0	1	0	0	0	1
Wari	0	0	2	1	0	3	6
obsidian	0	0	2	1	0	3	6
Tiwanaku	0	0	2	1	1	0	3
chert	0	0	2	1	1	0	3
Grand Total	2	1	7	2	2	3	17

[11] Count does not include the molle cache of Rasgo 20

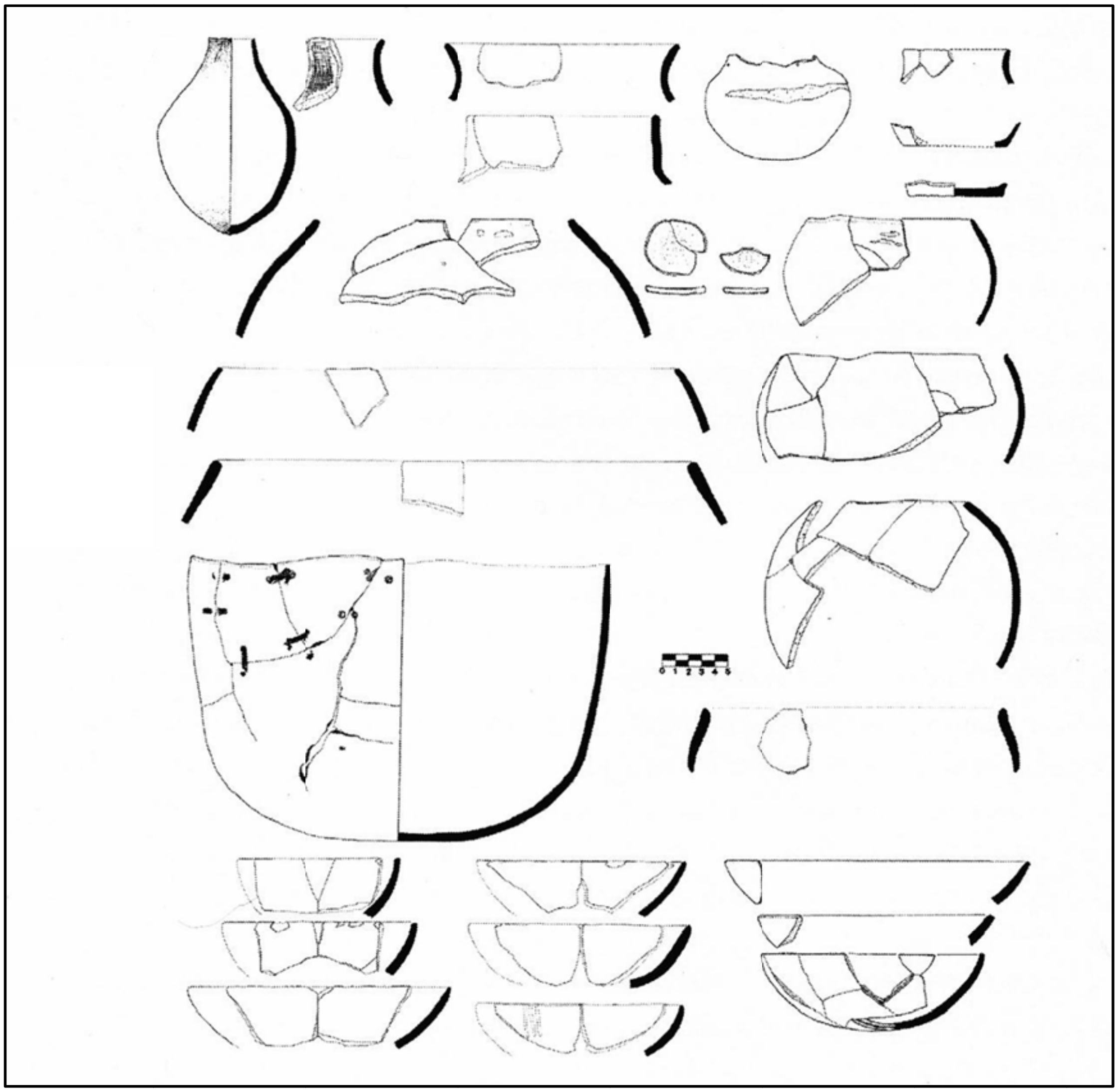

Figure 5. 1 Huaracane sand tempered ollas and fineware bowls Goldstein 2005:122 Figure 3)

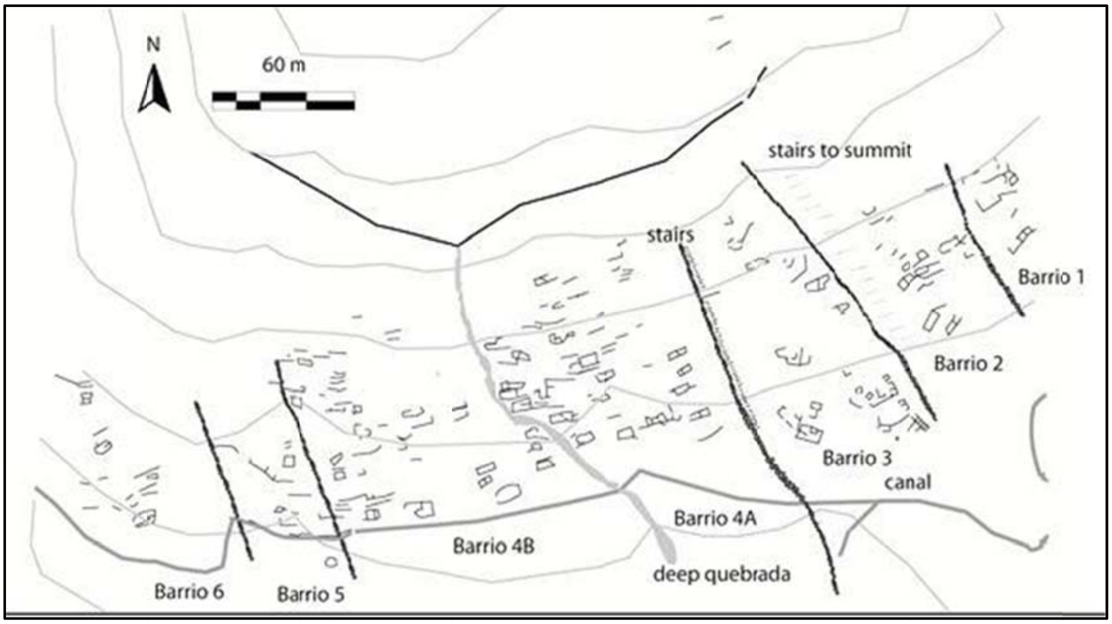

Figure 5. 2. Barrio settlements on Cerro Mejía in the upper Moquegua Valley (after Nash 2002: 127)

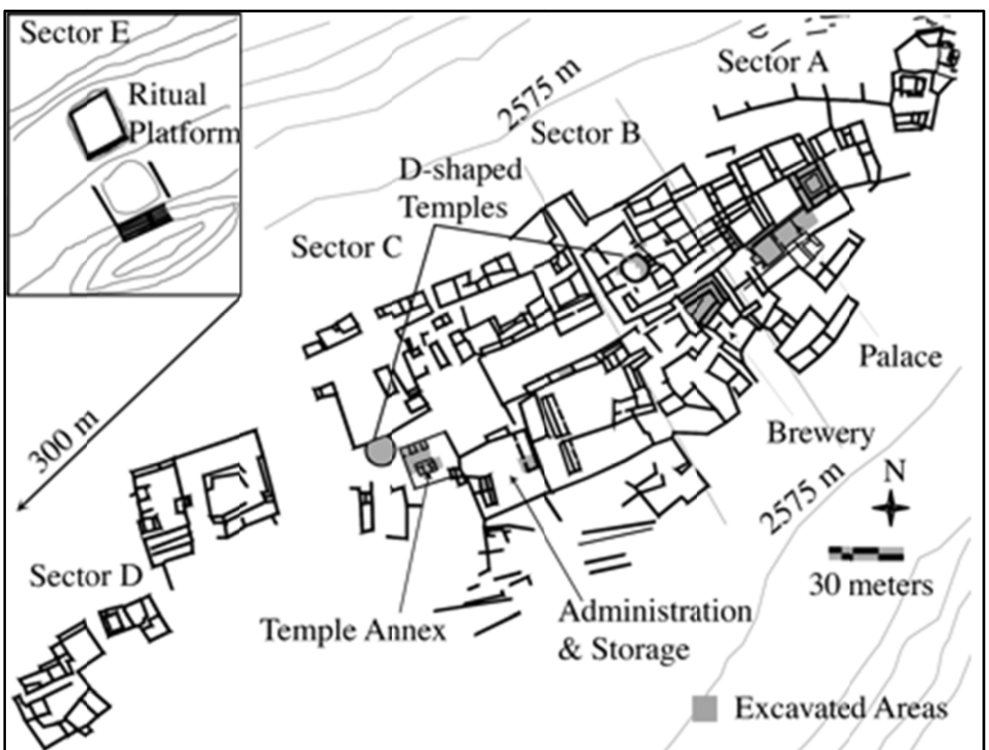

Figure 5. 3 Settlement on the summit on Cerro Baúl (Williams 2001:71)

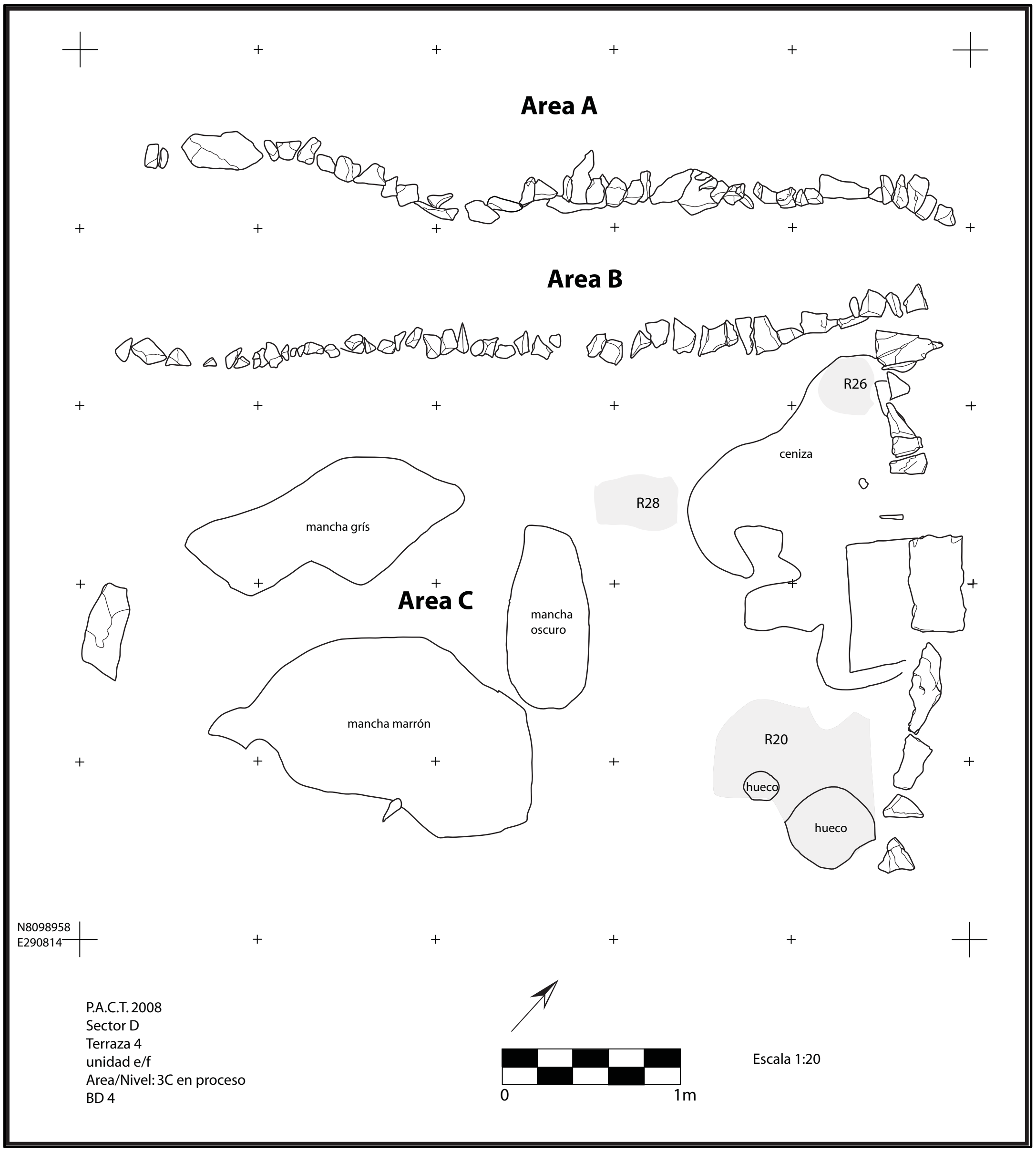

Figure 5. 4 Plan View of Terrace 4 with the exposed double wall in the northern half

Figure 5. 5 Photos of *molle* deposit in Rasgo 20

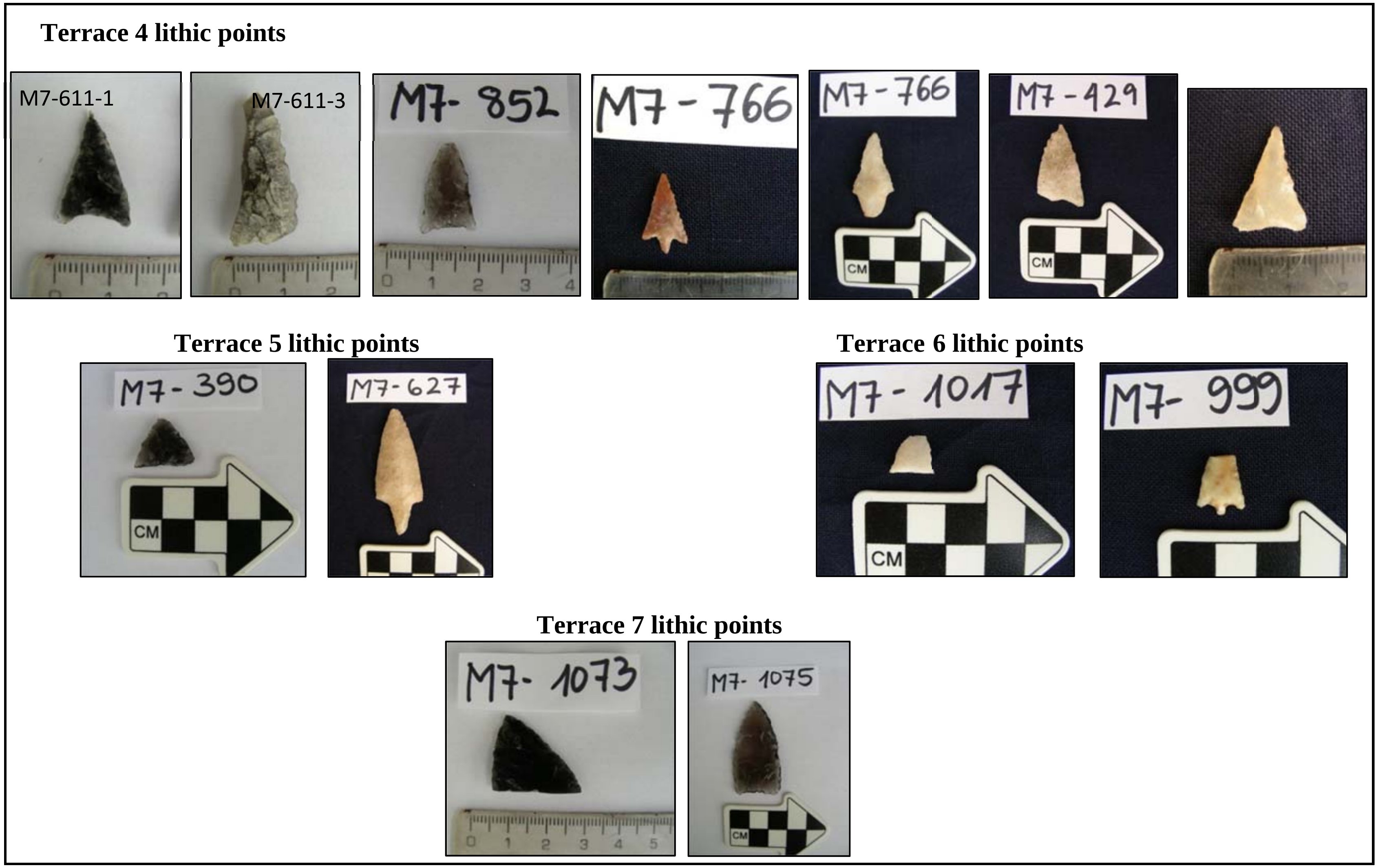

Figure 5. 6. Lithic points from terraces in Sector D

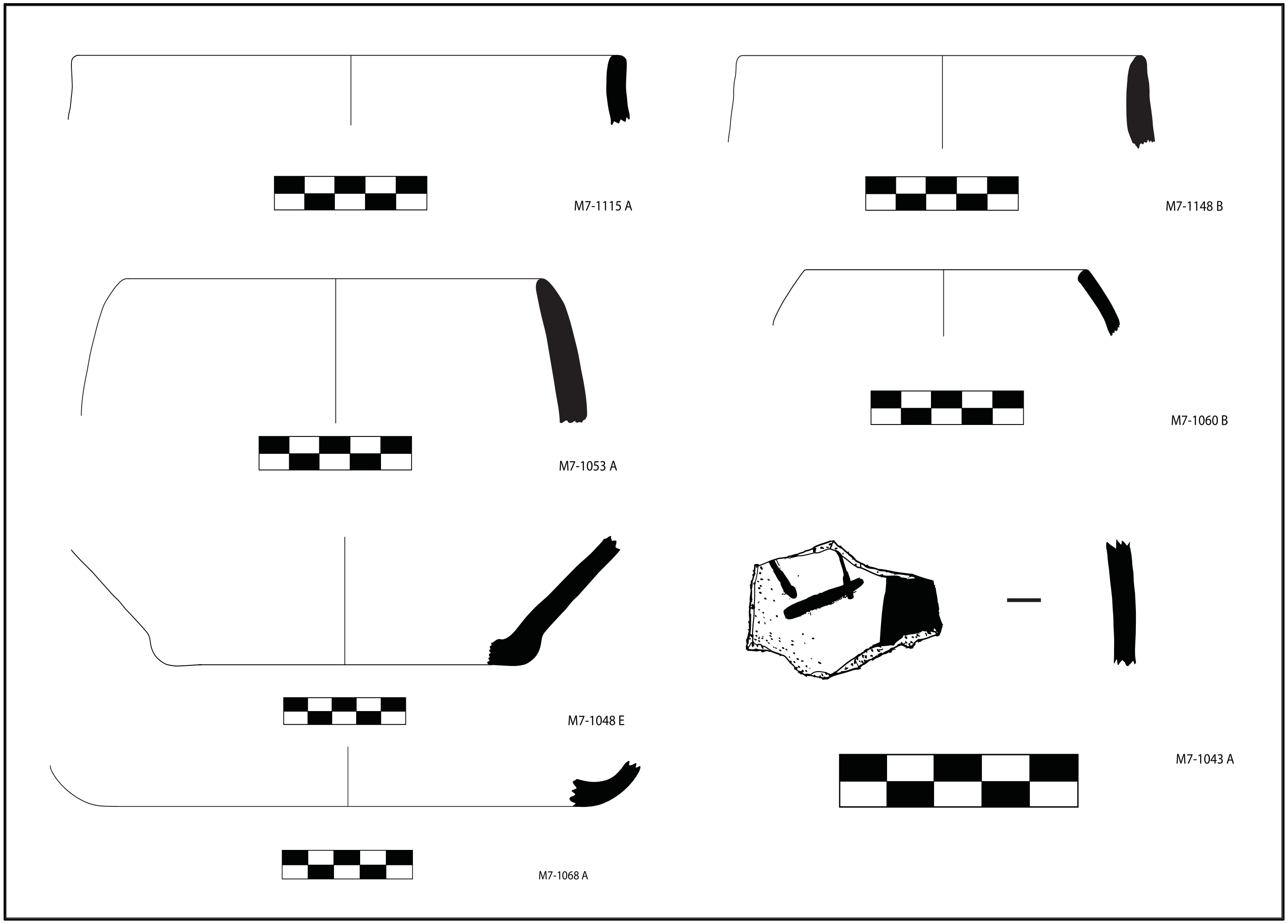

Figure 5. 7 Terrace 7, Wari vessels (necked jars, undecorated serving bowls, bases for serving bowls and 1 sherd from decorated serving bowl)

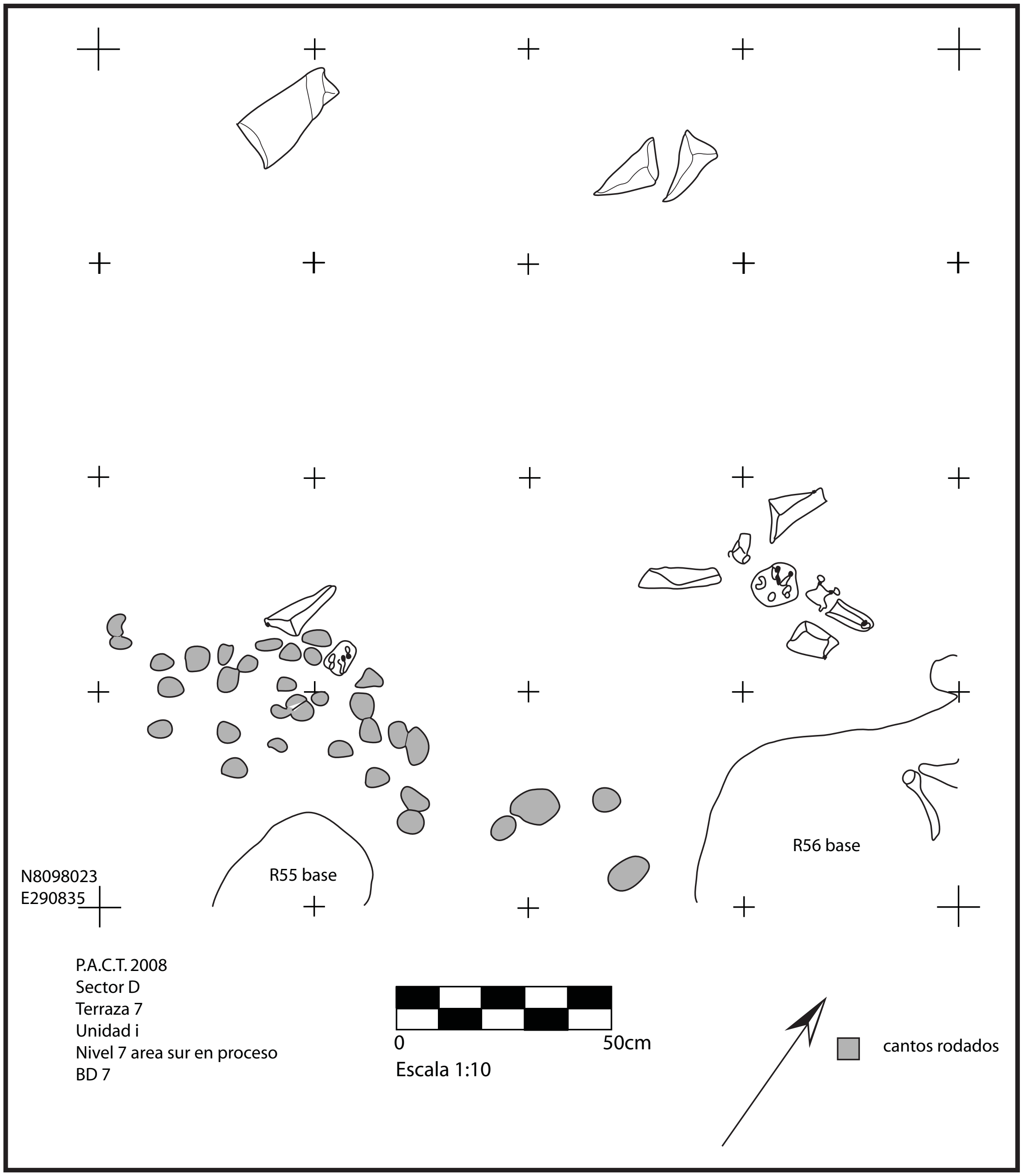

Figure 5. 8 Plan view of Terrace 7 excavation unit "i", displaying partial concentration of cantos rodados in the SW corner

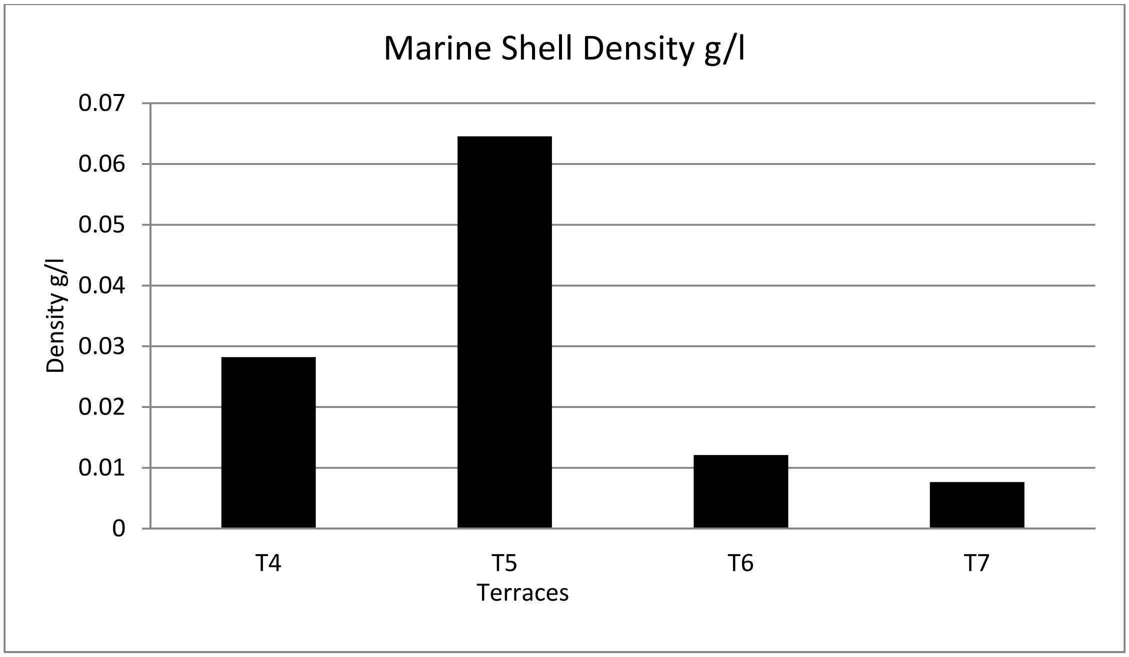

Figure 5. 9 Distribution of Marine shell density of weight per excavated liter of soil across Sector

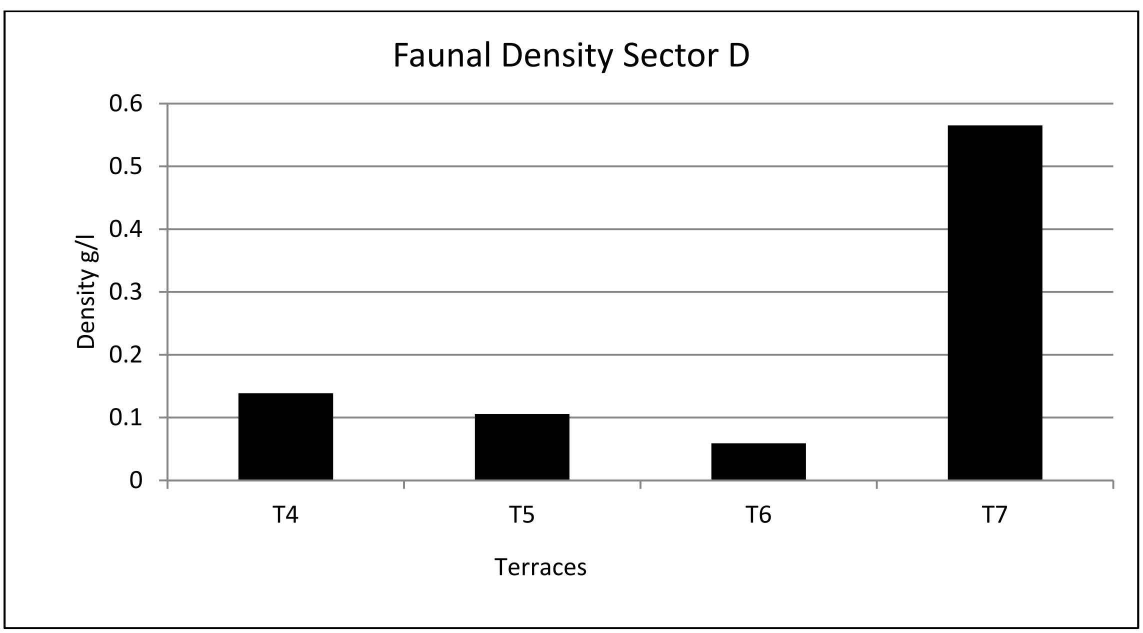

Figure 5. 10 Density of faunal material per excavated liter of soil in terraces of Sector D

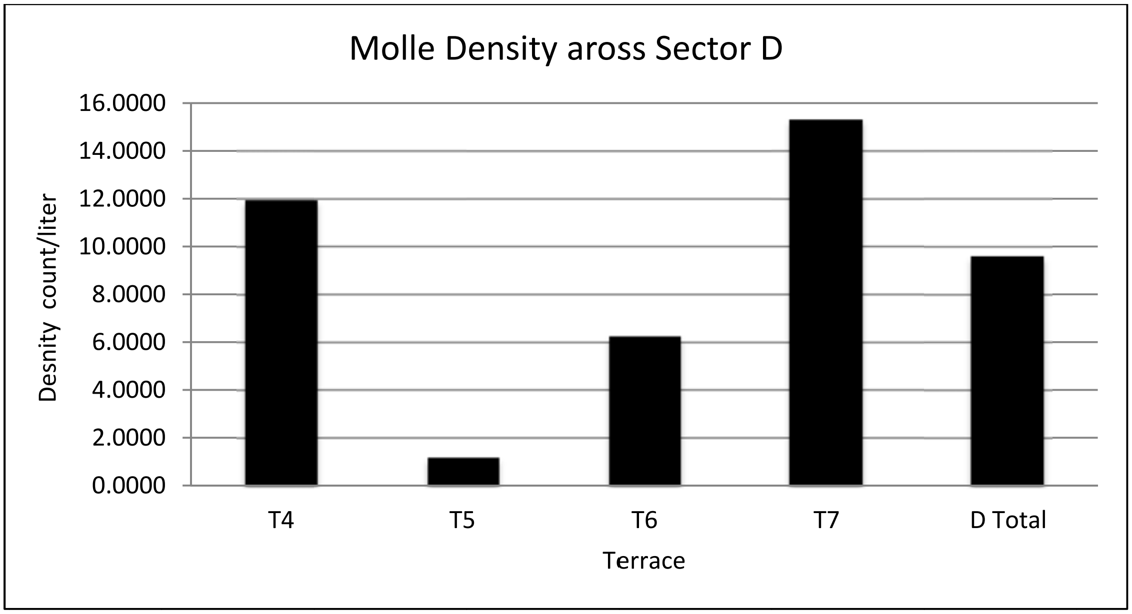

Figure 5. 11 Molle densities in Sector D (excluding molle cache of R20 in Terrace 4)

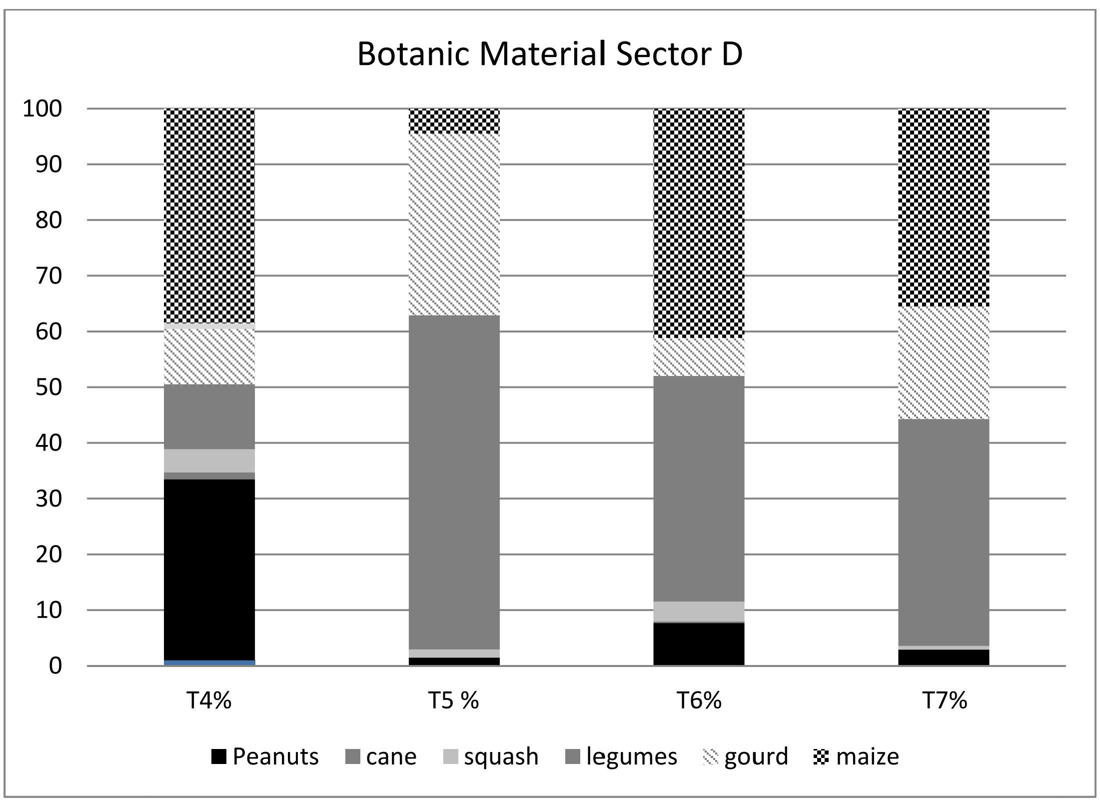

Figure 5. 12 Frequency distribution of edible botanical materials in each in Sector D (excluding molle)

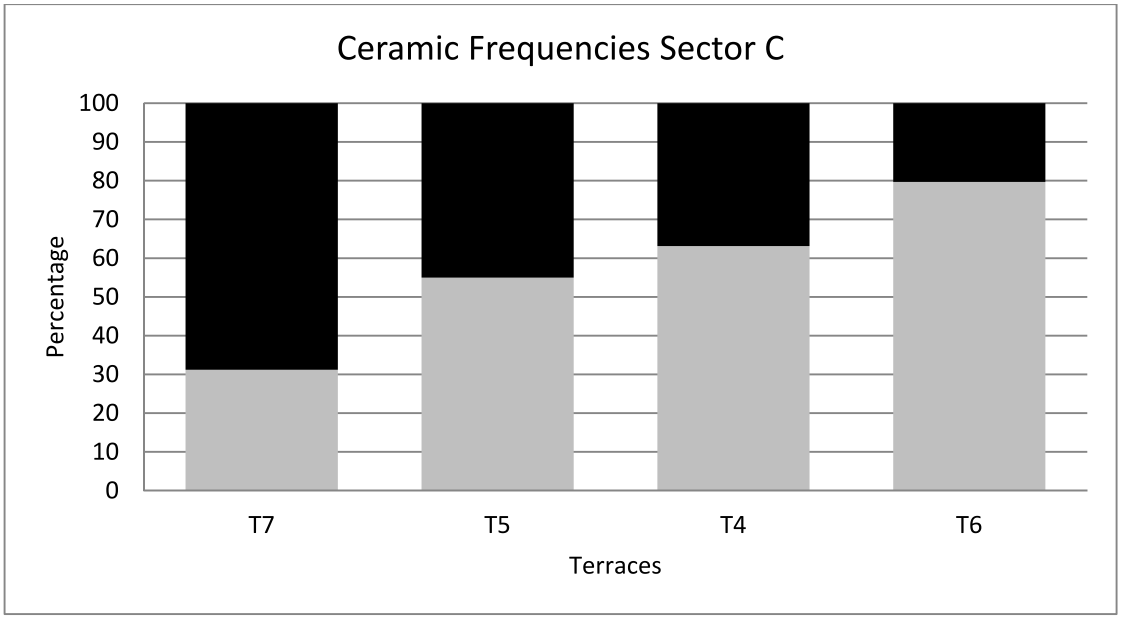

Figure 5. 13 Frequency distributions of Wari and Huaracane ceramics in terraces across Sector D

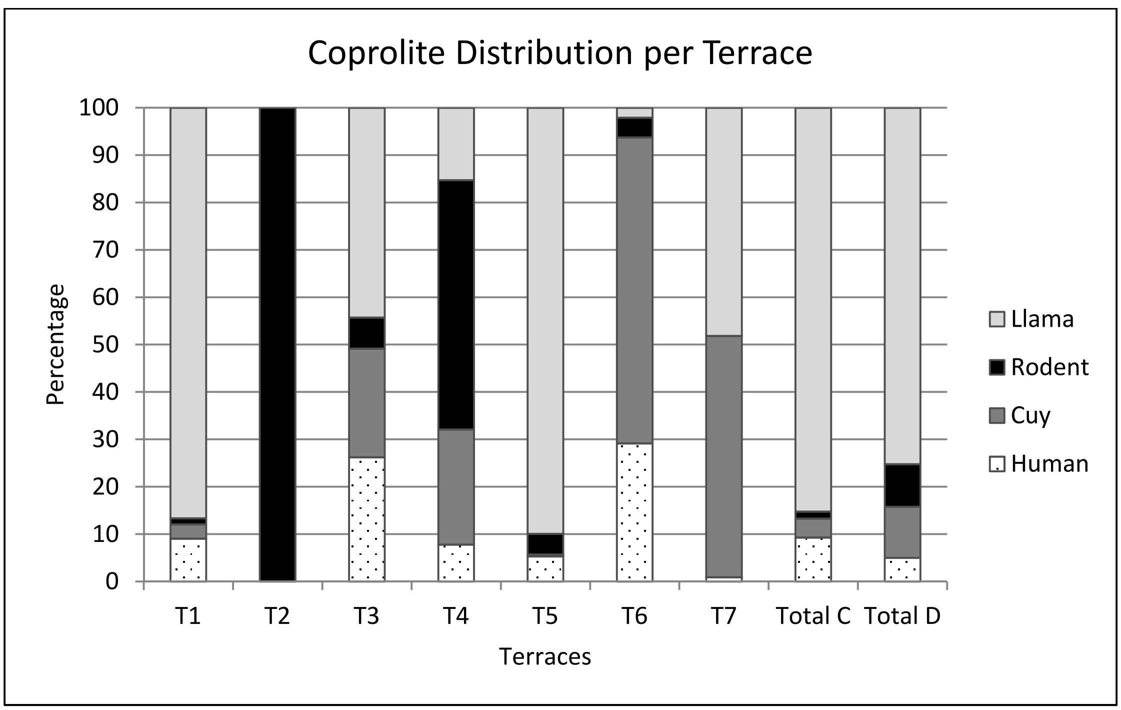

Figure 5. 14 Frequency of different coprolite types across the assemblages in terraces of Sectors C and D

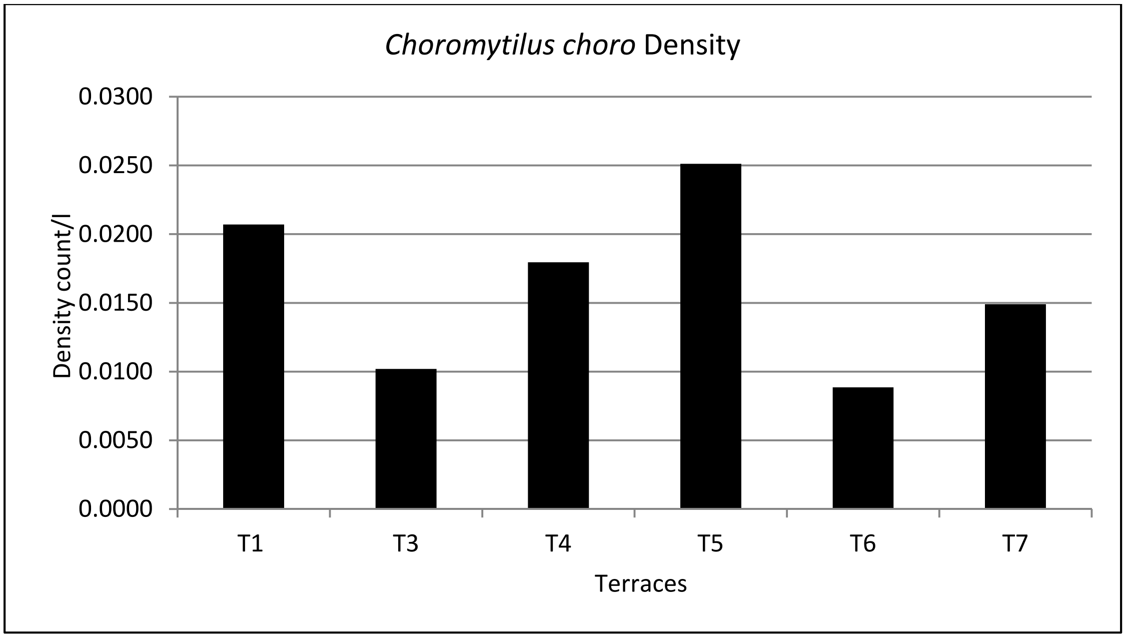

Figure 5. 15 Density distribution of *Choromytilus* shells across all terraces in Sectors C and D

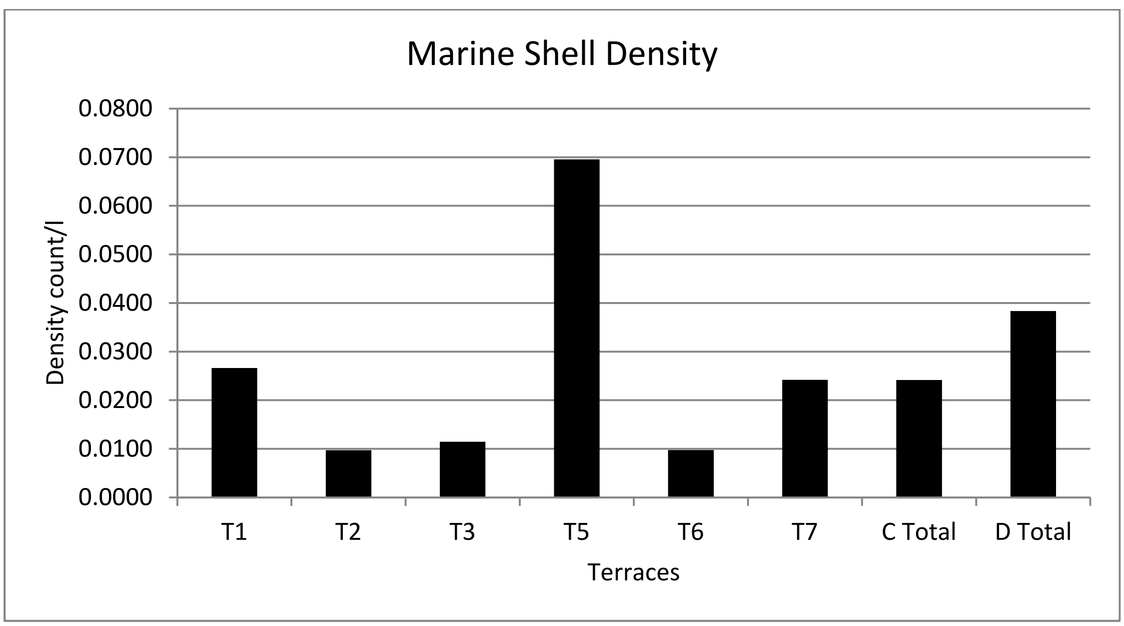

Figure 5. 16 Marine shell density in count per liter across all terraces

CHAPTER 6: COMPARING ACTIVITY PATTERNS IN SECTOR C

Introduction:

Having established and demonstrated the domestic nature and cultural affiliations of the terraces in Sector D, this chapter turns to the excavations in Sector C. A brief overview of the results from excavation in Terraces 1, 2, and 3 will illustrate the non-domestic use of these areas. The recovered data are also useful for a comparison of activities in Sector C, the flat part of the geological terrace at Cerro Trapiche to those of the residential terraces of Sector D. Especially when considered in tandem with the abundant data from the previously excavated Structure 3, it appears that this part of the site was involved in intense feasting operations both within Structure 3 and on the adjacent plaza. Sector D on the other hand was heavily engaged in domestic production of chicha and craft items exhibiting distinct signature of residential activities. A comparative evaluation of data from Sectors C and D provides some illuminating answers to how the activities in the two sectors were connected and reveals trends of cross-exchange interaction that are unique to the settlement at Cerro Trapiche.

6.1. SECTOR C EXCAVATIONS

Three terraces were excavated in Sector C during the 2008 season (Figure 6. 1). The goal of the excavations in Sector C was to learn more about the terraces to the east of the plateau. Of particular interest was the construction of these terraces and their use with regards to Structures 2 and 3 on the geological terrace. The test excavation explored whether domestic activities also took place outside structure 3 and if there was any domestic activity in near proximity to the plaza structure that was presumably used for public events. Furthermore, we wanted to provide some samples from the down slope areas of Cerro Trapiche's Sector C where most previous excavations and surface collections focused on the cemetery and Structure 3.The terraces were chosen based on proximity to structures 2 and 3 in Sector D.

Terrace 1 was located directly below Structure 3 in order to assess whether activity patterns that were observed in the structure also continued outside including storage, cooking or refuse disposal activities. Architecturally this terrace was also important as it formed the partial foundation for the upper surface on which Structure 3 was built. My analysis of Terrace 1 data will also discuss the excavation data in relation to excavations of Structure 3 by the Moquegua Archaeological Survey in 2003 (Goldstein 2000; 2013). Terrace 2 was located further north below the Structure 2 plaza. The intent for the test excavation here was to understand whether domestic activities took place in this terrace at all and if so whether they could be related to the structure above. Excavations in Terrace 3 examined the use of terraces further down on the eastern slope. The slope is fairly steep and these lower terraces are not easily visible from the surface of Sector C' plateau. Investigating one of the lower terraces was to provide answers about the extent of domestic activities on Sector C. We wanted to examine whether all terraces in the sector were used for some type of domestic practices or if an increased distance from the main activity areas on the Sector C Plateau also result in decreased domestic activity patterns.

6.1.1. Terrace 1

Terrace 1 is located directly downslope on the north-facing slope below Structure 3, supporting the terrace platform on which Structure 3 is built (Figure 6.1.). The retaining wall at the back of Terrace 1 runs parallel to the external wall of Structure 3. Although Terrace 1 is a continuous terrace, the Terrace 1 retaining wall was not quite complete as stones were missing in some places creating openings in the terrace facade. Adjacent to the back retaining wall of Terrace 1 is the plain terrace surface, which extends approximately 2.5 meters until it meets the lower retaining wall below. A 5x3 meter unit was placed on Terrace 1 and the excavation included parts of the upper retaining wall and the upper terrace surface, designated as Area A, in order to investigate the construction of the terrace walls. Area B referred to the Terrace 1 surface where numerous features were found that related to cultural activities. Terrace 1 was evidently an area where refuse, likely from Structure 3 above, was discarded in numerous pit features dug into the hill side. These pits were filled with a mix of botanical materials, ceramics, ash and dark sand as well as animal bones. It is plausible that these materials were related to activities taking place in Structure 3.

6.1.1.1. Area A and Terrace Construction

The surface in Area A was a compact light beige soil with small gravely inclusions, hardened by rain. Levels 1 and 2 consisted of removing the compact soil until we reached small pockets of white ash from the Huayna Putina volcano eruption in 1600. Materials from these levels are very few and include carbon, botanical, and some ceramic material (Table A. 1). The cut stones of the wall face were hard to define from this side of the wall. The base of level 2 revealed small hollow spaces between medium sized angular rocks behind the terrace face, indicating that the facade of the terrace only consisted of one row of large rocks that retained a loose fill of small to medium sized stone and stone fragments as well as sand behind this wall. The fill stones appeared to be bedrock of the Cerro itself. The loose rocky fill behind it and the irregularity of the wall construction suggests that the wall was probably constructed quickly for containment rather than as an elaborate architectural project, like Structure 3.

6.1.1.2. Area B and Intrusive Pit Features

Area B, the terrace area itself, below the wall, was excavated in 5 levels that corresponded to changing texture of the soil. Removing wall fall exposed variations of a loose beige sandy fill with gravel and ashy grey sand. While all levels contained little other material they consistently produced a large amount of carbon fragments. In level 4 a rock concentration emerged as an oval pit feature in the middle of the unit, Rasgo 3. The walls of this Rasgo extended beyond the east side of the original unit and an extension of 1x2 meters had to be made. Level 5, the last layer of dark grey sandy ashy fill with gravel, ended at the sterile white rocky surface of the mountain side. At the bottom of this layer we identified 17 circular pits of varying size (Figure 6.2). The largest diameter was 110cm and the smallest was 15cm. Since the pit features were not perfect circles, for better comparison their size was calculated by surface area in cm^2. The average size of the pits was cm^2 and their median was 2336 $cm^{2.}$ Their depth also varied from the deepest at 33cm and the shallowest at 2cm. The average depth was 20cm (Table 6.3.). This suggests that they were dug as necessity arose rather than in one single event.

While there seems to be a template for shape, size and depth vary greatly. All pits were dug into the white sterile mountain surface and were located well below the foundation of the Terrace construction. The pit features differed in size, depth, and materials that were recovered but all Rasgos contained a fill of dark grey, ashy sand that included some form of gravel stone (small or large). Some pits also had larger stones placed on the sides and on top. Some of these stones were previously used as manos or batánes. Fill content also included some animal bone, shell fragments and botanic materials like maize and seeds. One pit in particular (R10) had a lot of *molle* seeds, which is interesting as Structure 3, above was involved in making *chicha de molle*. After removing the contents of the pit features, the sides of pits did not show any signs of burning but appeared to be regular in size and form (except for R14 and R10), as if constructed following a template. There is no indication that the burnt content of the fill in level 5 was burnt in the pits themselves. Rather, the content of the last level above the sterile ground was continuous with the fill of the Rasgos, which suggests that the pits were perhaps filled as part of leveling activities that preceded the terrace construction.

A comparison of the two most abundant materials, coprolites and wood, shows that the contents of the pits were not very homogenous (Table 6.4). An evaluation of the densities of these materials per excavated soil liter, for instance, reveals that coprolites are present to a high degree only in two Rasgos (R9 and R4) where the density numbers spike at 4.37g/l and 8.03g/l. Rasgo 8 contained a few coprolites with density of less than 1g/l. The other Rasgos have no coprolites. Wood on the other hand appears in twelve of the seventeen pit features. Rasgo 9 had the most density with 3.36 g/l and the others varied in ranges below 1g/l. These densities suggest that coprolites were discarded in larger quantities in some pits while wood was more abundant and permeates nearly every pit.

When examining the composition of the Rasgo deposits there are five main combinations of botanic materials that have been discarded together: 1) coprolites and wood only (R1 and R6) 2) wood only (R5, R8, R11, R12) 3) coprolites, wood and maize or molle as in R3 and R15; 4) wood and molle or maize as in R16 and13. Finally type 5 has coprolites and wood plus a number of more than 3 other botanical materials including maize, molle, gourd seeds, quinoa seeds, squash and peanut shells. This variety of mixes would suggest that the pits were not filled simultaneously in time with refuse from the same event but that they were used at separate times and were dug when needed. The presence in the pits of a variety of botanical materials like maize, *molle*, squash and gourds as well as two quinoa seeds (R10) indicates that some food processing took place nearby, while their near absence elsewhere in the terrace fill indicates that there was no food processing on the terrace itself.

The faunal component of the different pits is also quite low. Two features, R5, and R6, stand out with densities of 1 fragment/l and of 0.9 fragments/l of fauna respectively. However, Table 6.5. illustrates that six features have no faunal component and the remaining features have only very low densities of fauna. This suggests that only some pits contained remnants of events that including meat processing while others did not. Among the features that had faunal remains, the densities also varied suggesting that the deposits were related to distinct discard events and were not the result of one single dumping event. This suggests that different people discarded the refuse at different times or from different processing or cooking areas that were located somewhere else on the adjacent terraces.

Investigating the appearance of wood supports this scenario; the wood in the features was both burnt and intact. A comparison of carbonized and uncarbonized wood revealed that between 70 and 100% of all wood in each pit was burnt (Table 6. 6) and that 95% of all the wood from all features in Terrace1 was carbonized. This is consistent with the other terraces of Sector C, each of which had a frequency of over 90% of carbonized wood. Furthermore at least one terrace (Terrace 6) in Sector D also exhibited this pattern where 93% of wood was carbonized. The carbonized wood on the other terraces ranged between 65%- 87%. Such high frequencies of carbonized wood point to a discard pattern of remnants of fires as part of cleanup of hearths. For the pit features in Terrace 1 this suggests that the deposits in the pits were secondary trash from cooking events where one would expect to have both remains of some foods and the fuel. The sandy ash that was also encountered in these features would suggest that carbon and other materials were swept up together in cleaning hearth feature and discarded together. Since no hearths were discovered in Terrace 1, it follows that the food preparation took place elsewhere and not on Terrace 1. One possibility is that the refuse in the pits of Terrace 1 came from Structure 3 above. A second scenario would place the initial food processing in one of the other nearby terraces. What is not clear from the evidence discussed so far is any cultural affiliation with Terrace 1. The botanic and faunal data do not conclusively point to a Wari of Huaracane preference in use of these pits. That some molle is present is not sufficient indication for either. A consideration of the ceramic components of the pit fills may provide some further insight into their use.

Only eight pits had ceramic materials and overall 34 sherds were recovered in the pit features (Table 6.7). Among these the percentage of ceramic was relatively low. Ceramic types included Huaracane Arena types which made up 26% and Wari *llana* and micaceous wares that made up 70%. Of the ceramic collection from the features 4% of the sherds were unknown)\. Within the features different combination of wares were documented. One feature had only Wari sherds and another only Huaracane material. Two features shared a 25% Huaracane and 75 %Wari assemblage whereas one other feature had the reverse ratio of 75% Huaracane and 25 % Wari sherds. Given that the numbers and densities are very low for the features it seems likely that the pit features were primarily used for discarding of organic materials like food, excrement, and fuel. However the combination of Huaracane and Wari materials also suggests that individuals who used Terrace 1 as a trash deposit were cleaning up areas were both styles were in use during food preparation and cooking activities. Only one sherd in Rasgo 1 was a diagnostic handle fragment of a Wari plainware pitcher, suggesting perhaps that some of the refuse did come from Structure 3 where *molle chicha* consumption took place.

Lithic materials were also found in all 17of the trash-filled pits. Surprisingly ca. 51% of all 99 lithics recovered from the features were fragments of Chrysocolla, followed by ca. 30% of flakes or fragments. Cantos rodados, fragments, pebbles, polishers made up fewer than 10 % each. One barbed projectile point with a notched stem of red chert was found in Rasgo 6 that was identified as Tiwanaku. Not all features had the same mix of artifacts; three features for instance only had flakes (R1, R5, and R14) although in different densities (Table 6.8). Two pits (R9, R10) only had *Chrysocolla* fragments and at least two features contained grinding stones and fragments or cantos rodados. Another three features (R3, R15, and R6) had a variety of three or more different lithic categories. One mano (R8) and two partial grinding stones (R4, R12) were found which fits with the previous discussion of domestic food processing refuse. Both chert and *Chrysocolla* point to refuse of craft or lithic production. The only material identified for that might suggest specific lithic production of projectile points, for instance, is chert. Three flakes, one fragment and one point were identified in the Terrace 1 refuse pits while obsidian was not present in any feature. This might suggest that the waste was swept up in areas where both production activities and food processing took place. Such an activity area could have been part of a residential unit or it could have been located above in Structure 3.

Overall the material recovered from the intrusive trash-filled pits point to domestic activities involving food processing and cooking in the vicinity of Terrace 1. The terrace itself was probably not the locus of such activities as no hearth was identified or food processing area was found. Given the spacing of the features there was not much room for any of the activities either as these pits took up a large part of the excavated area. It is possible that more features remained in the unexcavated part of the terrace as at least one feature extended beyond the excavation perimeter.

6.1.1.3. Terrace 1 Area B Remaining Terrace Area

While the pit features in Terrace 1 yielded a lot of excavation material the remainder of the also produced a large amount of artifact and as well as botanical, lithic and faunal data. The material found in the excavation fill of Terrace 1 was probably partially from the features themselves as they filled up and material spilled out. It is also possible the people generally used this terrace as a depository for domestic refuse even after the features were covered up. Some material probably also ended up in the areas the results of taphonomic processes. Since there are no architectural features that indicate any type of structure, or domestic activity areas like hearths or food processing areas were identified on this terrace I will present the analyzed data by material category.

Botanical Remains in Terrace 1 Fill

The botanical material in Terrace 1 that came from the terrace fill made up 53.35% of the overall terrace botanical remains of the terrace (Table 6.9). However, it is the distribution of different types of material that reveals some interesting patterns. *Molle*, for instance comprised less than 1% of the terrace fill while over 99% came from Rasgo contexts. This suggests that *molle* was exclusively discarded in trash pits in this area and does not point to any domestic activity on Terrace 1 like in Sector D where *molle* seeds were spread across floor surfaces as well due to continuous *molle* processing activities. In Terrace 1 *molle* was deposited in pits and covered up; no spreading occurred during movement on the terrace. The same can be said about fragments of *Lagenaria* species gourds, 5% of which come from terrace fill and 95 % from features and squash (*Cucurbita* species) which has a 27% and 73% distribution for terrace fill and Rasgos respectively. Coprolites are also evident in the terrace fill in smaller numbers than in Rasgo contexts where they make up 82% of the fill. The 20% of coprolite found in terrace fill might be from the Rasgos but might also have been deposited the by natural processes as animals and humans passed across the terrace.

Wood on the other hand is more abundant in the terrace fill which contained 61%

of the overall terrace's wood sample. This may be representative of the frequent use of wood in different contexts, cooking being one but it also included refuse like bark and twigs, which could be remnants of smaller branches that had molle berries on them and that were brought up to the sector C area for processing for instance. Similarly the wood fragments could be the result of construction debris or wood used for fuel. The majority of the wood however was carbonized, which may have been deposited more frequently and with less care as burning this material would have occurred in numerous contexts. The carbonized wood in the features was more likely part of the particular event that involved all the materials found in the Rasgo fill, like food preparation or processing. This may have included the processing of *molle,* gourds and squash, all of which have higher frequencies (over 50%) in the feature fills than in the terrace fill (Table 6.9).

Ceramic Evidence in Terrace 1 Fill

Overall the density of sherds per excavated liter of soil in Terrace 1 is 117sherds per m^3 which is the highest density for terraces excavated in Sector C. However, it is a small amount when compared to the density of 316 sherds per m^3 material recovered from Structure 3 or the densities in Terrace 5 (270 sherds/m^3) and Terrace 7 (559 sherds/m^3 in Sector D (Table 6.10). This is not surprising given the intensity of food and drink production and consumption in the structure and the domestic activities. The distribution of sherds contrasts with the pattern that was discussed for botanical materials as 86% of all sherds in Terrace 1 came from the terrace fill and only 13% were found in the pit features. This pattern is consisted for both Huaracane and Wari sherds. 90% of all Huaracane sherds in Terrace 1 were found in the terrace fill as well as 76% of all Wari sherds. This suggest again that material in pit features was discarded at one time and covered while the terrace fill may represent a continuous disposal over time.

Both Wari and Huaracane sherds were mixed throughout all excavation levels so that no distinction could be made in terms of deposit history. Overall Wari sherds dominated the assemblage of Terrace 1 with 68% (n=167). Of these, 128 sherds came from the terrace fill. Similarly Huaracane sherds comprised 37% (n=91) of the sum of all ceramics in Terrace 1, and 82 of these came from terrace fill (Table 6.11). Both Wari and Huaracane material was associated only with utilitarian plainwares, no serving wares like *Huaracane Fino* sherds or decorated Wari sherds were found. The exception was one slipped Wari fragment with a small black decoration that came from a globular vessel.

Terrace 1 and its Relation to Structure 3

One could argue that there should be more ceramic refuse in the terrace if it was used as a discard area for material from Structure 3, but it appears that much of the byproducts of activities in the structure were initially deposited in the gallery areas outside the southern room of the structure but within the compound walls (Carter and Goldstein 2005). Deposits in that area in the structure included faunal botanical and ceramic materials including a number of Wari fineware fragments, which are nearly absent from Terrace 1.

It is conceivable that Terrace 1 was one possible area of refuse deposit for the structure. It is located directly below the structure and it would have been easy to deposit trash in the pits nearby.

The density of sherds from all of Terrace 1 is a little lower than that of the brewing room in Structure 3 but much lower than that of the gallery area. The large number of sherds in the Structure 3 gallery suggests that this area was used to discard items from the brewing structure, and Huaracane ceramics seem to have been discarded in higher numbers in that particular area.

Wari vs. Huaracane Types

Out of 245 sherds collected in Terrace 1, over sixty percent were identified as Wari and thirty eight percent as Huaracane (3.67% were unidentified). All of the Huaracane wares were of *Huaracane Arena* varieties; no *Huaracane Fino* or *Huaracane Vegetal* sherds were present. Green and Goldstein (2006) previously argued that local utilitarian wares were used in Structure 3 for brewing and cooking activities. Conversely all of the identified storage jar fragments from Structure 3 were Wari serving (Green 2005). The 2008 data thus confirms a use of local utilitarian wares as previously suggested.

Terrace 1 had a higher frequency of Wari sherds (59%) than Huaracane sherds, which is not surprising given the terrace location below Structure 3 and the Wari dominated consumption activities taking place therein. The types of Wari pastes identified on Terrace 1 include beige, orange and grey plainware varieties as well as a micaceous paste. No Wari finewares were discovered in the Terrace, despite its proximity to Structure 3. The most common sherds were of the beige plain (Wari llana) ware which represented over fifty percent of all sherds in the terrace (Table 6.12). Only six percent were of the orange plainware and twelve percent of the poorly fired grey type. Sixteen percent were of a distinct micaceous paste that was also identified in the structure in

2004. Only one sherd was found which may have come from a globular vessel, possibly a serving bowl. It was a partially slipped fragment with a small part of a black decoration on the side (Figure 6.3). The absence of serving wares generally suggests that if the sherds in Terrace 1 were redeposited from Structure 3 above, then they do not represent the part of the Structure 3 assemblage that represents public consumption of chicha. A discussion of the vessel types also supports this scenario.

All sherds in Terrace 1 were of plainware vessels, suggesting they were very likely related to storage and cooking activities, or associated with *chicha* making taking place in Structure 3 or on other nearby terraces, and not the consumption activities in this sector area. Of the 145 Wari sherds only 12 diagnostic sherds were useful for vessel analysis as the remainder were unidentifiable body sherds (n=133). Seven rims were identified as well as one base, one neck, two handles and one decorated sherd as mentioned above. Vessel types included bowls (2 rims), necked vessels, probably jars, (4 rims), cooking ollas (8 fitted body sherds), one unidentified bowl (1 rim) and one unknown vessel type (1 rim). It appears that among other things, Terrace 1 was an area for discard of Wari utilitarian wares, whereas fine serving wares were deposited in other contexts.

6.1.2. Terrace 2

6.1.2.1. Architectural Features

Terrace 2 is located southeast of the Structure 2 plaza (Figure 6.1). A 2x2 meter unit was placed along the terrace's back retaining wall to examine the construction of the terrace. Terrace 2 is located below the large Structure 2 plaza and possibly linked to that structure through the architectural feature of a natural drainage canal which would suggest that this terrace was part of the larger platform construction that supported the building of the Structure 2 plaza. This channel carried run off down from the Structure 2 plaza and cut through the wall construction on the back of the terrace. This channel seems to have been formed by run off during intense rainstorms forming a laminated sediment that later hardened during exposure to the sun. It is therefore possible that the material in Terrace 2 was carried from Structure 2 plaza down this natural drainage onto the terrace. This would explain the scattered nature of the sherds in the terrace fill and the absence of deliberate trash-filled pit or other features like those in Terrace 1 or Terrace 3 for instance. Based on the ceramic evidence this Terrace is considered a Middle Horizon context and not a Formative Huaracane occupation (the one Huaracane sherd could be refuse that was washed down from the plaza platform in a second flooding even as it was found in the first excavation layer).

In Area B we found evidence of a second, deeper and more formally constructed run off canal (ca. 15cm deep) in the last two levels. It was intentionally cut into the sterile mountain surface and ran through the unit from west to east with a slight northern turn at the eastern unit edge. This canal exited the profile directly under the area that contains Structure 2, which suggests an earlier use of the site before the construction of this structure (Figure 6.4). It suggests that this terrace was important for the maintenance and access to the plaza area rather than used for domestic activities or as a disposal area as will be discussed below. The limited data from Terrace 2 indicates that this terrace might have been used as an access ramp to get to the Structure 2 plaza and that the refuse was transported there over time through the run off canals from the above plaza. Artifactual evidence does not support any type of domestic activities for this terrace or any consumption, suggesting that most of the material present is due to taphonomic processes.

6.1.2.2 Ceramic Data

Terrace 2 yielded only 11 sherds. The density of 21.3 sherds per m^3 is similar to the low density of the test unit in Terrace 3 and the densities in both units differed significantly from the densities[12] in the other 2x2 m test pits, in Terraces 5 and 7 in Sector D (Table 6.1). This is certainly a reflection of the non-domestic nature of Terraces 2 and 3.

Table 6. 1 Comparison of Ceramic Densities of 2x2m Units in Sectors C and D

Terrace	Sherd count	Soil volume in m^3	Ceramic density (sherds per m^3)
T2	11	0.515	21.35
T3	15	0.785	19.10
T5	101	0.5179	195.35
T7	212	0.537	394.78

The Terrace 2 ceramic assemblage included one Huaracane and ten Wari sherds. The paste was a coarse *Huaracane Arena* indicating possibly an olla fragment. *Huaracane Arena* was used mainly in cooking ollas, but it remains speculative at best whether this vessel was related to activities taking place on the plaza or was redeposited from an earlier context. Wari ceramics were present in all excavated layers in Terrace 2,

[12] Densities were calculated by dividing the number of sherds found in the unit by the liters of excavated soil from that unit

which suggests that Huaracane wares did not play a large role in this unit's assemblage. Also it is clear from the absence of superstructures or features that this terrace was not a domestic activity area, but represents redeposited material.

The Terrace 2 ceramics did not include any serving wares that tie it directly ceremonial consumption or feasting activities taking place at Structure 3 or Structure 2. Although Wari ceramics appear in excavation levels 2-5 they might have been deposited there through natural taphonomic processes perhaps even one event.

The Wari ceramics in Terrace 2 consist only of plainwares, which are consistent with domestic use rather than ceremonial or festive consumption. The recovered sherds were all Wari paste types *llana* and *llana naranja,* which are related to basic non-decorated bowls. The 3 micaceous sherds are possibly from ollas, again indicating activities related to food preparation or household level consumption but not public or ceremonial consumption activities. Such plainwares may have been involved in public activities for commoners at the larger Structure 2 plaza, whereas elite fine wares might have been restricted to use in the Structure 3 patio group by higher ranking individuals. If public feasts included open air cooking activities, domestic wares like ollas could have been in use in the plaza area. The ceramics and other materials were certainly not intentionally discarded as in Terraces 1 and 3, where intrusive trash-filled pits were dug deliberately to conceal the refuse.

6.1.2.3 Lithic, Faunal and Botanical Data

Lithic material in Terrace 2 included 28 *Chrysocolla* fragments, 7 flakes, 2 fragments and 1 partial grinding stone. The flakes were basalt and bedrock and 3 remained unidentified. The other fragments included 1 chert piece and one unknown red stone. Since no botanical remains other than wood were discovered in the terrace it is very unlikely that the grinding stone was used for domestic activities in Terrace 2. Its broken state would suggest that it was discarded instead.

Botanical material in Terrace 2 consisted only of wood and had a very low density compared to the other terraces. The faunal assemblage was comprised of 32 small fragments that weighed 0 .65gram. Due to their small size they could not be identified Overall this data implies that it is likely that Terrace 2 was unoccupied and kept relatively clean due to its close proximity to the main plaza. It is conceivable that both Terraces 2 and 3 directly below the plaza, served as ramps to ascend or move around the plaza and thus were intentionally kept clear of trash and refuse.

6.1.3. Terrace 3

Terrace 3, located further down the eastern slope of Sector C, below Terrace 2, is a much larger terrace but also was not used as a domestic space. It is likely that this terrace space was part of a pathway of access to the slope in sector D and the sides of Sector C. The 2x2 meter test unit in Terrace 3 was placed in the main terrace surface. The main purpose of this test pit was to determine whether this terrace was residential, and the excavation showed that it clearly was not. No architectural features or activity area consistent with domestic occupation were evident in the terrace.

A pit feature (R18) was encountered in the lowest level, which like other features in Terrace 1 was a pit cut into the sterile mountainside. The fill of his large (43x80cm) and deep (50cm) hole, however, had very few organic items and very little ceramic and lithic material although it included one Wari projectile point. Like the features in Terrace 1, the pit did not indicate a specific use like burning or storage of vessels. However the shape of the trash-filled pit in Terrace 3 was very irregular, not as round as the pits in Terrace 1. It is possible that this pit was widened over time.

6.1.3.1. Ceramic, Lithic and Botanical Data

The excavation in Terrace 3 produced very little ceramic material, all of which was identified as Wari affiliated and recovered from the single feature in the terrace. The ceramic evidence in the unit was comprised of 15 Wari plainware sherds, which may have eroded from Sector C or Sector D. Taphonomic processes observed in this terrace were similar to those in Terrace 2, as a natural runoff channel crossed the unit following the natural slope of the mountain. Terrace 3 was different due to the intrusive pit dug into the sterile mountain side. In terms of size and depth and deposit this was similar to the pits uncovered in Terrace 1.

Botanical remains in Terrace 3 only comprised 2.25% of all of Sector C which is higher than Terrace 2 which made up less than 1 percent of all of Sector C botanical evidence. In terms on density Terrace 3 had the highest density of all the Sector C terraces with 6.64g/m$^{3.}$ The only materials identified in the microbotanical analysis of Terrace 3 were wood (87%) and cuy excrement (2.21%) which would be consistent with trash deposits. 99% of the wood was carbonized and consisted of refuse from burning events. No evidence, however, points to the discarding of materials associated with any consumption or food preparation activities for this terrace. (Table 6.14)

Lithic material from this terrace included 1 *Chrysocolla* fragment, 2 flakes and 1 projectile point of pink chert that had a triangular body with a concave base. These items produced a very low density lithics in this terrace compared to Terrace 1 the terrace with the highest density of lithics in Sector D (Figure 6.22).

6.2. ACTIVITIES IN SECTORS C AND D

6.2.1. Culinary Practices

6.2.1.1. Food Preparation

Groundstone made up ca. 43.76% of the total analyzed lithic collection of both Sectors C and D including *manos* (*batánes*), mortars, polishers and hammer stones. *Manos* were found in a number of contexts but the highest frequency (5.56%) of these lithic tools was recovered from Sector D, especially in Terraces 4, 5 and 7(Table 6.20). This is consistent with the domestic nature of this sector where food processing would have taken place at the household level and thus processing tools would be recovered in a number of different locations. This differs greatly from Sector C where no *manos* were found in Terrace 2 or Terrace 3 and only two in the larger Terrace 1 excavation. One of the batánes was found together with a *mano* in Rasgo 12. This *mano* was partially covered in red pigment (Figure 6.7.) illustrating that grinding was not just used for food items but other materials as well. Another *batán* was found in Terrace 2, which is unusual as no other tools associated with food processing activities were found in that unit. Interestingly, no *batánes were* recovered in Sector D excavations at all. The presence of *manos* in sector D certainly suggests the processing of foods on harder surfaces like grinding stones. One possible explanation for the absence of identifiable *batánes* could be that in the excavated household contexts at D, grinding surfaces were much more informally selected than in the Structure 3 in sector C, where a specific room was dedicated partially to that activity.

The discovery of 3 large grinding stations with both *batánes* and *manos* in Structure 3 complements the findings in Terrace 1. It seems that in Sector C food processing was restricted in part to this special building and did not take place on the east-facing slope. This clearly illustrates a distinct use of both sectors for specific activities.

6.2.1.2. Cooking

Huaracane Arena paste types and their distribution

Overall the *Huaracane Arena* type comprised 95% of all Huaracane sherds analyzed as opposed the 0.2% of *Huaracane Fino* sherds and 3.8% *Huaracane Vegetal* sherds (Table 6.13). All three *Huaracane Arena* subtypes are present in each sector and the general distribution shows that *Huaracane Arena gruesa* is the least common type with an overall proportion of 19.97% (n=144) followed by the *Huaracane Arena fino roj*o type with 31.90%, (n=230) and that the *Huaracane Arena fino* paste is the most abundant within the 2008 sample size with 43.97% (n=317).

If compared by sector, 87.23% (n=629) of Huaracane sherds were found in the domestic Sector D and only 12.67 % (n=92) came from the ceremonial Sector C terraces. This is not unexpected as the above mentioned pastes are associated with utilitarian wares and these would be expected in domestic environments like Sector D rather than in ceremonial contexts like Sector D. This presence of high percentages of Huaracane materials in the excavated terraces of Sector D lends support to the hypothesis of mixed households in Sector D where local cooking wares were used. Other interesting patterns emerge when we combine the various paste types, especially the *Huaracane Arena* varieties.

If the finer types *Huaracane Arena fino* and *Huaracane Arena fino rojo* are combined they make up almost 80% of all *Huaracane Arena* sherds in all units or 75.85% of all Huaracane wares. If we combine the pastes based on the firing process and consider both *Huaracane Arena* and *Huaracane Arena fino* together they make up 63.94% of all Huaracane wares and the *Huaracane Arena fino rojo* type is 31.90 %. Overall the finer Arena types dominate the contexts in all terraces. Terrace 4, the most thoroughly excavated terrace in Sector D presents the best measure of the distribution of these wares as Terraces 5, 6, and 7 were smaller test units and may not be as representative. Here we can see that the *Huaracane Arena fino* sherds are more abundant making up 46.5 % of all Huaracane sherds in the terrace whereas the *Huaracane Arena fino rojo* version only represented 34 % of the Huaracane sherds in this unit.

6.2.1.3. Storage

Part of culinary related activities includes the storage of food. This may take numerous forms from storing life stock in pens to filling storage vessels with foods like grain, roots and tuber or fruit. Water is also stored in water proof vessels made of ceramic or gourds. Ceramic evidence like the one discussed below thus may provide only some insight into storage patterns but it is also likely that much food was stored in baskets and vessels made of organic materials as well as in storage pits below the ground (Costion 2009)

Distribution of Huaracane Vegetal Ceramics

As discussed previously among the Huaracane ceramic inventory vessels made of the fiber tempered *Huaracane Vegetál* paste were most commonly used for storage and cooking vessels (Goldstein 2000,2005 Costion2009). *Huaracane Vegetal* sherds were not very common at Trapiche and made up only a small percentage of the overall Huaracane ceramic material in 2008 excavations. This paste type was entirely absent in Sector C excavations but did occur in Sector D, particularly in the terraces higher up on the slope. The distribution of *Huaracane Vegetal* percentages shows that this type made up 23.33% of the total sherds of the highest terrace, T6 (n=14), while it was only 0.95% of the total in Terrace 4 (n=7). The lowest terrace on the slope and closest to the plateau only had three *Huaracane Vegetal* sherds or 1.3% of the total (n=3). This distribution is interesting as it suggests that higher on the slope there was more preference for this local ware (Table 6.13). This might be result of local preference for these wares by settlers who either were Huaracane or had close ties to Huaracane communities. A similar pattern was observed when comparing Huaracane and Wari style across the site and I will return to this phenomenon below.

The numbers for *Huaracane Vegetal* confirms the results of pervious research collections which found only one *Huaracane Vegetal* sherd in the surface collection in Sector C (Goldstein 2000). Huaracane Vegetal sherds comprised 2.31% of the total of excavated sherds in Sector D (Table 6.13). This is quite noteworthy given the complete absence of *Huaracane Vegetal* sherds in Sector C excavations. It appears that vessels made of this particular paste were used mainly in the domestic Sector D. *Huaracane Vegetal* vessel sherds are fairly thick compared to the *Huaracane Arena* sherds and are mostly associated with storage activities. The thinner *Huaracane Arena* wares (*fino* and *fino rojo*) are able to withstand the thermal stresses produced by the heating and cooling of cooking processes (Rice 1987:227) and would be primarily used for cooking. From this we can infer there was a preference for local Huaracane style storage vessels in Sector D and not in Sector C. This might imply Huaracane style domestic activity in this Sector, whereas people in Sectors C, E and F (each of which has Wari style structures) may have preferred Wari style storage vessels.

6.2.1.4. Serving Wares

Huaracane Fino distribution

The only documented Huaracane serving wares are *Huaracane Fino* bowls. These shallow dishes were associated with elite style Huaracane boot tomb burials and with elite households and public consumption events in open spaces (Goldstein 2000, 2005; Costion 2009). *Huaracane Fino* is the least common ceramic type on the excavated terraces at Trapiche, only two sherds were found in 2008 on Terrace 4. This contrasts with the number of *Huaracane Fino* sherds found in previous excavations and surface collections (Green 2005). The 2003 excavation in Structure 3, for instance, uncovered seven sherds and excavation in the Huaracane Boot tomb cemetery another ten. Out of the 19 *Huaracane Fino* sherds recovered in excavation then, nearly 90% came for Sector C in direct proximity to or directly from the cemetery and the other 10% were recovered in Sector D's Terrace 4. Surface collections in Sector C (1998) and D (2004) produced 3 *Huaracane Fino* sherds near the boot tomb cemetery and 13 additional sherds on the Far East terraces of the slope in Sector D.

From this we can draw a number of conclusions. First, Huaracane *Fino* sherds in the cemetery excavation are not surprising and continue to support Goldstein's (2000, 2005) identification of an elite burial complex or Boot tomb cemetery in Sector C. The interesting anomaly was the presence of *Huaracane Fino* sherds in excavation levels of Structure 3. One explanation could be that these sherds also come from looted contexts of the cemetery (Green and Goldstein 2006); either from fill or perhaps an intact vessel was kept in the structure for decorative purposes. Another explanation, taking into consideration a more interactive Middle Horizon context, could be joint feasting involving members of local elites and Wari settlers (Green and Goldstein 2010). Costion suggests that the Huaracane community at Yahuay Alta had some intimate contact with Wari newcomers in specific contexts where *molle chicha* was consumed. This beverage was then incorporated into the community's own feasting practices but without the adoption of Wari style material culture like drinking vessels for instance. Thus, finding a small amount of Huaracane elite fineware in a Wari style *chicha de molle* feasting context seems an appropriate reflection of this perhaps deliberately understated, yet useful, connection by local elites to the new settlers at Cerro Trapiche.

A second conclusion we can draw is that *Huaracane Fino* sherds were not restricted to the cemetery context at Trapiche, but rather that they extended in small amounts into the domestic sphere of Sector D documented by both surface collections and excavation. The low percentages of local serving wares clearly contrasts with the presence of abundant utilitarian ceramic Huaracane material in both sectors C and D, which suggests a different involvement in cultural interactions on the non-elite level.

In Sector D, two *Huaracane Fino* sherds came from 2008 the excavation in Terrace 4, representing a frequency of 0.27% of the excavated ceramics in that Terrace (Table 6.13). When compared to the number of all serving wares identified in Terrace 4 *Huaracane Fino* bowl fragments make up ca. 5% indicating that Huaracane style serving vessels were perhaps an exclusive commodity at Trapiche and that access to them was restricted since Huaracane serving wares were not generally documented on any other excavated terrace in Sector D.

However, it is difficult to say whether his low percentage of *Huaracane Fino* sherds in itself reflects a scenario that involves the domestic presence of Huaracane elites in Sector D. At Yahuay Alta, Costion found that *Huaracane Fino* sherds in the Late Huaracane phase were discarded in open areas that were not associated with residential occupation but public consumption (2009:118). In Terminal Huaracane excavation contexts it appeared that two areas, Units 3 and 8, were elite households because they had a significantly higher presence of chert (Unit 3) or obsidian (Unit 8), higher densities of faunal materials (Unit 8), a high faunal bone density and bone/ceramic ratio (Unit 3), higher frequencies of *Huaracane Fino* sherds (Unit 8), small scale *chicha de molle* production (Unit 3) as well as the presence of other specialty items like gold foil, copper and *Spondulus* shell (2009:265- 66). Interestingly Costion does not ascribe any control over production or redistribution of staple foods for these e higher status residences, as he found no evidence of increased storage for instance or significant changes in botanic material. Rather he suggests that the higher percentage of faunal material might imply control over access to camelids might have been a source of wealth and social status 2009:226). Considering the contexts at Terrace 4 a similar pattern emerges. Terrace 4 has the highest percentage (53%) of all chert recovered in Terraces1 through 7, it also contributed the highest frequency of the overall obsidian count (73%). Faunal density is the highest of all terraces and specialty items like spindle whorls and textile fragments represent the presence of specialty items. In addition Terrace 4 also stands out because of the intensive production of *molle chicha*.

It must be considered that at Cerro Trapiche these *Huaracane Fino* bowls also had special meaning to the settlers on Terrace 4 and reflected some status differentiation between the terraces on the slope of Sector D. If the occupation on T4 was a mixed Huaracane/Wari household then these serving wares, alongside the other indicators mentioned above would be meaningful in representing the status of the local members of the family. If this was a higher status, mixed household we should also expect to see a higher frequency of Wari serving wares in this context, as will be discussed below.

Wari Serving Wares

Serving wares in the Trapiche Wari repertoire include pitchers, tumblers and bowls. No tumbler and only one rim sherd of a pitcher were identified in the 2008 excavations; the remainder consisted only of bowl fragments. Wari bowls at Trapiche fall into two categories. The first type is a flared non-decorated bowl, which is often self-slipped and burnished on the exterior. Diameters of this type vary between 10 and 15 cm. The second type is a decorated, straight sided or convex sided bowl. These polychrome, slipped vessels and decorative motives at Cerro Trapiche include chevron patterns, lines and animal motifs. Rim diameters of these bowls are often smaller than those of flared bowls (Figure B.7).

The majority of Wari serving vessels identified in the 2008 excavations were decorated and non-decorated bowl. Serving wares overall made up 2.5 % (n=37) of the overall ceramic sherd count(Table 6.2). Of these sherds two were Huaracane, as discussed above and the remaining 34 sherds were Wari in style. Fragments of Wari style serving wares were found in terraces in both sectors except in Terraces 2 and 6. Approximately 88% of the serving wares came from Sector D and 12% were found in Sector C, indicating that these wares were not just associated with feasting style events in or near Structure 3, where most Wari serving wares have been previously found in excavation and surface collection. In addition Wari serving vessels are also clearly associated with domestic contexts.

Breaking down the numbers by terrace shows that Terrace 4 had the highest frequency and represented 51% (n=19) of Wari serving wares and 51% of all documented serving wares. The second terrace that makes up a substantial portion the overall Wari serving wares is Terrace 7 with 35% (n=13), followed by Terrace 1 with 8% (n=3) and Terraces 3 and 5 which each had ca. 3% (n-=1). These percentages correspond well with the activities that have been previously documented on these different terraces. Terrace 4, for instance, had highly diverse activity patterns including *molle chicha* production. The presence of Wari serving bowls in this terrace suggests that part of the produced *molle* beer was also consumed here, underscoring the household level consumption of chicha in Terrace 4. Considered in tandem with the data described above for the Huaracane serving wares in Terrace 4 this would be evidence in support of a higher status household as well as an indication of a cultural mixed assemblage. Terrace 4 has the highest percentage of serving wares as

Similarly, the relatively high frequency in Terrace 7 is relatable to the activities described earlier for this terrace and that include molle chicha production as well as food preparation related to Structure 2. The proximity of this terrace to the open plaza in Sector C suggests that the abundance of serving wares in Terrace 7 were connected in some way to consumption in that public space.

Table 6.2 Distribution of Diagnostic sherds of serving and utilitarian wares in Sectors C and D

Terrace	Utilitarian Wares			Serving Wares			Totals		
	Count	%of plain	% of terrace	Count	% of serving	% of terrace	Total	% of total	Terrace total
T1	13	24.07%	5.31	3	8.11%	1.22	16	17.58%	245
T3	0	0.00%	0.00	1	2.70%	6.67	1	1.10%	15
Sector C	13	24.07%	5.00	4	10.81%	1.54	17	18.68%	260
T4	22	40.74%	3.00	19	51.35%	2.59	41	45.05%	734
T5	5	9.26%	4.00	1	2.70%	0.80	6	6.59%	125
T6	2	3.70%	3.33	0	0.00%	0.00	2	2.20%	60
T7	12	22.22%	4.11	13	35.14%	4.45	25	27.47%	292
Sector D	41	75.93%	3.39	33	89.19%	2.73	74	81.32%	1211
Total	54	100.00%	3.67	37	100.00%	2.52	91	100.00%	1470

As is evident from Table 6.1 the non-domestic areas of the site in Sector C have a much lower frequency of serving ware sherds. The percentages of these wares in Terraces 1 and 3 are between 3% and 8% 3. A higher frequency might be expected in Terrace 1, located so closely to the Wari structure where feasting took place, which is reflected somewhat in the higher percentage for Terrace 1, but it stands in great contrast to the Structure 3 assemblage, reinforcing the non-residential occupation nature of this terrace. Rather the majority of serving wares. Terrace 5 has the smallest portion of serving wares and Terraces 6 is void of them altogether. This demonstrates a trend in Sector D where serving wares are present in higher frequencies in the lower Terraces 7 and 4 and are nearly nonexistent in the higher Terraces 5 and 6. Sherd of decorated bowls were found in Terrace 1 (n=1), Terrace 4 (n=7), terrace 7 (n=1) and Terrace 5 (n=1), again emphasizing the different nature of terrace 4. If decorated Wari bowls are considered to be more prestigious serving equipment then non-decorated serving bowls then this evidence viewed in tandem with the previous discussion about Huaracane fine serving wares and activity patterns then this may indicate a difference of status for this terrace. This would demonstrate that status differentiations occurred not just between Sectors D and F for instance, but were also present among the culturally mixed assemblages in Sector D.

6.2.2. Patterns of Consumption

Based on the evidence for chicha and craft production (discussed below) two different patterns of consumption emerge. On one hand there is evidence for household level consumption of chicha de molle as evidence of brewing is present in all domestic contexts in Sector D. That some terraces (4 and 7) has extraordinary densities of molle suggests that these areas were also engaged in suprahoushold production of chicha that was likely designated for public consumption in the open plaza in Sector D or for elite consumption on the upper peaks.

6.2.3. Craft and Tool Production

6.2.3.1. Shell Bead Production

Excavations in Sector D produced the highest density of shell remains (3.08 shells per cubic meter) and shells were present in every excavated terrace. In Sector C the overall density of shell was 2.04 shells per cubic meter, and shell material was concentrated in Terrace 1 (n=54), with Terraces 2 and 3 only producing five and nine shells respectively (Figure 6.9).

Another interesting observation is the distribution of specific types of shells. Olive shells and periwinkle for instance are absent in Sector C but appear as 14% of the shell material in Sector D excavations, and seem to be largely confined to Terrace 4 Mussels (*Choromytilus chorus*) are the most abundant type of shells in both sectors representing 73.53 % of the shells in sector C and 71.26% of the shell in sector D (Table 6.22). This might be representative of the nature of activates taking place in both sectors. Mussels were probably consumed as food and also recycled in craft production of beads or other adornments. The majority of mussel shell fragments were either burned or deliberately cut into rectangular flake shapes and was worked in some way (smoothed on the edges). Margaret Brown Vega (2009) reports that at the Fortress at Acaray, some bivalve shells like mussels and wedge clams (*Mesodesma donacium*) with serrated edges were used as scraping and polishing tools. Similarly the serrated edges of these shells could have been used in food preparation activities. Evidence from the Caribbean, Brazil, and North America describe, for instance, how the finely notched edges of shell tools were used for scraping fish (Claasen 1998:202; Lima, et al. 1986; O'Day and Keegan 2001).

Overall 148 shells were considered to have been altered or worked, meaning they showed signs of cut edges, polishing or holes that were drilled or attempted to be drilled. These specimens make up almost 50 % of all shell material recovered (Figure 6.10). The majority of olive shells at Cerro Trapiche showed evidence of drilled holes as did turban snail shells. However, none of the shells recovered seemed to have been worked further into beads. No shell beads were found at Trapiche, and the only beads recovered were of greenish stone. This suggests that the shells were used directly in some fashion that required stringing them up, working them into ornaments or sewing them onto garments. It is also possible that olive shells were sent somewhere else for further modification at the Trapiche site. Whichever was the case it clearly stands out that shell modification (working, drilling and polishing) took place in Sector D, whereas shells in Sector C show more signs of consumption as food.

In Sector C, Terrace 1 has the highest frequency density and the most variety, which is not surprising given the close proximity to structure three and the smaller size of the units in Terraces 2 and 3. Both Terrace 2 and Terrace 3 are also further away from the main structures and the previously identified activity areas associated with structures.

In sector D a similar pattern emerges with Terrace 5 having the highest density although terrace 4 has the largest range of types. However Terraces 5, 6 and 7 also have distinct shell components aside from sharing *Choromytilus* shells. Also it seems those different terraces are distinct in processing different types of shells. The terrace with the least amount of diversity is Terrace 5. This may suggest an emphasis on specialized craft production on some terraces in Sector D but not in Sector C, which is consistent with the domestic nature of the terraces on the slope. Furthermore the analysis of worked shell component indicated that in Sector D these made up nearly 50% of all shells excavated. It would be expected that craft production took place on the domestic level, however it appears not be of very large scale but probably for household consumption. This differs for instance from chicha production which included both household and suprahoushold production and consumption.

6.2.3.2. Lithic Production

Lithic materials that are often associated with craft production activities like bead making and that were found at Trapiche included fragments of Quartz (n=13) and *Chrysocolla* (n=226), a copper oxide often used in jewelry making, especially the production of beads. Necklaces of *Chrysocolla* beads have been associated with Wari elite contexts at Cerro Baúl (Williams, Moseley and Nash 2009) but the material was also present in local Huaracane contexts at the Yahuay Alta community (Costion 2009) and other local sites (Goldstein 2005). Middle Horizon populations probably had access to the material locally. *Chrysocolla* was considered a non-exotic material found in late and terminal Huaracane contexts by Costion at Yahuay (2009).

At Trapiche fragments of *Chrysocolla* were found in higher densities overall in Sector C[13] than in Sector D (Table 6.22)[14]. The density of this material is compared by weight per cubic meter. The highest density was found in Terrace 5 in Sector D. This was followed by Terraces 2 and Terrace 1. Terrace 4 in Sector D has a significantly lower density and Terrace 6 has the lowest *Chrysocolla* evidence. Excavation in Terraces 3 and

[13] 88.5% of all *Chrysocolla* fragments come from Terraces 1 and 2
[14] T4= 1.33% , T5= 2.21% , and T6 =7.98%

7 revealed no copper oxide at all.

There are a number of conclusions to be drawn from this. First it appears that *Chrysocolla* was used more frequently in Sector C; perhaps this was to do with various activities going on in Structure 3 and the plaza (Structure 2). It is possible that in other areas of Structure 3, not yet been excavated, we might find dedicated spaces where specialty items were produced that were important to Wari elites and that the remnants that we found in Terrace 1 were leftovers or refuse from that process, as these fragments are generally very small. The presence of some *Chrysocolla* fragments in at least three terraces in Sector D, and especially the very high numbers for Terrace 5, also suggests that this material was also available to the non-elite inhabitants of the site, and those individuals on Terrace 5 were more heavily involved in greenstone craft production. This may have balanced the terrace's limited involvement in chicha production and suggest that different terraces were associated with distinct production practices. The uneven distribution amongst the terraces in sector D could be explained by some individual households who made their own adornments or produced craft items for the elite residents at the site, or even production of copper oxide products used for activities associated with all three Sectors C, E, and F.) Perhaps they did this instead of molle production; particular households had different specialized activities.

6.3. CONCLUSION CHAPTER 6

The excavations and analysis of data from both sectors C and D revealed a number of interesting trends that inform our understanding of the cultural exchange that took place at Cerro Trapiche in the Middle Horizon. Clearly each sector has specific activity patterns and cultural affiliations that illustrate a vibrant exchange of local and Wari culture.

First, Sector D clearly exhibits a residential affiliation where many domestic activities like food preparation and craft production took place. Moreover the artifact assemblage also suggest that this was a living space for non-elite residents of the site as no elite structures, but an abundance of plain utilitarian ceramic materials, faunal and botanical items discovered in this sector showed. However, some evidence also suggests that status differences were apparent between some Terraces. Standing out in this comparison is Terraces 4 where an intensive production of *molle* chicha combined with evidence for high density of faunal materials and a higher percentages of local and Wari serving wares were present. Additionally special items related to textile production also underscore this scenario. Considered together these lines of evidence suggest that Terrace 4 had an assemblage that would somewhat resemble higher status contexts at Yahuay Alta.

The most apparent production in Sector D involved the making of *chicha de molle* on all terraces for household consumption. However Terraces 4 and 7 were also producing *molle chicha* on a suprahousehold level. This quite different from the restrictive patterns documented at Cerro Baúl where chicha brewing was confined to the elite contexts on the summit of the Cerro and not documents at Cerro Mejia for instance. A similar departure from the upper valley is the presence of guinea pig in context across Sector D. At Cerro Baúl this type of meat consumption was also only found on the elite summit of the Cerro Baúl. This deviation from the patterns in the upper valley suggest a different type of engagements between social groups at Cerro Trapiche, where commoners were involved in what would be considered elite production contexts in the upper valley. This might be explained if some of the commoners were locals or Wari of higher status and who acted as intermediaries for the production of elite foods and beverages.

A second observation concerns the types of craft production on different terraces of sector D. Aside from chicha boiling activities involved olive shell craft production and manufacture of greenstone items. Both could be considered specialized craft production and were encountered on different terraces with different investments. Like with chicha brewing some household level production with stone and shells was evident in all terraces but Terrace 5 stood out as a production site of greenstone and shell modification.

A third trend that could be identified showed a consistently higher frequency of Wari ceramics in the units on the flat part of the site, whereas Huaracane sherds dominated the higher slope assemblages of Sector D. This could be an indicator of different activities pattern but also suggests different social or ethnic preferences for object used in everyday activities. The choices that are made with regards to use of everyday items are just as informative about cultural preferences as exotic objects as they reflect habitual patterns and practices. An increasing percentage of Huaracane style utilitarian wares among the higher terraces on the slope suggest a preference for the use of local kitchenwares. This culminates in the appearance even of rare *Huaracane Vegetal* sherds in the highest terrace. In a sense the terrace assemblages become more "Huaracane" with altitude. If these patterns of preferences reflect ethic association of the occupation then it appear that local wares were used in tandem in every context and even preferred to Wari styles in the upper terraces. If considered as an indicator of social status where more Huaracane percentage reflects a lower and more Wari presented represent higher status this would suggest that people of higher status lived on the lower part in Sector D.

Conversely, it should be noted that no context is exclusively tied to either cultural affiliation, suggesting a preferences for certain style in specific contexts, for instance. Wari serving wares are more common than Huaracane serving wares while Huaracane wares dominate the utilitarian assemblage. In Sectors C and D this could suggest that commoner households preferred non –decorated Wari serving bowls over lower status associated gourd vessels. The traditional drinking gourds might have been relegated to even lower class people.

Overall we can observe three themes. First the sectors differed in function. Sector C was associated with the public engagement in consumption ritual sin Structure 2 and food and drink preparation in the designated Structure 3. No domestic residence is evident in this sector to date. Sector D on the other hand represents residential occupation only, which included different occupational specializations of different terraces. Some terraces were producers of *molle chicha* for suprahousehold consumptions, while other, like Terrace 5 was engaged in craft production with shells and greenstone. A second theme that emerged from this analysis was that of status differentiation in Sector D. Although there is a common tenor to the occupation in terms of household level food production for instance, other indicators like intensified chicha production, higher percentages of (Wari and Huaracane) serving wares, increased faunal density, and the presence of higher status lithic production materials like chert and obsidian are concentrated in Terrace 4, suggesting that this terrace was not like the others.

The third theme that consistently appeared throughout the analysis in this and the previous chapter is that of cultural hybridity. This is especially evident in the continuous mixing of both local and Wari every day ceramic wares in all excavations. Whether we look at the domestic excavations in Sector D or the trash deposits in Terrace 1, combinations of types permeate the entire artifact assemblage.

These trends speak directly to the premise of this dissertation that cultural boundaries tend to blur in frontier encounters cross-cultural interactions. Social and cultural identities are constantly renegotiated and reshaped in the face of cultural, economic, social and political entanglements.

Table 6. 3 Sizes, depths and soil volumes for pit features R1-R17 in Terrace 1

Rasgo	Size in cm	Surface Area in cm2	Depth in cm	Soil Volume in l
1	100x60	4710	8	25
2	10x5	39	2	1.25
3	110x110	9503	33	95
4	57x50	2240	20	30
5	20x15	236	5	15
6	65x65	3318	23	40
7	37x30	827	14	80
8	50x47	1850	32	5
9	63x48	2380	31	5
10	57x41	1840	24	20
11	37x27	785	21	25
12	28x27	595	19	15
13	38x30	895	32	15
14	57x55	2460	16	22.5
15	92x80	5780	33	67.5
16	40x27	849	10	5
17	45x40	1410	23	20
Average		2336	20.35	28.6
Mean		1840	21	20

Table 6. 4 Count, weight and density of coprolites and wood in all features in Sector C, Terrace 1

	Coprolites			Wood					
Rasgo	Count	Weight in g	Density g/l	Count	Weight in g	Density g/l	non-carbonized	carbonized	Soil in l
1	1	0.22	0.01	12	1.55	0.06	0	12	25.00
2	0	0.00	0.00	0	0.00	0.00	0	0	1.25
3	2	0.05	0.00	54	3.18	0.03	14	40	95.00
4	2458	241.30	8.04	411	7.10	0.24	29	38	30.00
5	0	0.00	0.00	38	1.00	0.07	0	38	15.00
6	17	0.53	0.01	938	9.42	0.24	6	932	40.00
7	0	0.00	0.00	28	0.41	0.01	0	28	80.00
8	21	1.64	0.33	406	4.23	0.85	0	406	5.00
9	221	21.86	4.37	1683	16.80	3.36	24	1659	5.00
10	25	1.21	0.06	777	10.34	0.52	0	644	20.00
11	0	0.00	0.00	363	3.63	0.15	0	363	25.00
12	0	0.00	0.00	58	0.58	0.04	0	58	15.00
13	0	0.00	0.00	91	1.47	0.10	12	79	15.00
14	10	0.15	0.01	425	3.84	0.17	29	396	22.50
15	6	0.18	0.00	206	13.85	0.21	0	206	67.50
16	0	0.00	0.00	64	1.01	0.20	0	64	5.00
Total	2762.07	267.14	0.57	5554	247.00	0.53	5338	64	466.25

Table 6. 5 Density of faunal materials in all pit features in Sector C, Terrace 1

Rasgo	Faunal Count	Density fragments/l	Faunal Weight in g	Density g/l	Soil Volume in l
1	0	0.0000	0	0.0000	25.00
2	0	0.0000	0	0.0000	1.25
3	0	0.0000	0	0.0000	95.00
4	3	0.0375	3.9	0.0488	80.00
5	5	1.0000	1.2	0.2400	5.00
6	36	0.9000	0.33	0.0083	40.00
7	1	0.2000	1.5	0.300	5.00
8	2	0.1000	0.3	0.0150	20.00
9	16	0.5333	24.8	0.8257	30.00
10	1	0.0667	0.05	0.0033	15.00
11	0	0.0000	0	0.0000	25.00
12	0	0.0000	0	0.0000	15.00
13	4	0.2667	3.2	0.2133	15.00
14	2	0.0889	3.91	0.1738	22.50
15	6	0.0889	0.95	0.0141	67.50
16	1	0.2000	0.5	0.1000	5.00
Total	77	0.1651	40.61	0.0870	466.25

Table 6. 6 Percentages of carbonized and uncarbonized wood in Pit features in Terrace 1

Rasgo	Uncarbonized wood	%	Carbonized wood	%	Total
1	0	0	12	100	12
3	14	25.93	40	74.07	54
4	29	7.06	382	92.94	411
5	0	0.00	38	100.00	38
6	6	0.64	932	99.36	938
7	0	0.00	28	100.00	28
8	0	0.00	406	100.00	406
9	24	1.43	1659	98.57	1683
10	133	17.12	644	82.88	777
11	0	0.00	363	100.00	363
12	0	0.00	58	100.00	58
13	12	13.19	79	86.81	91
14	29	6.82	396	93.18	425
15	0	0.00	206	100.00	206
16	0	0.00	64	100.00	64
Total Rasgos T1	247	4.45	5307	95.55	5554
T1	541	6.10	19467	93.90	20008
T2	8	8.62	181	91.38	189
T3	3	1.75	616	98.25	619
Sector C	552	6.06	20264	93.94	20816
T4	18190	25.74	114938	74.26	133128
T5	684	12.25	13790	87.75	14474
T6	554	6.34	13287	93.66	13841
T7	899	34.87	9276	65.13	10175
Sector D	20327	24.37	151291	75.63	171618
Total	20879	22.78	171555	77.22	192434

Table 6.7 Densities and frequency distribution of ceramic materials in the pit features of Terrace 1

Rasgo	H. Arena fino	H. Arena fino rojo	H. Arena gruesa	Huaracane Total	Huaracane % of Rasgo total	Huaracane density	Wari	Wari llana	Wari llana grís	Wari llana naranja	Wari mica	Wari/ colon	Wari Total	Wari % of Rasgo total	Density (sherds/l)	Unknown	Total	Soil Volume in l
1	0	0	0	0	0.00	0.0000	1	1	2	0	0	0	4	100.0	0.1600	0	4	25.00
2	0	0	0	0	0.00	0.0000	0	0	0	0	0	0	0	0.00	0.0000	0	0	1.25
3	0	1	0	1	25.0	0.0000	0	0	0	0	3	0	3	75.0	0.0316	0	4	95.00
4	0	0	0	0	0.00	0.0000	0	0	2	0	1	0	3	100.0	0.1000	0	3	30.00
5	0	0	0	0	0.00	0.0000	0	0	0	0	0	0	0	0.00	0.0000	0	0	15.00
6	0	0	0	0	0.00	0.0000	8	0	0	0	0	0	8	100.0	0.2000	0	8	40.00
7	0	0	0	0	0.00	0.0000	0	0	0	0	0	0	0	0.00	0.0000	0	0	80.00
8	0	0	0	0	0.00	0.0000	0	0	0	0	2	0	2	100.0	0.4000	0	2	5.00
9	1	0	0	1	25.0	0.0000	0	2	0	1	0	0	3	75.0	0.6000	0	4	5.00
10	0	0	0	0	0.00	0.0000	0	0	0	0	0	0	0	0.00	0.0000	0	0	20.00
11	2	0	0	2	100.0	0.0000	0	0	0	0	0	0	0	0.00	0.0000	0	2	25.00
12	0	0	0	0	0.00	0.0000	0	0	0	0	0	0	0	0.00	0.0000	0	0	15.00
13	0	0	0	0	0.00	0.0000	0	0	0	0	0	0	0	0.00	0.0000	0	0	15.00
14	0	0	0	0	0.00	0.0000	0	0	0	0	0	0	0	0.00	0.0000	0	0	22.50
15	0	5	0	5	71.43	0.0741	0	0	0	0	1	0	1	14.29	0.0148	1	7	67.50
16	0	0	0	0	0.00	0.0000	0	0	0	0	0	0	0	0.00	0.0000	0	0	5.00
Total	3	6	0	9	26.47	0.0195	9	3	4	1	7	0	24	70.59	0.0520	1	34	461.25

Table 6. 8 Lithics in Terrace 1 features and terrace fill

	Bead		Canto rodado		Core		*Chrysocolla*		Flake		Fragment		*Batán*		*Mano*		Pebble		Point		Polisher		Total	
	count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	count	%
1	0	0.00	0	0.00	0	0.00	0	0.00	14	100	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	14	100
3	0	0.00	0	0.00	1	2.94	26	76.47	3	8.82	1	2.94	0	0.00	0	0.00	3	8.82	0	0.00	0	0.00	34	100
4	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	66.67	1	33.33	0	0.00	0	0.00	0	0.00	0	0.00	3	100
5	0	0.00	0	0.00	0	0.00	0	0.00	1	100	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100
6	0	0.00	5	33.33	0	0.00	6	40.00	2	13.33	1	6.67	0	0.00	0	0.00	0	0.00	1	6.67	0	0.00	15	100
8	0	0.00	0	0.00	0	0.00	2	66.67	0	0.00	0	0.00	0	0.00	1	33.33	0	0.00	0	0.00	0	0.00	3	100
9	0	0.00	0	0.00	0	0.00	16	100	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	16	100
10	0	0.00	0	0.00	0	0.00	1	100	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100
11	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	66.67	0	0.00	0	0.00	0	0.00	0	0.00	1	33.33	3	100
12	0	0.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	2	100
14	0	0.00	0	0.00	0	0.00	0	0.00	2	100	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	100
15	0	0.00	0	0.00	0	0.00	0	0.00	2	50.00	0	0.00	0	0.00	0	0.00	1	25.00	0	0.00	1	25.00	4	100
17	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100
Total Rasgos	0	0.00	6	6.06	1	1.01	51	51.52	24	24.24	7	7.07	2	2.02	1	1.01	4	4.04	1	1.01	2	2.02	99	100
Fill Total	2	0.76	10	3.79	0	0.00	121	45.83	88	33.33	12	4.55	0	0.00	0	0.00	26	9.85	1	0.38	4	1.52	264	100
Grand Total	2	0.55	16	4.40	1	0.27	172	47.38	112	30.85	19	5.23	2	0.55	1	0.27	30	8.26	2	0.55	6	1.65	363	100

Table 6. 9 Botanical materials from Terrace 1

	Fill				Rasgos				Total	
Botanic Material	Count	% of all Fill	% of T1	% of Type	count	% of all Rasgos	% of T1	% of Type	Count	%
Arachis hypogaea	26	0.22	0.12	81.25	6	0.06	0.03	18.75	32	0.15
Chenopodium quinoa	0	0.00	0.00	0.00	2	0.02	0.01	100.00	2	0.01
Cucurbita sp.	4	0.03	0.02	26.67	11	0.12	0.05	73.33	15	0.07
Coprolites	579	4.95	2.75	17.34	2762	29.41	13.10	82.66	3341	15.85
Flower	1	0.01	0.00	100.00	0	0.00	0.00	0.00	1	0.00
Lagenaria sp.	2	0.02	0.01	40.00	3	0.03	0.01	60.00	5	0.02
Schinus molle	1	0.01	0.00	0.16	631	6.72	2.99	99.84	632	3.00
Unidentified	21	0.18	0.10	67.74	10	0.11	0.05	32.26	31	0.15
Unknown	20	0.17	0.09	95.24	1	0.01	0.00	4.76	21	0.10
wood	11005	94.08	52.18	65.01	5924	63.08	28.09	34.99	16929	80.28
Zea mays	38	0.32	0.18	48.10	41	0.44	0.19	51.90	79	0.37
Grand Total	11697	100.00	55.47	55.47	9391	100.00	44.53	44.53	21088	100.00

Table 6. 10 Ceramic densities for Structure 3 and Terrace 1 materials

Terrace/ Area	Sherd Count	Soil Volume in m^3	Ceramic density (sherds per m^3)
Structure 3 south room	778	3.815	203.93
Structure 3 gallery	850	1.150	548.39
Structure 3 Total	1682	5.315	316.46
T1	245	2.028	117.34
T2	11	0.515	21.35
T3	15	0.785	19.10
T4	734	5.179	141.70
T5	125	0.517	241.54
T6	60	1.128	53.16
T7	292	0.537	394.78

Table 6. 11 Ceramics in Terrace 1 fill and features

Rasgo	Huaracane		Unknown		Wari		Total	
	count	%	count	%	count	%	count	%
1	0	0.00	0	0.00	4	100	4	100
3	1	25	0	0.00	3	75	4	100
4	0	0.00	0	0.00	3	100	3	100
6	0	0.00	0	0.00	8	100	8	100
8	0	0.00	0	0.00	2	100	2	100
9	1	25	0	0.00	3	75	4	100
11	2	100	0	0.00	0	0.00	2	100
15	5	71.42	1	14.28	1	14.28	7	100
Rasgo Total	9	26.47	1	2.94	24	70.58	34	100
Fill Total	82	38.86	1	0.47	128	60.66	211	100
Grand Total	91	37.14	2	0.81	152	62.04	245	100

Table 6. 12 Frequency distributions of excavated ceramics on all terraces in Sector C

Paste	T1		T 2		T3		Sector C Total		
	count	% of T1	count	% of T2	count	% of T3	count	% of Total	% of Grand Total
- *H Arena gruesa*	36	14.69	1	9.09	0	0.00	37	13.65	2.50
- *H Arena fino*	27	11.02	0	0.00	0	0.00	27	9.96	1.82
- *H Arena fino roja*	28	11.43	0	0.00	0	0.00	28	10.33	1.89
H Arena Subtotal	91	37.14	1	9.09	0	0.00	92	33.95	6.21
H Fino	0	0.00	0	0.00	0	0.00	0	0.00	0.00
H Vegetal	0	0.00	0	0.00	0	0.00	0	0.00	0.00
Total Huaracane	91	37.14	1	9.09	0	0.00	92	33.95	6.21
- *Wari llana beige*	78	31.84	4	36.36	6	40.00	88	32.47	5.94
- *Wari llana naranja*	9	3.67	2	18.18	0	0.00	11	4.06	0.74
- *Wari llana gris*	17	6.94	0	0.00	4	26.67	21	7.75	1.42
Wari llana Subtotal	104	42.45	6	54.55	10	66.67	120	44.28	8.10
Wari Chakipampa	0	0.00	0	0.00	0	0.00	0	0.00	0.00
Wari Ocros	0	0.00	0	0.00	0	0.00	0	0.00	0.00
Wari mica	18	7.35	3	27.27	1	6.67	22	8.12	1.48
other Wari	23	9.39	0	0.00	4	26.67	27	9.96	1.82
Total Wari	145	59.18	9	81.82	15	100.00	169	62.36	11.40
Unknown	9	3.67	1	9.09	0	0.00	10	3.69	0.67
Total	245	100	11	0.74	15	100.00	271	100.00	18.29

Table 6. 13 Frequency distributions of excavated ceramics on all terraces in Sector D

Paste	T4		T5		T6		T7		Sector D Total		Grand Total (C+D)		
	Count	% of t4	Count	% of t5	Count	% of t6	Count	% of t7	Count	% of Total	% of Total	Count	% of Total
- *H. Arena gruesa*	76	10.35	14	11.20	7	11.67	10	0.32	107	8.84	0.60	144	9.72
- *H. Arena fino*	199	27.11	39	31.20	15	25.00	37	12.67	290	23.95	1.62	317	21.39
- *H. Arena fino roja*	144	19.62	9	7.20	11	18.33	38	13.01	202	16.68	1.13	230	15.52
H Arena Sub Total	419	57.08	62	49.60	33	55.00	85	29.11	599	49.46	3.34	691	46.63
H Fino	2	0.27	0	0.00	0	0.00	0	0.00	2	0.17	0.01	2	0.13
H Vegetal	7	0.95	4	3.20	14	23.33	3	1.03	28	2.31	0.16	28	1.89
Total Huaracane	428	58.31	66	52.80	47	78.33	88	30.14	629	51.94	3.50	721	48.65
Wari llana	61	8.31	17	13.60	1	1.67	161	55.14	240	19.82	1.34	328	22.13
Wari llana naranja	41	5.59	3	2.40	0	0.00	19	6.51	63	5.20	0.35	74	4.99
Wari llana gris	28	3.81	19	15.20	1	1.67	1	0.34	49	4.05	0.27	70	4.72
Wari llana sub Total	130	17.71	39	31.20	2	3.33	181	61.99	352	29.07	1.96	472	31.85
Wari Chacipampa	1	0.14	0	0.00	0	0.00	2	0.68	3	0.25	0.02	3	0.20
Wari Ocros	6	0.82	0	0.00	0	0.00	0	0.00	6	0.50	0.03	6	0.40
Wari mica	49	6.68	5	4.00	8	13.33	6	2.97	68	5.62	0.38	90	6.07
other Wari	64	8.72	10	8.00	2	3.33	5	1.71	81	6.69	0.45	108	7.29
Total Wari	250	34.06	54	43.20	12	20.00	194	66.44	510	42.11	2.84	679	45.82
Unknown	56	7.63	5	4.00	1	1.67	10	3.42	72	5.95	0.40	82	5.53
Total	734	100	125	100	60	100	292	100	1211	100	81.7	1482	100

Table 6. 14 Distribution of all botanic materials in terraces of Sector C

Botanic Material	T1		T2		T3		Sector C Total	
	Count	%	Count	%	Count	%	Count	%
Arachis hypogaea	32	0.15	0	0.00	0	0.00	32	0.13
Arundinaria sp.	0	0.00	0	0.00	0	0.00	0	0.00
Chenopodium quinoa	2	0.01	0	0.00	0	0.00	2	0.01
Cucurbita sp.	15	0.07	0	0.00	0	0.00	15	0.06
Coprolites	3341	15.84	4	0.05	61	1.88	3406	13.56
Flower	1	0.00	0	0.00	0	0.00	1	0.00
Inga feuilleei	0	0.00	0	0.00	0	0.00	0	0.00
Lagenaria sp.	5	0.02	0	0.00	73	2.25	78	0.3
Schinus molle	632	3.00	0	0.00	0	0.00	632	2.52
Stipa ichu	0	0.00	0	0.00	0	0.00	0	0.00
Unidentifiable	10	0.05	0	0.00	0	0.00	10	0.04
Unidentified	22	0.10	3	0.38	2	0.06	27	0.11
Unknown	20	0.09	0	0.00	0	0.00	20	0.08
wood	16929	80.28	778	98.11	3108	95.78	20815	82.84
Zea mays	79	0.37	8	1.01	1	0.03	88	0.35
Grand Total	21088	100	793	100	3245	100	25126	100

Table 6. 15 Distribution of botanic materials in terraces of Sector C (excluding wood, molle and coprolites)

	T1		T2		T3		Sector C Total	
Botanic Material	Count	%	Count	%	Count	%	Count	%
Arachis hypogaea	32	17.20	0	0.00	0	0.00	32	11.72
Arundinaria sp.	0	0.00	0	0.00	0	0.00	0	0.00
Chenopodium quinoa	2	1.08	0	0.00	0	0.00	2	0.73
Cucurbita sp.	15	8.06	0	0.00	0	0.00	15	5.49
Flower	1	0.54	0	0.00	0	0.00	1	0.37
Inga feuilleei	0	0.00	0	0.00	0	0.00	0	0.00
Lagenaria sp.	5	2.69	0	0.00	73	96.05	78	28.57
Stipa ichu	0	0.00	0	0.00	0	0.00	0	0.00
Unidentifiable	10	5.38	0	0.00	0	0.00	10	3.66
Unidentified	22	11.83	3	27.27	2	2.63	27	9.89
Unknown	20	10.75	0	0.00	0	0.00	20	7.33
Zea mays	79	42.47	8	72.72	1	1.32	88	32.23
Grand Total	186	100	11	100	76	100	273	100

Table 6. 16 Distribution of all Botanic Material in Terraces of Sector D

Botanic Material	T4		T5		T6		T7		Sector D Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Arachis hypogaea	407	91.67	2	0.45	26	5.86	9	2.03	444	93.28
Arundinaria sp.	15	93.75	0	0.00	1	6.25	0	0.00	16	100.00
Chenopodium quinoa	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Cucurbita sp.	84	84.00	2	2.00	12	12.00	2	2.00	100	86.96
Coprolites	1373	27.15	1770	35.01	48	0.95	1866	36.90	5058	59.76
Flower	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Inga feuilleei	161	31.94	81	16.07	137	27.18	125	24.80	504	100.00
Lagenaria sp.	167	56.42	44	14.86	23	7.77	62	20.95	296	79.14
Schinus molle	800474	97.64	4809	0.59	6540	0.80	7993	0.97	819816	99.92
Stipa ichu	59	100.00	0	0.00	0	0.00	0	0.00	59	100.00
Unidentifiable	129	89.58	3	2.08	2	1.39	10	6.94	144	93.51
Unidentified	251	85.67	4	1.37	26	8.87	12	4.10	293	91.56
Unknown	10	29.41		0.00	2	5.88	22	64.71	34	62.96
wood	153694	77.57	14474	8.43	13841	8.06	9545	5.93	191554	89.18
Zea mays	566	69.02	6	0.73	139	16.95	109	13.29	820	90.31
Grand Total	957390	100	21195	100	20797	100	19755	100	1019138	100

Table 6. 17 Distribution of all botanic materials in terraces of Sector D (excluding coprolites, molle and wood)

Botanical material	T4		T5		T6		T7		Sector D Total	
	count	%	count	%	count	%	count	%	count	%
Arachis hypogaea	407	22.01	2	1.41	26	7.07	9	2.56	444	16.38
Arundinaria sp.	15	0.81	0	0.00	1	0.27	0	0.00	16	0.59
Chenopodium quinoa	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Cucurbita sp.	84	4.54	2	1.41	12	3.26	2	0.57	100	3.69
Flower	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Inga feuilleei	161	8.71	81	57.04	137	37.23	125	35.61	504	18.60
Lagenaria sp.	167	9.03	44	30.99	23	6.25	62	17.66	296	10.92
Stipa ichu	59	3.19	0	0.00	0	0.00	0	0.00	59	2.18
Unidentifiable	129	6.98	3	2.11	2	0.54	10	2.85	144	5.31
Unidentified	251	13.57	4	2.82	26	7.07	12	3.42	293	10.81
Unknown	10	0.54	0	0.00	2	0.54	22	6.27	34	1.25
Zea mays	566	30.61	6	4.23	139	37.77	109	31.05	820	30.26
Grand Total	1849	100	142	100	368	100	351	100	2710	100

Table 6. 18 Distribution of chipped stone across all terraces in Sectors C and D

Terrace	Flakes		Points		Scraper tools		Total Chipped stone	
	Count	%	Count	%	Count	%	Count	%
T1	109	98.20	2	1.80	0	0.00	111	100.00
T2	7	100.00	0	0.00	0	0.00	7	100.00
T3	2	66.67	1	33.33	0	0.00	3	100.00
Sector C	118	97.52	3	2.48	0	0.00	121	100.00
T4	51	86.44	7	11.86	1	1.69	59	100.00
T5	5	71.43	2	28.57	0	0.00	7	100.00
T6	5	71.43	2	28.57	0	0.00	7	100.00
T7	4	57.14	3	42.86	0	0.00	7	100.00
Sector D	65	81.25	14	17.50	1	1.25	80	100.00
Grand Total	183	91.04	17	8.46	1	0.50	201	100.00

Table 6. 19 Density of flakes in all terraces of Sectors C and D

Terrace	Count	Soil volume in l	Flake Density
T1	109	2028.75	0.0537
T2	7	515	0.0136
T3	2	785	0.0025
Sector C	118	3328.75	0.0354
T4	51	4789.75	0.0106
T5	5	517.5	0.0097
T6	5	1128.5	0.0044
T7	4	537	0.0074
Sector D	65	6972.75	0.0093
Grand Total	183	**10301.5**	0.0178

Table 6. 20 Distribution of ground stone tools across all terraces in Sectors C and D

	Batán		Canto rodado		Hammer stone		Mano		Core		Pebble		Polisher		unknown		Ground Stone Total	
Terrace		%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
T1	2	3.45	5	8.62	9	15.52	3	5.17	4	6.90	24	41.38	8	13.79	3	5.17	58	100
T2	1	100	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100
T3	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	100
Sector C	3	5.08	5	8.47	9	15.25	3	5.08	4	6.78	24	40.68	8	13.56	3	5.08	59	100
T4	0	0.00	18	20.22	23	25.84	8	8.99	2	2.25	12	13.48	10	11.24	16	17.98	89	100
T5	0	0.00	0	0.00	2	18.18	4	36.36	3	27.27	0	0.00	0	0.00	2	18.18	11	100
T6	0	0.00	3	27.27	1	9.09	1	9.09	0	0.00	0	0.00	1	9.09	5	45.45	11	100
T7	0	0.00	154	87.01	7	3.95	7	3.95	0	0.00	0	0.00	1	0.56	8	4.52	177	100
Sector D	0	0.00	175	60.76	33	11.46	20	6.94	5	1.74	12	4.17	12	4.17	31	10.76	288	100
Grand Total	3	0.86	180	51.87	42	12.10	23	6.63	9	2.59	36	10.37	20	5.76	34	9.80	347	100

Table 6. 21 Excavated mollusk species, Sectors C and D

Shell Type	Sector C		Sector D		Site wide	
	Count	%	Count	%	Count	%
Aulacomya Ata	2	2.94	0	0.00	2	0.59
Unidentifiable bivalve	0	0.00	2	0.74	2	0.59
Camarón	0	0.00	2	0.74	2	0.59
Chitonidae	0	0.00	1	0.37	1	0.30
Choromytilus chorus	50	73.53	124	46.10	174	51.63
Fissurela sp.	5	7.35	2	0.74	7	2.08
Litturina peruviana	0	0.00	25	9.29	25	7.42
Mesodesma donacium	0	0.00	2	0.74	2	0.59
Unidentifiable mollusk	3	4.41	0	0.00	3	0.89
Oliva peruviana	0	0.00	13	4.83	13	3.86
Perumytilus purpuratus	1	1.47	1	0.37	2	0.59
Prisogaster niger	1	1.47	23	8.55	24	7.12
Protothaca thaca	0	0.00	1	0.37	1	0.30
Scurria scurra	1	1.47	6	2.23	7	2.08
Scutalus sp.	0	0.00	62	23.05	62	18.40
Turbinalla sp.	1	1.47	0	0.00	1	0.30
Unknown	4	5.88	5	1.86	9	2.67
TOTAL	68	100	269	100	337	100

Table 6. 22 Comparison of *Chrysocolla* densities for all excavated terraces in Sectors C and D

		Chrysocolla		
Provenience	Soil Vol. in liters	Count	Weight in g	Density (g /l)
T1	2028.75	172	139.15	0.069
T2	515	28	49	0.095
T3	785	0	0	0.00
Sector C Total	*3328.75*	*200*	*188.15*	*0.57*
T4	4789.75	3	61.75	0.013
T5	517.5	5	65	0.126
T6	1128.5	9	2.45	0.002
T7	537	0	0	0.00
Sector D Total	*6972.75*	*17*	*129.2*	*0.019*
Site wide Total	10301.5	217	317.35	0.031

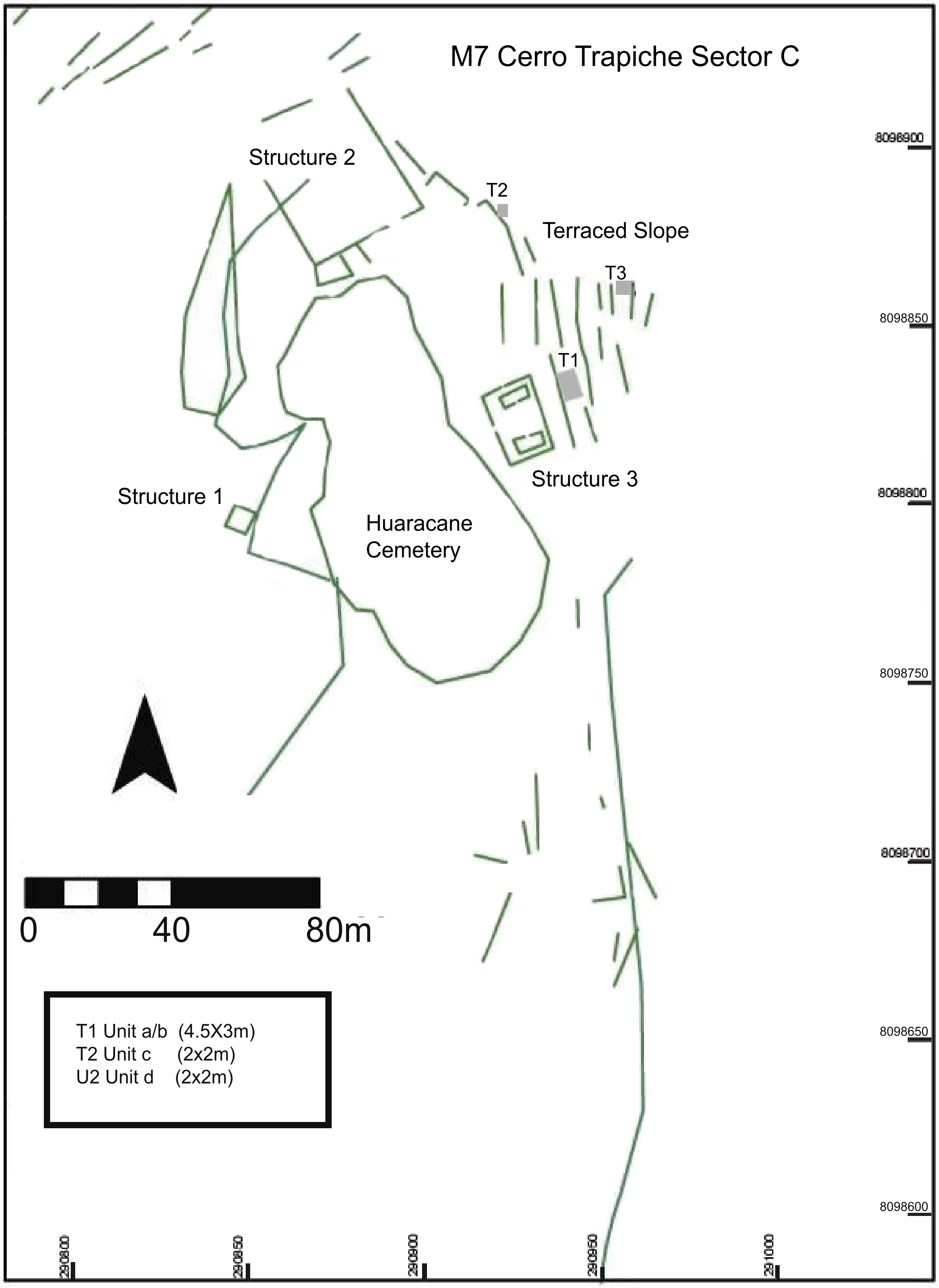

Figure 6. 1 Map of Sector C with Excavation locations

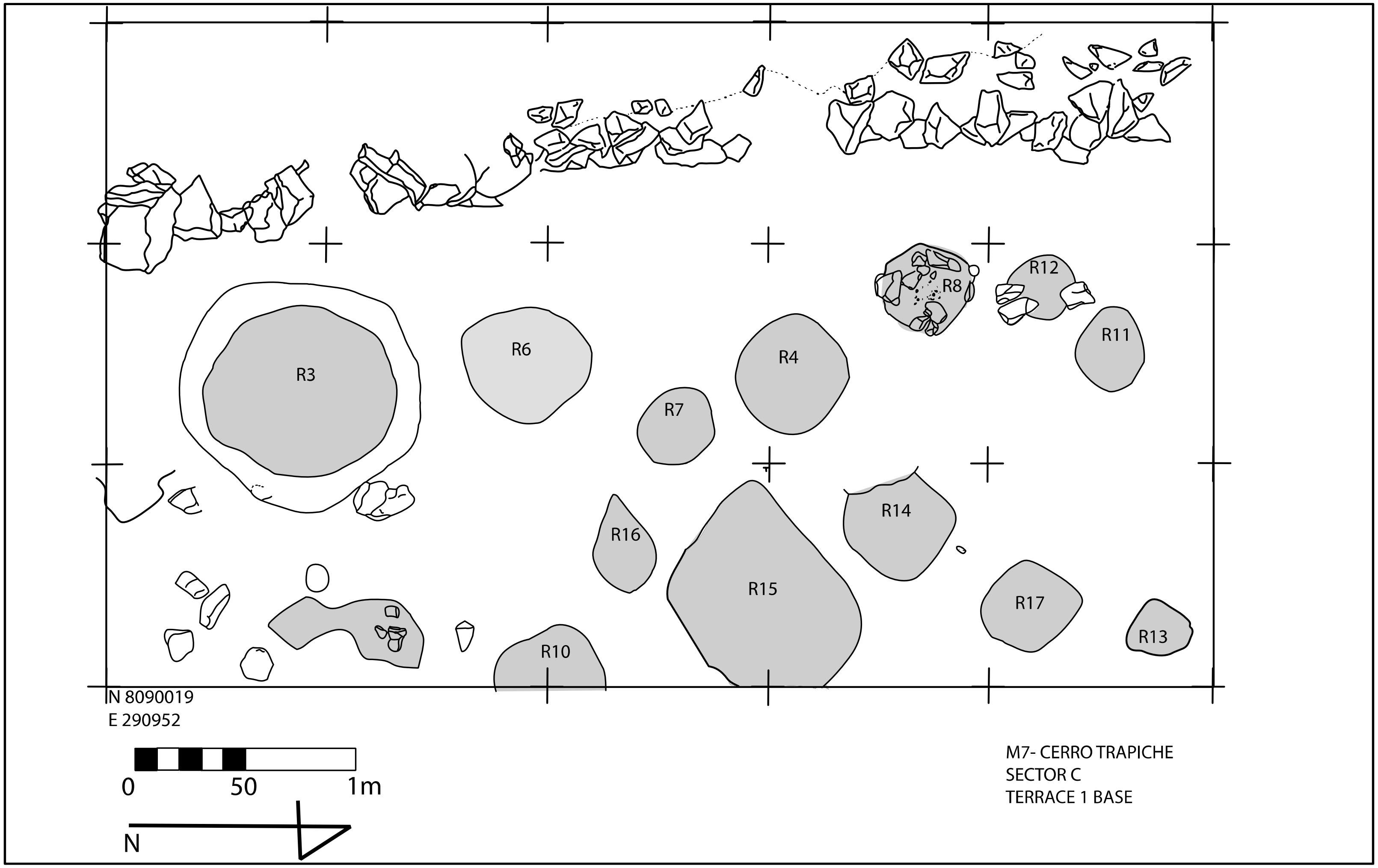

Figure 6. 2 Plan view of excavation of pit features in Terrace 1

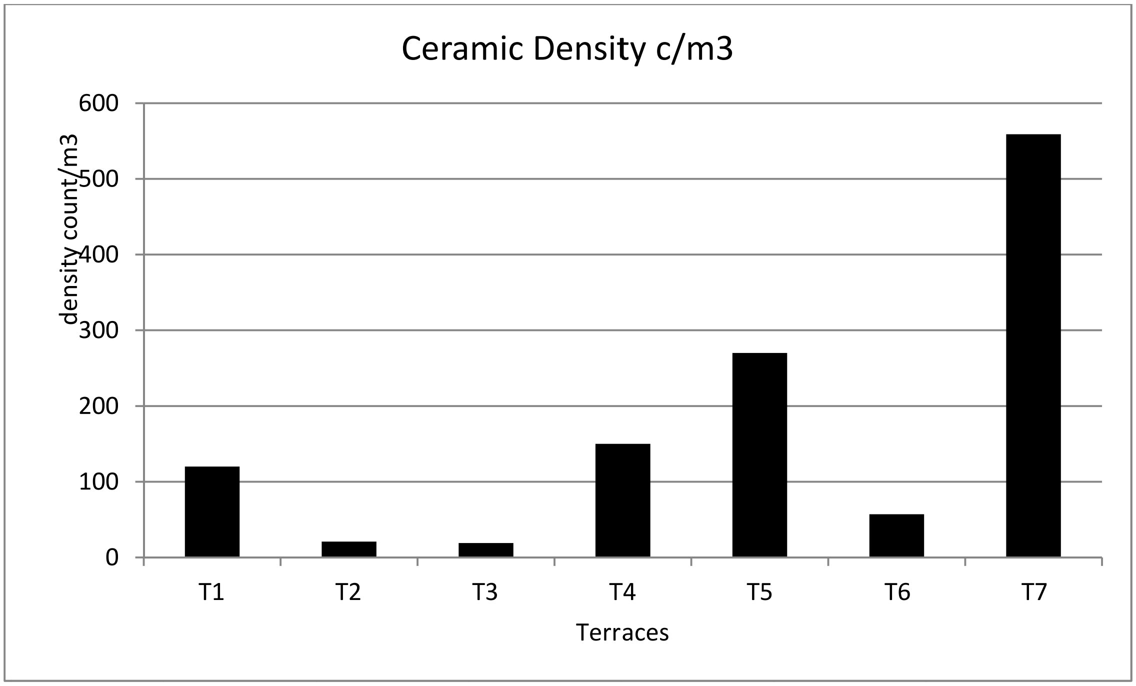

Figure 6. 3 Ceramic density distribution of excavated material in Sectors C and D

Figure 6. 4 Decorated Wari sherd from Terrace 1

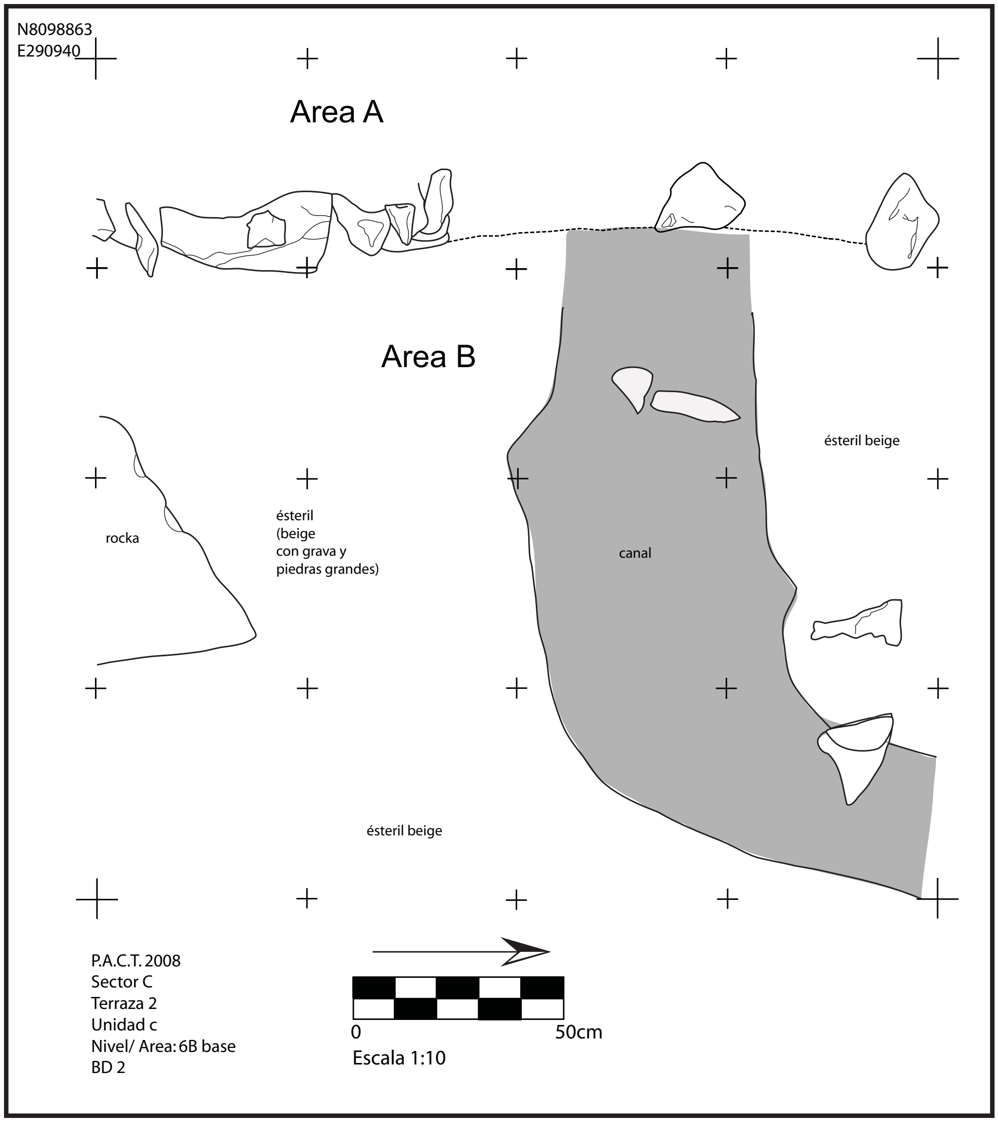

Figure 6. 5 Plan view of Terrace 2 excavations showing the second canal

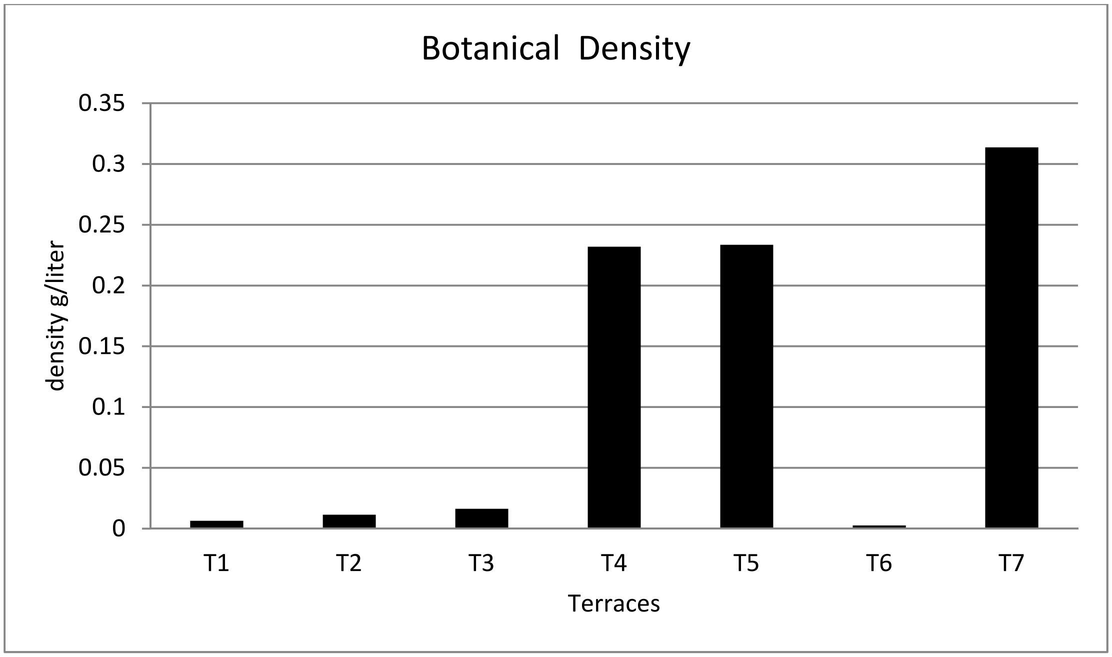

Figure 6. 6 Bar graph showing thw density (g/l) of botanical materials across all terarces

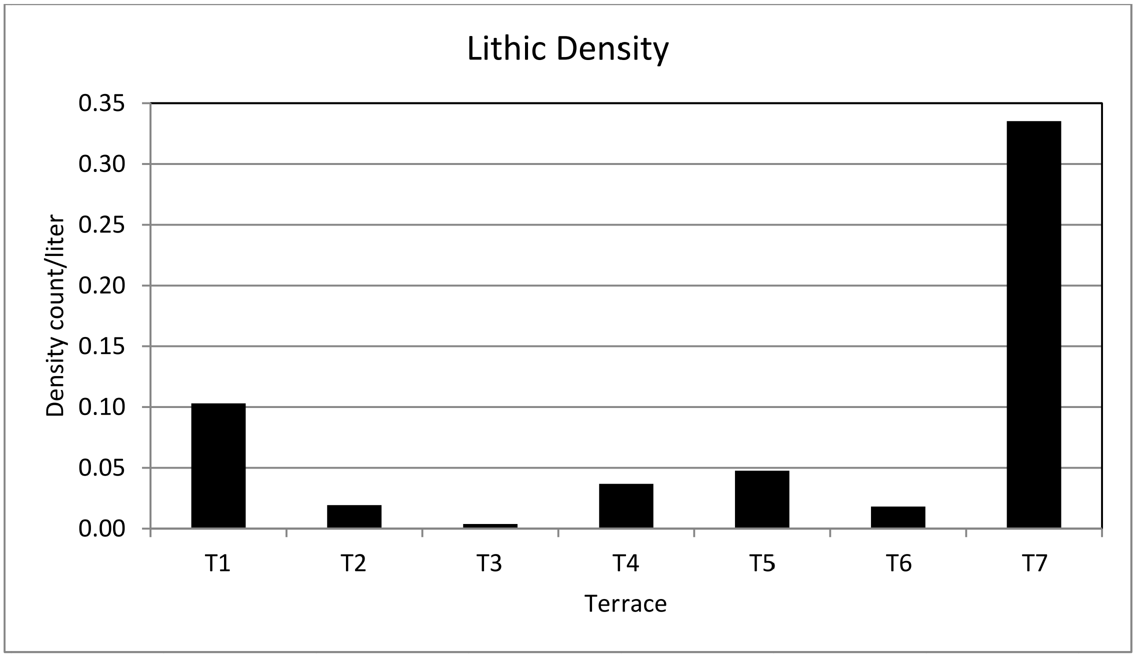

Figure 6. 7 Bar graph showing the densities of lithic materials in all terraces

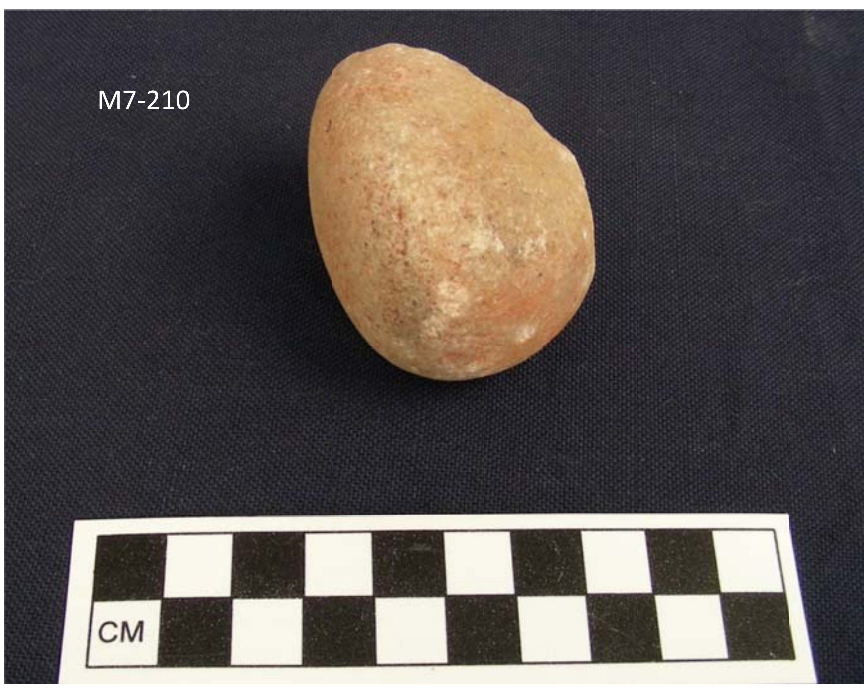

Figure 6. 8 *Mano* with red pigment from Rasgo 12, Terrace 1

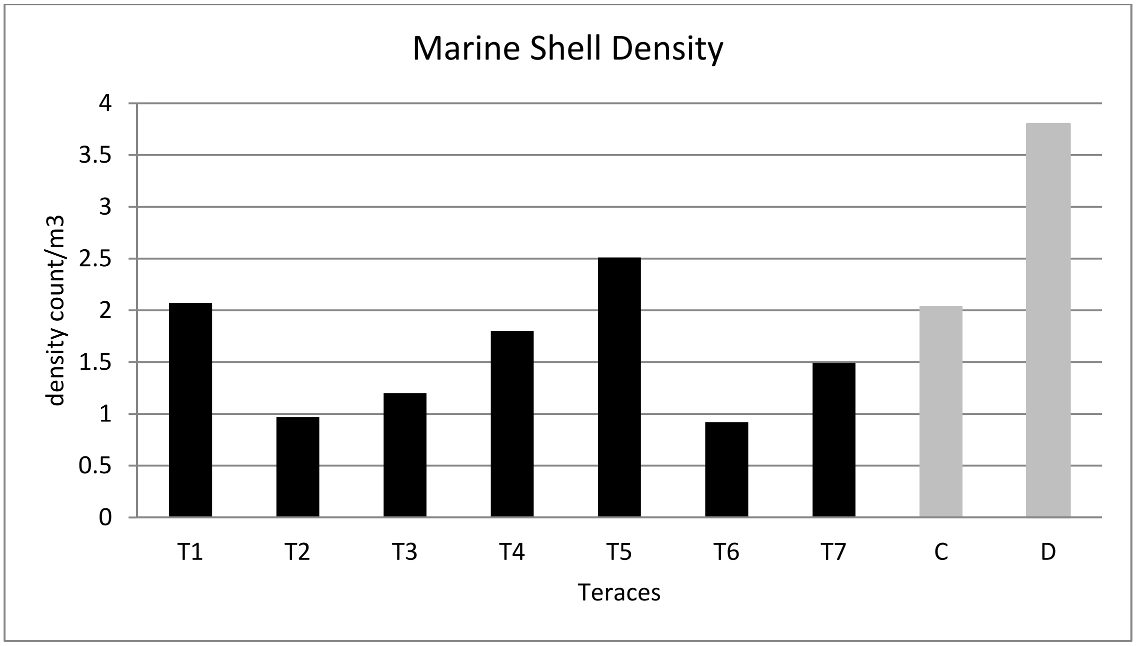

Figure 6. 9 Bar graph showing the density (count/ m3) of marine shells across all terraces

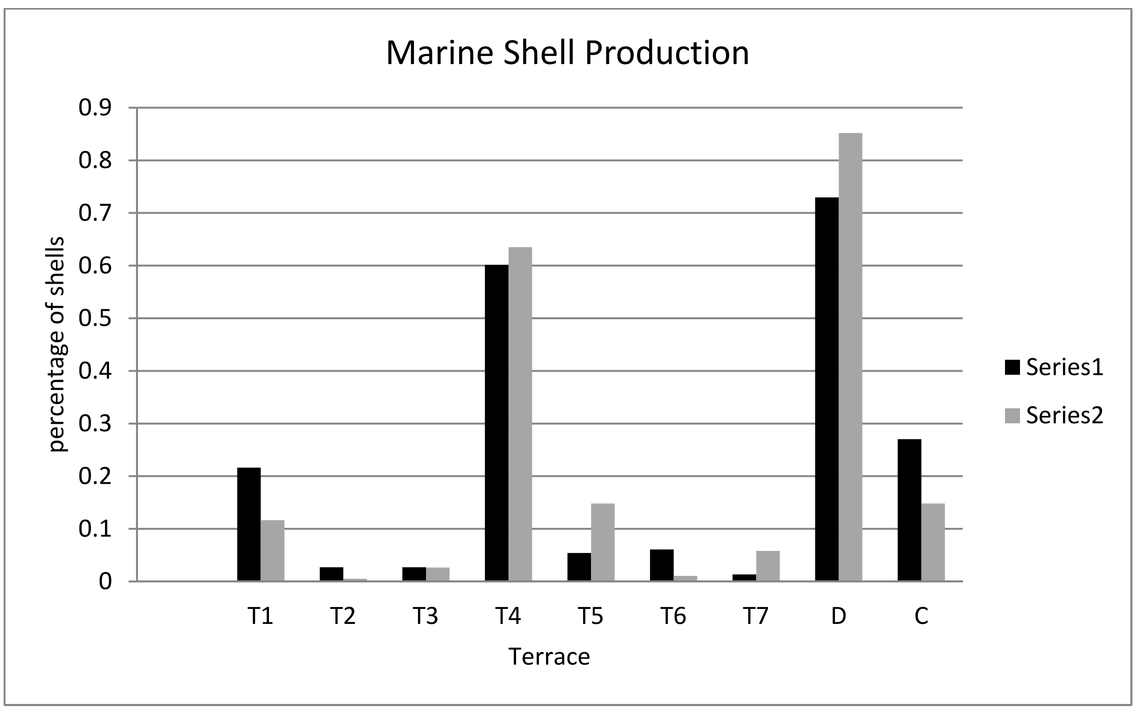

Figure 6. 10 Percentage of worked an non-worked shell for each terrace's shell total (black is worked and grey non-worked)

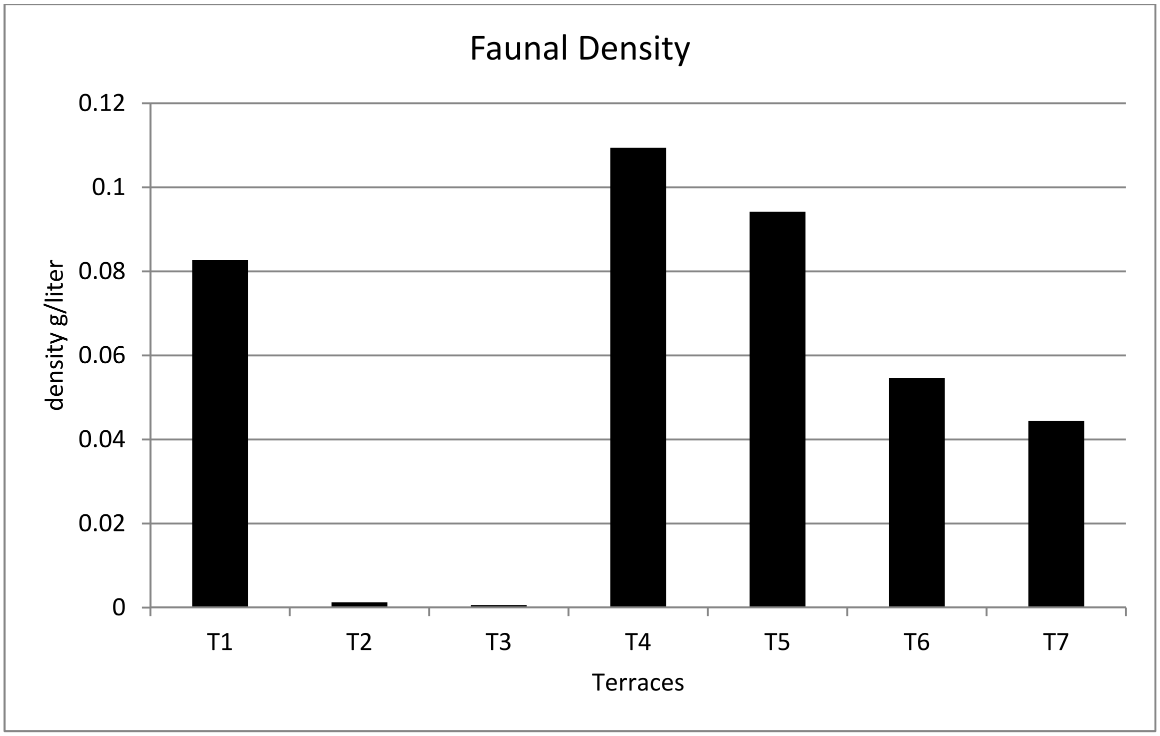

Figure 6. 11 Bar graph showing the density of faunal materials (g/l) across all terraces

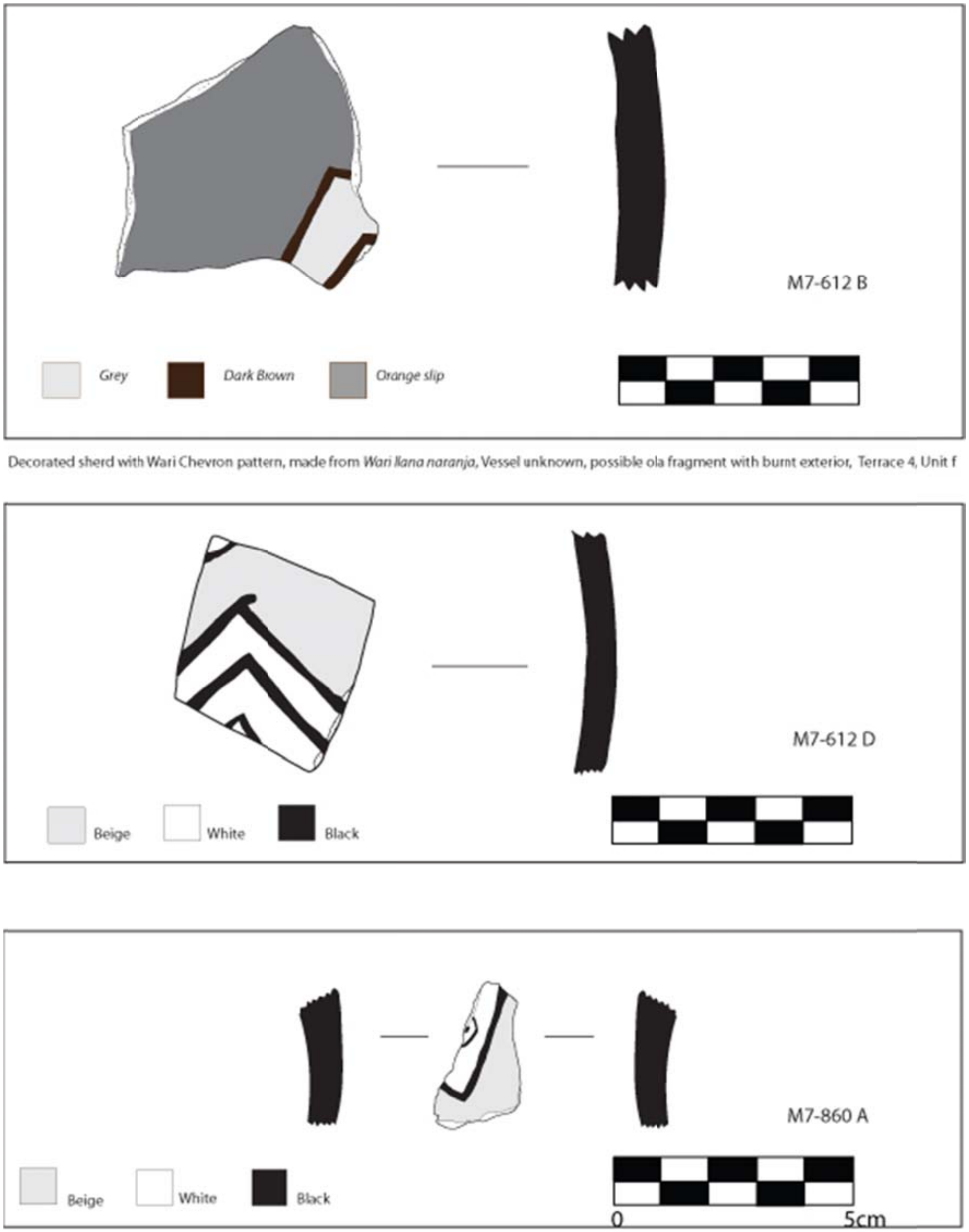

Figure 6. 12 Fragments of decorated Wari serving bowls

CHAPTER 7: THE WARI FRONTIER EXPERIENCE IN THE MIDDLE MOQUEGUA VALLEY

Introduction:

Like many expansive states in the ancient world, the Wari operated complex strategies to establish and maintain a presence in remote areas on the fringes of their political influence sphere. The establishment of intrusive colonial settlements in such areas was an important marker of social, cultural, and political boundaries. However, commonly these settlements did not exist in culturally sterile environments but rather embedded themselves within existing cultural and geographic landscapes and the resulting cross-cultural entanglements took many different forms. The goals of this dissertation were threefold:

1) Examine the range of existing models of cross-cultural interaction in ancient borderlands and their application in the study of the Wari empire of Middle Horizon Peru.
2) Present new data from the site of Cerro Trapiche in the Moquegua Valley that provides insight into the interaction between local and foreign groups in the Middle Valley during the Middle Horizon.
3) Review the application of Wari imperial strategies on the fringes of this expansive state society.

In chapters 2 and 3 I reviewed some potential explanations of the processes that accompanied these complex exchanges. Traditional core-periphery models, for instance, suggested that a strong core society maintained economic connections to its peripheries and dominated the fringe areas through direct political control and economic exploitation. The limitations of such perceptions became obvious as postcolonial discourse introduced concepts of agency, local resistance, *habitus* and practice theory. More recently frontier studies have refocused peripheral and indigenous viewpoints on the debate on colonial and cross-cultural encounters. Departing from uni-directional acculturation interpretations of cultural exchanges, I proposed a frontier study approach in concert with a postcolonial perspective, which highlights the multitude of experiences in frontier and borderland scenarios. Such an evaluation included themes like the formation of new hybrid identities and material realities, and isolation from, and active resistance to a foreign intrusive presence.

The Cerro Trapiche data presented in this dissertation specifically highlights Wari strategies in frontier and borderland contexts and provides a useful example of a peripheral perspective that combines the emphasis both foreign and local viewpoints and experiences within the Wari empire. Furthermore the perspectives laid out in this thesis are applicable to the general inquiry into the nature of imperial expansion and cross-cultural entanglements in ancient borderlands.

7.1. CERRO TRAPICHE A HYBRID WARI/ HUARACANE SETTLEMENT

The importance of Cerro Trapiche in the Moquegua valley during the Middle Horizon is easily recognized when considering its location. Why did the Wari choose this particular site in the extensively occupied middle valley for a substantial settlement? I suggest that Trapiche's role as an active player in this cultural interaction zone was due to its unique placement in both Tiwanaku and Huaracane's cultural and territorial spheres. Such a placement was a deliberate choice, which included the site's topographic advantages but which was also based on the key positioning within the active Middle Horizon cultural landscape that included both local communities as well as Tiwanaku colonies, and which I call a "deliberate cultural positioning".

As described in Chapter 3, during the Middle Horizon Period the middle Moquegua valley was shared by Tiwanaku settlers at Chen Chen, Omo, Rio Muerto and Cerro Echeníque as well as Huaracane communities like Yahuay Alta, and the Wari settlers at Cerro Trapiche. What would motivate the Wari, whose initial presence in Moquegua was confined to the upper valley, to establish an outpost within Tiwanaku and Huaracane territory? Whether it was for purposes of trade, resource extraction, or exertion of political power, the intrusive permanent foreign settlement at Cerro Trapiche indicates a well-defined interest that required a continuous presence in a foreign terrain. In chapter 1, I discussed the range of colonies from installations for exertion of power to diasporic enclaves wherein large numbers of a population moved and permanently resettled. Goldstein (2005) for instance identified Tiwanaku settlements in Moquegua as diasporic; made up of different groups of the patchwork of Tiwanaku society, which produced maize for the highland city that was transported there by way of camelid caravan.

One possible scenario for Wari colonization in Moquegua builds on previous research at the upper valley sites. If administrators and elites at the large center of Cerro Baúl were already engaged in some type of diplomatic exchange with Tiwanaku envoys (Williams and Nash; Moseley et al. 2005) a Wari outpost in the middle valley seems redundant for further diplomatic contact. On the other hand, if the Wari were interested in exchanges with local elites and their communities this would have to take place in the middle valley, as no Huaracane sites have been documented in the vicinity of the upper valley site complex.

7.1.1. Geographic Location

The advantageous geographic location of Cerro Trapiche did not go unnoticed by the people living in the Moquegua valley as its complex archaeological record shows. During the Formative period the local Huaracane viewed Cerro Trapiche as an important location where they interred their dead in a boot tomb cemetery. As discussed in chapter 3, this particular type of burial ground was associated with the emergence of elites in Huaracane society (Goldstein 2000) and was usually found on bluffs above the Huaracane settlements. The boot tomb cemetery in Sector D represents the only investigated Formative Period contexts of the Trapiche site, although Huaracane materials have been found in all sectors of the site. It stands to reason that Huaracane groups possibly did occupy this site before the Wari arrival because it falls within a pattern that has been documented at site like Yahuay Alta and Montalvo, where boot tombs were associated with elevated Huaracane occupied sites.

In the Middle Horizon, the site of Cerro Trapiche became a key location enmeshed in the cultural frontier landscape of the Wari and Tiwanaku borderland. As a Wari settlement, Cerro Trapiche seems quite isolated, approximately 15km away from the large Wari center at Cerro Baúl and not within sight of the large mesa. Cerro Trapiche is also not much smaller than the upper valley Wari occupation. All residential architecture at Trapiche is confined to the defensible upper slope (Sector D) and peaks (Sectors E and F) above it. No other adjacent sites were occupied by the Wari in the middle valley, again presenting a different picture from the Baúl colony with its supporting satellite sites.

The defensive nature of the mountain in itself speaks to the Wari tradition of site location observed in the upper valley, and perhaps Nash and Williams's suggestion of apu (mountain) worship, discussed in chapter 3, also played a role in the settlements at this mountain site in the middle valley. During the 2008 season, three of the excavators, who lived on the lower slopes of Cerro Trapiche, still spoke with great reverence of the "Señor de Trapiche", the apu of the site. Similarly Fortier and Goldstein (2006) also documented the respect of Trapiche's modern settlers for the apu. That the Wari settlers had a need for protection is clear by the large defensive wall around Sector F and the protected moat that provides access to the peak. The Moquegua River that flows at the foot of the mountain, also provides both a close water source and protection especially during the winter months (January- March) when the run off from the high Andes raises the water levels and can turn it into a dangerous and fast moving maelstrom that cannot be crossed on foot.

7.1.2. Deliberate Cultural Positioning in the Middle Horizon

I describe Cerro Trapiche's placement as "deliberate cultural positioning" to reflect the preference for placing a settlement in a particular location within a cultural landscape because of its access to, or isolation from, other cultural groups. Deliberate cultural position is defined by factors such as proximity to other settlements or areas that that would hold special significance for other cultural groups (like markers in the landscape). Another characteristic of "deliberate cultural positioning" includes high visibility from and of other settlements. Deliberate cultural positioning can also be reflected in and lived through direct cultural exchanges with neighboring societies like trade, ceremonial gatherings or ritual performances accompanied by public feasting as well as violent exchanges and warfare or foreign colonial occupation. Conversely, "deliberate cultural positioning" may also be marked by intentional isolation of settlements and by rejection of cultural exchange.

The initial Wari choice of settling on Cerro Baúl, for instance, suggests a deliberate cultural positioning for defensible and spiritually important topography for settlement, along with a reliance on long-mastered agricultural practices involving terraces and control of water management. The site was intentionally established away and in isolation from the other cultural spheres that existed in the middle valley. This stands in stark contrast to the deliberate cultural positioning of the Cerro Trapiche settlement.

While located in a desirable geographic location and possessing advantageous topographic features, in the Middle Horizon Cerro Trapiche represents the only Wari site in Moquegua's middle valley, which was mainly occupied by Tiwanaku and Huaracane. Settlers at the Cerro Trapiche site could see at least some of the interspersed Huaracane settlements near the river. The Huaracane community of Yahuay Alta, for instance, is visible at ca. 7 km, and closer sites like Montalvo are visible as well (Figure 7.1).

When Wari settlers at Trapiche constructed their buildings on the plateau in Sector C they deliberately placed them close to a local boot tomb cemetery, that, even though not in use anymore, must still have held significant spiritual meaning for local communities. In doing so the Wari settlers established a number of links with the local population. By avoiding destruction or building on top of the burial ground the foreigners signaled respect for the local tradition and its sacred place. Similarly, Wari settler's engagement in preparing and performing public feasts with local leaders and members of the Cerro Trapiche community in the nearby plaza may have also involved reverence of local ancestral traditions.

Based on the discussion in chapter 3 and the evidence presented in chapters 5 and 6 it appears that the Wari settlers at Cerro Trapiche pursued contact only with local populations and appear to have used a "deliberate cultural positioning" to stay at a distance from the large Tiwanaku settlements clusters of Omo and Chen Chen. A closer inspection reminds us that Cerro Trapiche is a direct neighbor to the Tiwanaku hill site of Cerro Echeníque (Figure 7.1). The two mounts are ca. 2km apart and within direct line of sight of each other. It is important to note that both sites also share some topographic and cultural features. First, each is a mountain site with a distinct large plateau that cuts into the middle of the main slope and that faces the valley for a sweeping view. Secondly, both Middle Horizon settlements have defensive fortification on the highest peaks. Lastly, and most strikingly, both sites are also defined by a large Huaracane boot tomb cemetery on their lower plateau, which in both cases was reduced to a pile of rocks that makes these stunning features visible even in air photos (Figure 7.2). Standing on the plateau of Sector C or on the highest peak of sector F on Cerro Trapiche, looking east, one has a full view of the Tiwanaku architecture on the plateau and slope terraces of Cerro Echeníque and vice versa, Sector C is in a direct line of sight from the slopes and peaks of Cerro Echeníque (Figure 7.3). However, despite this proximity both sites are also clearly separated by a large tributary quebrada that runs between them.

To underscore the significance of this unusual set up, Cerro Echeníque itself is a unique site in at least two regards that suggest that it represents Tiwanaku's version of Deliberate Cultural Positioning. First, it is the only Tiwanaku settlement on the west bank of the river and secondly it is the only fortified Tiwanaku site in the Moquegua valley. Research at Cerro Echeníque in the 1980s involved some test excavations and mapping. Based on ceramic evidence Goldstein (2005) classified it as a Chen Chen style Tiwanaku site suggesting that it was part of the later Tiwanaku settlement phase. Although archaeologists hinted at the link between the two sites early on (Feldman 1989:213; Goldstein 2005:150, 317) no in-depth research has been done at the site since the 1980s to further illuminate the nature of this Tiwanaku settlement and its connection, or opposition, to Cerro Trapiche.

I suggest that Wari settlers deliberately chose Cerro Trapiche for settlement precisely because of its close proximity to the Tiwanaku site. If Williams and Nash's

(Nash and Williams 2005:170 ;Williams 2001:81) scenario of political exchange between Wari and Tiwanaku at Cerro Baúl holds true, then it follows that a middle valley settlement would take on a diplomatic role as well. We find at Trapiche, if that should be case, that this was not an entirely trusting diplomatic relationship. This is clear from the defensive installations at both Cerros Echeníque and Trapiche. This suggests that the Trapiche settlement was not initially designated for interactions with Tiwanaku settlers in the middle valley but perhaps to monitor them. In this case the placement of the Wari settlement at the Trapiche site was primarily influenced by the cultural frontier landscape that included both Tiwanaku and Huaracane settlements and the choice of geographic location was much dependent on the decision to be in the thick of the cultural exchanges taking place in the middle Moquegua valley. If the Moquegua valley represents the shared border between the two states generally the sites in the middle valley interaction area surely represent the frontline were both foreign groups as well a local communities made contact with each other.

7.2. WARI IMPERIAL STRATEGIES FROM THE MOQUEGUA CASE STUDY

One of the goals of this thesis was to assess and evaluate both the application of traditional understandings of core-centered imperialism to the Wari as well as other perspectives. In chapter 2 I explained that a traditional core-centered understanding of Wari expansion considered (Schreiber 1992) two types of imperial strategies tied to particular set of motivations and circumstances used to incorporate new peripheries:

1) Direct control involved extraction of agricultural and labor resources through Wari managers in large intrusive administrative centers from peripheries that exhibited less social complexity.
2) Indirect control employed local elites as middlemen to extract natural and labor resources from peripheries with preexisting hierarchies of social complexity.

These strategies undoubtedly apply to peripheries within a certain distance to the core where the movement of bulk goods and trade is efficient and not too costly. The Moquegua valley, however, is located at much too great a distance from the center at Huari for direct shipment of bulk resources like agrarian produce or people to be efficient. Extensive research in the closer proximity of the Huari center itself has shown that such resources were procured from much closer locations in the central highlands (Cook and Glowacki 2003; Jennings and Craig 2001; Tung and Cook 2006). Similarly, there exists no artifactual evidence to date at Huari or in Moquegua that the Moquegua valley played a significant role in the Wari empire as a source of smaller portable resources like fine metals, precious stones, or textiles for instance. Furthermore no road connections link the valley to the highland capital. Edwards and Schreiber (2014) in their recent examination of Wari imperial strategies consider the importance of Wari administrative outposts like Pataraya and Jincamocco along the trade route and road as a direct imperial control strategy of the Nasca region as a means to facilitate the movement of goods, ideas and people (2014) . No such infrastructure link has been documented between or near the southern coastal Moquegua valley region and the Huari highland center. Thus resource extraction through direct or indirect means was not a likely goal for Wari settlements in the Moquegua valley and a scenario of traditional imperial strategies do not apply to this region.

Instead, it appears that in the Moquegua Valley a different Wari strategy for the periphery must be considered, which includes motivations and mechanisms of control beyond traditional imperial explanations. Multiple lines of evidence suggest that the main Wari interest in the Moquegua valley was in the shared boundary with Tiwanaku. Therefore Wari interest in settling in the valley was propelled by political and cultural motivations rather than social-economic ones. There are a number of factors that support this assertion.

First, the Wari exercised neither direct nor indirect control over any of the contemporary local or foreign populations in the Moquegua valley at large. Most importantly it appears there was no interruption of local settlement patterns during the Early Middle Horizon in cases where Wari and some Huaracane settlers occupied the same parts of the middle valley. Previous research (Goldstein 2005), of course, showed that not all Huaracane settlements were occupied into the Middle Horizon period, but it is notable that sites with a continuous occupation into the Middle Horizon are associated with Wari in some form and conform to general Huaracane settlement patterns. Instead it appears that Wari settlers turned to cooperation with locals. This is, for instance, evident at Cerro Trapiche, where Wari colonists created a previously undocumented, hybrid community. Wari colonists also settled in closer proximity to Tiwanaku sites, like Chen Chen and especially Echeníque, in the middle valley at some point during the Early Middle Horizon. Although the new colonists certainly did not control any of the

Tiwanaku settlements they certainly cultivated exchanges in a shared and carefully constructed borderland, as defensive constructions at both Cerros Trapiche and Echeníque suggest.

Clearly some exception must be reserved for the upper valley settlement systems at Cerro Baúl and Mejía, where autonomous Wari occupation and control over localized resource extraction by means of canal systems and agricultural production is evident. This probably also included some local labor resources. However, this prominent Wari settlement was also very isolated in the upper valley, in locations that appear to be deliberately designed to avoid contact with any other group in the valley, suggesting that the Wari at Cerro Baúl had no control over (or perhaps interest in control over) the rest of the valley at large.

Secondly, the Wari strategy in Moquegua did not focus on the extraction of resources, people, or labor from that area but rather on the maintenance of a shared political border with the Tiwanaku state. This is evident in the location of settlements by both groups in the valley as a shared geographic space. It is important to note that the Moquegua valley, although considered a political boundary, seemed not to have been a contested political border. No significant border demarcations were constructed that would define such a border as has been documented for other ancient empires like the Limes in Germany or the Great Wall of China. Instead what has been documented with archaeological data described in the previous chapters for the middle Moquegua valley is a very hands-off strategy that, while it revealed a maintenance of cultural and political ties to the Wari homeland, did not include direct intervention on the local political, economic or cultural level. Instead the Wari experience in the middle Moquegua valley is situated in a porous frontier zone where cross-cultural exchange drove interactions between several local groups and some newcomers contrasting sharply with direct and indirect models for Wari expansion.

My research considers both Wari and local experiences in the Moquegua periphery and includes evidence from both sides for the negotiating of political relationships in Moquegua expanding interpretations of purely economic pursuits of imperial control. Clearly Wari imperialism was built on more than two strategies of control over peripheral regions. Today a thorough understanding of the complexity of Wari expansion must also include strategies that emphasize sharing, over domination. Therefore the middle Moquegua valley case certainly echoes the sentiments of alternative interpretations for Wari expansion (Belisle and Covey 2010; Covey et al. 2013; Jennings 2006, 2010a, 2010b; Owen 2010) that contend Wari employment of a much wider variety of strategies in their maintenance of territories and borders than previously suggested. With new research especially in the periphery, an increasingly nuanced understanding of Wari state expansion emerges. While Wari, as a state, clearly controlled large areas in the manner described in variations of the traditional models (Edwards and Schreiber 2014, Schreiber 1992), other areas were only tangential to the empire’s success. Some areas, like the Cotahuasi valley, may not have been closely involved in exchange with the state, but rather absorbed its decorative style into local traditions through third parties (Jennings 2006). In other regions, like Cuzco, Wari used directly imposed presence in some areas as the complexes at Pikillacta and Huaro attests (Glowacki 1996, 2002, 2005; McEwan 2005) but these regions also included extensive areas where locals deliberately resisted or refrained from incorporating any Wari influence altogether (Belisle and Blanco 2009, Belisle and Covey 2010; Covey et al. 2013). Considering the wide spectrum of approaches aimed to understand the complex processes within the Wari empire it follows that only a collage of multiscalar explanations truly moves us toward a better understanding of how the Wari empire expanded, functioned and influenced populations across its influence sphere during the Middle Horizon period.

These insights have come a long way from the early understanding of Wari as simply a conquering state that directly controlled all regions under its dominion. It shows that as archaeological evidence is recovered from a variety of sites and considered in tandem with local history that interpretations must be adjusted. The Moquegua valley case study reflects this on both a local level as well as on the statewide level. How then can we approach the new understanding of Wari influence in the periphery? As I have suggested in Chapter 2 a frontier perspective can be useful in providing a fresh analytical view of cross-cultural interaction and which, when applied to the Moquegua valley, offers a perspective impartial to the restraints of core-centric models.

7.3. MIDDLE HORIZON MOQUEGUA VALLEY FROM A FRONTIER PERSPECTIVE

In chapter 3 I examined the Moquegua case study from three perspectives within a frontier model framework. As an oasis valley in the arid coastal desert of Southern Peru, this coastal valley is and was a natural zone of ecological niches that were explored by newcomers, representing a natural frontier where unknown territory was made habitable. Secondly, the Moquegua Valley was both a political and ideological borderland where Wari and Tiwanaku negotiated their southernmost and northernmost political boundaries respectively. Lastly, Middle Horizon Moquegua embodied a cultural frontier where local ethnic groups directly negotiated intricate social and cultural exchanges with foreign settlers in the face of resource competition, and political rivalry.

7.3.1. The Geographic and Environmental Frontier

Like many Peruvian coastal valleys, Moquegua is a horizontal geographic frontier marked by the stark contrasts between habitable landscapes near the river valley and immediately adjourning desert landscapes. It also represents a vertical corridor that has connected highland altiplano and coastal regions since the archaic period. In this capacity we can view the valley as a frontier from both the European and American viewpoints: as a political frontier or border region as well as a cultural frontier, separating natural and cultivated landscapes that embodied both geographic isolation and connectedness.

7.3.2. The Political Frontier

As a political borderland, Moquegua represents the classic European idea of frontier as it marked the boundaries of the Tiwanaku and Wari states in the Middle Horizon. It literally forms the line between the influence spheres that archaeologists draw of these political systems. Also within the valley there was a restriction of boundaries - no overlap between Tiwanaku and Wari installations has been documented. Rather both groups followed their unique process of “colonization” of specific geographic and ecological areas of the valley as has been described in chapter 4. Political isolation also appeared in the relationship between Tiwanaku and local Huaracane. Both chose specific types of locations for their unique settlements and no exchange of cultural materials or ideas has been shown thus far.

Wari and Huaracane relations were more reflective of the American idea of frontier in that relationships between indigenous and foreign populations were maintained, but contrary to the American frontier there appeared to have been a more equal power relationship between the groups as is evident at the hybrid settlement at Cerro Trapiche. Additionally sometime locals may have retreated from such interaction altogether as the Yahuay Alta example suggested. A similar type of selective interaction, indicating local autonomy in Wari influenced areas, can be observed in some cases in the Cuzco area where native lifestyles showed little disruption and only selective incorporation of some aspects of Wari style and in some cases also rejection of any Wari influence (Belisle and Blanco 2009).

Perhaps the Moquegua Valley lent itself to be a shared space of Wari and Tiwanaku policies because its indigenous inhabitants were not as politically naïve and unaware of their surroundings as previously thought. On the contrary, Formative Huaracane populations were quite embedded within larger regional networks extending long-distance connections to the Nasca region and the Pukara center in the altiplano in the Formative period already. Evidence from the Formative cemetery at Cerro Trapiche and other mid- valley sites discussed previously (Goldstein 2000, 2005) indicated that local Huaracane elites welcomed and incorporated such long-distance influences before.

7.3.3. The Cultural Frontier

During the Middle Horizon the Moquegua valley was a borderland where three different ethnic groups engaged in a variety of cultural exchanges with one another. These interactions ranged from cultural isolation of Tiwanaku settlements to Wari-Huaracane cultural hybridity at Cerro Trapiche and creolization in the case of Huaracane appropriation of Wari style drink at Yahuay Alta. That types of cross-cultural (non) interaction need to be considered along a much broader spectrum than suggested by core-periphery models, has been documented in many other frontier situations as described in chapter 3. In the Moquegua case, the multifaceted engagement with others is reflective of the interests of each participating group and their motivations. Tiwanaku occupation, for example, was clearly driven by agrarian resource extraction. Political engagement and maintenance of ideological boundaries, on the other hand, was important to the Wari at Cerro Baúl. Wari settlers in the middle valley however sought contact with local groups (and possible Tiwanaku settlers at Echeníque) and were perhaps focused on more long-term relationships with indigenous groups as the hybrid community at Cerro Trapiche suggest. Huaracane groups seemed to have been interested in both the maintenance of their political independence as is evident at the site of Yahuay Alta, yet also recognized some advantage in collaboration with Wari settlers at Cerro Trapiche.

Considering a dynamic spectrum of cross-cultural interaction more realistically describes the fluidity documented in many frontier scenarios where interactions between groups of people are more often motivated by situational needs and localized challenges than by distant administrators. Therefore, to view the periphery as a frontier is a useful alternative to the uni-directionality that often accompanies core-periphery models.

Examining Wari expansion into the Moquegua Valley from a frontier perspective revealed a range of reactive strategies rather than formulaic ones described in traditional approaches. This was in large part possible because of the perspective from a smaller intrusive site in the middle valley rather than from the main regional center. Furthermore, a simultaneous consideration of local sites highlighted the ecological, economic, political and cultural challenges that both indigenous and foreign cultural groups faced and which significantly influenced the interactions between them.

The understanding of Wari expansion and imperialism has continuously been framed in terms of measuring the amount of political, economic, and military control that the core extended to the periphery. Yet, it is precisely the remoteness of these regions that also provided dynamic and unique geographic and cultural environments wherein colonial exchanges are more appropriately understood through a spectrum of cross-cultural engagements that emphasize local agency and a mingling and blurring of foreign and local interest

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APPENDIX A

Table A. 1 Sector D - Finds from all excavated contexts

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
4	e	Surface	A	-	0.00	Lithic	2	595.20
4	e	1	A	-	10.00	Carbon	-	0.40
4	e	1	A	-	-	Ceramic	1	15.40
4	e	1	A	-	-	Faunal	1	0.01
4	e	1	A	-	-	Lithic	1	123.40
4	e	2	A	-	95.00	Botanic	3	0.05
4	e	2	A	-	-	Carbon	-	13.40
4	e	2	A	-	-	Ceramic	1	3.70
4	e	2	A	-	-	Faunal	8	5.70
4	e	2	A	-	-	Lithic	3	5.70
4	e	Surface	B	-	0.00	Ceramic	1	23.40
4	e	Surface	B	-	-	Lithic	1	294,9
4	e	1	B	-	12.50	Carbon	-	0.20
4	e	1	B	-	-	Ceramic	5	18.80
4	e	1	B	-	-	Faunal	14	12.30
4	e	2	B	-	75.00	Botanic	6	0.10
4	e	2	B	-	-	Carbon	-	11.10
4	e	2	B	-	-	Ceramic	7	25.00
4	e	2	B	-	-	Faunal	17	8.80
4	e	2	B	-	-	Lithic	2	71.70
4	e	3	B	-	110.00	Carbon	-	10.00
4	e	3	B	-	-	Ceramic	2	17.60
4	e	3	B	-	-	Coprolites	-	0.05

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
4	e	3	B	-	-	Faunal	21	9.70
4	e	3	B	-	-	Lithic	4	838.20
4	e	3	B	-	-	Marine Shell	5	0.70
4	e	Surface	C	-	0.00	Ceramic	13	152.20
4	e	Surface	C	-	-	Faunal	15	9.70
4	e	Surface	C	-	-	Lithic	2	508.20
4	e	Surface	C	-	-	Marine Shell	6	0.30
4	e	1	C	-	35.00	Bead	1	0.50
4	e	1	C	-	-	Carbon	-	47.30
4	e	1	C	-	-	Ceramic	15	89.30
4	e	1	C	-	-	Faunal	9	3.60
4	e	1	C	-	-	Lithic	2	227.70
4	e	1	C	-	-	Marine Shell	5	4.10
4	e	2	C	-	310.00	Botanic	33	3.60
4	e	2	C	-	-	Ceramic	62	250.00
4	e	2	C	-	-	Coprolites	-	0.60
4	e	2	C	-	-	Faunal	94	31.32
4	e	2	C	-	-	Lithic	21	894.70
4	e	2	C	-	-	Marine Shell	17	8.60
4	e	3	C	-	-	Botanic	1588	65.85
4	e	3	C	-	-	C14	-	13.00
4	e	3	C	-	-	Carbon	-	228.70
4	e	3	C	-	-	Ceramic	88	547.10
4	e	3	C	-	-	Coprolites	-	23.10

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
4	e	3	C	-	-	Crisocola	3	60.80
4	e	3	C	-	-	Faunal	111	49.31
4	e	3	C	-	-	Float Sample	4 liter	-
4	e	3	C	-	-	Float Sample	1 liter	-
4	e	3	C	-	-	Lithic	34	1007.70
4	e	3	C	-	-	Marine Shell	32	30.80
4	e	4	C	-	240.00	Bead	1	0.10
4	e	4	C	-	-	Botanic	220	29.20
4	e	4	C	-	-	Carbon	-	73.50
4	e	4	C	-	-	Ceramic	18	124.00
4	e	4	C	-	-	Coprolites	-	45.50
4	e	4	C	-	-	Faunal	6	7.40
4	e	4	C	-	-	Human Tooth	1	0.30
4	e	4	C	-	-	Lithic	10	290.00
4	e	4	C	-	-	Marine Shell	7	1.60
4	e	5	C	-	265.00	Bead	1	0.05
4	e	5	C	-	-	Botanic	653	18.90
4	e	5	C	-	-	Carbon	-	126.00
4	e	5	C	-	-	Ceramic	15	72.10
4	e	5	C	-	-	Coprolites	-	3.30
4	e	5	C	-	-	Faunal	6	11.90
4	e	5	C	-	-	Lithic	2	641.00
4	e	5	C	-	-	Marine Shell	4	5.60
4	e	6	C	-	1000.00	Bead	2	2.00

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
4	e	6	C	-	-	Botanic	383	24.30
4	e	6	C	-	-	Carbon	-	362.50
4	e	6	C	-	-	Ceramic	1	58.40
4	e	6	C	-	-	Coprolites	-	0.70
4	e	6	C	-	-	Faunal	45	29.60
4	e	6	C	-	-	Lithic	6	219.90
4	e	6	C	-	-	Marine Shell	34	9.05
4	e	6	C	-	-	Vegetable Fiber	-	5.00
4	e	2 Base	C	-	-	Botanic	82	0.80
4	e	2 Base	C	-	-	Ceramic	11	54.40
4	e	2 Base	C	-	-	Faunal	97	32.40
4	e	-	Perfil Oeste	-		Carbon	-	1.60
4	e	-	Perfil Oeste	-		Ceramic	1	4.00
4	e	-	Perfil Oeste	-		Coprolites	-	0.05
4	e	-	-	32	80.00	Botanic	658	25.30
4	e	-	-	32	-	C14	-	3.80
4	e	-	-	32	-	Carbon	-	36.20
4	e	-	-	32	-	Ceramic	1	16.00
4	e	-	-	32	-	Coprolites	-	204.10
4	e	-	-	32	-	Faunal	7	6.90
4	e	-	-	32	-	Lithic	4	824.50
4	e	-	-	32	-	Marine Shell	4	1.30
4	e	-	-	33	-	Botanic	365	14.30
4	e	-	-	33	17.50	Coprolites	-	15.80

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
4	e	-	-	33	-	Float Sample	1 liter	-
4	e	-	-	33	-	Lithic	3	3.30
4	e	-	-	37	2.50	Botanic	4	0.60
4	e	-	-	37	-	C14	-	39.60
4	e	-	-	37	-	Carbon	-	1.20
4	e	-	-	37	-	Float Sample	1 liter	-
4	e	-	-	38	21.25	Artifact	2	0.05
4	e	-	-	38	-	Botanic	903	110.92
4	e	-	-	38	-	C14	-	22.10
4	e	-	-	38	-	Carbon	-	27.80
4	e	-	-	38	-	Ceramic	9	46.30
4	e	-	-	38	-	Float Sample	2 liter	-
4	e	-	-	38	-	Mineral	1	0.30
4	e	-	-	41	1.50	C14	-	10.50
4	e	-	-	41	-	Float Sample	1 liter	-
4	e	-	-	43	1.00	C14	-	24.40
4	e	-	-	43	-	Carbon	-	22.90
4	e	-	-	43	-	Float Sample	1 liter	-
4	e	-	-	44	1.00	Botanic	77	4.00
4	e	-	-	44	-	Float Sample	1 liter	-
4	e/f	-	-	15	67.50	Lithic	1	0.50
4	e/f	-	-	19	30.00	Botanic	1275	25.10
4	e/f	-	-	19	-	Carbon	-	38.00
4	e/f	-	-	19	-	Ceramic	6	60.30

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
4	e/f	-	-	19	-	Ceramic	1	1295.80
4	e/f	-	-	19	-	Faunal	2	5.30
4	e/f	-	-	19	-	Float Sample	2 liter	-
4	e/f	-	-	19	-	Human Tooth	1	0.90
4	e/f	-	-	19	-	Lithic	5	401.50
4	e/f	-	-	46	65.00	Botanic	689	20.50
4	e/f	-	-	46	-	C14	-	1.40
4	e/f	-	-	46	-	Carbon	-	283.00
4	e/f	-	-	46	-	Ceramic	3	9.90
4	e/f	-	-	46	-	Coprolites	-	0.30
4	e/f	-	-	46	-	Faunal	4	37.00
4	e/f	-	-	46	-	Float Sample	1 liter	-
4	e/f	-	-	46	-	Lithic	1	159.20
4	f	Surface	-	-	0.00	Lithic	1	0.90
4	f	Surface	A	-	0.00	Ceramic	1	103.90
4	f	1	A	-	15.00	Faunal	1	0.01
4	f	2	A	-	15.00	Carbon	-	16.60
4	f	2	A	-	-	Ceramic	2	17.90
4	f	2	A	-	-	Coprolites	-	0.10
4	f	2	A	-	-	Faunal	9	3.10
4	f	2	A	-	-	Lithic	3	683.10
4	f	2	A	-	-	Marine Shell	1	0.20
4	f	Surface	B	-	0.00	Ceramic	1	8.60
4	f	1	B	-	10.00	Carbon	-	0.10

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
4	f	1	B	-	-	Crisocola	1	0.05
4	f	2	B	-	75.00	Carbon	-	0.80
4	f	2	B	-	-	Ceramic	2	38.80
4	f	2	B	-	-	Faunal	1	0.05
4	f	2	B	-	-	Lithic	1	3.50
4	f	3	B	-	145.00	Carbon	-	0.60
4	f	3	B	-	-	Ceramic	3	9.90
4	f	3	B	-	-	Coprolites	-	30.10
4	f	3	B	-	-	Faunal	6	9.50
4	f	3	B	-	-	Lithic	2	242.30
4	f	Surface	C	-	10.00	Artifact	1	15.80
4	f	Surface	C	-	-	Ceramic	3	12.50
4	f	Surface	C	-	-	Lithic	1	1.90
4	f	Surface	C	-	-	Marine Shell	1	0.70
4	f	1	C	-	50.00	Carbon	-	2.40
4	f	1	C	-	-	Ceramic	34	195.90
4	f	1	C	-	-	Faunal	18	10.20
4	f	1	C	-	-	Marine Shell	7	5.40
4	f	2	C	-	290.00	Ash	-	119.30
4	f	2	C	-	-	Botanic	1529	27.88
4	f	2	C	-	-	Carbon	-	39.50
4	f	2	C	-	-	Ceramic	131	1068,2
4	f	2	C	-	-	Faunal	286	275.00
4	f	2	C	-	-	Lithic	13	801.60

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
4	f	2	C	-	-	Marine Shell	38	38.40
4	f	3	C	-	372.50	Bead	1	0.05
4	f	3	C	-	-	Botanic	22078	397.90
4	f	3	C	-	-	C14	-	8.80
4	f	3	C	-	-	Ceramic	107	609.10
4	f	3	C	-	-	Coprolites	-	54.70
4	f	3	C	-	-	Faunal	152	54.50
4	f	3	C	-	-	Float Sample	3 liter	3236.30
4	f	3	C	-	-	Lithic	16	725.60
4	f	3	C	-	-	Marine Shell	16	9.10
4	f	3	C	-	-	Textile	-	0.10
4	f	4	C	-	165.00	Bead	1	0.20
4	f	4	C	-	-	Botanic	294	13.60
4	f	4	C	-	-	Carbon	-	19.90
4	f	4	C	-	-	Ceramic	18	111.80
4	f	4	C	-	-	Coprolites	-	7.40
4	f	4	C	-	-	Faunal	12	11.00
4	f	4	C	-	-	Human Tooth	1	0.05
4	f	4	C	-	-	Lithic	2	152.10
4	f	4	C	-	-	Marine Shell	2	6.20
4	f	4	C	-	-	Organic Material	-	4.80
4	f	5	C	-	145.00	Botanic	1068	24.10
4	f	5	C	-	-	Carbon	-	57.50
4	f	5	C	-	-	Ceramic	22	94.20

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
4	f	5	C	-	-	Coprolites	-	13.30
4	f	5	C	-	-	Faunal	14	6.40
4	f	5	C	-	-	Lithic	2	293.00
4	f	5	C	-	-	Marine Shell	2	0.60
4	f	6	C	-	-	Botanic	622	11.70
4	f	6	C	-	770.00	Carbon	-	94.00
4	f	6	C	-	-	Ceramic	1	52.20
4	f	6	C	-	-	Faunal	73	27.10
4	f	6	C	-	-	Lithic	9	568.20
4	f	6	C	-	-	Marine Shell	3	2.20
4	f	6	C	-	-	Textile	-	0.95
4	f	2 Base	C	-	-	C14	-	3.10
4	f	2 Base	C	-	-	Coprolites	-	5.10
4	f	2 Base	C	-	-	Crisocola	2	0.40
4	f	-	Perfil este	-	-	Carbon	-	0.30
4	f	-	Perfil Este	-	-	Ceramic	4	30.90
4	f	-	Perfil Este	-	-	Faunal	4	2.10
4	f	-	Perfil Este	-	-	Marine Shell	1	0.20
4	f	1	-	20	265.00	Botanic	752664	9382.51
4	f	1	-	20	-	Carbon	-	65.10
4	f	1	-	20	-	Ceramic	17	83.70
4	f	1	-	20	-	Float Sample	1 liter	-
4	f	1	-	20	-	Lithic	1	4.50
4	f	2	-	20	-	C14	-	547.70

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
4	f	2	-	20	-	Carbon	-	32.70
4	f	2	-	20	-	Ceramic	11	38.30
4	f	2	-	20	-	Float Sample	3 liter	-
4	f	3	-	20	-	C14	-	15.20
4	f	3	-	20	-	Ceramic	16	44.00
4	f	3	-	20	-	Other	-	33.30
4	f	-	-	20	-	C14	-	6.60
4	f	-	Este	20	-	Faunal	4	3.20
4	f	-	-	20	-	Faunal	1	3.40
4	f	-	-	23	40.00	Botanic	1880	59.60
4	f	-	-	23	-	C14	-	1.90
4	f	-	-	23	-	Carbon	-	11.00
4	f	-	-	23	-	Ceramic	10	107.30
4	f	-	-	23	-	Coprolites	-	1.30
4	f	-	-	23	-	Faunal	3	1.60
4	f	-	-	23	-	Float Sample	2 liter	-
4	f	-	-	23		Lithic	4	90.90
4	f	-	-	23	-	Marine Shell	5	1.00
4	f	-	-	25	10.00	Botanic	127	141.60
4	f	-	-	25	-	Carbon	-	8.80
4	f	-	-	25	-	Ceramic	3	27.00
4	f	-	-	25	-	Coprolites	-	0.10
4	f	-	-	25	-	Lithic	20	193.80
4	f	-	-	25	-	Marine Shell	7	11.20

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
4	f	-	-	26	12.50	Botanic	6	1.10
4	f	-	-	26	-	C14	-	1.95
4	f	-	-	26	-	Carbon	-	9.90
4	f	-	-	26	-	Ceramic	19	106.90
4	f	-	-	26	-	Coprolites	-	0.40
4	f	-	-	26	-	Faunal	11	10.00
4	f	-	-	26	-	Marine Shell	1	0.70
4	f	-	-	28	2.50	Botanic	4125	65.10
4	f	-	-	28	-	C14	-	6.70
4	f	-	-	28	-	Carbon	-	6.00
4	f	-	-	28		Ceramic	1	3.90
4	f	-	-	28	-	Coprolites	-	5.10
4	f	-	-	28	-	Float Sample	1 liter	-
4	f	-	-	28	-	Vegetable Fiber	-	0.10
4	f	-	Perfil Oeste	34	1.00	C14	-	40.80
4	f	-	Perfil Oeste	34	-	Float Sample	2 liter	-
4	f	-	-	36	5.00	Botanic	8	1.90
4	f	-	-	36	-	C14	-	459.10
4	f	-	-	36	-	Carbon	-	37.30
4	f	-	-	36	-	Coprolites	-	12.70
4	f	-	-	36	-	Float Sample	1 liter	-
4	f	-	-	40	40.00	Botanic	2224	38.70
4	f	-	-	40	-	Carbon	-	21.80
4	f	-	-	40	-	Ceramic	1	6.60

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
4	f	-	-	40	-	Crisocola	4	0.50
4	f	-	-	40	-	Float Sample	2 liter	-
4	f	-	-	40	-	Lithic	1	23.70
4	f	-	-	40	-	Worked bone	5	2.50
4	f	-	-	45	10.00	Carbon	-	2.70
4	f	-	-	45	-	Ceramic	3	6.40
4	f	-	-	45	-	Float Sample	1 liter	-
5	g	Surface	-	-	0.00	Ceramic	24	253.60
5	g	Surface	-	-	0.00	Crisocola	5	65.00
5	g	Surface	-	-	0.00	Lithic	3	3632.70
5	g	Surface	-	-	0.00	Marine Shell	5	14.80
5	g	1	-	-	50.00	Carbon	-	2.40
5	g	1	-	-	-	Ceramic	21	105.90
5	g	1	-	-	-	Coprolites	-	2.40
5	g	1	-	-	-	Faunal	1	0.40
5	g	1	-	-	-	Lithic	2	8.50
5	g	2	-	-	60.00	Carbon	-	6.90
5	g	2	-	-	-	Ceramic	11	29.10
5	g	2	-	-	-	Coprolites	-	0.50
5	g	2	-	-	-	Faunal	29	10.64
5	g	2	-	-	-	Lithic		164.80
5	g	2	-	-	-	Marine Shell	3	0.90
5	g	3	-	-	35.00	Bead	1	0.50
5	g	3	-	-	-	Carbon	-	7.60

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
5	g	3	-	-	-	Ceramic	21	69.40
5	g	3	-	-	-	Coprolites	-	0.50
5	g	3	-	-	-	Faunal	12	5.11
5	g	3	-	-	-	Marine Shell	3	1.30
5	g	3	-	-	-	Lithic	3	206.20
5	g	4	A	-	-	Botanic	22	0.90
5	g	4	A	-	-	Carbon	-	5.20
5	g	4	A	-	-	Ceramic	6	18.50
5	g	4	A	-	-	Coprolites	-	7.20
5	g	4	A	-	-	Faunal	9	0.21
5	g	4	A	-	-	Marine Shell	3	1.30
5	g	4	B	-		Bead	1	0.05
5	g	4	B	-	-	Carbon	-	2.50
5	g	4	B	-	-	Ceramic	5	14.10
5	g	4	B	-	-	Coprolites	-	35.40
5	g	4	B	-	-	Faunal	13	1.80
5	g	4	B	-	-	Human Tooth	1	0.10
5	g	4	B	-	-	Marine Shell	1	0.20
5	g	5	A	-	110.00	Carbon	-	0.50
5	g	5	A	-	-	Coprolites	-	0.50
5	g	5	B	-	50.00	Botanic	4	0.70
5	g	5	B	-	-	Carbon	-	4.30
5	g	5	B	-	-	Ceramic	3	24.90
5	g	5	B	-	-	Faunal	2	0.01

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
5	g	5	B	-	-	Lithic	2	3.00
5	g	5	AB	-	52.50	Botanic	11	0.40
5	g	5	AB	-	-	C14	-	0.90
5	g	5	AB	-	-	Carbon	-	15.60
5	g	5	AB	-	-	Ceramic	14	39.60
5	g	5	AB	-	-	Coprolites	-	7.90
5	g	5	AB	-	-	Faunal	51	15.81
5	g	5	AB	-	-	Marine Shell	6	4.70
5	g	-	-	21	20.00	Botanic	195	9.20
5	g	-	-	21	-	C14	-	6.50
5	g	-	-	21	-	Carbon	-	34.70
5	g	-	-	21	-	Ceramic	5	55.80
5	g	-	-	21	-	Faunal	18	6.50
5	g	-	-	21	-	Float Sample	1 liter	-
5	g	-	-	21	-	Human Tooth	1	0.10
5	g	-	-	21	-	Lithic	3	910.50
5	g	-	-	21	-	Marine Shell	2	2.95
5	g	-	-	22	-	Botanic	107	34.30
5	g	-	-	22	-	Carbon	-	4.60
5	g	-	-	22	15.00	Carbon	-	1555.80
5	g	-	-	22	-	Ceramic	2	34.30
5	g	-	-	22	-	Coprolites	-	52.60
5	g	-	-	22	-	Float Sample	1 liter	-
5	g	-	-	22	-	Lithic	3	59.90

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
5	g	-	-	22	-	Marine Shell	4	1.40
5	g	-	-	24	20.00	Carbon	-	2.10
5	g	-	-	24	-	Ceramic	4	12.80
5	g	-	-	24	-	Coprolites	-	0.80
5	g	-	-	24	-	Faunal	1	2.10
5	g	-	-	27	25.00	Botanic	293	5.95
5	g	-	-	27	-	Carbon	-	31.90
5	g	-	-	27	-	Ceramic	4	19.30
5	g	-	-	27	-	Coprolites	-	0.10
5	g	-	-	27	-	Faunal	21	3.20
5	g	-	-	27	-	Float Sample	1 liter	-
5	g	-	-	27	-	Lithic	5	1059.80
5	g	-	-	27	-	Marine Shell	7	2.30
5	g	-	-	27	-	Pigment	1	0.05
5	g	-	-	29	10.00	Botanic	4	0.10
5	g	-	-	29	-	C14	-	3.00
5	g	-	-	29	-	Carbon	-	2.00
5	g	-	-	29	-	Faunal	1	1.00
5	g	-	-	29	-	Float Sample	1 liter	-
5	g	-	-	30	10.00	Ceramic	5	16.60
5	g	-	-	30	-	Coprolites	-	0.10
5	g	-	-	30	-	Faunal	7	2.10
5	g	-	-	31	5.00	Botanic	94	8.60
5	g	-	-	31	-	C14	-	17.40

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
5	g	-	-	31	-	Carbon	-	4.50
5	g	-	-	31	-	Ceramic	1	3.90
5	g	-	-	31	-	Lithic	1	143.70
6	h	1	-	-	22.50	Carbon	-	20.30
6	h	1	-	-	-	Ceramic	2	6.10
6	h	1	-	-	-	Marine Shell	2	6.30
6	h	2	-	-	22.50	Botanic	2	0.05
6	h	2	-	-	-	Carbon	-	1.15
6	h	2	-	-	-	Lithic	1	240.20
6	h	3	-	-	60.00	Ceramic	2	29.40
6	h	3	-	-	-	Faunal	6	2.60
6	h	3	-	-	-	Lithic	5	773.80
6	h	3	-	-	-	Marine Shell	2	0.20
6	h	4	-	-	-	Carbon	-	3.50
6	h	4	-	-	60.00	Faunal	10	3.00
6	h	4	-	-	-	Faunal	2	0.30
6	h	4	-	-	-	Faunal	1	0.05
6	h	4	-	-	-	Lithic	3	494.00
6	h	4	-	-	-	Marine Shell	1	0.10
6	h	5	A	-	10.00	Botanic	42	1.10
6	h	5	A	-	-	Carbon	-	8.10
6	h	5	A	-	-	Ceramic	2	2.80
6	h	5	A	-	-	Faunal	2	1.60
6	h	5	B	-	20.00	Carbon	-	2.20

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
6	h	5	B	-	-	Ceramic	3	5.70
6	h	5	B	-		Faunal	8	5.20
6	h	5	B	-	-	Marine Shell	1	0.90
6	h	6	A	-	30.00	Botanic	661	11.15
6	h	6	A	-	-	Carbon	-	9.90
6	h	6	A	-	-	Ceramic	1	8.00
6	h	6	A	-	-	Crisocola	1	0.05
6	h	6	A	-	-	Faunal	1	1.50
6	h	6	A	-	-	Lithic	1	0.60
6	h	6 Base	A	-	-	C14	-	10.80
6	h	6 Base	A	-	-	Faunal	16	2.70
6	h	6	B	-	50.00	Carbon	-	0.40
6	h	6	B	-	-	Ceramic	1	4.20
6	h	6	B	-		Faunal	1	0.20
6	h	6	B	-	-	Faunal	7	12.04
6	h	6	B	-	-	Organic Material	-	1.70
6	h	7	-	-	-	Botanic	10	0.30
6	h	7	-	-	-	C14	-	5.60
6	h	7	-	-	-	Carbon	-	9.70
6	h	7	-	-	-	Ceramic	7	25.00
6	h	7	-	-	160.00	Faunal	36	10.40
6	h	7	-	-	-	Lithic	2	248.60
6	h	7	-	-	-	Organic Material	-	3.70
6	h	8	-	-	282.50	Botanic	29	1.80

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
6	h	8	-	-	-	Lithic	1	164.30
6	h	8	Este	-	110.00	Carbon	-	6.00
6	h	8	Este	-	-	Ceramic	4	15.10
6	h	8	Este	-		Faunal	2	0.20
6	h	8	Este	-	-	Lithic	1	0.50
6	h	8	Este	-	-	Marine Shell	1	1.90
6	h	8	Area Sur	-	122.50	Bead	1	0.10
6	h	8	Area Sur	-	-	Botanic	76	3.06
6	h	8	Area Sur	-	-	Carbon	-	35.10
6	h	8	Area Sur	-	-	Coprolites	-	0.30
6	h	8	Area Sur	-	-	Crisocola	2	2.40
6	h	8	Area Sur	-	-	Float Sample	1 liter	-
6	h	8	Area Sur	-	-	Lithic	1	1.60
6	h	8	Area Sur	-	-	Marine Shell	4	3.30
6	h	8	Area Sur	-	-	Ceramic	7	82.30
6	h	8	Oeste	-	-	Lithic	2	7.40
6	h	8	Oeste	-	-	C14	-	4.90
6	h	8	Oeste	-	-	Carbon	-	5.20
6	h	-	-	39	2.50	Botanic	751	14.45
6	h	-	-	39	-	C14	-	5.90
6	h	-	-	39	-	Carbon	-	4.80
6	h	-	-	39	-	Ceramic	1	4.80
6	h	-	-	39	-	Float Sample	1 liter	-
6	h	-	-	39	-	Pigment	1	0.05

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
6	h	-	-	40	-	Faunal	1	0.10
6	h	-	-	41	-	C14	-	30.00
6	h	-	-	41	-	Float Sample	1 liter	-
6	h Ampl	1	-	52	1.00	Float Sample	4 liter	-
6	h Ampl	2	-	-	7.50	Carbon	-	1.10
6	h Ampl	3	-	-	5.00	Carbon	-	3.10
6	h Ampl	4	-	-	7.50	Botanic	6	0.05
6	h Ampl	4	-	-	-	Carbon	-	4.60
6	h Ampl	4	-	-	-	Coprolites	-	0.20
6	h Ampl	5	-	-	20.00	Bead	1	0.05
6	h Ampl	5	-	-	-	Botanic	2163	37.50
6	h Ampl	5	-	-	-	Carbon	-	18.40
6	h Ampl	5	-	-	-	Ceramic	2	0.50
6	h Ampl	5	-	-	-	Faunal	5	3.70
6	h Ampl	5	-	-	-	Float Sample	1 liter	-
6	h Ampl	5	-	-	-	Lithic	1	0.40
6	h Ampl	5 Base	-	-		Float Sample	1 liter	-
6	h Ampl	-	-	40	-	Ceramic	3	10.50
6	h Ampl	-	-	40	-	Float Sample	1 liter	-
6	h Ampl	-	-	47	17.50	Botanic	333	8.90
6	h Ampl	-	-	47	-	C14	-	10.90
6	h Ampl	-	-	47	-	Carbon	-	35.90
6	h Ampl	-	-	47	-	Ceramic	2	4.40
6	h Ampl	-	-	47	-	Coprolites	-	2.30

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
6	h Ampl	-	-	47	-	Faunal	1	0.30
6	h Ampl	-	-	47	-	Float Sample	4 liter	-
6	h Ampl	-	-	47	-	Lithic	1	0.30
6	h Ampl	-	-	48	31.50	Botanic	429	13.30
6	h Ampl	-	-	48	-	Carbon	-	18.40
4	h Ampl	-	-	48		Carbon	-	41.60
6	h Ampl	-	-	48	-	Ceramic	7	69.50
6	h Ampl	-	-	48	-	Faunal	3	17.90
6	h Ampl	-	-	48	-	Float Sample	3 liter	-
6	h Ampl	-	-	48	-	Textile	-	0.09
4	h Ampl	-	-	49	1.00	Float Sample	1 liter	-
6	h Ampl	-	-	50	1.00	Float Sample	1 liter	-
6	h Ampl	-	-	51	1.00	Float Sample	1 liter	-
7	i	Surface	-	-	0.00	Ceramic	98	516.40
7	i	Surface	-	-	-	Faunal	15	15.60
7	i	Surface	-	-	-	Lithic	3	7.10
7	i	Surface	-	-	-	Lithic	1	663.20
7	i	1	-	-	20.00	Botanic	1	0.05
7	i	1	-	-	-	Carbon	-	0.05
7	i	1	-	-	-	Ceramic	25	75.50
7	i	1	-	-	-	Coprolites	-	0.40
7	i	1	-	-	-	Faunal	16	3.60
7	i	1	-	-	-	Lithic	1	103.80
7	i	1	-	-	-	Marine Shell	5	0.10

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
7	i	2	-	-	30.00	Botanic	9	0.80
7	i	2	-	-	-	Carbon	-	1.40
7	i	2	-	-	-	Ceramic	30	131.90
7	i	2	-	-	-	Coprolites	-	1.50
7	i	2	-	-	-	Faunal	4	2.40
7	i	3	-	-	75.00	Botanic	222	4.90
7	i	3	-	-	-	Carbon	-	7.00
7	i	3	-	-	-	Ceramic	57	161.50
7	i	3	-	-	-	Coprolites	-	25.40
7	i	3	-	-	-	Faunal	12	7.10
7	i	3	-	-	-	Lithic	2	42.45
7	i	3	-	-	-	Marine Shell	2	0.40
7	i	3	-	-	-	Textile	-	0.01
7	i	4	-	56	15.00	Ceramic	1	2.90
7	i	4	-	56	-	Coprolites	-	0.30
7	i	4	-	-	100.00	Botanic	663	17.20
7	i	4	-	-	-	C14	-	11.20
7	i	4	-	-	-	Ceramic	12	36.80
7	i	4	-	-	-	Coprolites	-	21.50
7	i	4	-	-	-	Faunal	20	9.70
7	i	4	-	-	-	Textile	-	0.05
7	i	-	-	53	-	Bead	1	0.05
7	i	-	-	53	-	Botanic	4345	49.90
7	i	-	-	53	-	Carbon	-	15.00

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
7	i	-	-	53	-	Ceramic	23	59.40
7	i	-	-	53	-	Coprolites	-	63.90
7	i	-	-	53	-	Float Sample	2 liter	-
7	i	-	-	53	-	Lithic	15	3499.80
7	i	-	-	53	-	Lithic	20	2779.90
7	i	-	-	54	1.00	C14	-	43.70
7	i	-	-	54	-	Float Sample	1 liter	-
7	i	-	-	55	-	C14	-	7.50
7	i	-	-	55	-	C14	-	4.70
7	i	-	-	55	-	Carbon	-	7.50
7	i	-	-	55	-	Ceramic	3	8.00
7	i	-	-	55	-	Coprolites	-	2.60
7	i	-	-	55	1.00	Faunal	2	3.20
7	i	-	-	55	-	Float Sample	1 liter	-
7	i	-	-	56	15.00	Botanic	538	18.00
7	i	-	-	56	-	C14	-	20.20
7	i	-	-	56	-	Carbon	-	8.50
7	i	-	-	56	-	Faunal	14	31.30
7	i	-	-	56	-	Float Sample	1 liter	-
7	i	4 Base	-	-	-	Botanic	-	0.90
7	i	4 Base	-	-	-	Faunal	14	8.90
7	i	4 Base	-	-	-	Human Tooth	1	0.30
7	i	4 Base	-	-	-	Textile	-	0.05
7	i	5	Area Sur	-	15	Botanic	63	4.20

Table A. 1 Sector D - Finds from all excavated contexts continued

Terrace	Unit	Level	Area	Rasgo	Excavated Soil Vol. in l	Material	Count	Weight in g
7	i	5	Area Sur	-	-	Carbon	-	15.40
7	i	5	Area Sur	-	-	Ceramic	12	36.80
7	i	5	Area Sur	-	-	Coprolites	-	38.50
7	i	5	Area Sur	-	-	Faunal	27	7.60
7	i	5	Area Sur	-	-	Float Sample	1 liter	-
7	i	5	Area Sur	-	-	Marine Shell	1	0.90
7	i	5	Area Sur	-	-	Textile	-	0.05
7	i	6	Area Sur	-	30.00	Botanic	966	33.90
7	i	6	Area Sur	-	-	Carbon	-	3.20
7	i	6	Area Sur	-	-	Coprolites	-	3.20
7	i	6	Area Sur	-	-	Faunal	5	3.80
7	i	7	Area Sur	-	220.00	Botanic	17	7.60
7	i	7	Area Sur	-	-	Carbon	-	21.00
7	i	7	Area Sur	-	-	Ceramic	8	42.70
7	i	7	Area Sur	-	-	Coprolites	-	6.40
7	i	7	Area Sur	-	-	Faunal	259	182.61
7	i	7	Area Sur	-	-	Lithic	129	23704.00
7	i	7	Area Sur	-	-	Marine Shell	5	2.60
7	i	7 Base	Area Sur	-	-	Ceramic	1	19.10
7	i	7 Base	Area Sur	-	-	Lithic	4	1321.50
7	i	-	Perfil Este	-	-	Faunal	13	8.70
7	i	-	Perfil Sur	-	-	Botanic	6	8.00
7	i	-	Perfil Sur	-	-	Faunal	1	10.50

Table A. 2 Sector C - Finds from all excavated contexts

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
1	a	Superficie	A	-	0.00	Botanic	4	0.5
1	a	Superficie	A	-	-	Ceramic	4	10.50
1	a	Superficie	A	-	-	Faunal	1	0.20
1	a	Superficie	A	-	-	Lithic	3	95.1
1	a	1	A	-	25.00	Botanic	6	0.2
1	a	1	A	-	-	Carbon	-	1.40
1	a	1	A	-	-	Faunal	3	3.90
1	a	2	A	-	50.00	Botanic	2	0.11
1	a	2	A	-	-	Carbon	-	4.50
1	a	2	A	-	-	Ceramic	11	35.40
1	a	2	A	-	-	Coprolites	-	0.1
1	a	2	A	-	-	Faunal	14	0.34
1	a	2	A	-	-	Lithic	5	73.6
1	a	2	A	-	-	Marine Shell	1	1.6
1	a	Superficie	B	-	0.00	Ceramic	2	14.30
1	a	Superficie	B	-	-	Lithic	4	199.1
1	a	1	B	-	30.00	Botanic	3	0.11
1	a	1	B	-	-	Ceramic	14	90.00
1	a	1	B	-	-	Coprolites	-	4.6
1	a	1	B	-	-	Faunal	5	0.17
1	a	1	B	-	-	Lithic	16	858.9
1	a	1	B	-	-	Textile	1	0.05

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
1	a	2	B	-	30.00	Carbon	-	1.20
1	a	2	B	-	-	Ceramic	8	33.3
1	a	2	B	-	-	Coprolites	-	0.05
1	a	2	B	-	-	Faunal	9	4.40
1	a	2	B	-	-	Lithic	1	5
1	a	3	B	-	40.00	Carbon	-	11.10
1	a	3	B	-	-	Coprolites	-	0.1
1	a	3	B	-	-	Faunal	6	0.10
1	a	3	B	-	-	Lithic	1	1
1	a	3	B	-	-	Marine Shell	8	5.7
1	a	4	B	-	95.00	Botanic	29	0.6
1	a	4	B	-	-	Carbon	-	11.50
1	a	4	B	-	-	Ceramic	10	44.1
1	a	4	B	-	-	Coprolites	-	0.9
1	a	4	B	-	-	Faunal	75	38.85
1	a	4	B	-	-	Lithic	21	169.6
1	a	4	B	-	-	Marine Shell	1	1.6
1	a	4	B	-	-	Organic Material	-	0.05
1	a	4	B		-	Crisocola	12	19.40
1	a	5	B	-	85.00	Botanic	10	0.2
1	a	5	B	-	-	Carbon	-	4.40
1	a	5	B	-	-	Ceramic	9	77.00
1	a	5	B	-	-	Coprolites	-	0.2

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
1	a	5	B	-	-	Faunal	7	0.41
1	a	5	B	-	-	Lithic	2	10.2
1	a	5	B	-	-	Marine Shell	4	1.6
1	a	5	B	-	-	Crisocola	4	0.4
1	a	-	B	1	25.00	Carbon	-	1.70
1	a	-	B	1	-	Ceramic	19	143.40
1	a	-	B	1	-	Coprolites	-	0.3
1	a	-	B	1	-	Faunal	2	0.12
1	a	-	B	1	-	Lithic	14	61.2
1	a	-	B	1	-	Marine Shell	5	4.2
1	a	-	B	3	95.00	Botanic	32	0.3
1	a	-	B	3	-	C14	-	1.5
1	a	-	B	3	-	Carbon	-	13.80
1	a	-	B	3	-	Ceramic	4	26.10
1	a	-	B	3	-	Coprolites	-	0.05
1	a	-	B	3	-	Crisocola	26	15.8
1	a	-	B	3	-	Faunal	21	0.34
1	a	-	B	3	-	Float Sample	1 liter	-
1	a	-	B	3	-	Lithic	7	51.2
1	a	-	B	3	-	Marine Shell	1	2.5
1	a	-	B	3	-	Pigment	1	0.05
1	a Ampl	1	-	-	22.50	Botanic	2	0.05
1	a Ampl	1	-	-		Carbon	-	1.20

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
1	a Ampl	1	-	-		Ceramic	10	28.5
1	a Ampl	1	-	-		Coprolites	-	0.1
1	a Ampl	1	-	-		Faunal	1	0.01
1	a Ampl	1	-	-		Lithic	6	61.7
1	a Ampl	1	-	-		Marine Shell	4	1.3
1	a Ampl	2	-	-	30.00	Carbon	-	3.50
1	a Ampl	2	-	-		Ceramic	3	15.90
1	a Ampl	2	-	-		Coprolites	-	0.05
1	a Ampl	2	-	-		Crisocola	1	0.6
1	a Ampl	2	-	-		Faunal	7	1.80
1	a Ampl	2	-	-		Lithic	9	73.9
1	a Ampl	3	-	-	40.00	Botanic	21	0.45
1	a Ampl	3	-	-		C14	-	1.1
1	a Ampl	3	-	-		Carbon	-	3.60
1	a Ampl	3	-	-		Coprolites	-	0.05
1	a Ampl	3	-	-		Crisocola	17	16.7
1	a Ampl	3	-	-		Faunal	9	0.10
1	a Ampl	3	-	-		Lithic	7	46.7
1	a Ampl	4	-	-	90.00	Botanic	15	0.7
1	a Ampl	4	-	-		Carbon	-	3.70
1	a Ampl	4	-	-		Ceramic	1	0.6
1	a Ampl	4	-	-		Coprolites	-	0.1
1	a Ampl	4	-	-		Crisocola	56	15

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
1	a Ampl	4	-	-		Faunal	5	0.11
1	a Ampl	-	-	9	30.00	Botanic	31	0.6
1	a Ampl	-	-	9	-	Carbon	-	16.90
1	a Ampl	-	-	9	-	Ceramic	4	66.20
1	a Ampl	-	-	9	-	Coprolites	-	21.9
1	a Ampl	-	-	9	-	Crisocola	16	5.2
1	a Ampl	-	-	9	-	Faunal	16	24.77
1	a Ampl	-	-	9	-	Float Sample	1 liter	-
1	a Ampl	-	-	9	-	Pigment	2	0.3
1	a Ampl	-	-	10	-	Carbon	-	2.00
1	a/b	-	-	6	40.00	Botanic	6	0.1
1	a/b	-	-	6	-	Carbon	-	10.00
1	a/b	-	-	6	-	Ceramic	8	37.9
1	a/b	-	-	6	-	Coprolites	-	0.2
1	a/b	-	-	6	-	Crisocola	6	41.4
1	a/b	-	-	6	-	Faunal	36	0.30
1	a/b	-	-	6	-	Float Sample	1 liter	-
1	a/b	-	-	6	-	Lithic	14	9.7
1	b	Superficie	A	-	0.00	Botanic	17	0.8
1	b	Superficie	A	-	-	Carbon	-	1.10
1	b	Superficie	A	-	-	Ceramic	2	14.7
1	b	Superficie	A	-	-	Faunal	2	0.09
1	b	1	A	-	20.00	Bead	1	0.06

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
1	b	1	A	-	-	Botanic	11	0.13
1	b	1	A	-	-	Carbon	-	2.20
1	b	1	A	-	-	Ceramic	5	24.80
1	b	1	A	-	-	Faunal	3	0.05
1	b	2	A	-	20.00	Botanic	15	0.14
1	b	2	A	-	-	Carbon	-	5.80
1	b	2	A	-	-	Ceramic	2	8.60
1	b	2	A	-	-	Coprolites	-	0.3
1	b	2	A	-	-	Faunal	2	0.02
1	b	1	B	-	20.00	Botanic	17	1.95
1	b	1	B	-	-	Carbon	-	2.50
1	b	1	B	-	-	Ceramic	10	16.5
1	b	1	B	-	-	Coprolites	-	7.2
1	b	1	B	-	-	Cuero de relleno	-	0.2
1	b	1	B	-	-	Faunal	17	0.69
1	b	1	B	-	-	Lithic	15	287.9
1	b	2	B	-	60.00	Botanic	1	0.05
1	b	2	B	-	-	Carbon	2	7.10
1	b	2	B	-	-	Ceramic	12	55.2
1	b	2	B	-	-	Coprolites	-	1.5
1	b	2	B	-	-	Faunal	18	0.36
1	b	2	B	-	-	Lithic	10	117.1
1	b	2	B	-	-	Marine Shell	1	0.2

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
1	b	3	B	-	80.00	C14	-	2
1	b	3	B	-	-	Carbon	-	7.90
1	b	3	B	-	-	Ceramic	16	127.30
1	b	3	B	-	-	Coprolites	-	1.7
1	b	3	B	-	-	Faunal	34	4.92
1	b	3	B	-	-	Lithic	7	54.3
1	b	3	B	-	-	Marine Shell	1	0.2
1	b	3	B	-	-	Metal (tupu)	1	1.1
1	b	4	B	-	60.00	Botanic	2	0.2
1	b	4	B	-	-	Carbon	-	5.50
1	b	4	B	-	-	Ceramic	4	13.40
1	b	4	B	-	-	Coprolites	-	2.2
1	b	4	B	-	-	Faunal	12	0.34
1	b	4	B	-	-	Lithic	4	36.5
1	b	4	B	-	-	Marine Shell	5	47.7
1	b	4	B	-	-	Pigment	2	2.1
1	b	5	B	-	245.00	Carbon	-	27.80
1	b	5	B	-	-	Ceramic	28	127.2
1	b	5	B	-	-	Coprolites	-	19.6
1	b	5	B	-	-	Crisocola	19	11.9
1	b	5	B	-	-	Faunal	72	37.81
1	b	5	B	-	-	Lithic	14	108.6
1	b	5	B	-	-	Marine Shell	6	7.7

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
1	b	5	B	-	-	Pigment	2	0.6
1	b	bajo del muro	B	-	165.00	Carbon	-	0.20
1	b	bajo del muro	B	-	-	Crisocola	11	9.1
1	b	bajo del muro	B	-	-	Faunal	1	0.12
1	b	bajo del muro	B	-	-	Lithic	1	0.5
1	b	-	B	4	80.00	Botanic	10	1
1	b	-	B	4	-	C14	-	2.9
1	b	-	B	4	-	Carbon	-	11.40
1	b	-	B	4	-	Ceramic	3	41.60
1	b	-	B	4	-	Coprolites	-	186.1
1	b	-	B	4	-	Faunal	3	3.9
1	b	-	B	4	-	Float Sample	1 liter	-
1	b	-	B	4	-	Lithic	4	720
1	b	-	B	4	-	Marine Shell	4	9.8
1	b	-	B	4	-	Organic Material	-	8.6
1	b	-	B	0	-	Float Sample	1 liter	-
1	b	-	B	5	5.00	Carbon	-	1.10
1	b	-	B	5	-	Faunal	5	1.20
1	b	-	B	5	-	Lithic	1	0.6
1	b	-	B	5	-	Marine Shell	5	6.2

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
1	b	-	B	6	-	Coprolites	-	0.3
1	b	-	B	7	5.00	Carbon	-	0.50
1	b	-	B	7	-	Faunal	1	1.50
1	b	-	B	8	20.00	C14	-	0.6
1	b	-	B	8	-	Carbon	-	4.70
1	b	-	B	8	-	Ceramic	2	3.2
1	b	-	B	8	-	Coprolites	-	1.7
1	b	-	B	8	-	Crisocola	2	2.6
1	b	-	B	8	-	Faunal	2	0.30
1	b	-	B	8	-	Float Sample	1 liter	-
1	b	-	B	8	-	Lithic	2	2350.8
1	b	-	B	8	-	Organic Material	-	3.3
1	b	-	B	11	25.00	Carbon	-	4.20
1	b	-	B	11	-	Ceramic	2	7
1	b	-	B	11	-	Lithic	2	8.5
1	b	-	B	11	-	Marine Shell	1	0.2
1	b	-	B	11	-	Pigment	1	0.2
1	b	-	B	12	15.00	Carbon	-	0.40
1	b	-	B	12	-	Float Sample	1 liter	-
1	b	-	B	12	-	Lithic	18	1173.3
1	b Ampl	1	-	-	40.00	Carbon	-	2.70
1	b Ampl	1	-	-	-	Ceramic	2	0.70
1	b Ampl	1	-	-	-	Coprolites	-	2.5

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
1	b Ampl	1	-	-	-	Faunal	16	3.30
1	b Ampl	1	-	-	-	Lithic	3	26
1	b Ampl	1	-	-	-	Marine Shell	1	0.5
1	b Ampl	2	-	-	25.00	Carbon	-	3.00
1	b Ampl	2	-	-	-	Ceramic	3	21.4
1	b Ampl	2	-	-	-	Faunal	3	9.90
1	b Ampl	2	-	-	-	Lithic	2	10.7
1	b Ampl	3	-	-	30.00	Carbon	-	15.40
1	b Ampl	3	-	-	-	Ceramic	10	41.80
1	b Ampl	3	-	-	-	Coprolites	-	0.2
1	b Ampl	3	-	-	-	Faunal	22	15.30
1	b Ampl	3	-	-	-	Lithic	4	15.9
1	b Ampl	3	-	-	-	Marine Shell	4	1.8
1	b Ampl	4	-	-	90.00	Botanic	15	0.1
1	b Ampl	4	-	-	-	Carbon	-	13.10
1	b Ampl	4	-	-	-	Ceramic	13	67.9
1	b Ampl	4	-	-	-	Faunal	4	2.10
1	b Ampl	4	-	-	-	Lithic	3	57.6
1	b Ampl	4	-	-	-	Marine Shell	1	0.1
1	b Ampl	5	-	-	150.00	Botanic	33	0.91
1	b Ampl	5	-	-	-	C14	-	3.4
1	b Ampl	5	-	-	-	Carbon	-	17.10
1	b Ampl	5	-	-	-	Ceramic	3	5.70

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
1	b Ampl	5	-	-	-	Coprolites	-	3.1
1	b Ampl	5	-	-	-	Crisocola	1	1
1	b Ampl	5	-	-	-	Faunal	11	0.30
1	b Ampl	5	-	-	-	Lithic	2	18
1	b Ampl	5	-	-	-	Marine Shell	2	2
1	b Ampl	5	-	-	-	Organic Material	-	5.5
1	b Ampl	-	-	10	15.00	Bead	1	0.1
1	b Ampl	-	-	10	-	Botanic	689	3.6
1	b Ampl	-	-	10	-	Carbon	-	5.90
1	b Ampl	-	-	10	-	Coprolites	-	1.1
1	b Ampl	-	-	10	-	Crisocola	1	0.05
1	b Ampl	-	-	10	-	Faunal	1	0.05
1	b Ampl	-	-	10	-	Float Sample	1 liter	-
1	b Ampl	-	-	13	15.00	Carbon	-	1.00
1	b Ampl	-	-	13	-	Faunal	4	3.20
1	b Ampl	-	-	13	-	Float Sample	1 liter	-
1	b Ampl	-	-	14	22.50	Botanic	28	0.3
1	b Ampl	-	-	14	-	Carbon	-	3.60
1	b Ampl	-	-	14	-	Coprolites	-	0.1
1	b Ampl	-	-	14	-	Faunal	2	3.91
1	b Ampl	-	-	14	-	Float Sample	1 liter	-
1	b Ampl	-	-	14	-	Lithic	2	2.9
1	b Ampl	-	-	15	67.50	Carbon	-	13.10

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
1	b Ampl	-	-	15	-	Ceramic	5	27.10
1	b Ampl	-	-	15	-	Coprolites	-	0.2
1	b Ampl	-	-	15	-	Faunal	6	0.95
1	b Ampl	-	-	15	-	Float Sample	1 liter	-
1	b Ampl	-	-	15	-	Lithic	4	33.1
1	b Ampl	-	-	15	-	Organic Material	-	1.4
1	b Ampl	-	-	16	6.00	Carbon	-	0.40
1	b Ampl	-	-	16	-	Faunal	1	0.50
1	b Ampl	-	-	16	-	Float Sample	1 liter	-
1	b Ampl	-	-	17	20.00	Carbon	-	3.40
1	b Ampl	-	-	17	-	Faunal	6	1.15
1	b Ampl	-	-	17	-	Float Sample	1 liter	-
1	b Ampl	-	-	17	-	Lithic	1	0.4
2	c	1	A	-	15.00	Carbon	-	0.10
2	c	1	A	-	-	Ceramic	2	2.10
2	c	1	A	-	-	Faunal	1	0.10
2	c	1	A	-	-	Lithic	1	2.9
2	c	1	A	-	-	Marine Shell	1	0.05
2	c	Superficie	B	-	0.00	Ceramic	1	0.80
2	c	Superficie	B	-	-	Faunal	2	0.10
2	c	1	B	-	40.00	Botanic	4	0.25
2	c	2	B	-	42.50	Carbon	-	1.70
2	c	2	B	-	-	Ceramic	2	7.60

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
2	c	2	B	-	-	Faunal	2	0.07
2	c	2	B	-	-	Marine Shell	4	0.2
2	c	2	B	-	-	Metal	1	0.05
2	c	3	B	-	47.50	Botanic	6	0.5
2	c	3	B	-	-	Carbon	-	2.40
2	c	3	B	-	-	Ceramic	2	2.10
2	c	3	B	-	-	Crisocola	2	0.6
2	c	3	B	-	-	Faunal	7	0.20
2	c	3	B	-	-	Lithic	1	0.4
2	c	4	B	-	152.50	Botanic	91	5.1
2	c	4	B	-	-	C14	-	2.7
2	c	4	B	-	-	Carbon	-	19.90
2	c	4	B	-	-	Ceramic	1	0.80
2	c	4	B	-	-	Coprolites	-	0.05
2	c	4	B	-	-	Crisocola	3	1.7
2	c	4	B	-	-	Faunal	18	0.15
2	c	4	B	-	-	Float Sample	1 liter	-
2	c	4	B	-	-	Lithic	4	23.3
2	c	4	B	-	-	Lithic	1	1266.8
2	c	4	B	-	-	Pigment	1	0.20
2	c	5	B	-	85.00	Botanic	3	0.05
2	c	5	B	-	-	Carbon	-	0.10
2	c	5	B	-	-	Ceramic	4	1.30

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
2	c	5	B	-	-	Coprolites	-	0.05
2	c	5	B	-	-	Crisocola	7	11.5
2	c	5	B	-	-	Faunal	2	0.03
2	c	5	B	-	-	Lithic	3	19.9
2	c	6	B	-	132.50	Crisocola	16	35.2
3	d	1	-	-	70.00	Carbon	-	1.80
3	d	1	-	-	-	Ceramic	1	6.70
3	d	1	-	-	-	Faunal	8	0.19
3	d	1	-	-	-	Coprolites	-	1.4
3	d	1	-	-	-	Lithic	1	3.7
3	d	1	-	-	-	Marine Shell	7	4.1
3	d	1	-	-	-	Organic Material	-	0.7
3	d	2	-	-	40.00	Ceramic	4	16.20
3	d	2	-	-	-	Faunal	25	0.27
3	d	2	-	-	-	Carbon	-	7.80
3	d	2	-	-	-	Coprolites	-	1.5
3	d	3	-	-	75.00	Faunal	2	0.01
3	d	3	-	-	-	Burnt Earth	-	3.528
3	d	3	-	-	-	Carbon	-	2.20
3	d	3	-	-	-	Coprolites	-	0.1
3	d	3	-	-	-	Lithic	1	5.3
3	d	3	-	-	-	Marine Shell	1	0.9
3	d	4	-	-	500.00	Botanic	76	1.4

Table A. 2 Sector C - Finds from all excavated contexts continued

Terrace	Unit	Nivel	Area	Rasgo	Excavated soil Vol. in l	Material	Count	Weight in g
3	d	4	-	-	-	Carbon	-	3.30
3	d	4	-	-	-	Ceramic	1	3.70
3	d	4	-	-	-	Lithic	1	1.7
3	d	-	-	18	100.00	Botanic	86	11.4
3	d	-	-	18	-	Burnt Earth	-	7.3
3	d	-	-	18	-	Carbon	-	18.20
3	d	-	-	18	-	Ceramic	8	76.00
3	d	-	-	18	-	Coprolites	-	13
3	d	-	-	18	-	Textile	-	0.7
3	d	-		18	-	Marine Shell	1	0.2

Table A. 3 Ceramic Analysis of all excavated sherds c

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0001	C	1	a	Surface	A	-	2	1	0	1	2	-	-	-	-	0.20	-	-	-	11
M7-0001	C	1	a	Surface	A	-	2	3	0	1	8	-	-	-	-	0.5-0.9	-	-	-	11
M7-0001-A	C	1	a	Surface	A	-	2	1	1	2	8	3	3	3.10	17.00	0.60	1	4	-	7
M7-0010	C	1	a	2	A	-	1	4	0	1	1	-	-	-	-	0.5-0.6	-	-	-	11
M7-0010	C	1	a	2	A	-	1	3	0	1	8	-	-	-	-	0.5-0.6	-	-	-	11
M7-0010	C	1	a	2	A	-	1	2	0	1	9	-	-	-	-	0.75	-	-	-	11
M7-0010	C	1	a	2	A	-	1	1	0	1	10	-	-	-	-	0.5-0.6	-	-	-	11
M7-0010	C	1	a	2	A	-	1	1	0	1	11	-	-	-	-	0.5-0.6	-	-	-	11
M7-0010-A	C	1	a	2	A	-	1	1	1	2	9	2		1.20	-	0.80	1	-	-	11
M7-0019	C	1	a	Surface	B	-	2	2	0	1	1			14.30	-	0.50	-	-	-	11
M7-0021	C	1	a	1	B	-	1	3	0	1	1	-	-	-	-	0.73	-	-	-	11
M7-0021	C	1	a	1	B	-	1	4	0	1	8	-	-	-	-	0.50	-	-	-	11
M7-0021	C	1	a	1	B	-	1	1	0	1	8	-	-	-	-	0.60	-	-	-	11
M7-0021	C	1	a	1	B	-	1	5	0	1	13	-	-	-	-	0.50	-	-	-	11
M7-0021-A	C	1	a	1	B	-	1	1	1	3	8	2		12.20	-	0.70	-	-	-	11
M7-0021-B	C	1	a	1	B	-	1	1	1	2	3	1	2	6.90	10-13	0.51	4	4	-	10
M7-0021-C	C	1	a	1	-	-	1	1	1	2	13	2	1	7.60	16-20	0.60	2	2	-	10
M7-0029-A	C	1	a	1	-	-	1	1	1	10	13	3	2	27.10	-	0.5-0.6	-	-	1c	11
M7-0031	C	1	a	2	B	-	1	2	0	1	8	-	-	-	-	0.65-0.7	-	-	-	11
M7-0031	C	1	a	2	B	-	1	1	0	1	9	-	-	-	-	0.50	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0031	C	1	a	2	B	-	1	1	0	1	9	-	-	-	-	0.50	-	-	-	11
M7-0031	C	1	a	2	B	-	1	1	0	1	10	-	-	-	-	0.40	-	-	-	11
M7-0031	C	1	a	2	B	-	1	2	0	1	14	-	-	-	-	0.60	-	-	-	11
M7-0031	C	1	a	2	B	-	1	1	0	1	14	-	-	-	-	0.50	-	-	-	11
M7-0037	C	1	a	3	B	-	1	4	0	1	1	-	-	-	-	0.70	-	-	-	11
M7-0037	C	1	a	3	B	-	1	9	0	1	8	-	-	-	-	0.40	-	-	-	11
M7-0037	C	1	a	3	B	-	1	1	0	1	10	-	-	-	-	0.50	-	-	-	11
M7-0037	C	1	a	3	B	-	1	1	0	1	11	-	-	-	-	0.50	-	-	-	11
M7-0037	C	1	a	3	B	-	1	1	0	1	14	-	-	-	-	0.50	-	-	-	11
M7-0042	C	1	a	-	B	1	1	2	0	1	10	-	-	-	-	0.65	-	-	-	11
M7-0042	C	1	a	-	B	1	1	1	0	1	13	-	-	-	-	0.50	-	-	-	11
M7-0042-A	C	1	a	-	B	1	1	1	1	3	8	2		12.30	-	0.70	-	-	-	11
M7-0049	C	1	b	Surface	A	-	2	1	0	1	1	-	-	-	-	0.52	-	-	-	11
M7-0049	C	1	b	Surface	A	-	2	1	0	1	8	-	-	-	-	0.55	-	-	-	11
M7-0053	C	1	b	1	A	-	1	3	0	1	1	-	-	-	-	0.60	-	-	-	11
M7-0053	C	1	b	1	A	-	1	2	0	1	8	-	-	-	-	0.70	-	-	-	11
M7-0063	C	1	b	1	A	-	1	3	0	1	1			8.60	-	0.50	-	-	-	11
M7-0072	C	1	a	4	B	-	1	1	0	1	1	-	-	-	-	0.55	-	-	-	11
M7-0072	C	1	a	4	B	-	1	3	0	1	2	-	-	-	-	0.50	-	-	-	11
M7-0072	C	1	a	4	B	-	1	3	0	1	2	-	-	-	-	0.60	-	-	-	11
M7-0072	C	1	a	4	B	-	1	2	0	1	9	-	-	-	-	0.3-0.4	-	-	-	11
M7-0072	C	1	a	4	B	-	1	1	0	1	11	-	-	-	-	0.45	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0072-A	C	1	a	4	B	-	1	1	1	2	10	1	1	17.6g	12-13	0.50	1	3	-	10
M7-0078	C	1	b	1	B	-	1	4	0	1	3	-	-	-	-	0.50	-	-	-	11
M7-0078	C	1	b	1	B	-	1	2	0	1	8	-	-	-	-	0.55	-	-	-	11
M7-0078	C	1	b	1	B	-	1	1	0	1	10	-	-	-	-	0.60	-	-	-	11
M7-0078	C	1	b	1	B	-	1	3	0	1	13	-	-	-	-	0.50	-	-	-	11
M7-0087	D	4	f	4	C	-	1	3	0	1	11	-	-		-	-	-	-	-	11
M7-0090	C	1	b	2	B	-	1	3	0	1	2	-	-	-	-	-	-	-	-	11
M7-0090	C	1	b	2	B	-	1	1	0	1	8	-	-	-	-	0.70	-	-	-	11
M7-0090	C	1	b	2	B	-	1	3	0	1	11	-	-	-	-	0.40	-	-	-	11
M7-0090	C	1	b	2	B	-	1	1	0	1	13	-	-	-	-	0.70	-	-	-	11
M7-0090	C	1	b	2	B	-	1	2	0	1	14	-	-	-	-	0.60	-	-	-	11
M7-0102	C	1	aAmpl	1	-	-	1	2	0	1	3				-	0.8-1.0	-	-	-	11
M7-0102	C	1	aAmpl	1	-	-	1	8	0	1	8				-	0.60	-	-	-	11
M7-0102-A	C	1	aAmpl	1	-	-	1	1	1	2	8	2	3	4.40	>6cm	0.51	2	3	-	11
M7-0102-B	C	1	aAmpl	1	-	-	1	1	1	5	8	2	2	8.20	-	0.4-0.7	-	-	-	10
M7-0106-A	C	1	b	2	B	-	1	1	1	2	1	2	3	19.30	17	0.65	4	1	-	3
M7-0113	C	1	aAmpl	2	-	-	1	1	0	1	1	-	-	-	-	0.50	-	-	-	11
M7-0113	C	1	aAmpl	2	-	-	1	1	0	1	8	-	-	-	-	0.55	-	-	-	11
M7-0113	C	1	aAmpl	2	-	-	1	1	0	1	13	-	-	-	-	0.47	-	-	-	11
M7-0115	C	1	b	3	B	-	1	4	0	1	1	-	-	-	-	0.50	-	-	-	11
M7-0115	C	1	b	3	B	-	1	4	0	1	3	-	-	-	-	0.52	-	-	-	11
M7-0115	C	1	b	3	B	-	1	8	0	1	8	-	-	-	-	0.70	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0115	C	1	b	3	B	-	1	3	0	1	10	-	-	-	-	0.78	-	-	-	11
M7-0115	C	1	b	3	B	-	1	1	0	1	14	-	-	-	-	0.50	-	-	-	11
M7-0123	C	1	b	3	B	-	1	1	0	1	8	-	-	25.40	-	0.76	-	-	-	11
M7-0131	C	1	b	4	B	-	1	2	0	1	2	-	-	-	-	0.40	-	-	-	11
M7-0131	C	1	b	4	B	-	1	1	0	1	13	-	-	-	-	0.50	-	-	-	11
M7-0131-A	C	1	b	4	B	-	1	1	1	6	13	3	1	5.60	8-9	0.60	-	-	-	11
M7-0145	C	1	b	-	B	4	1	2	0	1	10	-	-	-	-	?	-	-	-	11
M7-0145	C	1	b	-	B	4	1	1	0	1	11	-	-	-	-	0.70	-	-	-	11
M7-0158	C	1	aAmpl	-	-	3	1	1	0	1	3	-	-	-	-	0.61	-	-	-	11
M7-0158	C	1	aAmpl	-	-	3	1	3	0	1	11	-	-	-	-	0.56	-	-	-	11
M7-0171	C	1	a	5	B	-	1	2	0	1	8	-	-	-	-	0.60	-	-	-	11
M7-0171	C	1	a	5	B	-	1	5	0	1	8	-	-	-	-	0.90	-	-	-	11
M7-0171-A	C	1	a	5	B	-	1	1	1	2	9	3	1	18.30	15.00	0.65	5	3	1d	10
M7-0171-B	C	1	a	5	B	-	1	1	1	2	8	3	1	3.40	>15	0.52	2	1	-	3
M7-0181	C	1	b	5	B	-	1	9	0	1	2	-	-	-	-	0.45	-	-	-	11
M7-0181	C	1	b	5	B	-	1	9	0	1	3	-	-	-	-	0.3-0.4	-	-	-	11
M7-0181	C	1	b	5	B	-	1	6	0	1	8	-	-	-	-	0.50	-	-	-	11
M7-0181	C	1	b	5	B	-	1	3	0	1	10	-	-	-	-	0.90	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0181	C	1	b	5	B	-	1	1	0	1	11	-	-	-	-	0.35	-	-	-	11
M7-0189	C	1	aAmpl	4	-	-	1	1	0	1	7	-	-	0.20	-	0.50	-	-	-	11
M7-0197	C	1	b	-	B	8	1	2	0	1	11	-	-	3.30	-	0.55	-	-	-	11
M7-0206	C	1	b	-	B	11	1	2	0	1	2	-	-	6.9 g	-	0.50	-	-	-	11
M7-0215	C	1	aAmpl	-	-	9	1	1	0	1	2	-	-		-	0.60	-	-	-	11
M7-0215	C	1	aAmpl	-	-	9	1	2	0	1	8	-	-		-	0.50	-	-	-	11
M7-0215	C	1	aAmpl	-	-	9	1	1	0	1	9	-	-		-	-	-	-	-	11
M7-0226	C	1	a/b	-	-	6	1	8	0	1	13	-	-	38.00	-	0.46-0.5	-	-	-	4
M7-0236	C	1	bAmpl	1	-	-	1	1	0	1	11	-	-	0.70	-	0.50	-	-	-	11
M7-0245	C	1	bAmpl	2	-	-	1	1	0	1	1	-	-	-	-	0.50	-	-	-	11
M7-0245	C	1	bAmpl	2	-	-	1	2	0	1	3	-	-	-	-	0.55	-	-	-	11
M7-0248	C	2	c	1	A	-	1	1	0	1	1	-	-	-	-	0.60	-	-	-	11
M7-0248	C	2	c	1	A	-	1	1	0	1	8	-	-	-	-	-	-	-	-	11
M7-0258	C	1	bAmpl	4	-	-	1	2	0	1	1	-	-	-	-	0.50	-	-	-	11
M7-0258	C	1	bAmpl	4	-	-	1	3	0	1	2	-	-	-	-	-	-	-	-	11
M7-0258	C	1	bAmpl	4	-	-	1	4	0	1	8	-	-	-	-	0.40	-	-	-	11
M7-0258	C	1	bAmpl	4	-	-	1	2	0	1	11	-	-	-	-	0.60	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0258-A	C	1	bAmpl	4	-	-	1	1	1	2	1	2	3	22.40	17-18	0.60	4	3	-	1
M7-0263	C	1	bAmpl	4	-	-	1	1	0	1	1	-	-	27.50	-	0.90	-	-	-	11
M7-0269	C	1	bAmpl	5	-	-	1	2	0	1	8	-	-		-	0.70	-	-	-	11
M7-0269	C	1	bAmpl	5	-	-	1	1	0	1	11	-	-		-	-	-	-	-	11
M7-0279	C	2	c	2	B	-	1	2	0	1	8	-	-	7.70	-	0.60	-	-	-	11
M7-0295	C	1	bAmpl	3	-	-	1	3	0	1	1	-	-		-	0.70	-	-	-	11
M7-0295	C	1	bAmpl	3	-	-	1	5	0	1	8	-	-		-	0.50	-	-	-	11
M7-0295	C	1	bAmpl	3	-	-	1	1	0	1	10	-	-		-	0.60	-	-	-	11
M7-0295	C	1	bAmpl	3	-	-	1	1	0	1	10	-	-		-	0.40	-	-	-	11
M7-0295-A	C	1	bAmpl	3	-	-	1	1	1	2	1	2	1	5.80	-	0.60	4	5	-	1
M7-0312	C	1	bAmpl	-	-	15	1	5	0	1	3	-	-		-	-	-	-	-	11
M7-0312	C	1	bAmpl	-	-	15	1	1	0	1	7	-	-		-	-	-	-	-	11
M7-0312	C	1	bAmpl	-	-	15	1	1	0	1	11	-	-		-	-	-	-	-	11
M7-0318	C	2	c	3	B	-	1	2	0	1	9	-	-	2.10	-	0.51	-	-	-	11
M7-0325	C	3	d	1	-	-	1	2	0	1	8	7	2	6.00	-	0.70	-	-	-	11
M7-0333	C	3	d	2	-	-	1	3	0	1	10	-	-		-	0.70	-	-	-	11
M7-0333	C	3	d	2	-	-	1	1	0	1	13	-	-		-	0.50	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0339	C	2	c	4	B	-	1	1	0	1	11	-	-	0.90	-	0.40	-	-	-	11
M7-0362	C	2	c	5	B	-	1	1	0	1	7	-	-		-	-	-	-	-	11
M7-0362	C	2	c	5	B	-	1	1	0	1	8	-	-		-	-	-	-	-	11
M7-0362	C	2	c	5	B	-	1	2	0	1	11	-	-		-	-	-	-	-	11
M7-0372	C	3	d	4	-	18	1	2	0	1	8	-	-		-	0.70	-	-	-	11
M7-0372	C	3	d	4	-	18	1	1	0	1	8	-	-		-	0.80	-	-	-	11
M7-0372	C	3	d	4	-	18	1	1	0	1	11	-	-		-	0.50	-	-	-	11
M7-0372	C	3	d	4	-	18	1	3	0	1	13	-	-		-	0.80	-	-	-	11
M7-0372-A	C	3	d	4	-	18	1	1	1	2	8	1	2	36.30	16-17	0.90	1	2	-	7
M7-0374	C	3	d	4	-	-	1	1	0	1	10	-	-	3.80	-	0.60	-	-	-	11
M7-0380	D	4	e	Surface	B	-	2	1	0	1	1	-	-	23.30	-	0.80	-	-	-	11
M7-0382-A	D	4	e	1	A	-	1	1	1	8	2	2	1	15.40	3.70	0.72	-	-	7	-
M7-0387	D	4	e	1	B	-	1	1	0	1	8	-	-	-	-	0.50	-	-	-	11
M7-0387	D	4	e	1	B	-	1	3	0	1	11	-	-	-	-	0.70	-	-	-	11
M7-0387	D	4	e	1	C	-	1	1	0	1	13	-	-	-	-	0.68	-	-	-	11
M7-0388	D	4	f	Surface	A	-	2	1	0	1	8	1	1	103.80	-	1-1.2	-	-	-	11
M7-0389	D	4	f	Surface	B	-	2	1	0	1	3	2	1	8.30	-	0.50	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0392	D	4	e	2	A	-	1	1	0	1	8	-	-	3.60	-	0.65	-	-	-	11
M7-0399	D	4	e	2	B	-	1	8	0	1	2	1	1	24.60	-	0.50	-	-	-	4
M7-0411	D	4	f	2	B	-	1	2	0	1	13	1	1	38.60	-	0.4-0.75	-	-	-	11
M7-0415	D	4	f	2	A	-	1	1	0	1	8	2	1	-	-	0.60	-	-	-	11
M7-0415	D	4	f	2	A	-	1	1	0	1	1	-	-	-	-	0.50	-	-	-	11
M7-0422	D	4	f	3	B	-	1	1	0	1	2	-	-	-	-	0.40	-	-	-	11
M7-0422	D	4	f	3	B	-	1	1	0	1	11	-	-	-	-	0.49	-	-	-	11
M7-0422	D	4	f	3	B	-	1	1	0	1	13	-	-	-	-	1.11	-	-	-	11
M7-0427	D	4	e	3	B	-	1	1	0	1	2	-	-	11.80	-	0.52	-	-	-	11
M7-0427-A	D	4	e	3	B	-	1	1	1	2	2	1	1	5.20	25-27	0.60	4	4	-	3
M7-0433	D	4	e	Surface	C	-	2	4	0	1	3	-	-		-	0.50	-	-	-	11
M7-0433	D	4	e	Surface	C	-	2	6	0	1	8	-	-		-	0.90	-	-	-	11
M7-0433	D	4	e	Surface	C	-	2	2	0	1	13	-	-		-	0.5- 0.7	-	-	-	11
M7-0433-A	D	4	e	Surface	C	-	2	1	1	2	8	3	1	73.00	22-23	0.60	4	1	-	11
M7-0435	D	4	f	Surface	-	-	2	1	0	1	7	-	-		-	0.50	-	-	-	11
M7-0435	D	4	f	Surface	-	-	2	1	0	1	10	-	-		-	0.50	-	-	-	11
M7-0438	D	4	e	1	C	-	1	13	0	1	3	-	-	n/a	-	0.4- 0.5	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0438	D	4	e	1	C	-	1	2	0	1	8	-	-	n/a	-	0.60	-	-	-	11
M7-0438	D	4	e	1	C	-	1	1	0	1	10	-	-	n/a	-	0.60	-	-	-	11
M7-0438	D	4	e	1	C	-	1	1	0	1	13	-	-	n/a	-	0.60	-	-	-	11
M7-0438-A	D	4	e	1	C	-	1	1	1	2	8	8	5	3.20	17-18	0.65	3	2	-	6
M7-0447	D	4	f	1	C	-	1	21	0	1	2	-	-	-	-	-	-	-	-	11
M7-0447	D	4	f	1	C	-	1	5	0	1	8	-	-	-	-	0.5- 0.6	-	-	-	11
M7-0447	D	4	f	1	C	-	1	2	0	1	9	-	-	-	-	0.50	-	-	-	11
M7-0447	D	4	f	1	C	-	1	5	0	1	10	-	-	-	-	0.60	-	-	-	11
M7-0449	D	4	e	2	C	-	1	20	0	1	1	-	-	-	-	0.5- 0.7	-	-	-	11
M7-0449	D	4	e	2	C	-	1	2	0	1	2	-	-	-	-	0.55	-	-	-	11
M7-0449	D	4	e	2	C	-	1	16	0	1	3	-	-	-	-	0.50	-	-	-	11
M7-0449	D	4	e	2	C	-	1	20	0	1	7	-	-	-	-	-	-	-	-	11
M7-0449	D	4	e	2	C	-	1	14	0	1	8	-	-	-	-	0.6- 1.0	-	-	-	11
M7-0449	D	4	e	2	C	-	1	4	0	1	11	-	-	-	-	0.70	-	-	-	11
M7-0449	D	4	e	2	C	-	1	2	0	1	13	-	-	-	-	0.50	-	-	-	11
M7-0449-A	D	4	e	2	C	-	1	1	1	6	9	4	3	3.30	-	0.50	-	-	1d	7
M7-0449-B	D	4	e	2	C	-	1	1	1	6	9	4	3	4.40	-	0.50	-	-	-	7

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0463	D	4	f	2	C	-	1	24	0	1	13	-	-	-	-	-	-	-	-	11
M7-0463	D	4	f	2	C	-	1	3	0	1	1	-	-	-	-	-	-	-	-	11
M7-0463	D	4	f	2	C	-	1	27	0	1	2	-	-	-	-	-	-	-	-	11
M7-0463	D	4	f	2	C	-	1	31	0	1	2	-	-	-	-	-	-	-	-	11
M7-0463	D	4	f	2	C	-	1	39	0	1	3	-	-	-	-	-	-	-	-	11
M7-0463	D	4	f	2	C	-	1	22	0	1	7	-	-	-	-	-	-	-	-	11
M7-0463	D	4	f	2	C	-	1	1	0	1	8	-	-	-	-	-	-	-	-	11
M7-0463	D	4	f	2	C	-	1	11	0	1	8	-	-	-	-	-	-	-	-	11
M7-0463	D	4	f	2	C	-	1	3	0	1	8	-	-	-	-	-	-	-	-	11
M7-0463	D	4	f	2	C	-	1	12	0	1	9	-	-	-	-	-	-	-	-	11
M7-0463-A	D	4	f	2	C	-	1	1	1	2	9	3	3	11.80	14-15	0.60	3	4	1d	7
M7-0463-B	D	4	f	2	C	-	1	1	1	2	2	2	1	9.60	16-17	0.40	1	1	-	2
M7-0463-C	D	4	f	2	C	-	1	1	1	2	2	8	5	30.20	21	0.60	4	5	-	2
M7-0463-D	D	4	f	2	C	-	1	1	1	2	9	3	1	14.80	12	0.70	2	2	-	10
M7-0466-A	D	4	e	2 Base	C	-	1	1	1	6	7	1	-	33.60	17.00	0.50	-	-	1a	7
M7-0471	D	4	e	2 Base	C	-	1	1	0	1	3	-	-	4.00	-	0.40	-	-	-	11
M7-0472	D	4	e	2 Base	C	-	1	3	0	1	2	5	1	16.70	-	0.70	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0479-A	D	4	f	2	C	-	1	1	1	9	13	5	1	136.10	R8/B10	0.45	1	4	1h	9
M7-0486	D	5	g	1	-	-	1	1	0	1	1	-	-	-	-	-	-	-	-	11
M7-0486	D	5	g	1	-	-	1	14	0	1	2	-	-	-	-	-	-	-	-	11
M7-0486	D	5	g	1	-	-	1	1	0	1	7	-	-	-	-	-	-	-	-	11
M7-0486	D	5	g	1	-	-	1	3	0	1	8	-	-	-	-	0.5-0.7	-	-	-	11
M7-0486-A	D	5	g	1	-	-	1	1	1	2	2	2	3	8.00	26	0.60	4	5	-	1
M7-0486-B	D	5	g	1	-	-	1	1	1	2	2	1	1	8.40	20-22	0.71	-	5	-	1
M7-0487	D	4	e	3	C	-	1	2	0	1	8	-	-	135.80	-	0.60	-	-	-	11
M7-0487	D	4	e	3	C	-	1	1	0	1	10	-	-	26.50	-	0.50	-	-	-	11
M7-0489-A	D	4	f	3	C	-	1	1	1	2	9	2	3	-	-	0.80	3	4	1a	9
M7-0493	D	5	g	2	-	-	1	5	0	1	1	-	-	-	-	0.40	-	-	-	11
M7-0493	D	5	g	2	-	-	1	4	0	1	2	-	-	-	-	0.50	-	-	-	11
M7-0493	D	5	g	2	-	-	1	1	0	1	7	-	-	-	-	0.90	-	-	-	11
M7-0500	D	5	g	3	-	-	1	2	0	1	3	-	-	-	-	0.50	-	-	-	11
M7-0500	D	5	g	3	-	-	1	1	0	1	3	-	-	-	-	0.50	-	-	-	11
M7-0500	D	5	g	3	-	-	1	14	0	1	10	-	-	-	-	0.50	-	-	-	11
M7-0500	D	5	g	3	-	-	1	3	0	1	13	-	-	-	-	0.51	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0507	D	4	e/f	-	-	19	1	1	0	1	13	1	1	32.50	-	0.60	-	-	-	11
M7-0514	D	5	g	4	A	-	1	6	0	1	13	-	-	18.40	-	0.60	-	-	-	11
M7-0524	D	5	g	4	B	-	1	2	0	1	2	-	-	7.60	-	-	-	-	-	11
M7-0524	D	5	g	4	B	-	1	3	0	1	7	-	-	5.90	-	-	-	-	-	11
M7-0542	D	4	e	3	C	-	1	2	0	1	1	-	-	-	-	0.80	-	-	-	11
M7-0542	D	4	e	3	C	-	1	6	0	1	2	-	-	-	-	0.55	-	-	-	11
M7-0542	D	4	e	3	C	-	1	30	0	1	2	-	-	-	-	0.55	-	-	-	11
M7-0542	D	4	e	3	C	-	1	26	0	1	3	-	-	-	-	0.40	-	-	-	11
M7-0542	D	4	e	3	C	-	1	2	0	1	4	-	-	-	-	0.69	-	-	-	11
M7-0542	D	4	e	3	C	-	1	12	0	1	7	-	-	-	-	-	-	-	-	11
M7-0542	D	4	e	3	C	-	1	3	0	1	8	-	-	-	-	0.55	-	-	-	11
M7-0542	D	4	e	3	C	-	1	2	0	1	9	-	-	-	-	0.50	-	-	-	11
M7-0542	D	4	e	3	C	-	1	2	0	1	11	-	-	-	-	0.60	-	-	-	11
M7-0542-A	D	4	e	3	C	-	1	1	1	2	11	2	1	15.00	-	0.70	1	2	-	6
M7-0546	D	4	f	-	-	23	1	1	0	1	13	-	-	43.90	-	0.70	-	-	-	11
M7-0546-A	D	4	f	in situ	-	23	1	1	1	2	1	1	1	29.30	-	0.51	4	4	-	4
M7-0561	D	4	f	-	-	23	1	7	0	1	13	-	-	26.30	-	0.40	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0561-A	D	4	f	-	-	23	1	1	1	6	9	3	3	7.00	-	0.60	-	-	1f	7
M7-0569	D	5	g	5	-	-	1	1	0	1	2	-	-	-	-	0.80	-	-	-	11
M7-0569	D	5	g	5	-	-	1	1	0	1	4	-	-	-	-	0.70	-	-	-	11
M7-0569	D	5	g	5	-	-	1	1	0	1	8	-	-	-	-	0.40	-	-	-	11
M7-0569	D	5	g	5	-	-	1	1	0	1	10	-	-	-	-	0.61	-	-	-	11
M7-0577	D	5	g	-	-	24	1	1	0	1	3	-	-	-	-	0.40	-	-	-	11
M7-0577	D	5	g	-	-	24	1	4	0	1	2	-	-	-	-	0.40	-	-	-	11
M7-0579	D	4	f	Surface	-	26	1	3	0	1	13	-	-	30.20	-	0.4-0.6	-	-	-	11
M7-0589	D	5	g	5	-	22	1	1	0	1	1	-	-	-	-	1.10	-	-	-	11
M7-0589	D	5	g	5	-	22	1	1	0	1	2	-	-	-	-	0.65	-	-	-	11
M7-0593	D	4	f	-	-	25	1	1	0	1	3	-	-	-	-	0.50	-	-	-	11
M7-0593	D	4	f	-	-	25	1	1	0	1	11	-	-	-	-	0.59	-	-	-	11
M7-0593	D	4	f	-	-	25	1	1	0	1	13	-	-	-	-	0.61	-	-	-	11
M7-0600-A	D	5	g	-	-	21	1	1	1	2	2	8	1	10.30		0.62	1	5	7	1
M7-0612	D	4	f	3	C	-	1	9	0	1	1	-	-	-	-	0.60	-	-	-	11
M7-0612	D	4	f	3	C	-	1	11	0	1	2	-	-	-	-	-	-	-	-	11
M7-0612	D	4	f	3	C	-	1	25	0	1	3	-	-	-	-	0.50	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0612	D	4	f	3	C	-	1	11	0	1	9	-	-	-	-	0.5-0.7	-	-	-	11
M7-0612	D	4	f	3	C	-	1	3	0	1	10	-	-	-	-	0.49	-	-	-	11
M7-0612	D	4	f	3	C	-	1	2	0	1	11	-	-	-	-	0.50	-	-	-	11
M7-0612-A	D	4	f	3	C	-	1	1	1	6	9	4	3	4.70	-	0.43	-	-	-	7
M7-0612-B	D	4	f	3	C	-	1	1	1	10	9	4	1	25.00	-	0.83	-	-	1b	11
M7-0612-C	D	4	f	3	C	-	1	1	1	2	2	2	1	8.20	-	0.50	1	5	-	2
M7-0612-D	D	4	f	3	C	-	1	1	1	10	9	4	3	13.00	-	0.52	-	-	1b	1
M7-0612-E	D	4	f	3	C	-	1	1	1	2	2	2	1	1.70	-	0.49	1	3	-	11
M7-0612-F	D	4	f	3	C	-	1	1	1	4	2	2	1	50.20	28-30	0.42	4	5	6	4
M7-0622	D	4	f	3	C	-	1	2	0	1	1	-	-	25.00	-	0.70	-	-	-	11
M7-0624-A	D	4	f	4	-	20	1	1	1	7	9	2		18.00	15.00	0.80	1	4	1b	7
M7-0626	D	5	g	-	-	27	1	2	0	1	1	-	-	-	-	0.70	-	-	-	11
M7-0626	D	5	g	-	-	27	1	2	0	1	4	-	-	-	-	0.5-1.1	-	-	-	11
M7-0637	D	5	g	-	-	30	1	3	0	1	2	-	-	-	-	0.50	-	-	-	11
M7-0637	D	5	g	-	-	30	1	2	0	1	8	-	-	-	-	0.45	-	-	-	11
M7-0645	D	5	g	Surface	-	-	2	5	0	1	2	-	-	48.80	-	0.50	-	-	-	11
M7-0645	D	5	g	Surface	-	-	2	1	0	1	3	-	-	37.40	-	0.51	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0645	D	5	g	Surface	-	-	2	1	0	1	4	-	-	4.70	-	-	-	-	-	11
M7-0645	D	5	g	Surface	-	-	2	11	0	1	8	-	-	68.60	-	0.5-0.9	-	-	-	11
M7-0645	D	5	g	Surface	-	-	2	4	0	1	10	-	-	24.30	-	-	-	-	-	11
M7-0645-A	D	5	g	Surface	-	-	2	1	1	4	2		1	55.20	12.50	0.50	4	4	-	2
M7-0645-B	D	5	g	Surface	-	-	2	1	1	2	9	4	-	6.70	17-18	0.70	1	3	2a	6
M7-0658	D	4	f	-	-	20	1	3	0	1	2	-	-	13.50	-	0.50	-	-	-	11
M7-0659	D	4	f	3	C	-	1	1	0	1	1	-	-	45.20	-	0.65	-	-	-	11
M7-0660	D	4	f	-	-	20	1	1	0	1	11	-	-	2.50	-	0.55	-	-	-	11
M7-0668	D	5	g	5	A/B	-	1	5	0	1	1	-	-	-	-	0.73	-	-	-	11
M7-0668	D	5	g	5	A/B	-	1	3	0	1	3	-	-	-	-	0.51	-	-	-	11
M7-0668	D	5	g	5	A/B	-	1	2	0	1	9	-	-	-	-	0.40	-	-	-	11
M7-0668	D	5	g	5	A/B	-	1	4	0	1	11	-	-	-	-	0.50	-	-	-	11
M7-0684	D	5	g	-	-	31	1	1	0	1	13	-	-	3.80	-	0.73	-	-	-	11
M7-0685	D	4	f	-	-	26	1	1	0	1	1	-	-	-	-	0.50	-	-	-	11
M7-0685	D	4	f	-	-	26	1	4	0	1	3	-	-	-	-	0.50	-	-	-	11
M7-0685	D	4	f	-	-	26	1	2	0	1	11	-	-	-	-	0.48	-	-	-	11
M7-0685	D	4	f	-	-	26	1	8	0	1	13	-	-	-	-	0.60	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0685-A	D	4	f	-	-	26	1	1	1	2	1	3	1	5.70	16-17	0.60	4	4	-	1
M7-0697	D	4	f	1	-	20	1	4	0	1	3	-	-	-	-	0.50	-	-	-	11
M7-0697	D	4	f	1	-	20	1	1	0	1	9	-	-	-	-	0.51	-	-	-	11
M7-0697	D	4	f	1	-	20	1	1	0	1	11	-	-	-	-	0.60	-	-	-	11
M7-0697	D	4	f	1	-	20	1	3	0	1	13	-	-	-	-	0.50	-	-	-	11
M7-0697	D	4	f	1	-	20	1	3	0	1	1	-	-	-	-	0.60	-	-	-	11
M7-0697	D	4	f	1	-	20	1	5	0	1	2	-	-	-	-	0.49	-	-	-	11
M7-0697-A	D	4	f	1	-	20	1	1	1	8	8		1	13.80	-	0.80	-	-	-	11
M7-0708	D	4	f	2	-	20	1	5	0	1	2	-	-	-	-	0.40	-	-	-	11
M7-0708	D	4	f	2	-	20	1	1	0	1	9	-	-	-	-	0.60	-	-	-	11
M7-0708	D	4	f	2	-	20	1	1	0	1	13	-	-	-	-	0.75	-	-	-	11
M7-0711-A	D	4	f	3 Base	C	-	1	1	1	8	12		1	16.20		-	-	-	7	11
M7-0724	D	4	f	3	-	20	1	10	0	1	2	-	-	-	-	0.50	-	-	-	11
M7-0724	D	4	f	3	-	20	1	3	0	1	3	-	-	-	-	0.50	-	-	-	11
M7-0724	D	4	f	3	-	20	1	3	0	1	13	-	-	-	-	0.51	-	-	-	11
M7-0725	D	6	h	1	-	-	1	1	0	1	2	-	-	-	-	0.50	-	-	-	11
M7-0725	D	6	h	1	-	-	1	1	0	1	13	-	-	-	-	0.35	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0731	D	4	f	-	-	28	1	1	0	5	10	-	-	3.80	-	0.35	-	-	-	11
M7-0742	D	4	e	-	-	32	1	2	0	1	2	-	-	14.50	-	1	-	-	-	11
M7-0742	D	4	e	-	-	32	1	2	0	1	8	-	-	1.00	-	-	-	-	-	11
M7-0751	D	5	g	5 esteril	B	-	1	1	0	1	11	8	5	-	-	0.50	-	-	-	11
M7-0751	D	5	g	5 esteril	B	-	1	1	0	1	3	-	-	-	-	0.7	-	-	-	11
M7-0751-A	D	5	g	5 esteril	B	-	1	1	1	2	2		1	6.80	16-17	0.50	4	1	-	2
M7-0760	D	6	h	3	-	-	1	2	0	1	1	-	-	29.40	-	0.5	-	-	-	4
M7-0773	D	4	e	4	C	-	1	9	0	1	1	-	-	n/a	-	0.60	-	-	-	11
M7-0773	D	4	e	4	C	-	1	4	0	1	1	-	-	n/a	-	0.60	-	-	-	11
M7-0773	D	4	e	4	C	-	1	2	0	1	2	-	-	n/a	-	0.50	-	-	-	11
M7-0773	D	4	e	4	C	-	1	1	0	1	6	-	-	n/a	-	0.40	-	-	-	11
M7-0773-A	D	4	e	4	C	-	1	1	1	2	11		1	20.90	12	0.39	1	5	-	1
M7-0777	D	4	f	-	perfil este	-	1	1	0	1	8	2	2	5.30	-	0.50	-	-	-	11
M7-0777	D	4	f	-	perfil este	-	1	1	0	1	1	-	-	-	-	0.3	-	-	-	11
M7-0777	D	4	f	-	perfil este	-	1	1	0	1	1	-	-	-	-	0.6	-	-	-	11
M7-0777	D	4	f	-	perfil este	-	1	1	0	1	1	-	-	-	-	0.6	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0787	D	4	f	4	C	-	1	2	0	1	1	-	-	91.2	-	-	-	-	-	11
M7-0787	D	4	f	4	C	-	1	5	0	1	2	-	-	-	-	-	-	-	-	11
M7-0787	D	4	f	4	C	-	1	2	0	1	8	-	-	-	-	-	-	-	-	11
M7-0787	D	4	f	4	C	-	1	5	0	1	10	-	-	-	-	-	-	-	-	11
M7-0787-A	D	4	f	4	C	-	1	1	1	2	2	1	2	3.70	15	0.40	1	4	-	2
M7-0787-B	D	4	f	4	C	-	1	1	1	2	2	2	1	2.30	13	0.45	1	3	-	11
M7-0787-C	D	4	f	4	C	-	1	1	1	4	8	3	3	9.10	14	0.60	1	2	-	10
M7-0787-D	D	4	f	4	C	-	1	1	1	6	9	4		5.30	15.00	0.50	-	-	1c	7
M7-0805	D	6	h	5	A	-	1	1	0	1	2	-	-	-	-	0.50	-	-	-	11
M7-0805	D	6	h	5	A	-	1	1	0	1	8	-	-	-	-	0.50	-	-	-	11
M7-0807	D	6	h	5	B	-	1	1	0	1	2	-	-	-	-	0.50	-	-	-	11
M7-0807	D	6	h	5	B	-	1	1	0	1	7	-	-	-	-	-	-	-	-	11
M7-0807	D	6	h	5	B	-	1	1	0	1	10	-	-	-	-	-	-	-	-	11
M7-0812	D	6	h	6	B	-	1	1	0	1	1	4		4.30	-	0.4	-	-	-	11
M7-0817	D	4	e	-	perfil este	-	1	1	0	1	2	-	-	1.70	-	-	-	-	-	11
M7-0817-A	D	4	e	-	perfil este	-	1	1	1	2	2		1	2.30	<5cm	0.50	-	4	-	11
M70-832	D	6	h	6	A	-	1	1	0	1	1	-	-	0.60	-	-	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0832	D	6	h	6	A	-	1	1	0	1	11	-	-	0.40	-	-	-	-	-	11
M7-0846	D	6	h	-	-	39	1	1	0	1	11	-	-	4.20	-	0.50	-	-	-	11
M7-0860	D	4	e/f	-	-	19	1	1	0	1	1	-	-	-	-	-	-	-	-	11
M7-0860	D	4	e/f	-	-	19	1	1	0	1	3	-	-	-	-	-	-	-	-	11
M7-0860	D	4	e/f	-	-	19	1	2	0	1	4	-	-	-	-	-	-	-	-	11
M7-0860	D	4	e/f	-	-	19	1	1	1	10	9	4		3.10	-	0.60	-	-	1a	7
M7-0867	D	6	h	7	-	-	1	5	0	1	2	-	-	-	-	0.50	-	-	-	11
M7-0867	D	6	h	7	-	-	1	3	0	1	4	-	-	-	-	0.7	-	-	-	11
M7-0885	D	4	e	5	C	-	1	3	0	1	2	-	-	-	-	0.60	-	-	-	11
M7-0885	D	4	e	5	C	-	1	2	0	1	3	-	-	-	-	0.6	-	-	-	11
M7-0885	D	4	e	5	C	-	1	1	0	1	4	-	-	-	-	0.6	-	-	-	11
M7-0885	D	4	e	5	C	-	1	4	0	1	10	-	-	-	-	0.6	-	-	-	11
M7-0885	D	4	e	5	C	-	1	2	0	1	11	-	-	-	-	0.60	-	-	-	11
M7-0885	D	4	e	5	C	-	1	1	0	1	13	-	-	-	-	0.60	-	-	-	11
M7-0885-A	D	4	e	5	C	-	1	1	1	4	3	2	3	5.70	6	0.50	1	1	-	11
M7-0887-A	D	4	e	5	C	-	1	1	1	8	11	2	1	6.00		0.4-0.5	-	-	7	11
M7-0900	D	4	f	5	C	-	1	1	0	1	13	-	-	-	-	-	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0900	D	4	f	5	C	-	1	5	0	1	2	-	-	-	-	-	-	-	-	11
M7-0900	D	4	f	5	C	-	1	7	0	1	10	-	-	-	-	-	-	-	-	11
M7-0900	D	4	f	5	C	-	1	8	0	1	11	-	-	-	-	-	-	-	-	11
M7-0900-A	D	4	f	5	C	-	1	1	1	8	2	2	3	4.30	-	0.5	-	-	7	11
M7-0900-B	D	4	f	5	C	-	1	1	1	2	4	2	1	2.20	>11cm	0.70	-	4	-	1
M7-0900-C	D	4	f	5	C	-	1	1	1	2	3	1	1	3.10	10.50	0.40	1	4	-	2
M7-0900-D	D	4	f	5	C	-	1	1	1	2	11		1	1.80	-	0.70	-	-	-	11
M7-0913	D	6	h			40	1	1	0	1	1	-	-	6.50	-	0.65	-	-	-	11
M7-0919	D	6	h	8	Area Sur	-	1	11	0	1	3	-	-	-	-	0.50	-	-	-	11
M7-0919	D	6	h	8	Area Sur	-	1	7	0	1	4	-	-	-	-	0.70	-	-	-	11
M7-0919	D	6	h	8	Area Sur	-	1	2	0	1	11	-	-	-	-	0.70	-	-	-	11
M7-0933	D	4	e	-	-	38	1	8	0	1	11	-	-	-	-		-	-	-	11
M7-0933-A	D	4	e	-	-	38	1	2	1	2	11		1	27.40	15	0.30	2	4	-	1
M7-0946	D	4	f	-	-	45	1	1	0	1	2	-	-	-	-	-	-	-	-	11
M7-0946	D	4	f	-	-	45	1	2	0	1	5	-	-	-	-	-	-	-	-	11
M7-0952	D	6	h	8	Este	-	1	4	0	1	4	-	-	-	-	0.70	-	-	-	11
M7-0969	D	6	hAmpl	-	-	40	1	3	0	1	2	-	-	-	-	0.50	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-0988	D	4	e/f	-	-	46	1	4	0	1	11	-	-	9.90	-	0.50	-	-	-	11
M7-0998	D	6	hAmpl	-	-	47	1	1	0	1	2	-	-	6.00	-	0.45	-	-	-	11
M7-0998	D	6	hAmpl	-	-	47	1	1	0	1	11	-	-	8.60	-	0.50	-	-	-	11
M7-1020	D	6	hAmpl	5	-	-	1	1	0	1	2	-	-	-	-	-	-	-	-	11
M7-1020	D	6	hAmpl	5	-	-	1	1	0	1	11	-	-	-	-	-	-	-	-	11
M7-1032	D	4	e	6	C	-	1	10	0	1	1	-	-	-	-		-	-	-	11
M7-1032	D	4	e	6	C	-	1	1	0	1	2	-	-	-	-		-	-	-	11
M7-1032	D	4	e	6	C	-	1	1	0	1	3	-	-	-	-		-	-	-	11
M7-1032-A	D	4	e	6	C	-	1	1	1	2	1	2	1	3.70	13	0.60	2	5	-	1
M7-1032-B	D	4	e	6	C	-	1	1	1	2	3	2	1	2.00	17.5	0.60	1	3	-	2
M7-1041	D	4	f	6	C	-	1	9	0	1	2	-	-	-	-	-	-	-	-	11
M7-1041	D	4	f	6	C	-	1	1	0	1	4	-	-	-	-	0.8	-	-	-	11
M7-1041	D	4	f	6	C	-	1	1	0	1	8	-	-	-	-	-	-	-	-	11
M7-1041	D	4	f	6	C	-	1	1	0	1	11	-	-	-	-	0.50	-	-	-	11
M7-1041-A	D	4	f	6	C	-	1	1	1	8	1	2	1	9.60	0.6	0.60	-	-	7	11
M7-1043	D	7	i	Surface	-	-	2	15	0	1	8	-	-	-	-	0.60	-	-	-	11
M7-1043-A	D	7	i	Surface	-	-	2	1	1	10	1	5	4	5.40	-	0.50	-	-	1i	7

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-1048	D	7	i	Surface	-	-	2	2	0	1	3	-	-	-	-	-	-	-	-	11
M7-1048	D	7	i	Surface	-	-	2	63	0	1	8	-	-	-	-	-	-	-	-	11
M7-1048	D	7	i	Surface	-	-	2	1	0	1	8	-	-	-	-	-	-	-	-	11
M7-1048-A	D	7	i	Surface	-	-	2	8	1	2	9	3	3	120.70	13.5	0.70	3	4	-	7
M7-1048-B	D	7	i	Surface	-	-	2	1	1	2	8	3	1	6.20	12.5	0.60	1	4	-	4
M7-1048-C	D	7	i	Surface	-	-	2	1	1	3	8	3	1	19.60	-	1.00	-	-	-	11
M7-1048-D	D	7	i	Surface	-	-	2	1	1	3	8	3	1	51.10	-	1.00	-	-	-	11
M7-1048-E	D	7	i	Surface	-	-	2	1	1	6	8	2	1	32.60	12.00	1.00	-	-	-	10
M7-1048-G	D	7	i	Surface	-	-	2	2	1	3	8			14.40	-	-	-	-	-	11
M7-1053	D	7	i	1	-	-	1	4	0	1	1	-	-	-	-	-	-	-	-	11
M7-1053	D	7	i	1	-	-	1	16	0	1	8	-	-	-	-	0.70	-	-	-	11
M7-1053	D	7	i	1	-	-	1	2	0	1	9	-	-	-	-	0.70	-	-	-	11
M7-1053-A	D	7	i	1	-	-	1	1	1	2	9	3	3	9.30	13.5	0.70	3	5	-	7
M7-1053-B	D	7	i	1	-	-	1	1	1	2	1	2	1	4.70	14.5	0.70	4	5	-	1
M7-1060	D	7	i	2	-	-	1	7	0	1	3	-	-	-	-	0.55	-	-	-	11
M7-1060	D	7	i	2	-	-	1	26	0	1	8	-	-	-	-	-	-	-	-	11
M7-1060	D	7	i	2	-	-	1	2	0	1	13	-	-	-	-	0.50	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-1060-A	D	7	i	2	-	-	1	1	1	2	2	2	1	5.30	16	0.60	4	5	-	1
M7-1060-B	D	7	i	2	-	-	1	1	1	2	9	2	3	3.20	9	0.40	2	5	-	1
M7-1060-C	D	7	i	2	-	-	1	1	1	1	3	2	1	-	23.3	0.50	-	-	-	11
M7-1060-D	D	7	i	2	-	-	1	1	1	2	2	2	1	3.00	11 to 14	0.50	4	5	-	1
M7-1061	D	7	i	3	-	-	1	18	0	1	2	-	-	-	-	0.50	-	-	-	11
M7-1061	D	7	i	3	-	-	1	9	0	1	3	-	-	-	-	0.50	-	-	-	11
M7-1061	D	7	i	3	-	-	1	1	0	1	6	-	-	-	-	0.40	-	-	-	11
M7-1061	D	7	i	3	-	-	1	26	0	1	8	-	-	-	-	0.75	-	-	-	11
M7-1061	D	7	i	3	-	-	1	2	0	1	9	-	-	-	-	0.60	-	-	-	11
M7-1067	D	7	i	3	-	-	1	1	0	1	8	-	-	4.00	-	0.60	-	-	-	11
M7-1068-A	D	7	i	3	-	-	1	1	1	6	13	4	-	9.20	-	0.50	-	-	-	7
M7-1080	D	7	i	-	-	53	1	1	0	1	1	-	-	-	-	0.62	-	-	-	11
M7-1080	D	7	i	-	-	53	1	1	0	1	3	-	-	-	-	0.40	-	-	-	11
M7-1080	D	7	i	-	-	53	1	1	0	1	9	-	-	-	-	0.43	-	-	-	11
M7-1084	D	7	i	-	-	53	1	13	0	1	2	-	-	-	-	-	-	-	-	11
M7-1084	D	7	i	-	-	53	1	1	0	1	4	-	-	-	-	-	-	-	-	11
M7-1084	D	7	i	-	-	53	1	1	0	1	9	-	-	-	-	-	-	-	-	11

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-1084	D	7	i	-	-	53	1	4	0	1	11	-	-	-	-	-	-	-	-	11
M7-1092	D	6	hAmpl	-	-	48	1	2	0	1	2	-	-	-	-	0.49	-	-	-	11
M7-1092	D	6	hAmpl	-	-	48	1	1	0	1	11	-	-	-	-	0.60	-	-	-	11
M7-1092	D	6	hAmpl	-	-	48	1	1	0	1	14	-	-	-	-	-	-	-	-	11
M7-1092-A	D	6	hAmpl	-	-	48	1	1	1	2	11		1	2.50	14.5	0.58	2	4	-	1
M7-1097	D	6	hAmpl	-	-	48	1	1	0	1	1	-	-	32.10	-	0.60	-	-	-	11
M7-1101-A	D	6	hAmpl	-	-	48	1	1	1	2	1	2	1	25.00	20	0.80	4	5	-	1
M7-1108	D	7	i	-	-	55	1	1	0	1	1	-	-	-	-	0.80	-	-	-	11
M7-1108	D	7	i	-	-	55	1	1	0	1	9	-	-	-	-	0.70	-	-	-	11
M7-1108	D	7	i	-	-	55	1	1	0	1	13	-	-	-	-	0.60	-	-	-	11
M7-1115	D	7	i	4	-	-	1	1	0	1	2	-	-	-	-	-	-	-	-	11
M7-1115	D	7	i	4	-	-	1	11	0	1	3	-	-	-	-	-	-	-	-	11
M7-1115	D	7	i	4	-	-	1	2	0	1	4	-	-	-	-	-	-	-	-	11
M7-1115	D	7	i	4	-	-	1	3	0	1	8	-	-	-	-	-	-	-	-	11
M7-1115-A	D	7	i	4	-	-	1	1	1	2	10	2	1	3.40	17.5	0.60	2	4	-	2
M7-1137	D	7	i	5	Area Sur	-	1	3	0	1	2	-	-	-	-	0.50	-	-	-	11
M7-1137	D	7	i	5	Area Sur	-	1	4	0	1	3	-	-	-	-	0.60	-	-	-	11
M7-1137	D	7	i	5	Area Sur	-	1	10	0	1	7	-	-	-	-	-	-	-	-	11
M7-1137	D	7	i	5	Area Sur	-	1	2	0	1	9	-	-	-	-	0.40	-	-	-	11
M7-1137-A	D	7	i	5	Area Sur	-	1	1	1	2	14	2	3	3.50	14	0.60	3	4	-	1

Table A. 3 Ceramic Analysis of all excavated sherds continued

Specimen	Sector	Terrace	Unit	Level	Area	Rasgo	Collection	Count	Diagnostic	Fragment	Paste	Surface Treatment	Slip	weight in g	Diameter	Thickness in cm	Lip shape	Rim shape	Decoration	Vessel Form
M7-1169-A	D	7	i	7	Area Sur	-	1	1	1	8	8	3	3	18.90	-	0.80	-	-	7	-
M7-1177	D	7	i	7	Area Sur	-	1	3	0	1	1	-	-	-	-	0.60	-	-	-	11
M7-1177	D	7	i	7	Area Sur	-	1	3	0	1	3	-	-	-	-	0.65	-	-	-	11
M7-1177	D	7	i	7	Area Sur	-	1	2	0	1	8	-	-	-	-	0.60	-	-	-	11
M7-1177	D	7	i	7	Area Sur	-	1	2	0	1	11	-	-	-	-	0.40	-	-	-	11
M7-1185	D	7	i	-	-	56	1	1	0	1	8	-	-	3.00	-	0.70	-	-	-	11

Table A. 4 Lithic tools from each excavation context

Sector	Terrace	Unit	Level	Area	Rasgo	Beads	Cantos Rodados	Cores	Chrysocolla	Flakes	Fragment	*Batánes*	*Manos*	Pebbles	Projectile points	Polishers	Total
C	1	a	Surface	A	-	0	0	0	0	3	0	0	0	0	0	0	3
C	1	a	1	A	-	1	0	0	0	0	0	0	0	0	0	0	1
C	1	a	2	A	-	0	2	0	0	0	0	0	0	3	0	0	5
C	1	a	Surface	B	-	0	0	0	0	4	0	0	0	0	0	0	4
C	1	a	1	B	-	0	2	0	0	14	0	0	0	1	0	0	17
C	1	a	3	B	-	0	0	0	0	1	0	0	0	0	0	0	1
C	1	a	4	B	-	0	0	0	12	18	1	0	0	1	1	0	33
C	1	a	5	B	-	0	0	0	17	2	0	0	0	0	0	0	19
C	1	a	-	B	1	0	0	0	0	14	0	0	0	0	0	0	14
C	1	a	-	B	3	0	0	1	26	3	1	0	0	3	0	0	34
C	1	a Ampl	1	-	-	0	0	0	0	5	0	0	0	0	0	1	6
C	1	a Ampl	2	-	-	0	1	0	1	7	0	0	0	1	0	0	10
C	1	a Ampl	3	-	-	0	1	0	17	6	0	0	0	1	0	1	26
C	1	a Ampl	4	-	-	0	0	0	56	0	0	0	0	0	0	0	56
C	1	a Ampl	-	-	9	0	0	0	16	0	0	0	0	0	0	0	16
C	1	a/b	-	-	6	0	5	0	6	2	1	0	0	0	1	0	15
C	1	b	bajo del muro	-	-	1	0	0	11	0	0	0	0	0	0	0	12
C	1	b	1	B	-	0	1	0	0	14	0	0	0	0	0	0	15

Table A. 4 Lithic tools from each excavation context continued

Sector	Terrace	Unit	Level	Area	Rasgo	Beads	Cantos Rodados	Cores	Chrysocolla	Flakes	Fragment	*Batánes*	*Manos*	Pebbles	Projectile points	Polishers	Total
C	1	b	2	B	-	0	0	0	0	5	1	0	0	4	0	0	10
C	1	b	3	B	-	0	0	0	0	2	3	0	0	2	0	0	7
C	1	b	4	B	-	0	0	0	0	2	1	0	0	1	0	0	4
C	1	b	5	B	-	0	3	0	6	2	5	0	0	4	0	0	20
C	1	b	-	B	4	0	0	0	0	0	1	1	0	0	0	0	2
C	1	b	-	B	5	0	0	0	0	1	0	0	0	0	0	0	1
C	1	b	-	B	8	0	0	0	2	0	0	0	1	0	0	0	3
C	1	b	-	-	11	0	0	0	0	0	2	0	0	0	0	1	3
C	1	b	-	-	12	0	1	0	0	0	0	1	0	0	0	0	2
C	1	b Ampl	1	-	-	0	0	0	0	1	0	0	0	3	0	1	5
C	1	b Ampl	3	-	-	0	0	0	0	2	1	0	0	1	0	0	4
C	1	b Ampl	4	-	-	0	0	0	0	0	0	0	0	3	0	0	3
C	1	b Ampl	5	-	-	0	0	0	1	0	0	0	0	1	0	1	3
C	1	b Ampl	-	B	4	0	0	0	0	0	1	0	0	0	0	0	1
C	1	b Ampl	-	-	10	0	0	0	1	0	0	0	0	0	0	0	1
C	1	b Ampl	-	-	14	0	0	0	0	2	0	0	0	0	0	0	2
C	1	b Ampl	-	-	15	0	0	0	0	2	0	0	0	1	0	1	4
C	1	b Ampl	-	-	17	0	0	0	0	0	1	0	0	0	0	0	1
T1 Total						2	16	1	172	112	19	2	1	30	2	6	363

Table A. 4 Lithic tools from each excavation context continued

Sector	Terrace	Unit	Level	Area	Rasgo	Beads	Cantos Rodados	Cores	Chrysocolla	Flakes	Fragment	*Batánes*	*Manos*	Pebbles	Projectile points	Polishers	Total
C	2	c	1	A	-	0	0	0	0	0	1	0	0	0	0	0	1
C	2	c	3	B	-	0	0	0	2	1	0	0	0	0	0	0	3
C	2	c	4	B	-	0	0	0	3	4	0	1	0	0	0	0	8
C	2	c	5	B	-	0	0	0	7	2	1	0	0	0	0	0	10
C	2	c	6	B	-	0	0	0	16	0	0	0	0	0	0	0	16
T2 Total						0	0	0	28	7	2	1	0	0	0	0	38
C	3	d	1	-	-	0	0	0	0	1	0	0	0	0	0	0	1
C	3	d	3	-	-	0	0	0	0	1	0	0	0	0	0	0	1
C	3	d	4	-	-	0	0	0	0	0	0	0	0	0	1	0	1
T3 Total						0	0	0	0	2	0	0	0	0	1	0	3
C Total						2	16	1	200	121	21	3	1	30	3	6	404
D	4	e	Surface	-	-	0	1	0	0	0	0	0	1	0	0	0	2
D	4	e	1	A	-	0	1	0	0	0	0	0	0	0	0	0	1
D	4	e	2	A	-	0	2	0	0	0	0	0	1	0	0	0	3
D	4	e	Surface	B	-	0	1	0	0	0	0	0	0	0	0	0	1
D	4	e	2	B	-	0	1	0	0	1	0	0	0	0	0	0	2
D	4	e	3	B	-	0	4	0	0	0	0	0	0	0	0	0	4
D	4	e	Surface	C	-	0	2	0	0	0	0	0	0	0	0	0	2
D	4	e	1	C	-	0	1	0	0	2	0	0	0	0	0	0	3

Table A. 4 Lithic tools from each excavation context continued

Sector	Terrace	Unit	Level	Area	Rasgo	Beads	Cantos Rodados	Cores	Chrysocolla	Flakes	Fragment	*Batánes*	*Manos*	Pebbles	Projectile points	Polishers	Total
D	4	e	2	C	-	0	15	0	0	4	0	0	0	0	0	2	21
D	4	e	3	C	-	0	7	0	3	8	9	0	0	7	0	0	34
D	4	e	4	C	-	0	1	0	0	4	1	0	0	2	2	0	10
D	4	e	5	C	-	0	2	0	0	0	0	0	0	0	0	0	2
D	4	e	6	C	-	0	1	0	0	2	0	0	0	3	0	0	6
D	4	e	-	-	32	0	3	0	0	1	0	0	0	0	0	0	4
D	4	e	-	-	33	0	0	0	0	3	0	0	0	0	0	0	3
D	4	e/f	-	-	19	0	0	0	0	1	0	0	1	0	1	0	3
D	4	e/f	-	-	46	0	1	0	0	0	0	0	0	0	0	0	1
D	4	f	2	A	-	0	3	0	0	0	0	0	0	0	0	0	3
D	4	f	2	B	-	0	0	0	0	1	0	0	0	0	0	0	1
D	4	f	3	B	-	0	1	0	0	0	0	0	0	0	0	0	1
D	4	f	3	B	-	0	0	0	0	1	0	0	0	0	0	0	1
D	4	f	Surface	C	-	0	0	0	0	0	0	0	0	0	1	0	1
D	4	f	2	C	-	0	6	0	0	5	0	0	0	2	0	0	13
D	4	f	3	C	-	0	1	1	0	12	0	0	0	1	3	0	18
D	4	f	4	C	-	0	2	0	0	0	0	0	0	0	0	0	2
D	4	f	5	C	-	0	3	0	0	1	0	0	0	0	0	0	4
D	4	f	6	C	-	0	3	0	0	4	0	0	0	2	0	0	9

Table A. 4 Lithic tools from each excavation context continued

Sector	Terrace	Unit	Level	Area	Rasgo	Beads	Cantos Rodados	Cores	Chrysocolla	Flakes	Fragment	*Batánes*	*Manos*	Pebbles	Projectile points	Polishers	Total
D	4	f	-	-	20	0	0	0	0	1	0	0	0	0	0	0	1
D	4	f	-	-	23	0	1	0	0	1	0	0	0	2	0	0	4
D	4	f	-	-	25	0	3	0	0	0	0	0	0	0	0	0	3
T4 Total						0	66	1	3	52	10	0	3	19	7	2	163
D	5	g	Surface	-	-	0	0	0	5	1	1	0	3	0	1	0	11
D	5	g	1	-	-	0	0	0	0	0	1	0	0	1	0	0	2
D	5	g	2	-	-	0	1	1	0	0	0	0	0	0	0	0	2
D	5	g	3	-	-	0	0	1	0	1	1	0	0	0	0	0	3
D	5	g	5	B	-	0	0	0	0	1	1	0	0	0	0	0	2
D	5	g	-	-	21	0	1	0	0	1	0	0	0	0	0	0	2
D	5	g	-	-	22	0	0	1	0	0	0	0	0	0	0	0	1
D	5	g	-	-	27	0	1	1	0	1	0	0	1	0	1	0	5
D	5	g	-	-	31	0	1	0	0	0	1	0	0	0	0	0	2
T5 Total						0	4	4	5	5	5	0	4	1	2	0	30
D	6	h	-	-	40	0	1	0	4	0	0	0	0	0	0	0	5
D	6	h	2	-	-	0	1	0	0	0	0	0	0	0	0	0	1
D	6	h	3	-	-	0	5	0	0	0	0	0	0	0	0	0	5
D	6	h	4	-	-	0	1	0	0	0	1	0	1	0	0	0	3
D	6	h	7	-	-	0	3	0	0	0	0	0	0	0	0	0	3

Table A. 4 Lithic tools from each excavation context continued

Sector	Terrace	Unit	Level	Area	Rasgo	Beads	Cantos Rodados	Cores	Chrysocolla	Flakes	Fragment	*Batánes*	*Manos*	Pebbles	Projectile points	Polishers	Total
D	6	h	-	-	-	0	0	0	0	3	0	0	0	0	0	0	3
D	6	h	6	A	-	0	0	0	1	1	0	0	0	0	0	0	2
D	6	h	8	Area sur	-	0	0	0	2	1	0	0	0	0	0	0	3
D	6	h	8	oeste	-	0	0	0	0	0	1	0	0	0	0	0	1
D	6	hAmpl	-	-	47	0	0	0	0	0	0	0	0	0	1	0	1
D	6	hAmpl	5	-	-	0	0	0	0	0	0	0	0	0	1	0	1
T6 Total						0	11	0	7	5	2	0	1	0	2	0	28
D	7	i	Surface	-	-	0	0	0	0	2	0	0	1	0	3	0	6
D	7	i	3	-	-	0	0	0	0	2	0	0	0	0	0	0	2
D	7	i	4 Base	-	-	0	12	0	0	0	0	0	0	0	0	0	12
D	7	i	7	Area sur	-	0	32	0	0	0	0	0	3	0	0	0	35
D	7	i	7 Base	Area sur	-	0	97	0	0	0	0	0	2	0	0	0	99
D	7	i	-	-	53	0	22	0	0	1	0	0	0	0	0	0	23
D	7	i	-	-	54	0	7	0	0	0	0	0	0	0	0	0	7
T7 Total						0	170	0	0	5	0	0	6	0	3	0	184
D Total						0	251	5	15	67	17	0	14	20	14	2	405
Grand Total						2	267	6	215	188	38	3	15	50	17	8	809

Table A. 5 Excavated soil volumes of all contexts

Sector	Terrace	Unit	Level	Area	Rasgo	Soil in Liters
C	1	a	surface	A	-	0.00
C	1	a	1	A	-	25.00
C	1	a	2	A	-	50.00
C	1	a	surface	B	-	0.00
C	1	a	1	B	-	30.00
C	1	a	2	B	-	30.00
C	1	a	3	B	-	40.00
C	1	a	4	B	-	95.00
C	1	a	5	B	-	85.00
C	1	a	1	B	1	25.00
C	1	a	3	B	2	1.25
C	1	a	4	B	3	95.00
C	1	a Ampl	1	-	-	22.50
C	1	a Ampl	2	-	-	30.00
C	1	a Ampl	3	-	-	40.00
C	1	a Ampl	4	-	-	90.00
C	1	a Ampl	4	-	9	30.00
C	1	a Ampl	4	-	10	15.00
C	1	a/b	5	B	6	40.00
C	1	b	surface	A	-	0.00
C	1	b	1	A	-	20.00
C	1	b	2	A	-	20.00
C	1	b	surface	B	-	0.00
C	1	b	1	B	-	20.00
C	1	b	2	B	-	60.00
C	1	b	3	B	-	80.00
C	1	b	4	B	-	60.00
C	1	b	5	bajo del muro	-	165.00
C	1	b	5	B	-	245.00
C	1	b	4	B	4	80.00
C	1	b	4	B	5	5.00
C	1	b	5	B	7	5.00
C	1	b	5	B	8	20.00
C	1	b	5	B	11	25.00
C	1	b	5	B	12	15.00
C	1	b Ampl	surface	-	-	0.00
C	1	b Ampl	1	-	-	40.00

Table A. 5 Excavated soil volumes of all contexts continued

Sector	Terrace	Unit	Level	Area	Rasgo	Soil in Liters
C	1	b Ampl	2	-	-	25.00
C	1	b Ampl	3	-	-	30.00
C	1	b Ampl	4	-	-	90.00
C	1	b Ampl	5	-	-	150.00
C	1	b Ampl	5	-	13	15.00
C	1	b Ampl	5	-	14	22.50
C	1	b Ampl	5	-	15	67.50
C	1	b Ampl	5	-	16	5.00
C	1	b Ampl	5	-	17	20.00
T 1 Total						2028.75
C	2	c	surface	B	-	0.00
C	2	c	surface	A	-	0.00
C	2	c	1	A	-	15.00
C	2	c	1	B	-	40.00
C	2	c	2	B	-	42.50
C	2	c	3	B	-	47.50
C	2	c	4	B	-	152.50
C	2	c	5	B	-	85.00
C	2	c	6	B	-	132.50
T2 Total						515.00
C	3	d	1	-	-	70.00
C	3	d	2	-	-	40.00
C	3	d	3	-	-	75.00
C	3	d	4	-	-	500.00
C	3	d	4	-	18	100.00
T3 Total						785.00
Sector C Total						3328.75
D	4	e	surface	A	-	0.00
D	4	e	1	A	-	10.00
D	4	e	2	A	-	95.00
D	4	e	surface	B	-	0.00
D	4	e	1	B	-	12.50
D	4	e	2	B	-	75.00
D	4	e	3	B	-	110.00
D	4	e	surface	C	-	0.00
D	4	e	1	C	-	35.00
D	4	e	2	C	-	310.00
D	4	e	3	C	-	390.00

Table A. 5 Excavated soil volumes of all contexts continued

Sector	Terrace	Unit	Level	Area	Rasgo	Soil in Liters
D	4	e	4	C	-	240.00
D	4	e	5	C	-	265.00
D	4	e	6	C	-	1000.00
D	4	e	-	east profile	-	7.50
D	4	e	-	-	32	80.00
D	4	e	-	-	33	17.50
D	4	e	-	-	37	2.50
D	4	e	-	-	38	21.25
D	4	e	-	-	42	1.00
D	4	e	-	-	43	1.00
D	4	e	-	-	44	1.00
D	4	e	-	-	45	10.00
D	4	e	-	-	49	1.00
D	4	e/f	3	-	19	30.00
D	4	e/f	-	-	46	65.00
D	4	f	surface	A	-	0.00
D	4	f	1	A	-	15.00
D	4	f	2	A	-	15.00
D	4	f	surface	B	-	0.00
D	4	f	1	B	-	10.00
D	4	f	2	B	-	75.00
D	4	f	3	B	-	145.00
D	4	f	surface	C	-	10.00
D	4	f	1	C	-	50.00
D	4	f	2	C	-	290.00
D	4	f	3	C	-	372.50
D	4	f	4	C	-	165.00
D	4	f	5	C	-	145.00
D	4	f	6	C	-	770.00
D	4	f	3	-	20	265.00
D	4	f	3	-	23	40.00
D	4	f	3	-	25	10.00
D	4	f	3	-	26	12.50
D	4	f	3	-	28	2.50
D	4	f	-	-	34	1.00
D	4	f	-	-	35	1.00
D	4	f	-	-	36	5.00
D	4	f	-	-	40	40.00

Table A. 5 Excavated soil volumes of all contexts continued

Sector	Terrace	Unit	Level	Area	Rasgo	Soil in Liters
T4 Total						5179.75
D	5	g	surface	-	-	0.00
D	5	g	1	-	-	50.00
D	5	g	2	-	-	60.00
D	5	g	3	-	-	35.00
D	5	g	4	A	-	30.00
D	5	g	4	B	-	25.00
D	5	g	5	A/B	-	52.50
D	5	g	5	A	-	110.00
D	5	g	5	B	-	50.00
D	5	g	4	-	21	20.00
D	5	g	4	-	22	15.00
D	5	g	5	-	27	25.00
D	5	g	-	-	24	20.00
D	5	g	-	-	29	10.00
D	5	g	-	-	30	10.00
D	5	g	-	-	31	5.00
T5 Total						517.5
D	6	h	surface	-	-	0.00
D	6	h	1	-	-	22.50
D	6	h	2	-	-	22.50
D	6	h	3	-	-	60.00
D	6	h	4	-	-	60.00
D	6	h	5	A	-	10.00
D	6	h	5	B	-	20.00
D	6	h	6	A	-	30.00
D	6	h	6	B	-	50.00
D	6	h	7		-	160.00
D	6	h	8	bajo R40/41	-	110.00
D	6	h	8	-	-	282.50
D	6	h	8	area sur	-	122.50
D	6	h	-	-	39	2.50
D	6	h	-	-	40	40.00
D	6	h	-	-	41	1.50
D	6	h Ampl	surface	-	-	0.00
D	6	h Ampl	1	-	-	2.50
D	6	h Ampl	2	-	-	7.50
D	6	h Ampl	3	-	-	5.00

Table A. 5 Excavated soil volumes of all contexts continued

Sector	Terrace	Unit	Level	Area	Rasgo	Soil in Liters
D	6	h Ampl	4	-	-	7.50
D	6	h Ampl	5	-	-	20.00
D	6	h Ampl	6	-	-	40.00
D	6	h Ampl	-	-	47	17.50
D	6	h Ampl	-	-	48	31.50
D	6	h Ampl	-	-	50	1.00
D	6	h Ampl	-	-	51	1.00
D	6	h Ampl	-	-	52	1.00
T6 Total						1128.5
D	7	i	surface	-	-	0.00
D	7	i	1	-	-	20.00
D	7	i	2	-	-	30.00
D	7	i	3	-	-	75.00
D	7	i	4	-	-	100.00
D	7	i	5	area sur	-	15.00
D	7	i	6	area sur	-	30.00
D	7	i	7	area sur	-	220.00
D	7	i	-	-	53	30.00
D	7	i	-	-	54	1.00
D	7	i	-	-	55	1.00
D	7	i	-	-	56	15.00
T7 Total						537
Sector D Total						7011.75
Grand Total						10216.50

APPENDIX B

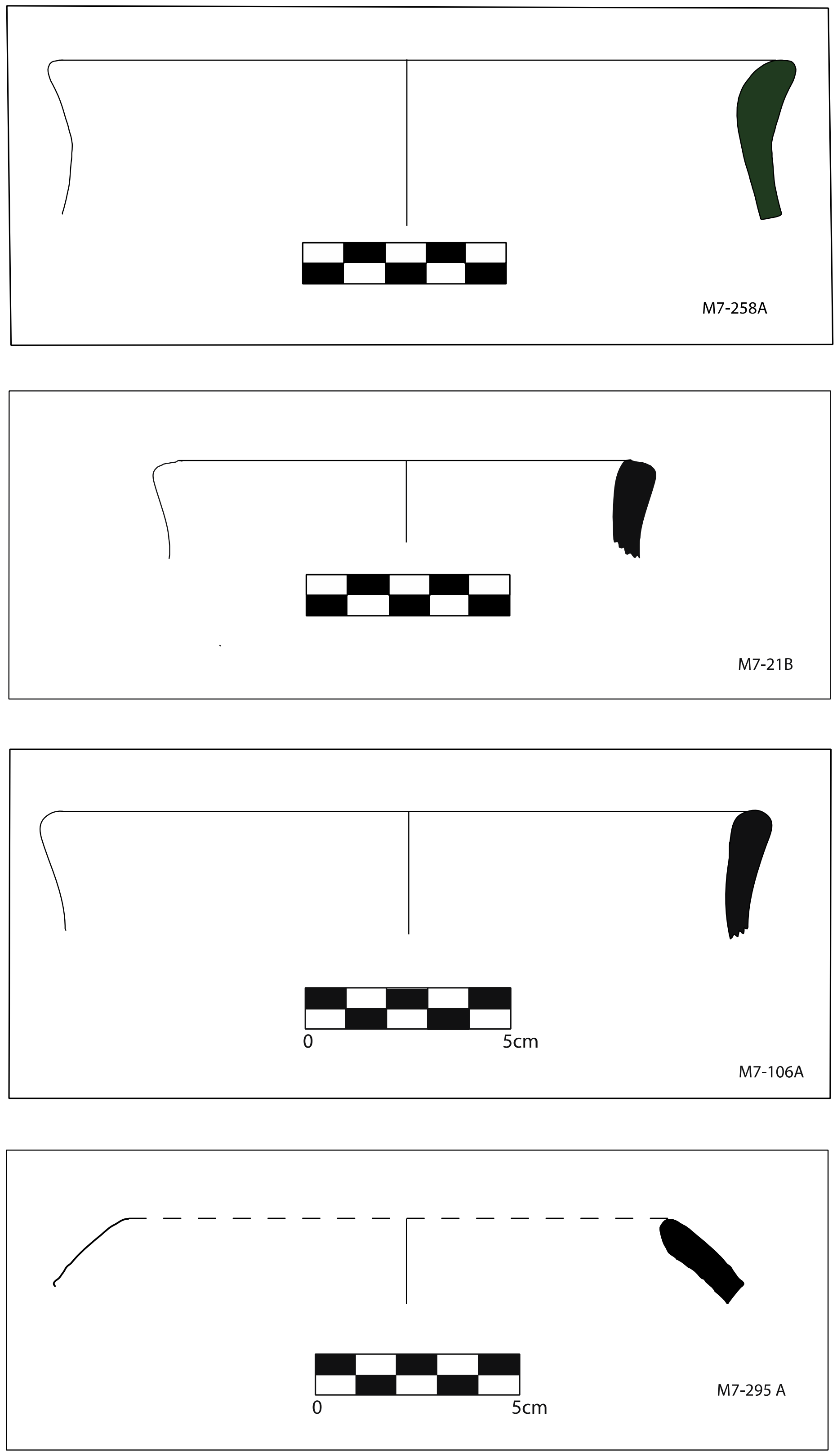


Figure B. 1 Terrace 1 short necked and neckless Huaracane vessels

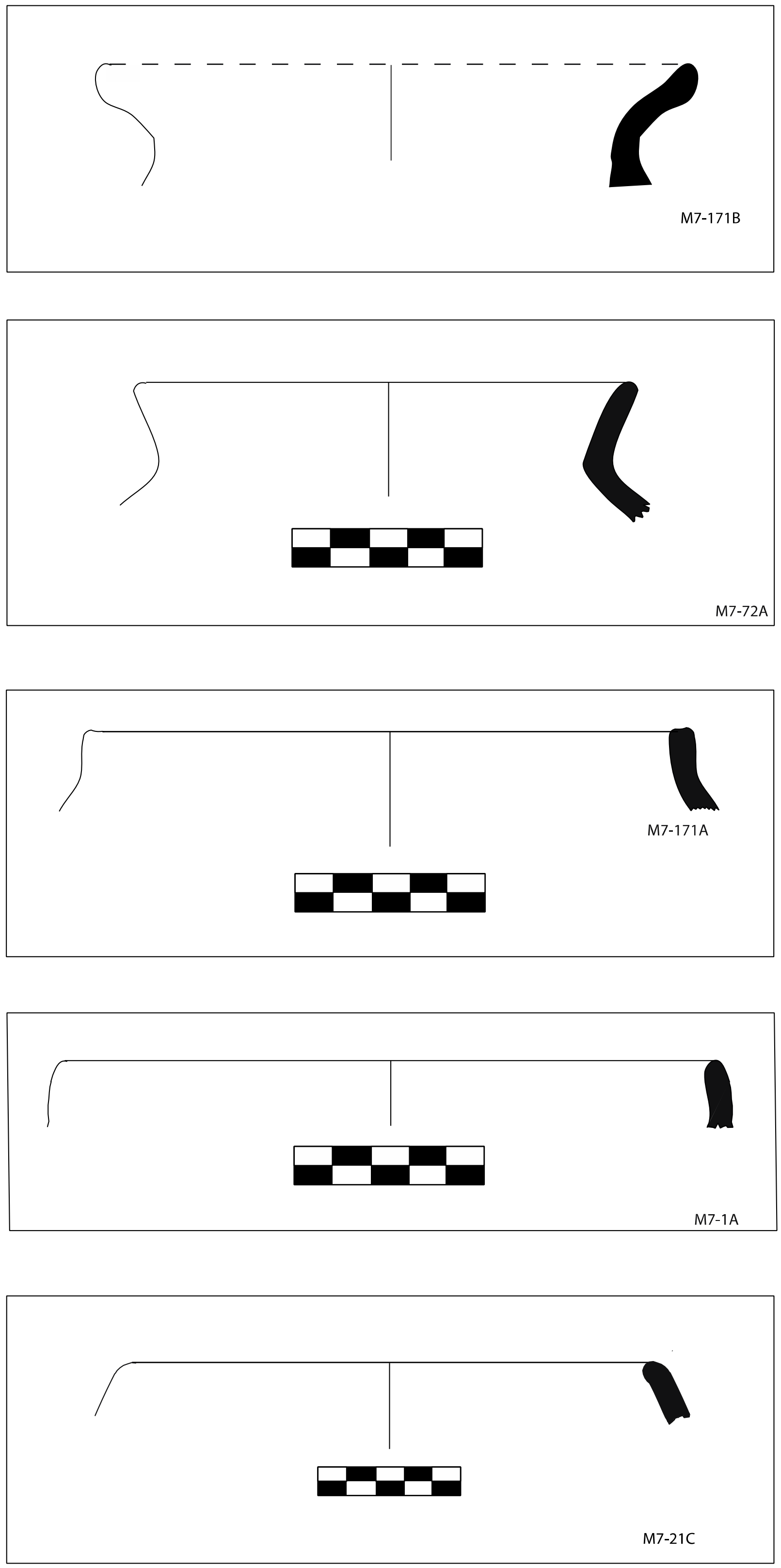


Figure B. 2 Terrace 1 Wari necked vessels and serving bowls

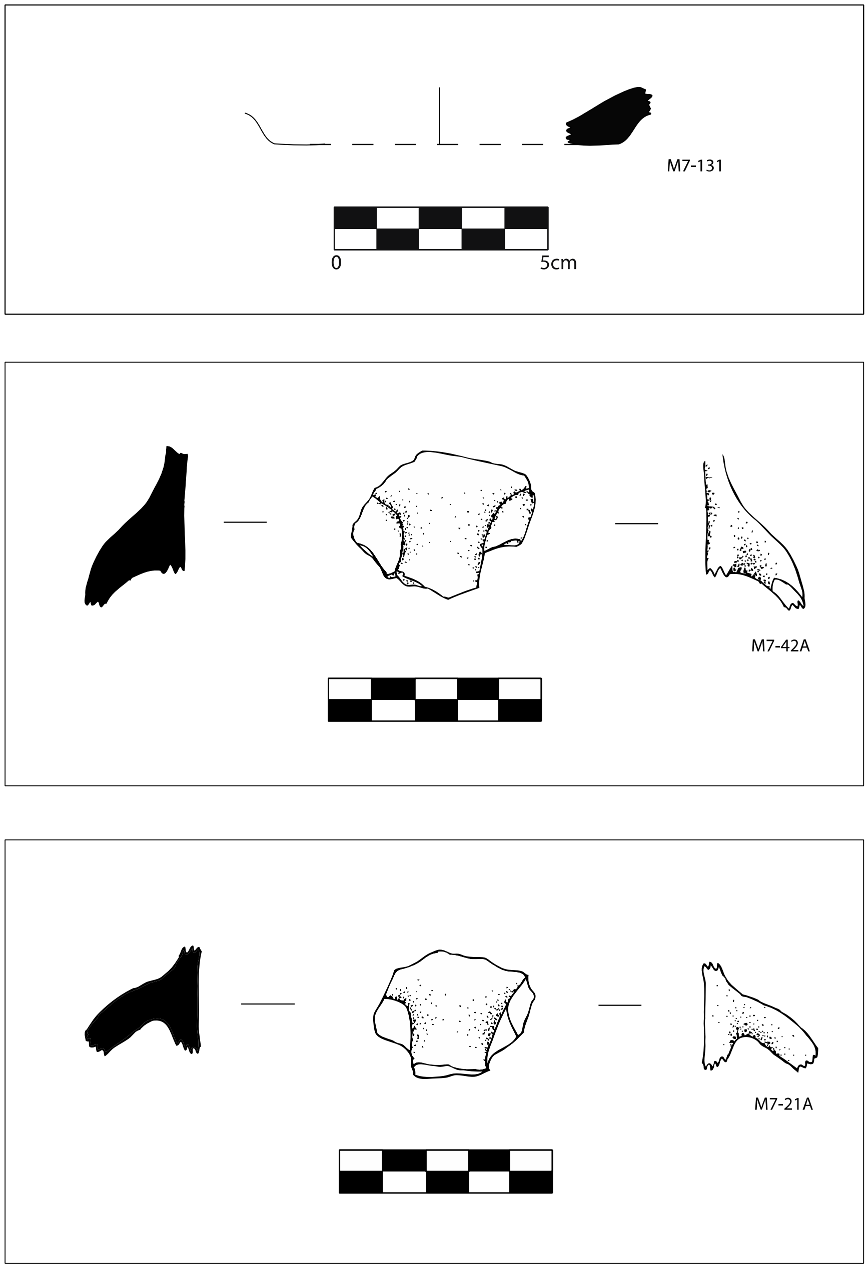


Figure B. 3 Terrace 1 base of Wari bowl and 2 Wari llana handles

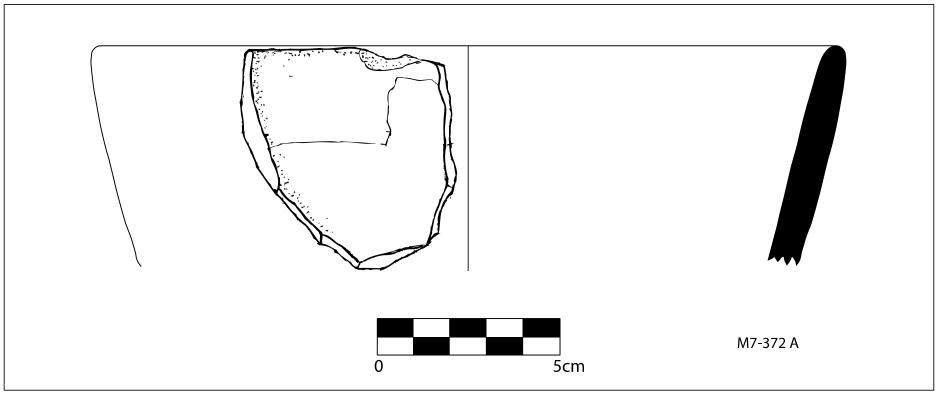


Figure B. 4 Terrace 3 Wari serving bowl

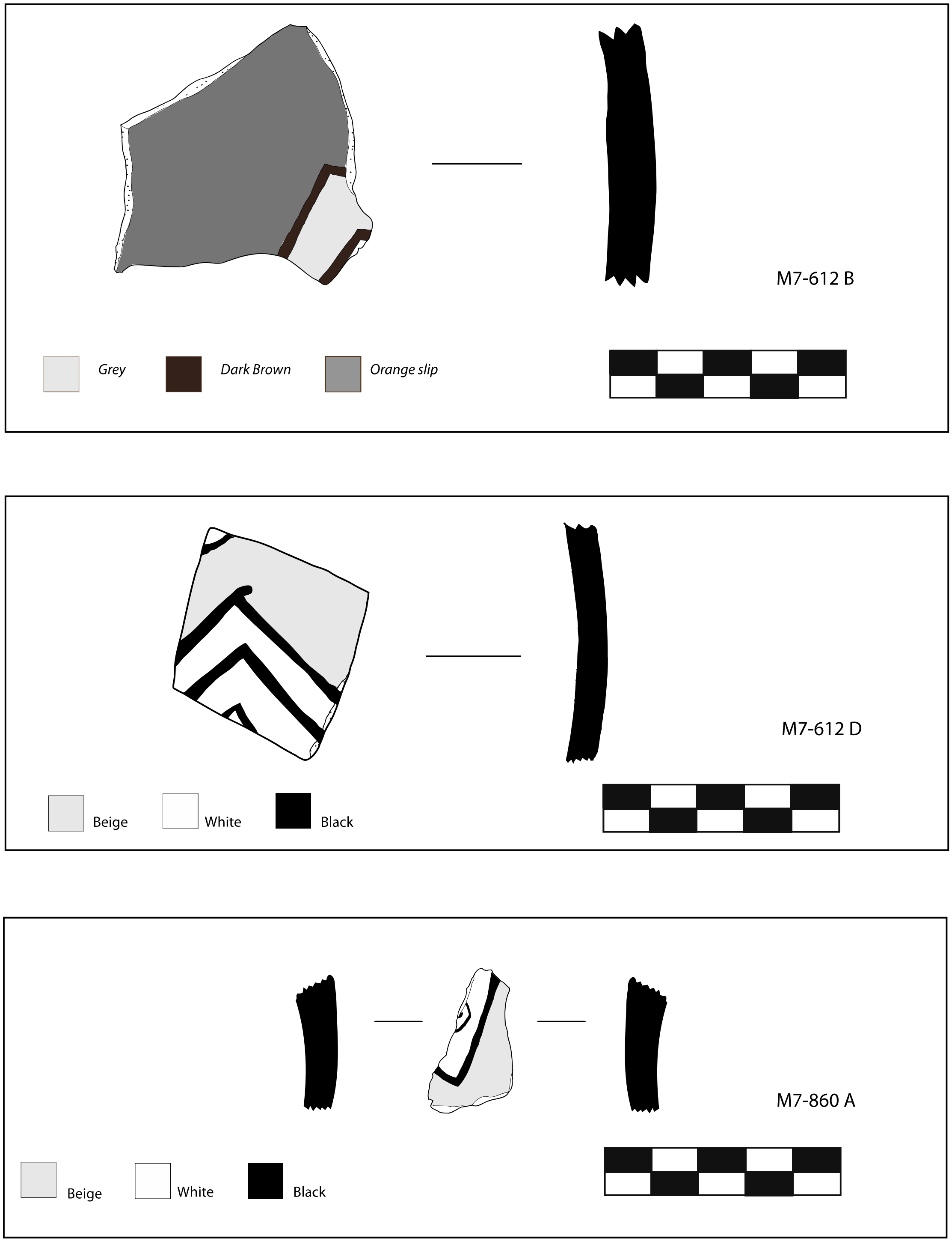


Figure B. 5 Terrace 4 decorated sherds from Wari style serving bowls

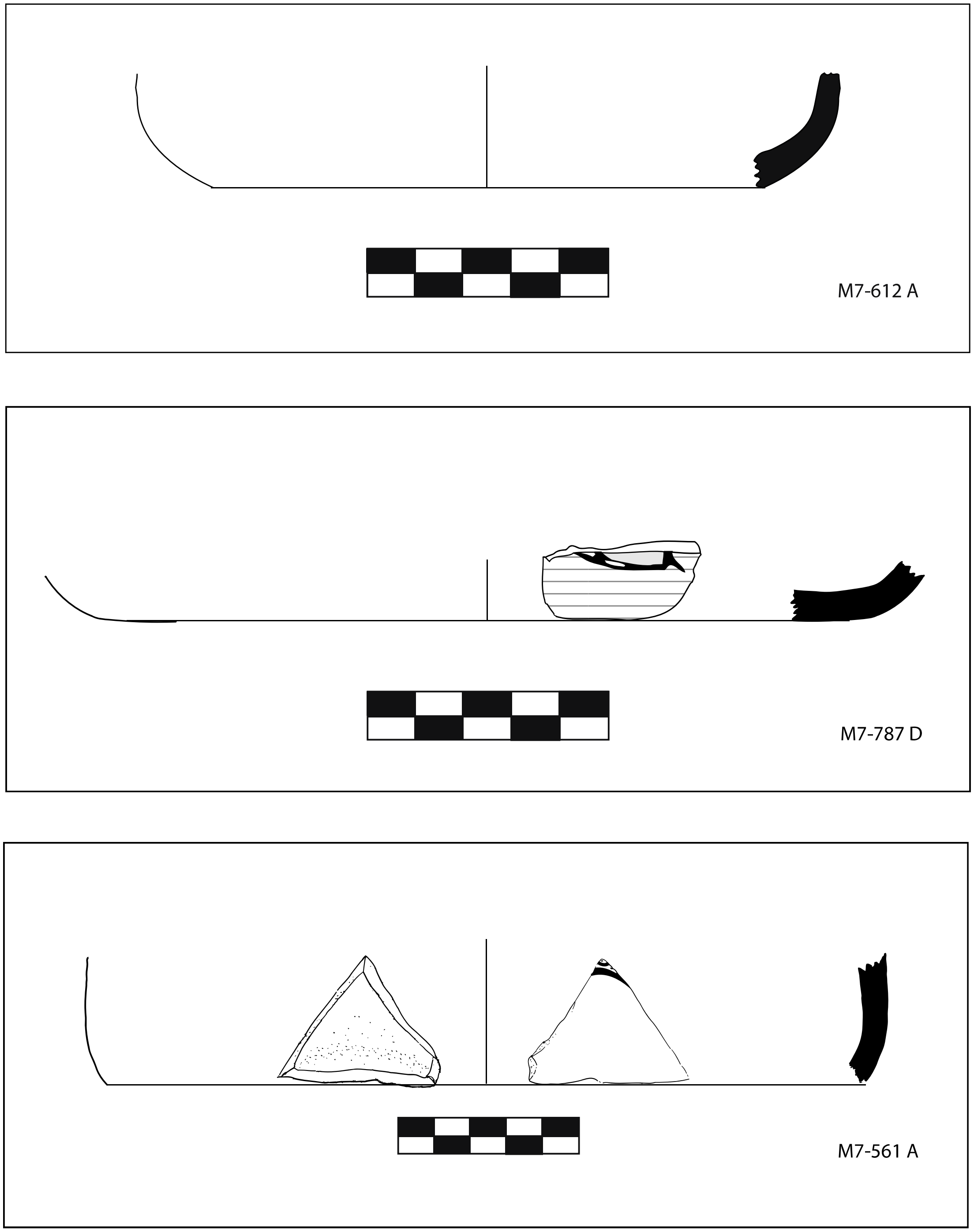
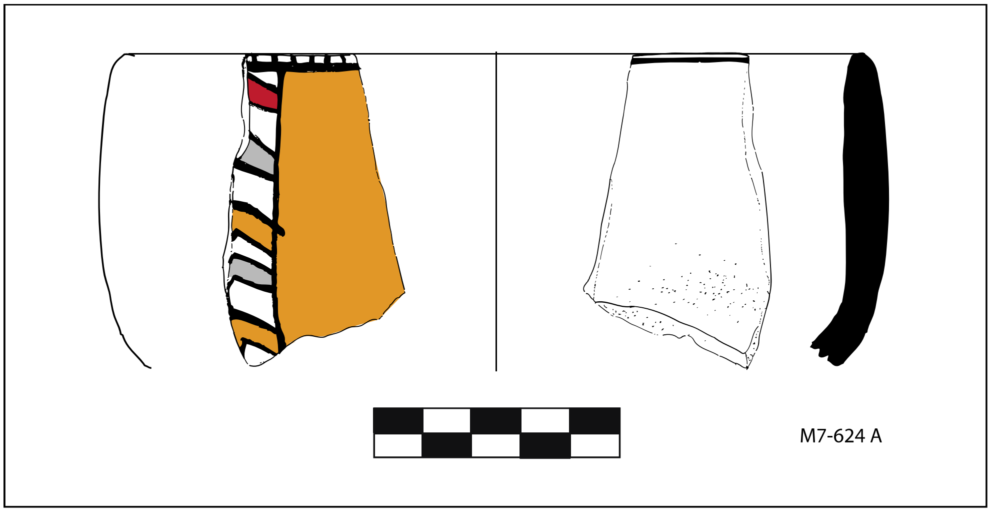
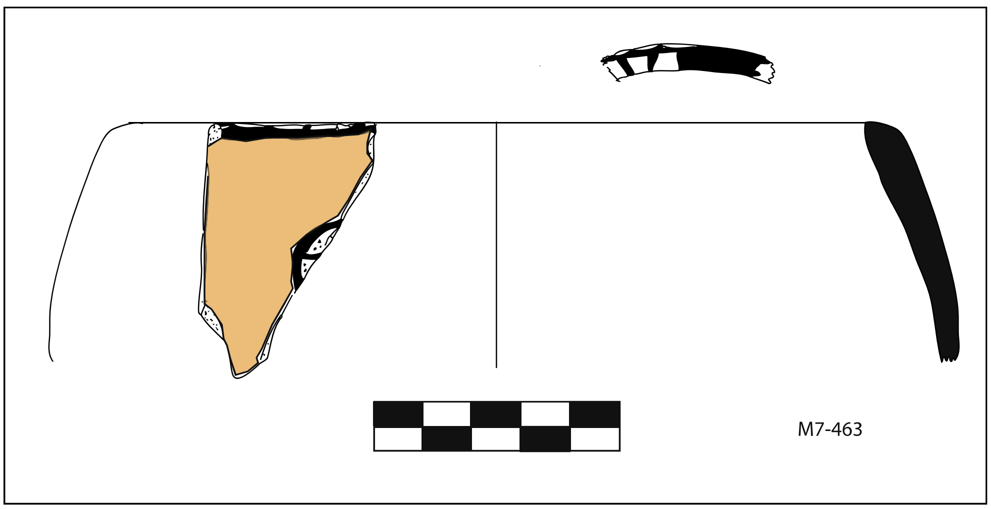


Figure B. 6 Terrace 4 bases of Wari decorated serving bowls





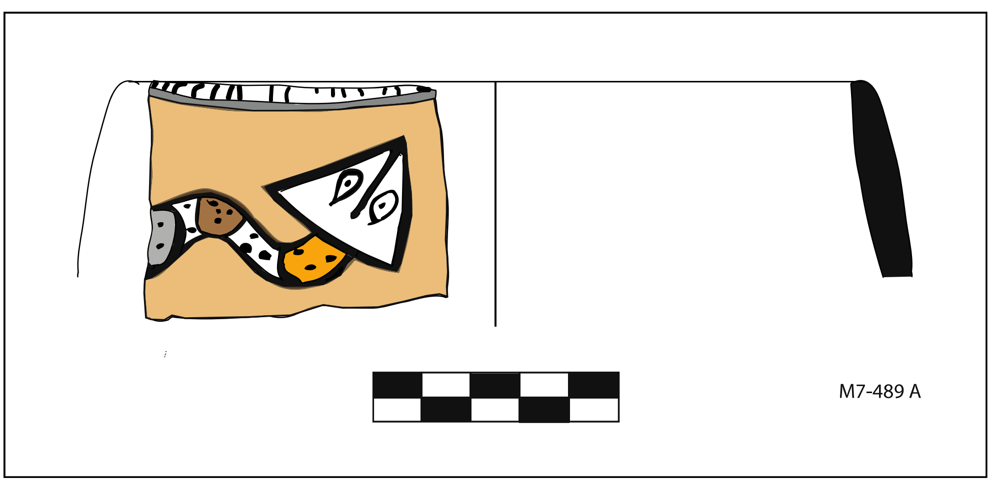
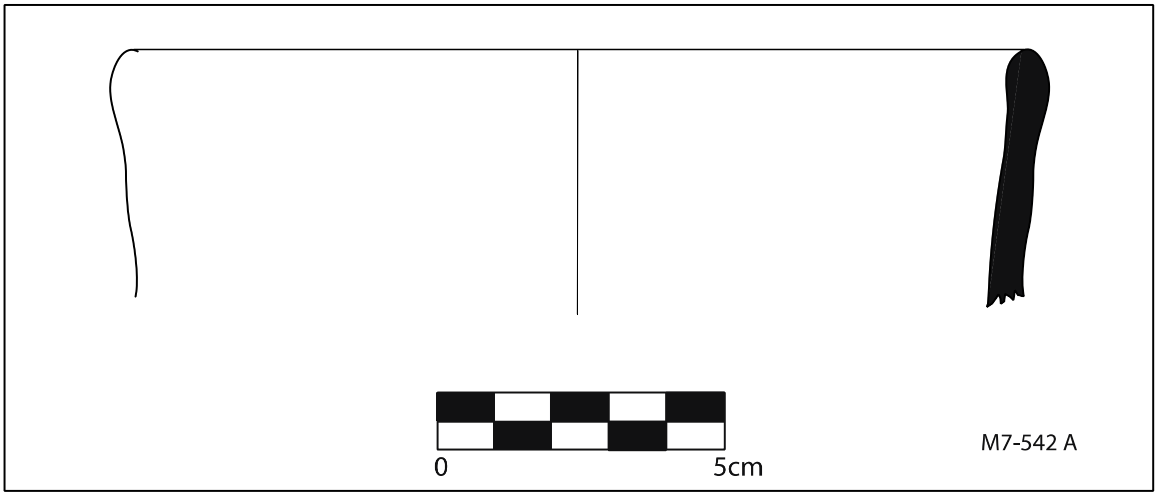
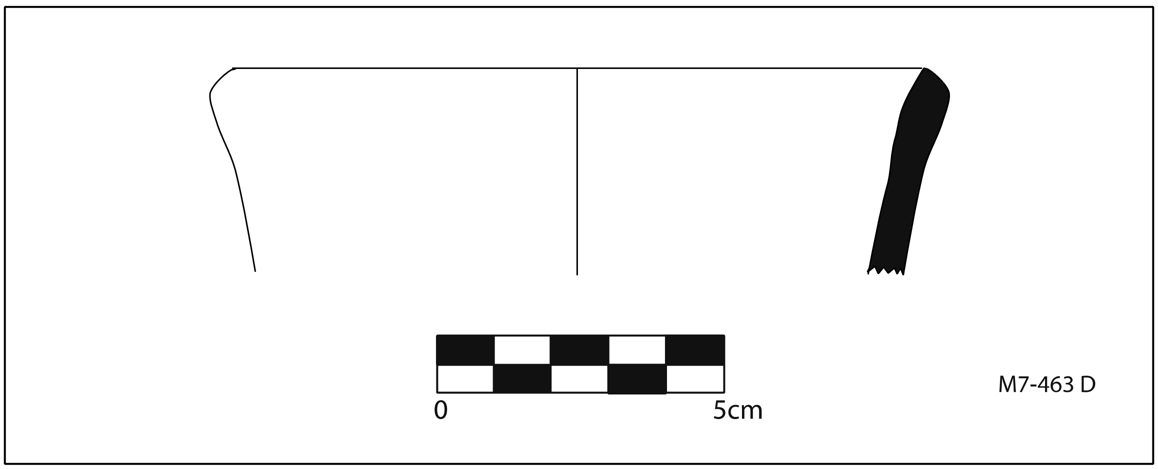


Figure B. 7 Terrace 4 fragments of decorated Wari serving bowls





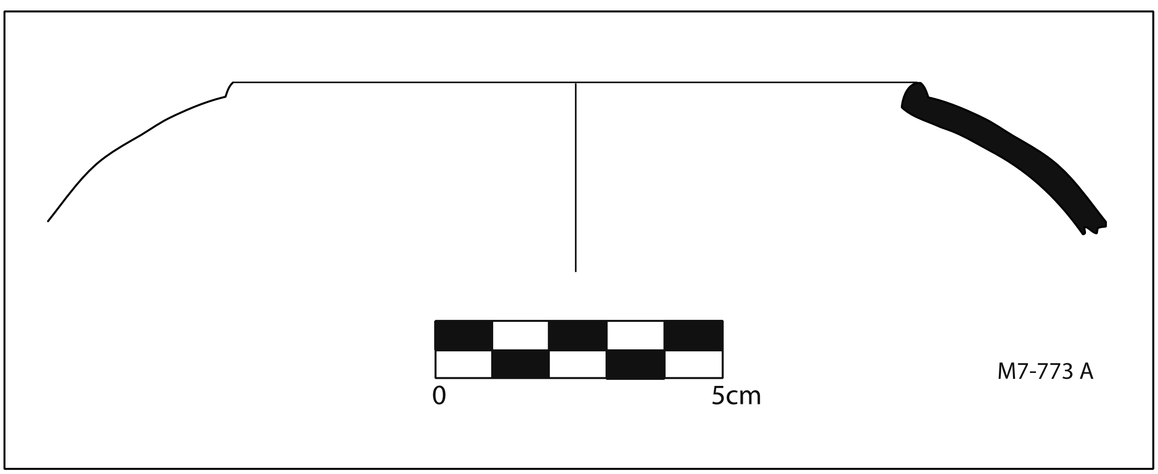


Figure B. 8 Terrace 4, two Wari style necked vessels and 1 neckless olla

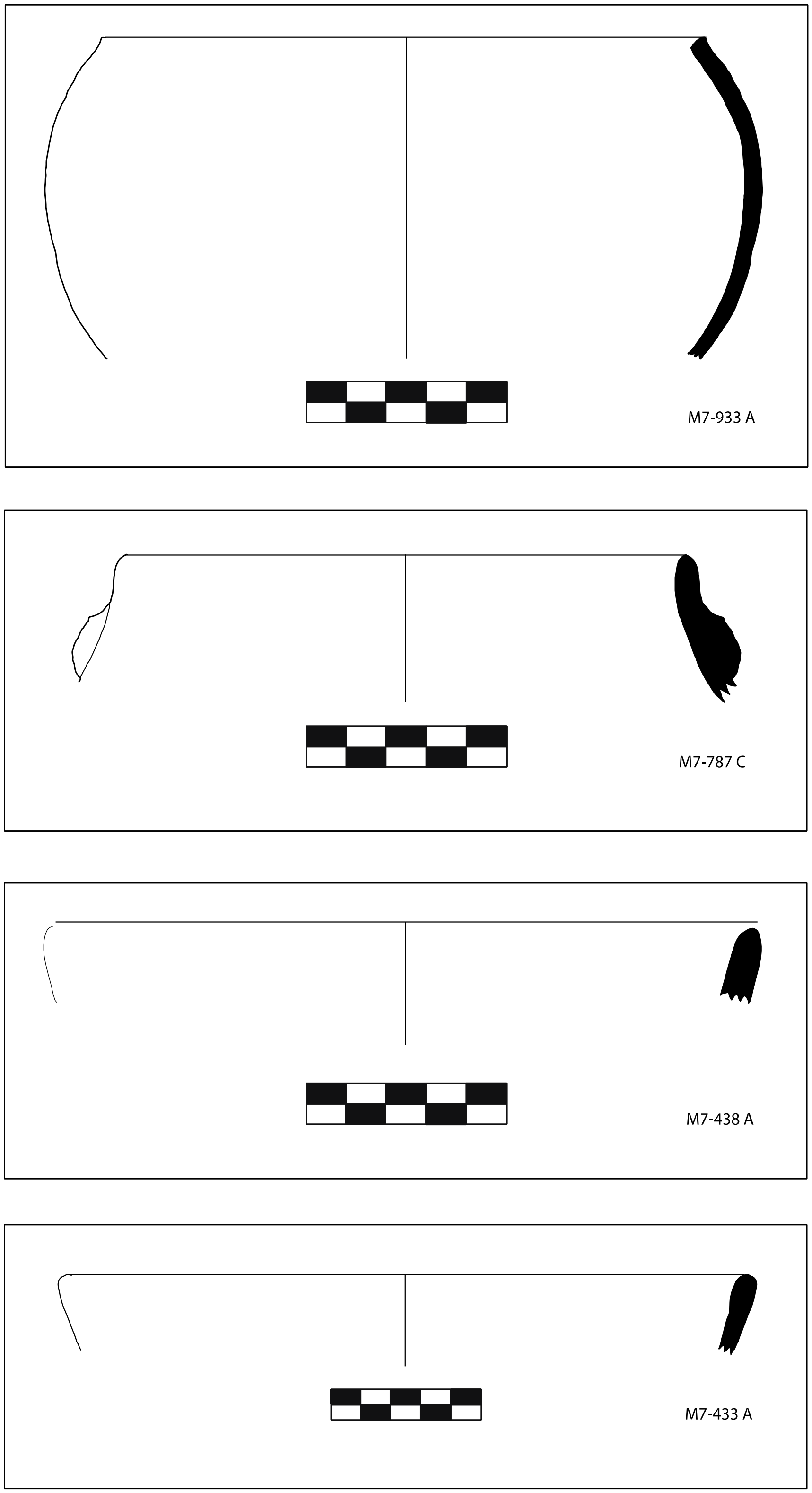


Figure B. 9 Terrace 4 Wari neckless olla, short necked olla with handle and two fragments of flared bowls

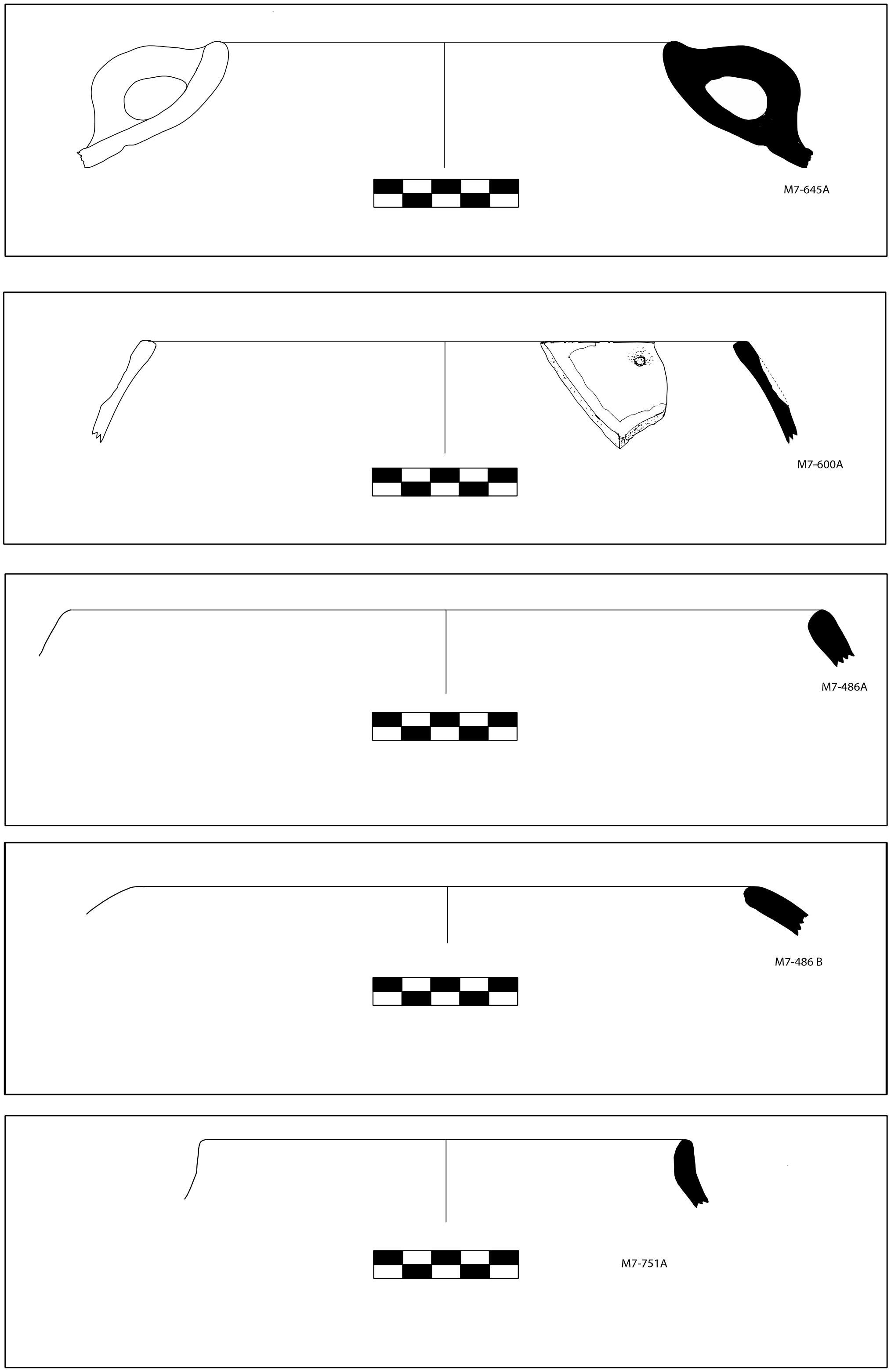


Figure B. 10 Terrace 5, examples of Huaracane short necked olla with handles, neckless ollas and short necked vessels

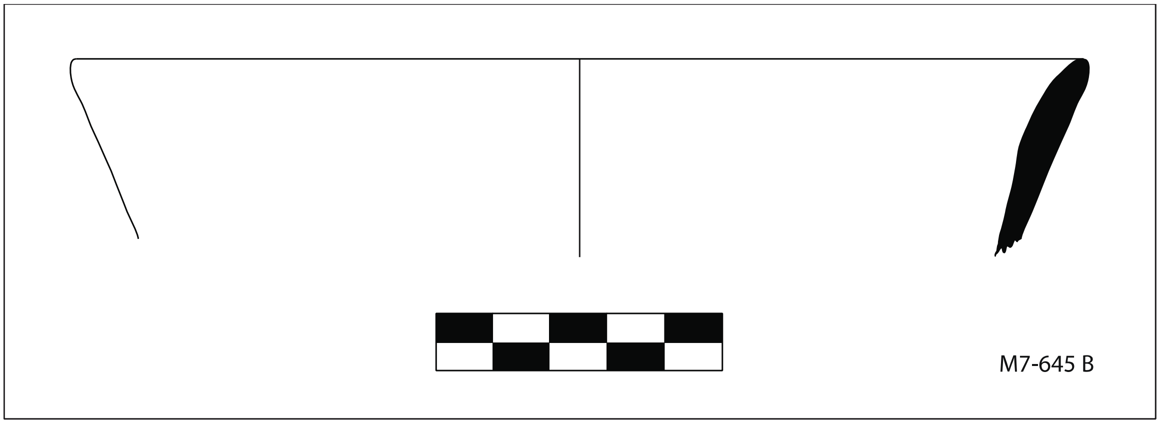


Figure B. 11 Terrace 5, non-decorated flared Wari bowl

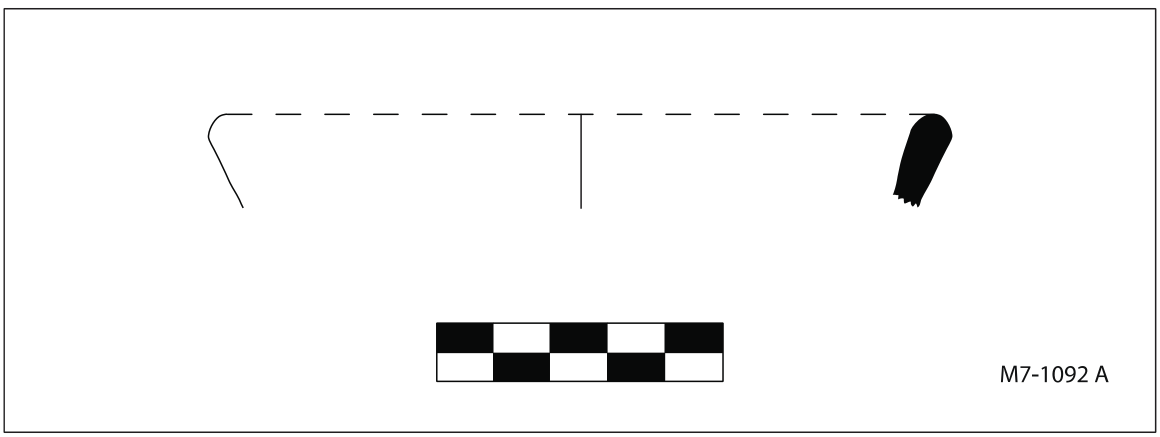


Figure B. 12 Terrace 6, Huaracane vessel with open rim

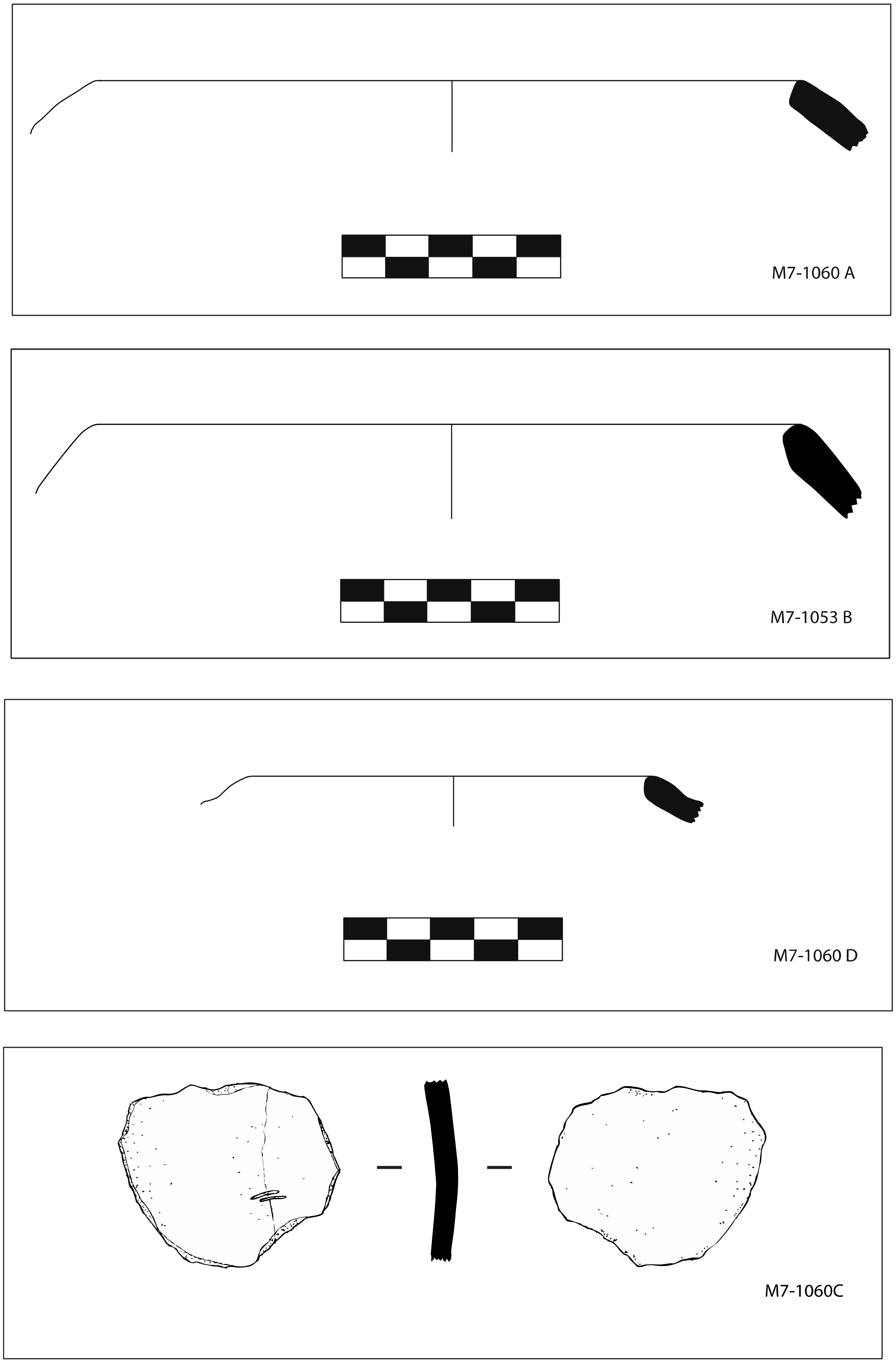


Figure B. 13 Terrace 7, Huaracane vessels

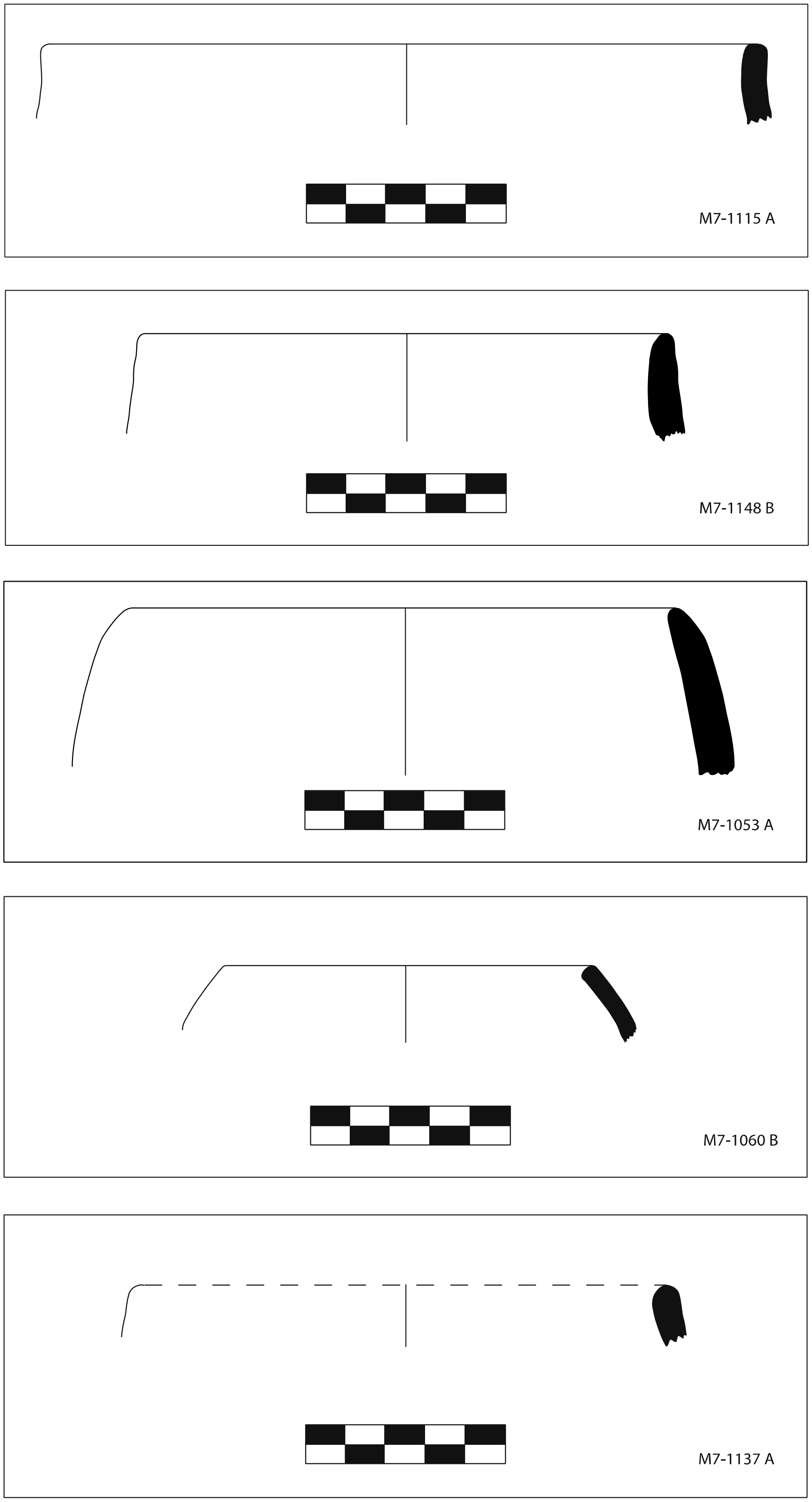


Figure B. 14 Terrace 7, examples of Wari style vessels

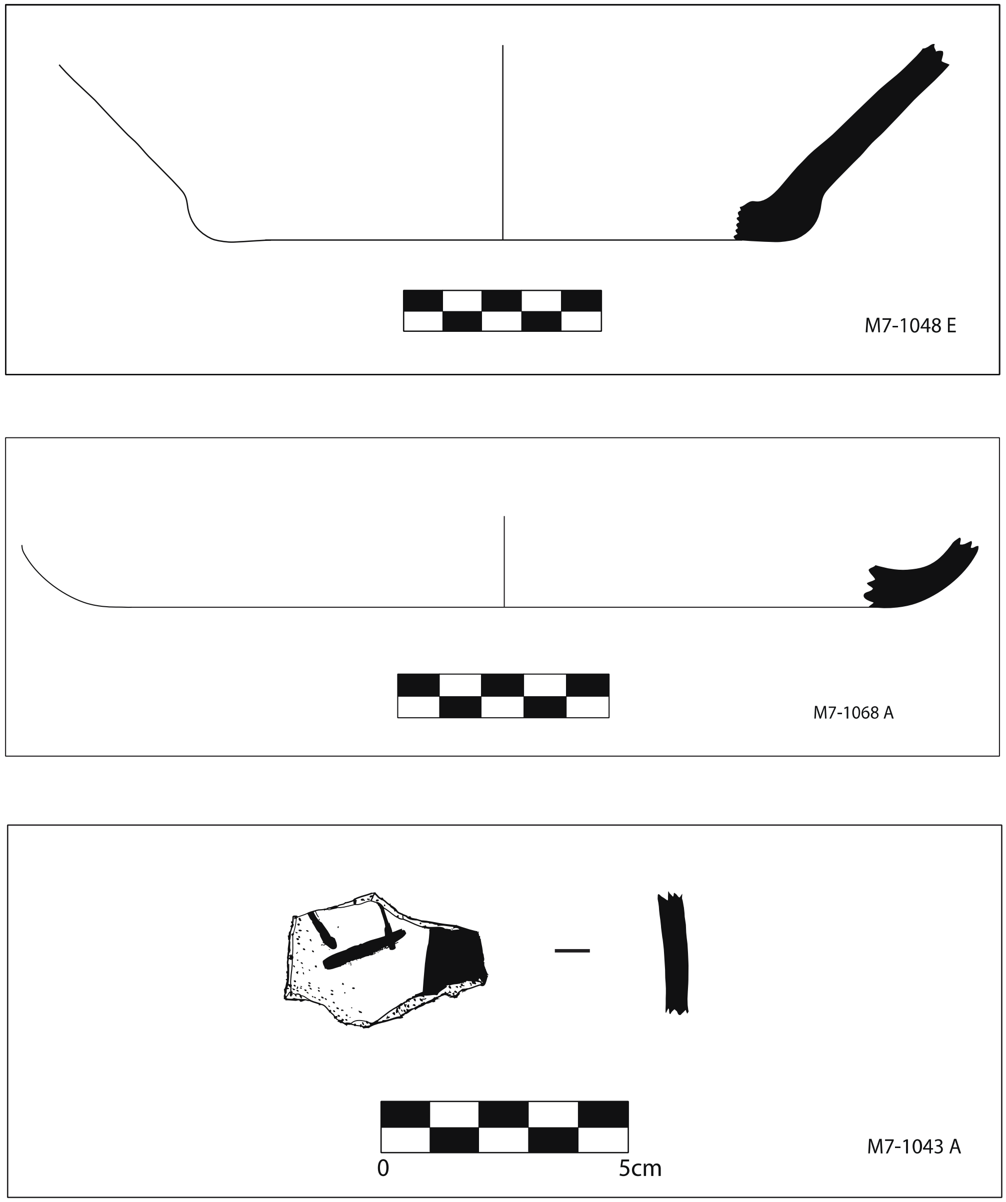
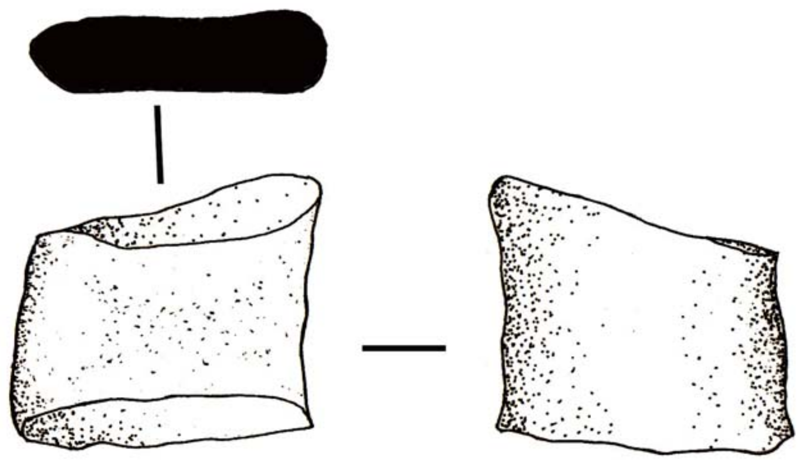
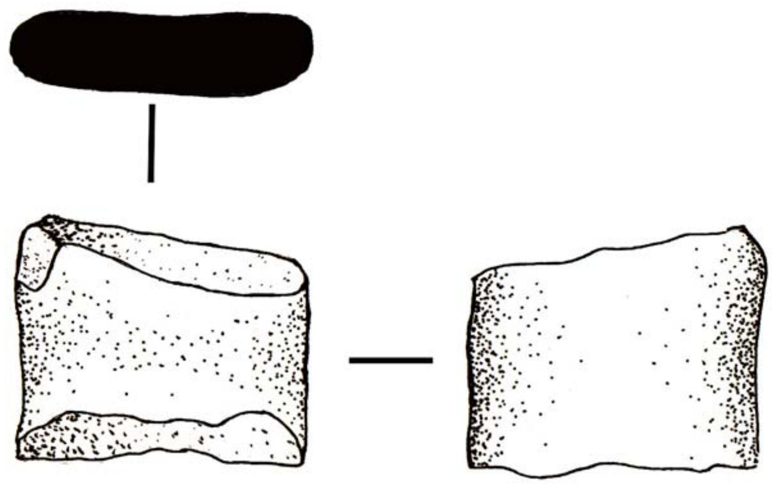


Figure B. 15 Terrace 7, examples of bases for Wari style vessels, one decorated body sherds



M7-1048C



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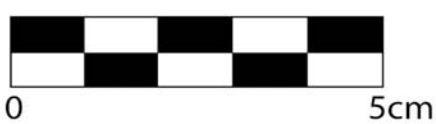

Figure B. 16 Terrace 7, Handles from Wari serving vessels

APPENDIX C

PASTE CATEGORIES AND VESSEL FORMS USED FOR THE ANALYSIS OF HUARACANE CERAMIC SHERDS

Traditional Huaracane Ceramics

The traditional Huaracane ceramic inventory is fairly basic and simple. It mainly includes neckless or short necked plainware *ollas* and fine ware serving bowls (Feldman 1989, Goldstein 989, 2000, 2005). Plainware ollas are round vessels which often have heavily burnt exteriors. They generally not very well fired, have poorly oxidized cores, and their exterior although sometimes roughly smoothed are never polished or burnished (Feldman 1989, Goldstein 1989).

Ollas are made from two paste types, *Huaracane Arena* and *Huaracane Vegetal.* The first is a sand tempered ware of varying coarseness (see description of the *Arena fino* type below), easily recognizable because of the often large white temper inclusions visible in the profile. *Ollas* made of this paste often have short necks (Goldstein 2000). The *Huaracane Vegetal* paste uses a grass like fiber temper, also easily distinguishable from the *Arena* type pastes. Vessels made of this paste are mainly, but not always neckless (Goldstein 2000). These vessels tend to be larger than Arena type vessels and have ticker walls and some exhibit exterior burning as well. These plainware vessels represent utilitarian vessels that have been used for both cooking and storage of food. It was originally thought that the fiber tempered utilitarian wares were the diagnostic indicators of Huaracane plainware vessels (Feldman 1989). Goldstein, however, showed that *Huaracane Arena* sherds make up a much larger percentage at Huaracane sites than *Huaracane Vegetal* olla sherds which often represent fewer than 20 %. This pattern was confirmed by Costion's (2009) research at Yahuay Alta.

Huaracane Finewares or *Huaracane Fino* vessels are made of a very hard, well-fired paste that exhibits a distinct pinkish red to orange color. This difference in appearance suggests a different, more sophisticated production process than that used in the making of the plainwares. Finewares are always found in association with either *Arena* or *Vegetal* sherds, although the frequency of *Huaracane Fino* sherds varies across Huaracane sites (Goldstein 2000). Most *Huaracane Fino* vessels are shallow bowls which are slipped and burnished on both interior and exterior sides (Feldman 1989, Goldstein 2000). Two varieties of the fine ware tradition are known as *Huaracane Fino rojo* and *Huaracane Fino Negro*, referring to a more oxidized and a more reduced core color respectively.

Originally it was thought by Feldman (1989) that the plain ware tradition of the Huaracane was related to earlier highland groups and that the settlements in Moquegua represented altiplano colonies. However the distinctness of local finewares and the documentation of very similar plainware vessel shapes in the altiplano as well as on the entire southern Peruvian coast support a distinct indigenous occupation of the Moquegua Valley (Bandy1995, Cohen et al.1995; Goldstein 200, 2005) that has some basic similarities to both coastal and altiplano traditions.

Additional Huaracane wares identified in 2004 and 2008

During the ceramic analysis I identified two other Huaracane ceramic pastes that seem to be quite common. Both are versions of the Arena type and have been named as subcategories in that group rather than being given a new name.

Huaracane Arena fino

This paste type is a distinct subtype of the *Huaracane Arena* paste because it differs in its regular and homogenous appearance. It is a sand tempered paste like the *Huaracane Arena* but the inclusions in this new paste are much smaller (yet still distinct) and give the paste a much smoother appearance. The exterior and interior treatment of the sherds seem to be the same as with the traditional coarser *Huaracane Arena* type as are the vessel type produced with these pastes. Sherds of this type are brownish in color and some have dark grey cores like the traditional *Huaracane Arena* sherds.

Huaracane Arena fino rojo

Whereas the previous category reflected an observable differentiation in inclusion size to the *Huaracane Arena* paste this type paste is very distinct. Also sand tempered, it is smooth with smaller white inclusion like the above, but what mainly distinguishes this paste is that it is well fired and thus exhibits reddish to orange color including a dark brick red at times. This may indicate a change in production process and a firing at higher temperatures more reminiscent of that used in the making of *Huaracane Fino* ceramics. Interestingly this paste is not the same as Costion's (2009) Pasta *Centro Rosada* that he identified in Yahuay Alta contexts only associated with the terminal Huaracane.

Vessel forms associated with the *Huaracane Arena fino rojo* type include mainly neckless ollas, but the sample is too small to make any more general statements. Sherds of this type are generally thinner than the traditional Huaracane *Arena* or *Huaracane Vegetal* sherds, making this a good paste type for cooking or heat conducting vessels.

Huaracane Arena - Paste Types and Vessel Forms

As discussed previously, the original *Huaracane Arena* paste type as defined by Goldstein is a coarse, sand tempered paste with large white inclusion in a brownish core. These pastes are often not very well fired and frequently exhibit grayish cores and overall these types of *Huaracane Arena* sherds are easily identifiable. During my analysis in 2004 I tentatively subdivided the Huaracane Arena type at Cerro Trapiche into three subtypes. The Huaracane Arena Gruesa subtype has relatively coarse temper. The Huaracane Arena fino subtype is also brown and with distinct white inclusions but these were smaller and more homogenous. The third subtype, *Huaracane Arena fino rojo* subtype is also a finer *Huaracane Arena* subtype but it is also well fired, so much so that in contrast to the *Huaracane Arena grueso and fino subtypes*, which are brownish it appears red. This red ranges from a lighter reddish brown to a deep brick red at times and is very distinct when compared to the other Huaracane Arena subtypes. It was not possible to make a significant comparison of vessel types associated with these new types in prior analysis, as not many diagnostic sherds like rims, bases or handles were found, but they will be considered here???

Huaracane vessel forms

The most common diagnostic elements for all three Huaracane *Arena* categories of sherds were rim sherds (Table 6.6). Sixteen rims were associated with *Huaracane Arena fino*; eight were *Huaracane Arena gruesa* rims and only three *Huaracane Arena fino rojo* sherds were noted. The only other diagnostic sherds in this paste group were two sherds that were reused and reshaped as spindle whorls on Terrace 4.

Aside from three rim sherds that were too small to orient and determine vessel orientation and/or type, most *Huaracane Arena fino* sherds fell into basic olla categories (see Table 6.7): six sherds (37.5%) were identified as short necked ollas, the next common category were neckless ollas, which made up five rims (31.25%). I identified one sherd as a basic olla with a handle below the rim (6.25%) and one sherd came from a straight necked storage jar (6.25%). Out of all these only two olla fragments had a handle attached at or below the rim (1 short necked vessel and one *was* generally categorized as an *olla* as no rim was available for further identification).

It is also not quite clear if the Huaracane vessel forms can be related to vessel size. In this small sample rim diameter varied from less than 5 cm to the largest at 29 cm. There is no clear association of vessel form with diameter. All vessel types are found in multiple diameter categories. *Ollas casi sin cuello* seem to have rim diameters no smaller than 12.5 cm but not exceeding 21 cm, and *ollas sin cuello* seem to extend from 16 to 19cm.

However, this size range seems to be a typical pattern for these vessel types, as Costion also reports a general size grouping for the traditional Huaracane vessel into small and large types (2009). This may simply be a function of portioning in that larger ollas are used in food preparation for more people and smaller ollas for individuals or small households. Mouth size may also be connected to cooking activities such as stirring or pouring. Very few of the overall *Huaracane Arena fino* sherds exhibited exterior sooting, which may be due to the nature of the fragments found (they may not have been part of the lower vessel that would have been exposed to the fire). Body sherds of this paste have a thickness between 0.4 and 0.8 cm with the majority around 0.5cm.

Only three *Huaracane Arena fino rojo* diagnostic rims were identified, two of which belonged to *ollas casi sin cuello*. One rim/handle was a possible bottle neck with a handle, and the last one rim sherd belonged to a straight sided jar. While this is a very small sample and not statistically meaningful, I suggest that the *Huaracane Arena fino rojo* paste was used in similar vessel types as the *Huaracane Arena fino* paste and may reflect a different firing process.

Diagnostic sherds of the *Huaracane Arena gruesa sub*type are strictly associated with the traditional ollas form reported by both Goldstein and Costion (ollas sin cuello- 6 rims, olla casi sin cuello 1 rim and large cooking ollas -1 rim).

Paste Types	**Vessel Forms identified at Cerro Trapiche**
Huaracane Arena (gruesa)	*Olla sin cuello*
Huaracane Arena fino	*Olla casi sin cuello*
Huaracane Arena fino rojo	*Olla casi sin cuello/ con cuello*
Huaracane Vegetal	*Olla sin cuello/ casi sin cuello*
Huaracane Fino	Shallow bowl fragments

PASTE CATEGORIES AND VESSEL TYPES USED FOR THE ANALYSIS OF WARI CERAMIC SHERDS

Categories 1-10 are taken directly based on Donna Nash's categories (2002) Categories 11-14 were added later and the description here is my own translation from Ana Miranda's original definition.
For the size of inclusions and description of paste textures the following guidelines were used: small – 1/16-1/4 mm, medium - 1/4- 1/2 mm, and large - 1/2-2.00mm. Texture was assigned based on the size of inclusions and compactness:
fine – small inclusions usually very compact, medium – medium sized inclusions, medium compact, and finally coarse – large inclusions, and less compact

Paste 1. This paste exhibits an abundance of biotite mica and small inclusions of quartz. The surface of these sherds sparkle, as if they contained flakes of gold. Textures range for this type from fine to coarse.

Paste 1.1 This paste also exhibits biotite mica but less than category 1. textures range for this type from fine to coarse

Paste 2. This paste exhibits a lot of biotite mica and large inclusions of quartz. This paste typically is of a medium texture but also is present in fine and coarse qualities.

Paste 2.1 This paste exhibits less biotite mica than category 2 and has large quartz inclusions. Textures range for this type from fine to coarse.

Paste 3. This paste exhibits a small quantity of biotite mica and more inclusions of quartz relative to categories 1 and 2. This paste typically is found in vessels of medium and fine textures with few examples of coarse texture.
Paste 3.1 This paste is similar to paste three but presents inclusions of volcanic material.

Paste 4. This paste exhibits very little biotite mica and has fine inclusions of quartz and a light gray material. This past is very compact and is fine in texture. This past corresponds to the majority of decorated fragments.

Paste 4.1. This paste is similar to past 4 yet is finer and the inclusions smaller. These sherds are also typically decorated or slipped

Paste 5. This paste contains some biotite mica. The quartz inclusions are of medium size as are the volcanic grains. The paste is grainy and not compact. The texture is typically medium or coarse with few examples of fine sherds.

Paste 5.1 This paste has little to no biotite mica with few quartz but many volcanic inclusions. The texture is medium or coarse with no examples of fine.

Paste 5.2 This paste has little or no biotite mica, few quartz inclusions but numerous black volcanic particles. The texture is typically fine or medium with rare examples of coarse.

Paste 6. This paste has fine to very fine inclusions of quartz and volcanic material. It is typically of a fine texture

Paste 7. This paste is fine and has very regular or homogenous inclusions mostly of volcanic material but also of quartz. The texture is medium as it is not very compact.

Paste 8. This paste is medium with inclusions of volcanic material and a little quartz appears.

Paste 9. This paste is cream to gray with some biotite mica and inclusions of volcanic material and quartz. The texture is medium and not compact.

Paste 10. This paste exhibits a large percentage of quartz and volcanic material with a small percentage of biotite mica. Some inclusions are quite large. The paste is compact and of a brown color. It typically exhibits a medium texture.

Paste 11. This paste has no biotite but exhibits many large rocky inclusions. The texture is coarse and the paste is compact and of reddish color. The surface of the sherds is not well worked.

Paste 12. The paste has almost no biotite mica, nor any notable inclusions, as it is very fine and compact

Paste 13. This paste has a medium to coarse texture. It has many volcanic inclusions but no biotite mica. The paste is compact or medium compact.

Paste 14. This paste has a medium to coarse texture. It exhibits few black volcanic, quartz and black inclusions. The paste is compact and has no mica.

Condensed Paste Types used at Trapiche	**Vessel Types identified at Cerro Trapiche**
Wari Chakipampa	Flared bowl
Wari Ocros	Straight sided bowl
Wari llana	Vaso (Tumbler)
Wari llana naranja	Jar/ Pitcher
Wari llana grís	Some Bowls and Pitcher/Jars
Wari mica	Thick walled vessels

KEY FOR CERAMIC ANALYSIS OF DIAGNOSTIC AND NON-DIAGNOSTIC MATERIAL USED IN THE PACT 2008[15]ANALYSIS

SPECIMEN NUMBER – Describes assigned bag number during excavation, Includes site number M7 and a running number beginning at 1(M7-001). Non-diagnostic sherds share the same bag number; diagnostic sherds within a bag are labeled A, B, C, etc.

SECROR – Denotes the sector at the Cerro Trapiche site from which the material was recovered

TERRACE – Refers to the terrace designation used in the 2008 Field season and includes Terraces 1-7.

UNIT – Refers to the excavation unit designation within a terrace. Terraces 1 and 4 have multiple excavation units ("a" and "b" for T1; "e" and "f" for T4). Terraces 2, 3, 5, 6 and 7 only have one unit. All units are labeled with lower case letters starting with "a". For some units an extension (ampliación) was excavated, this is reflected in the added "ampl" (e.g. "b Ampl" means unit b had an extension).

LEVEL – Refers to the excavation layers. Levels were designated arbitrarily based on changes in appearance and texture of the excavation contexts.

AREA – In some terraces the terrace walls represented a natural divide for excavation and different area were designated to excavate these area separately. Area divisions could also be used if there were distinct changes in appearance of the soil within a unit. Areas are designated with capital letters A, B, C, etc.

RASGO – Refers to feature numbers

COLLECTION – Refers to the collection method.
Excavation
Surface Collection
Spot find

COUNT – lists the real count of sherds for that particular designation

DIAGNOSTICS
Non-diagnostic fragment
Diagnostic fragment
FRAGMENT
Body
Rim

[15] For data set see Appendix A

Handle
Rim/Handle
Neck
Base
Base/Rim
Spindle Whorl
Whole Vessel
Decorated Sherd
Unknown

PASTE TYPE
Huaracane Arena (*gruesa*)
Huaracane Arena *fino*
Huaracane Arena *fino rojo*
Huaracane Vegetál
Huaracane Fino
Wari Chakipampa
Wari Ocros
Wari llana
Wari llana *naranja*
Wari llana grís
Wari mica
Unknown
Wari
Wari /Colon

SURFACE TREATMENT
Rough smoothing
Fine smoothing
Burnished
Polished
Slipped
No treatment
Wash
Unknown

SLIP
1 No slip
Uneven (slip has worn off /eroded)
Self-slip (slip is same color as paste)
Partial slip (slip is only applied to particular areas like interior, rim or base)
Surface too eroded to tell

DECORATION
Exterior design

Animal motif
Chevron design
Circles
Black lines horizontal
Black lines vertical
Black design on beige
Black rim line on beige
Black and red stripes on beige
Interior design
rim line

THICKNESS – Describes the thickness of a sherd (in body sherds) and refers to general vessel wall thickness in rim and base sherds.

DIAMETER – Refers to rim diameter, base diameter or exterior diameter in spindle whorls. Diameters are measured in cm.

RIM SHAPE – shape of the overall rim
Straight
Incurved
Flared

LIP SHAPE – Shape of the edge of the rim.
1 Round
2 pointed
3 Square
Thicker on the inside
Thicker on the outside

WEIGHT – Provides the weight in gram of each individual sherd (diagnostic sherds only) and the weight of the entire bag (non-diagnostic sherds only).

VESSEL TYPE
Neckless olla (*olla sin cuello*)
Short-necked olla (*olla* casi sin cuello)
Necked olla (*Olla con cuello*)
Unknown olla (Rim shape cannot be determined)
Shallow bowl (*Huaracane Fino* Bowl)
Flared bowl
Straight sided bowl
Incurved bowl
Tumbler (*Vaso*)
Jar/Pitcher
Unknown

CATEGORIES AND TYPES USED FOR THE ANALYSIS OF LITHIC MATERIALS

SPECIMEN NUMBER – Describes assigned bag number during excavation, Includes site number M7 and a running number beginning at 1(M7-001). Non-diagnostic lithics share the same bag number; diagnostic lithics within a bag are labeled 1, 2, 3 etc.

SECROR – Denotes the sector at the Cerro Trapiche site from which the material was recovered

TERRACE – Refers to the terrace designation used in the 2008 field season and includes Terraces 1-7.

UNIT – Refers to the excavation unit designation within a terrace. Terraces 1 and 4 have multiple excavation units ("a" and "b" for T1; "e" and "f" for T4). Terraces 2, 3, 5, 6 and 7 only have one unit. All units are labeled with lower case letters starting with "a". For some units an extension (ampliación) was excavated, this is reflected in the added "ampl" (e.g. "b Ampl" means unit b had an extension).

LEVEL – Refers to the excavation layers. Levels were designated arbitrarily based on changes in appearance and texture of the excavation contexts.

AREA – In some terraces the terrace walls represented a natural divide for excavation and different area were designated to excavate these area separately. Area divisions could also be used if there were distinct changes in appearance of the soil within a unit. Areas are designated with capital letters A, B, C, etc.

RASGO – Refers to feature numbers

COLLECTION – Refers to the collection method.
Excavation
Surface Collection
Spot find

COUNT – lists the real count of lithic artifact for that particular designation

ARTIFACT TYPE
Mano
Batán
Core
Flake
With cortex
No cortex
Retouch flake

Micro flake
Projectile Point (see illustration)
Lanceted body with concave base
Triangular pointed with concave base
Lanceted body with stemmed base
Lanceted body with notched and stemmed base
Triangular body with notched stem
Polisher
Pebble
Hearth stone
Fragment
Canto Rodado
Worked surface
No worked surface

MATERIAL
Obsidian
Chert
Rhyolite
Andesite
De Cerro- fragment is from
Basalt
Volcanic
Quartz
Chrysocolla

COLOR
White
White with inclusions
Pink
Red
Black transparent
White transparent
Green
Blue

LENGTH - is measured between the farthest points of the artifact, measured in cm.

WIDTH- is measured in various parts, depending on the artifact. It is usually measured in the middle, but for shapes like projectile points, measurements are taken in the middle and at the base are possible. Measured in cm

THICKNESS- Describes the thickness of a lithic (in diagnostics) and is measured in cm

WEIGHT- Provides the weight in gram of each individual lithic (diagnostic lithics only) and the weight of the entire bag (non-diagnostic lithics only).

Proyecto Cerro Trapiche 2007/8 Formulario Nivel/Area

Sitio _________________ Sector _________ Unidad ___________ Nivel/Area _________________
Ubicación (esquina SW): E ______________ N __________Tamaño y orientacion ____________
Datum No ___________________________ Elevación bajo Datum ____________________________

Tipo de Nivel: Cuadrícula entera ____ ; Area/zona de cuadrícula ____ ; Otro ____
Describir:
Debajo de: ____
Asociado con (y como): ____
Lo mismo que: ____

Cernido: 1/4" ____ ; Malla fina ____ ; No cernido ____; Otro (describir) ____________________
Volumen: _______ baldes
Suelo: Textura: ____
Color: ____
Inclusiones: ____
Ceniza: ____________________________ Carbón: ____________________________________

MATERIALES CULTURALES:
Cerámica:

	Tiwanaku Cerámica Llana	Recogido?	TiwanakuCeramicaEngobe Rojo	Tiwanaku CeramicaNegra	Huaracane Fino	Huaracane Arena	Huaracane Vegetal	Otros (describe)
No diag.								
Diag.								
Total								

Líticos Pulidos (contar): manos ____ ; batanes ____ ; morteros ____ ; otros ____

Líticos Tallados (contar): azadas ____ ; lascas ____ ; núcleos ____ ; puntas ____

Describir: ____

Otros Materiales: Textiles ____ ; Moluscos ____ ; Huesos de animal ___ ; Restos humanos ___ Botánicos ____ ; Metal ____ ; Otro _________________

Describir:____

Proyecto Cerro Trapiche 2007/8 Formulario Nivel/Area

Sitio ______________________ Sector __________ Unidad __________ Nivel/Area __________

Ubicación: E ______________ N ________________,

Colecciones:

Especimen	Material	Descripción

Responsable ____ Fecha ____________________
Fotos (Rollo/Exposición) ____
Número y Tipo de Dibujos ____
Adjuntar dibujo de planta, c/ sector, escala, norte, coordenadas, Nos de especímenes, etc.
Otras observaciones:

Proyecto Cerro Trapiche 2007/8, Formulario Rasgo Habitacional

Sitio _________________ Sector _________ Unidad ___________ Rasgo _________________
Ubicación (esq. SW): E ______________ N ____________ Tamaño/orientación ____________________
Datum No ___________________________ Elevación bajo Datum - superior____ base ______

Tipo de Rasgo: Hoyo con relleño basural___; Hoyo estéril____; Otro tipo de hoyo____; Fogon con Piedras___; Fogon sin piedras ___; Huella de poste ___; Poste ____; Deposito con piedras ___; Deposito sin piedras ___; Piso ___; Cimiento de piedras ____; Cimiento de adobe ____; Cimiento de quincha ___; Otro ____Describir____
____
Debajo de: ____
Asociado con (y como): ____
Lo mismo que: ____

Cernido: 1/4” ____ ; Malla fina ____ ; No cernido ____; Otro (describir) ____________________
Volumen: _______ baldes
Relleno: Textura: ____
Color: ____
Inclusiones: ____
Ceniza: ____________________________Carbón: ____________________________________

MATERIALES CULTURALES:
Cerámica:

	Tiwanaku Cerámica Llana	Recogido?	Tiwanaku Ceramica Engobe Rojo	Tiwanaku Ceramica Negra	Huaracane Fino	Huaracane Arena	Huaracane Vegetal	Otros (describe)
No diag.								
Diag.								
Total								

Líticos Pulidos (contar): manos ____ ; batanes ____ ; morteros ____ ; otros ____
Líticos Tallados (contar): azadas ____ ; lascas ____ ; núcleos ____ ; puntas ____

Describir: ____
Otros Materiales: Textiles ____ ; Moluscos ____ ; Huesos de animal ___ ; Restos humanos ___ Botánicos ____ ; Metal ____ ; Otro _________________

Describir: ____

Proyecto Cerro Trapiche 2007, Formulario Rasgo Habitacional

Sitio ______________________ Sector __________ Unidad __________ Rasgo ______________
Ubicación: E ______________N ________________ Tamaño/orientación ______________________

Colecciones:

Especimen	Material	Descripción

Responsable ____________________________________Fecha ____________________
Fotos (Rollo/Exposición) ____
Número y Tipo de Dibujos ____
Adjuntar dibujo de planta, c/ sector, escala, norte, coordenadas, Nos de especímenes, etc.

Otras observaciones:

Proyecto Cerro Trapiche 2007-2008 Formulario Recolección Superficial

Sitio __________________ **Sector** _________ **Unidad** ______________ **Responsable** _________________________

Ubicación (esq. SW): N_______________ E ______________ Tamaño/orientación ___________________________

Forma de Unidad: Cuadrícula de ______ X ______ Círculo de radio ______ Otro _________________________

Area de Unidad: _________

Tipo de Unidad: Recolección Sistemática______ Unidad arquitectónica _____ Otro _________________________

Contexto Cultural: Sector Habitacional ___; Sector Mortuorio____; Otro __________________________________

Elementos Arquitectónicos: Depósitos___; Montículo de piedras___; Muros de piedra___; Muros de Adobe____;

Terrazas con pircas___; Terrazas sin pircas___; Tumbas___; Túmulos___; Otro____

Describir:

Condición de Superficie: Intacta y patinada___; Disturbio Pre-Hispánico___; Disturbio Moderno___

Describir:____

Huaqueo: nada____; poco____; mediano____; mucho____: extremo_____

Describir:____

Ceniza Volcánica: Capa intacta___ ; Capa parcial___; No hay____

Describir:____

MATERIALES CULTURALES:

1. Cerámica:

	Tiwanaku Llana	Tiwanaku Rojo	Wari Llana	Wari Ocros	Wari Chakipampa	Huaracane Fino	Huaracane Arena	Huaracane Vegetal	Otros (describe)
No diag.									
Diag.									
Total									

2. Líticos Pulidos (contar): manos ____ ; batanes ____ ; morteros ____ ; otros ____

3. Líticos Tallados (contar): azadas ____ ; lascas ____ ; núcleos ____ ; puntas ____

Describir:

____

4. Otros Materiales: Textiles ____ ; Moluscos ____ ; Huesos de animal ___ ; Restos humanos ___

Botánicos ____ ; Metal ____ ; Otro _________________

Describir:____

Proyecto Cerro Trapiche 2007-2008 Formulario Recolección Superficial

Sitio ______________________ **Sector** __________ **Unidad** ____________
Ubicación (esq. SW): N ______________ E _____________

Colecciones:

Especimen	Material	Descripción

Responsable ____ **Fecha**____________________________
Fotos (Rollo/Exposición)
____
Número y Tipo de Dibujos
____
Adjuntar dibujo de planta, c/ sector, escala, norte, coordenadas, Nos de especímenes, etc.
Otras observaciones:

Proyecto Trapiche 2007/08 Registro de Especimenes

Sitio	Numero de Especimen	Unidad	Nivel	Area	Rasgo	Material	Descripción	Peso	Fecha	Initiales

Proyecto Trapiche 2007/08 Registro de Rasgos

Sitio	Numero de Rasgo	Unidad	Nivel	Area	Descripción	Fecha	Initiales