Practice Molds Place:
Communities of Pottery Production and Situated Identities at Location 3 (AgHk-54)

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

The archaeological study of Late Woodland communities in southern Ontario has identified two spatially and culturally distinct manifestations known as the Western Basin and Ontario Iroquoian Traditions. Recently, the emergence of sites along an interstice between these two manifestations has invited study of the potential for socio-material syncretization within such a 'borderland' context. Given such circumstances in the contemporary present, multiple descendant groups in the province may wish to exercise stewardship over such sites and the materials contained therein. As discussed in Chapter One, I interviewed select members of the Bkejwanong and Six Nations communities in order to generate Indigenous insights and comment on the appropriate ethical standards and a framework for the Indigenous stewardship of archaeological resources. Furthermore, in Chapter Two, this study adopts the coupling of materiality theory and the communities of practice approach, along with an attribute-based analysis of pottery form and decoration in discussing communities of practice and notions of identity at Location 3, a thirteenth century 'borderland' site near Arkona, Ontario. I suggest this site was inhabited by newly configured, mobile potting communities who perceived vessel production as a field of co-participation and learning. This, in turn, resulted in the emergence of situated social identities and notions of place, along with the materialization of a short-lived, localized design repertoire composed of combined elements from neighbouring potters.

Acknowledgements

This thesis would not have been successfully completed without help from many individuals and communities. I sincerely thank my supervisor, Dr. Christopher Watts, for introducing me to the Arkona Cluster sites, which sparked my immediate excitement and interest in analyzing the Location 3 pottery vessels. I am particularly and infinitely grateful for the opportunity to study with him, as well as his unwavering support, expert guidance, and mentorship throughout this program. I am also thankful to Dr. Neal Ferris for providing valuable insights to thinking critically about the data from Location 3. I also wish to thank my defence committee members Dr. Chris Watts, Dr. Robert Park, and Dr. Neal Ferris for their time reviewing this thesis.

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To my parents, Houw and Ina, and my sister, Adeline, I say thank you for your constant support these past sixteen months and always. I appreciate your patience, understanding, and confidence in me as I walked through this phase of my academic career.

Finally, I dedicate this thesis to the communities of potters at Location 3. Your memories, experience, and crafting skills endure, embedded within the folds of clay that constitute the pottery collections I had the privilege of briefly acquainting myself with today.

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Chapter One

"What Clay Are You Made From?": Toward an 'Indigenous Archaeology' of Archaeological Sites and Artifacts in Southern Ontario

1.1 Introduction

While the ascription of 'ethnic affiliation' to artifactual remains is notably fraught with peril, as discussed below (see also Ferris 1999:12-14; Jones 1997), for the vast majority of sites in southwestern Ontario, archaeologists often feel comfortable positioning material culture within cultural continua that end with the ethnographically documented Haudenosaunee, Anishinaabeg, or Wendat/Petun/Neutral peoples. In other instances, however, as the case study in Chapter Two suggests, archaeological sites contain materials that indicate a co-presence of ancestral Anishinaabeg (Algonquian) and Haudenosaunee (Iroquoian) lifeways that make such attributions difficult. Accordingly, multiple descendant groups from various geographical locations may wish to exercise stewardship over such sites and the materials contained therein (see Warrick 2012; Williamson and MacDonald 2015). This raises questions regarding which descendant communities should speak for such archaeological resources and how these responsibilities should be arranged.

Given this longstanding public issue, this component of my study seeks to examine Indigenous perspectives on the stewardship of archaeological resources with an eye toward commenting on: 1) ethical standards for consultation in such circumstances, and 2) a framework for the Indigenous stewardship of archaeological materials arising from such sites. Based on interviews with select members of the Bkejwanong and Six Nations communities, I suggest there is a need for archaeological practice in Ontario to incorporate Indigenous knowledge and

perspectives on the archaeological record. To demonstrate this, I begin by defining the 'public' considered relevant to the archaeological research presented in Chapter Two. Next, I present an overview of how the past may be conceptualized differently by Indigenous communities and archaeologists. I then explore these contrasting notions through a discussion surrounding Indigenous perspectives on archaeological practice in Ontario. Finally, I consider the possibility of developing an 'Indigenous archaeology' for the long-term management of archaeological resources.

1.2 Defining the 'Public' in 'Public Archaeology'

In an effort to understand a 'public issue' in archaeology, it is central to consider the various 'publics' affected by archaeological practice. Following Richardson and Almansa-Sánchez (2015), I suggest that these 'publics' cannot be homogenized, but rather must be defined and situated within the social, geographical, and cultural contexts of a particular research program. With this in mind, this study considers its 'public' as several descendant communities in southwestern Ontario that were thought to have an interest in caring for archaeological resources arising from a 'multiethnic' co-occupation of sites in the province. Upon approval from the Office of Research Ethics at the University of Waterloo, I performed two 30 to 60 minute semi-structured interviews with Mr. Rick Hill, Senior Project Coordinator at Deyohahá:ge Indigenous Knowledge Centre, Six Nations of the Grand River Territory, and Ms. Joyce Johnson, Director of the Nin.Da.Waab.Jig Heritage Centre at Bkejwanong (Walpole Island) First Nation. I sought Mr. Hill's and Ms. Johnson's guidance as they have myriad experiences in working closely with archaeologists and other heritage professionals, and therefore could best provide insights on developing appropriate strategies for the Indigenous

management or co-management of archaeological resources. Finally, it is worth noting that the following perspectives emerge from Mr. Hill's and Ms. Johnson's individual experiences and do not necessarily represent the views of other members within their respective communities.

1.3 Multiple Conceptualizations of the Past

To better understand the extent to which Indigenous perspectives might contrast with archaeological conceptions of the past, I first inquired as to how ancestral history is learned by school-age children and how community members came to understand the history of other Indigenous groups in the area. According to Mr. Hill, in addition to the teaching of the Great Law of Peace (Haudenosaunee Iroquois Confederacy 2016) and the Creation story, oral history is of chief importance to Haudenosaunee in learning ancestral lifeways. Most notably, the past is conceptualized as deeply rooted in ancestral memory, as a form of living history. Mr. Hill states:

> …[A]ncestral memory rests within the earth, rests within the rocks, rests within these old trees that witness our cultures, and it rests in the bones of our ancestors that are in the ground. So there's a connection to place. [When] Mohawks greet one another, what they actually say is, "What kind of clay are you made from?"… Let's just say if you're from Wolf clan, "I'm made of the Wolf clay in the Mohawk Valley". So you are specific about that; [it's] where [your] ancestral memory is from.

Similarly, Ms. Johnson emphasized that school-age children of the Walpole Island community are encouraged to experience the environment outside of the classroom, to ensure that "…[they] are aware of our history, our land… and what our responsibilities are to maintain that". Thus, it seems that the embeddedness of ancestral memory in a particular landscape renders place as a

significant dimension of Indigenous identity (see also Deloria 1979; Pratt 2006; Watts 2013), and that nature and its products were once shared harmoniously between communities in the area. Following The Dish with One Spoon Treaty (Two Row Times 2013), Mr. Hill believes that Indigenous people were once "…one people – *Ongwe'o:weheka*, [which] means the Natural, Original people. There was no separation between tribes, or nations, or boundaries" (see also Hill 2006).

This view, it would seem, contrasts with non-Indigenous (settler colonial) approaches to the past which dominate public school curricula and favour a linear, text-based view of history that often emphasizes a triumphant narrative of Eurocanadian endeavours. For Mr. Hill and Ms. Johnson, such records have neglected Indigenous perspectives on their own ancestral pasts and promulgate the idea of internecine 'tribal' conflict between Indigenous groups. Mr. Hill states, "So in our people, unfortunately, we've adopted a lot of colonized history, that the Anishinaabeg are traditional enemies of the Haudenosaunee, that we have this polarity between us and them, and as you get older you find out that's not quite true". In his view, occurrences of intercommunity disputes were sporadic rather than a given feature of the relations between Indigenous peoples. Unfortunately, North American archaeology and its continuing legacy as a colonial discourse has often contributed to such narratives by situating archaeologists as an authority in speaking for the archaeological record to the exclusion of involvement from many Indigenous communities (Ferris 2003:159-160; Warrick 2012:159). Further, the discipline has prioritized the advancement of scientific knowledge through "good" conduct by prohibiting non-license holders from accessing archaeological site records, creating what Ferris calls "…[a] manufactured dichotomy between objective vs. subjective that does not allow for the validity of differing positions" (Ferris 2003:165). Such detachment could be seen as straining ethical practice since Indigenous

perspectives are not incorporated in the treatment and handling of past remains. Thus, currently, there seems to be an enduring distrust and a lack of dialogue between archaeologists and Indigenous communities in how to properly care for the archaeological record.

1.4 Perspectives on Archaeological Practice and the Provincial Regulatory Framework

With such contrasting views of the past, I further inquired as to how archaeological practice and its current regulatory framework are perceived by some descendant communities. In Ontario, many legal provisions, such as the *Environmental Assessment Act* (1997) and the *Planning Act* (2005) require archaeological assessments to be conducted prior to land developments, in addition to the *Standards and Guidelines for Consultant Archaeologists* (2011) and *Engaging Aboriginal Communities in Archaeology* (2010), which necessitate consultant archaeologists to engage with descendant communities during such assessments. These provisions, however, have yet to address the long-term care of sites and artifacts beyond specifying, under the *Ontario Heritage Act*, R.S.O. 1990, c. O. 18, subsection 66 (1), that it is the archaeologist's responsibility to curate any materials they have collected on behalf of the Crown (Williamson 2010:34-35). Furthermore, within these pieces of legislation, there are few directives that allow for the input of Indigenous groups in determining which communities should be consulted in the care of archaeological resources. Consequently, for Mr. Hill, although the relations between Haudenosaunee and archaeologists have ameliorated somewhat over the years, working effectively in partnerships has only just begun. He states, "…we don't have a healthy relationship between archaeologists and Haudenosaunee. We have an improved working relationship, but it's not truly healthy". Moreover, the general perception of archaeologists as 'grave robbers' is still deeply entrenched within some communities. Mr. Hill explains:

> …[T]his issue about disturbing graves, looking at human remains as an archaeological resource and not having a different standard of what protects the grave of a Canadian or what protects the grave of a Native person... still get[s] in the way of a fruitful dialogue between our people.

Thus, presently, the potential for healthy collaboration with Indigenous communities is also impeded by lingering concerns over the treatment of human remains and the disruption of ancestral memories of place (see also Deloria 1992). Particularly, when asked about his experience with the Ontario Ministry's employment of 'Aboriginal Monitors' in archaeological fieldwork, Mr. Hill states, "…I feel seldom that they enforce the law, or the intent of the law. Saying that you should hire an archaeological monitor becomes an easy out to that". By contrast, Mr. Hill advocates for an earlier consultation with Indigenous communities during fieldwork:

> Usually what happens is, we get called in once developments have been approved, once the archaeological work has been done…So we [are] trying to advocate for a different kind of archaeology that's [more] than salvage archaeology; we want to do protective archaeology. Not that archaeologists aren't into preservation, but engaging us earlier as partners rather than adversaries.

Additionally, he feels the need to implement more ethical and professional standards by which one's archaeological license could be revoked for misconduct upon ancestral lands. As well, when asked about how such regulatory frameworks can be improved, Mr. Hill states:

> Well, now with the Truth and Reconciliation [Committee] I guess it gives us an opportunity to rethink government practice. I see the province right now asks civil servants to commit to cultural awareness and sensitivity training. I think we can start approaching it [from] there and say, how do we improve our relationship? How do we improve how archaeologists get trained?

Therefore, it may be that archaeologists should increasingly incorporate Indigenous studies in the training process. Furthermore, Mr. Hill states, "…and the third thing is always to remember how the important information the archaeologists have uncovered gets to the Native community". This suggests that better means of communication should be provided in the archaeological reports, perhaps by using more accessible terminologies and jargon-free language. More broadly, he emphasizes that these endeavours create a 'two-way dialogue', where Indigenous communities help inform archaeologists on the record, and in turn, archaeologists provide descendant communities with proper consultations and the value of archaeological knowledge. Thus, as the discipline reconfigures toward more ethical practice, mutual appreciation between archaeological and Indigenous perspectives may develop in the field. Perhaps, then, a collaborative effort can extend into establishing appropriate frameworks for the management of artifacts. For Ms. Johnson, with her vision of building a museum at the Bkejwanong First Nation Heritage Centre, archaeology is considered a valuable means to recover material culture and has the potential to offer a deeper understanding of ancestral lifeways. She states:

> …by being able to display them, show the history, have them properly dated, where they were retrieved from, [artifacts] tell their own story. [A]s a result… it begins to

> open the eyes of those that are viewing [them] and that's what I think our ability will be if we have a museum that is properly designed, and dedicated for that purpose.

Similarly, Mr. Hill often seeks archaeological information in order to teach more effectively about past lifeways. He states, "I appreciate many of the things that I've learned in studying the archaeology of the Haudenosaunee and working with archaeologists. It adds [a] component to my understanding of how my ancestors lived". Based on these perspectives, archaeological knowledge seems to offer an integral yet relatively fragmentary view of the past (see also Hicks 2016). Indeed, as Mr. Hill suggests, when material culture is augmented by oral history and insights from Indigenous people, archaeology can deliver a more complete narrative of the past. In practice, this may start by promoting an Indigenous archaeology, where multiple descendant communities are involved in equal capacity with decision-making surrounding the stewardship of archaeological resources (see e.g., Atalay 2010; Yellowhorn 2006).

1.5 Toward the Promotion of an Indigenous Archaeology and the Stewardship of Archaeological Resources

As the case study in Chapter Two suggests, where sites seem to contain a co-presence of Haudenosaunee and Anishinaabeg ancestral lifeways, I asked Mr. Hill and Ms. Johnson whether these materials should be managed by their respective communities or in collaboration with other Indigenous groups in the area, and how they would like such responsibilities to be arranged. In terms of consultation, Ms. Johnson suggested that she would "inform [other First Nations] of what was going on so if they want to participate…they should be able to". Meanwhile, Mr. Hill proposed forming a council of Indigenous delegates from each community to discuss best strategies in caring for such archaeological resources. Therefore, with regard to the artifacts, he

advocates for a co-management approach between multiple Indigenous communities and the archaeologists. He suggests:

> So co-management of the collections – because this isn't a political matter, we have a shared responsibility. Now, collection is one thing, fieldwork is whole other matter. I believe we also should be partners in determining the nature of archaeological fieldwork. But that would take a lot more discussion, so we need to engage with one another a little bit better and maybe that would solve all these problems.

He further suggests that archaeological research should move away from the divisive notions of determining cultural affiliations based on artifacts and toward using the collections to understand how people are connected to place and one another, as enshrined in The Dish with One Spoon Treaty. Further, for both Ms. Johnson and Mr. Hill, it is important that some artifacts rest within their respective territories so their stories can be introduced to community members. However, it seems that a combination of cost, proper curatorial training, and the availability of an appropriate repository space are the deciding factors regarding where artifacts should be curated. For Ms. Johnson, artifacts should not only be stored, catalogued, and displayed appropriately at the Heritage Centre, but also shared with neighbouring communities, perhaps through traveling exhibits at museums across southwestern Ontario. For Mr. Hill, collections may rest in any facility, so long as artifacts are made available to people and conserved in perpetuity for use in future publications, exhibitions, and educational endeavours.

In summary, for both Mr. Hill and Ms. Johnson, there is a need for archaeologists to improve ethical standards by providing descendant communities with early consultation and

continual engagement in fieldwork practices. Moreover, this is echoed in the work of Indigenous and non-Indigenous scholars (e.g., Atalay 2010; Deloria 1992; Spector 1980), suggesting their views may be considered part of a broader discourse or movement which seeks to improve the ways in which we understand and engage with Indigenous heritage. Indeed, such healthy, working relationships are paramount in fostering a more collaborative effort aimed at establishing appropriate frameworks for the long-term care of archaeological resources. Thus, it is hoped that future archaeological practice in Ontario can transcend existing regulatory requirements and build a more inclusive archaeology that is open to multiple voices and perspectives of the past. This thesis also aims to engage with the broader archaeological community. Toward this end, I intend to publish my Chapter Two research findings in the *Canadian Journal of Archaeology* given that its parent organization (the Canadian Archaeological Association) seeks to promote the dissemination of archaeological research in Canada and encourage cooperative endeavours between professional archaeologists and Indigenous communities.

Chapter Two

Practice Molds Place: Communities of Pottery Production and Situated Identities at Location 3 (AgHk-54)

2.1 Introduction

As conceptual constructs, 'borders' and 'boundaries' have been utilized historically as analytical tools in the anthropological categorizations of social groups and their ways of constructing the world (see e.g., Barth 2000; Mullin 2011; Parker 2006). In recent years, however, researchers in the humanities and social sciences have sought to understand how unique and often overlapping notions of identity can emerge and develop along such margins, or 'borderlands', and the extent to which this might be reflected in material culture (e.g., Naum 2010; Ylimaunu et al. 2014). In Great Lakes archaeology, borderlands of the past have been conceptualized within various paradigms, most notably in normative accounts where changes in material culture patterning are thought to signal the appearance or replacement of ethnic groups through mechanisms such as conquest (e.g., Wright 1966) or migration (e.g., Snow 1995). With recent work on materiality theory, however, archaeologists have begun to more critically examine everyday engagements between humans and the material world (e.g., Lightfoot et al. 1998), with an eye toward teasing apart historically and culturally-contingent practices within borderland contexts. Such an emphasis recasts more traditional (anthropocentric) approaches to social life where materials are seen as the inert, stable, and unchanging backdrop to human meaning-making activities, and unilaterally subject to their conceptions (Hodder 2012; Olsen 2010). Ultimately, this body of scholarship recognizes the agency and affordances of things in

mediating broader social relations and has the potential to illuminate the rather unique socio-material processes at work in borderland settings.

In this study, through an approach that weds materiality and communities of practice, I examine pottery vessels in an effort to characterize regimes of ceramic production at Location 3 and their role in the construction of identity, the organization of lifeways, and the nature of craft transmission along an archaeological 'borderland' in southwestern Ontario. More specifically, pottery vessel form and decorative attributes are analyzed quantitatively and compared to complementary data generated from contemporaneous, single component sites associated with the Iroquoian and Western Basin Tradition in southwestern Ontario (see Watts 2008).

2.2 The Arkona Cluster and Location 3

The 'Arkona Cluster' refers to a group of archaeological 'borderland' sites located within a 3 km^2 area south of the Ausable River near the hamlet of Arkona in Lambton County, Ontario. It was documented between 1998 and 2006 by Archaeologix Inc. (now part of Golder Associates Ltd.) through a series of archaeological assessments which revealed at least nine spatially discrete and short-lived Late Woodland (AD 1100-1300) settlements (Figure 1). One of these sites, known as Location 3 (AgHk-54), is the focus of this study and consists of a relatively small (1650 m^2) settlement comprised of one or two hypothesized house structure and associated cultural features (Figure 2).

With regard to its chronological position, pottery from this site indicates a Late Woodland II affiliation based on its globular form, constricted necks, uncollared rims, and elaborately decorated surfaces (Murphy and Ferris 1990:199-207; Williamson 1990:295-299). This temporal assignment is further suggested by the lithic assemblage, which is dominated by

triangular Levanna and Madison-type projectile points (Fox 1990:175). Finally, a carbonized maize sample recovered from Feature 22 was used to generate an AMS date of 800 ± 30 BP (Beta-293270) (Neal Ferris, personal communication 2016). When calibrated at 2σ with the program CALIB 7.1 (Stuiver and Reimer 1993; Stuiver et al. 1998), this assay yields an age range of cal 750 to 680 BP or AD 1200 to 1270, which falls within the Early Ontario Iroquoian and Western Basin (Younge Phase) portions of the Late Woodland (see Murphy and Ferris 1990; Williamson 1990).

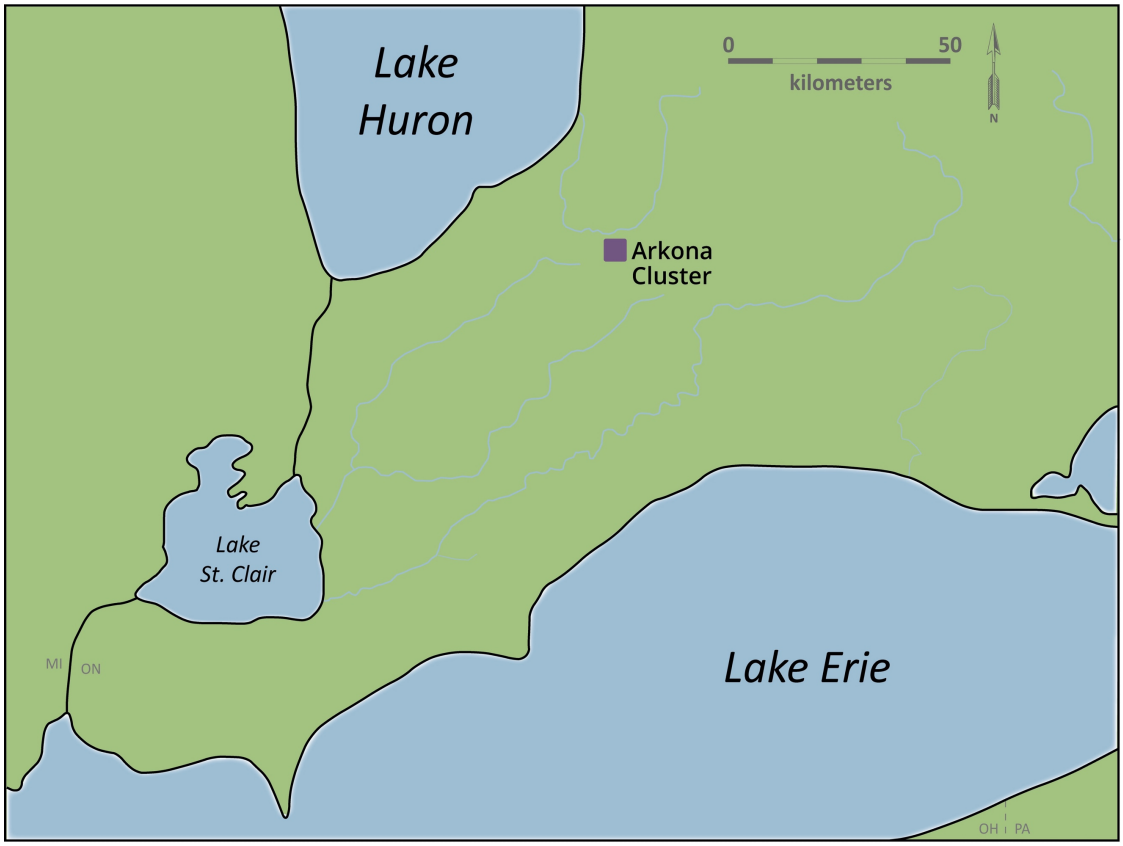

Figure 1. The Arkona Cluster in southwestern Ontario

Immediately to the north of Location 3 is the Figura site (AgHk-51), which contains at least four dwellings and numerous internal and external cultural features, many of which are surrounded by a single row palisade.

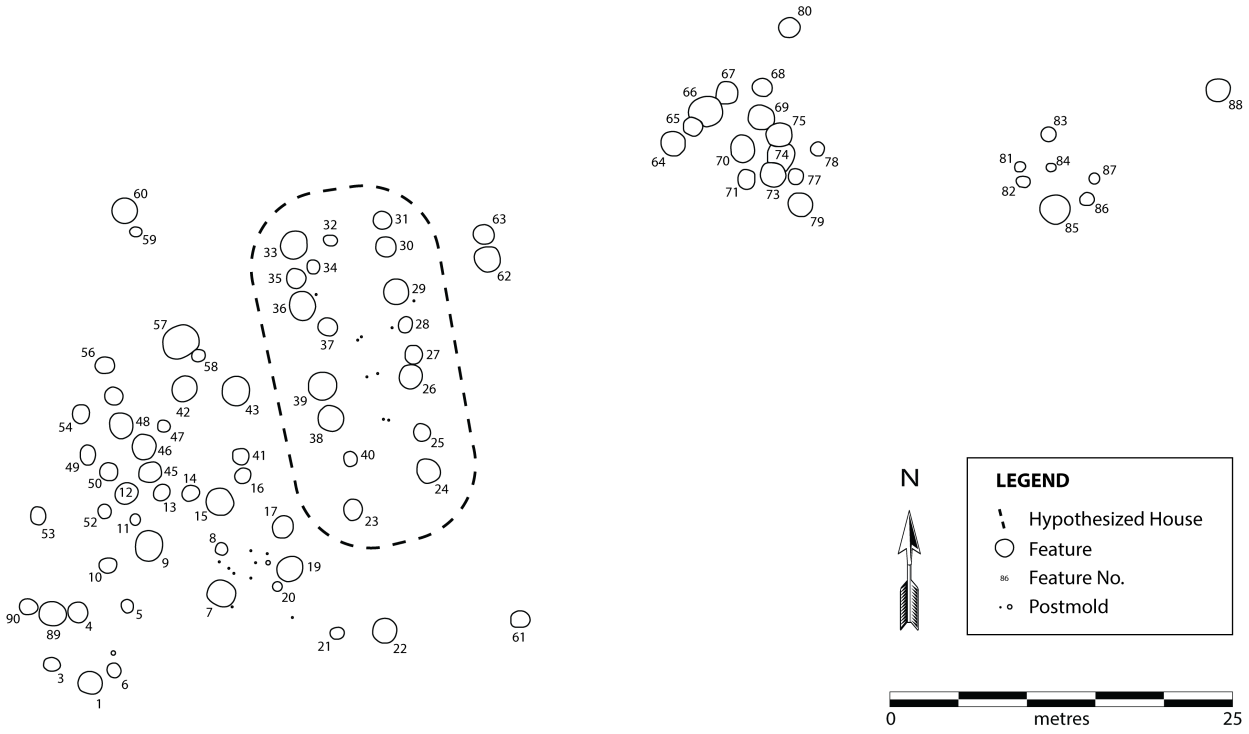

Figure 2. Location 3 site plan and proposed house structure

Farther to the north and east are the Location 9 (AgHk-58) and Location 12 (AgHk-60) sites, which contain partial traces of palisades, numerous pit features and possible dwelling structures, as well as a small, eleventh century campsite known as Van Bree (AgHk-32; see Archaeologix 1998; Cunningham 2001). Further afield, to the northwest, lies a large and densely occupied village known as Bingo (AgHk-42), which contains at least four houses, a possible plaza area, hundreds of pit features (including numerous burials), and evidence of a three row palisade (see Archaeologix 2012; Spence and George 2016) (Figure 3). An absence of both earlier and later

sites in this locale, as well as unusual pottery designs and settlement patterns, suggests this cluster of sites is unique and may be influenced by Late Woodland Iroquoian and Western Basin Tradition practices (see Ferris and Wilson 2009).

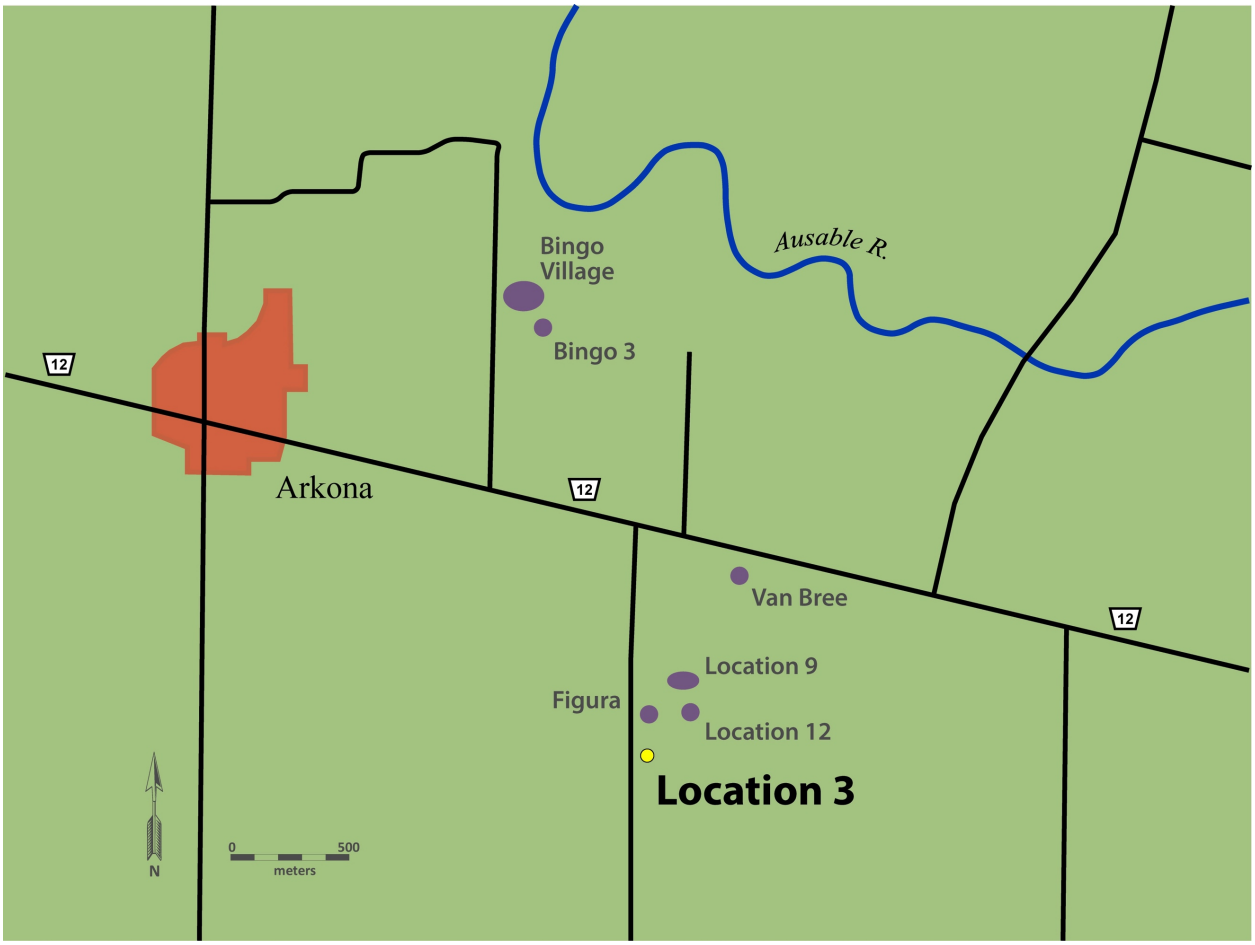

Figure 3. Sites within the Arkona Cluster

Geographically, these sites are situated between Early Ontario Iroquoian occupations to the east, including sites such as Kelly (Williamson 1985), Cassady (Archaeologix 2002), and DeWaele (Fox 1976), and Western Basin (Younge Phase) sites to the west, including Dymock (Fox 1982), Krieger (Kidd 1954; Last 1974), and Cherry Lane (Reid 1981; Ferris and Mayer 1990). Pottery

assemblages from each of these sites, along with the Van Bree site, were examined by Watts (2008) and are compared in this study to pottery recovered from Location 3 (Figure 4).

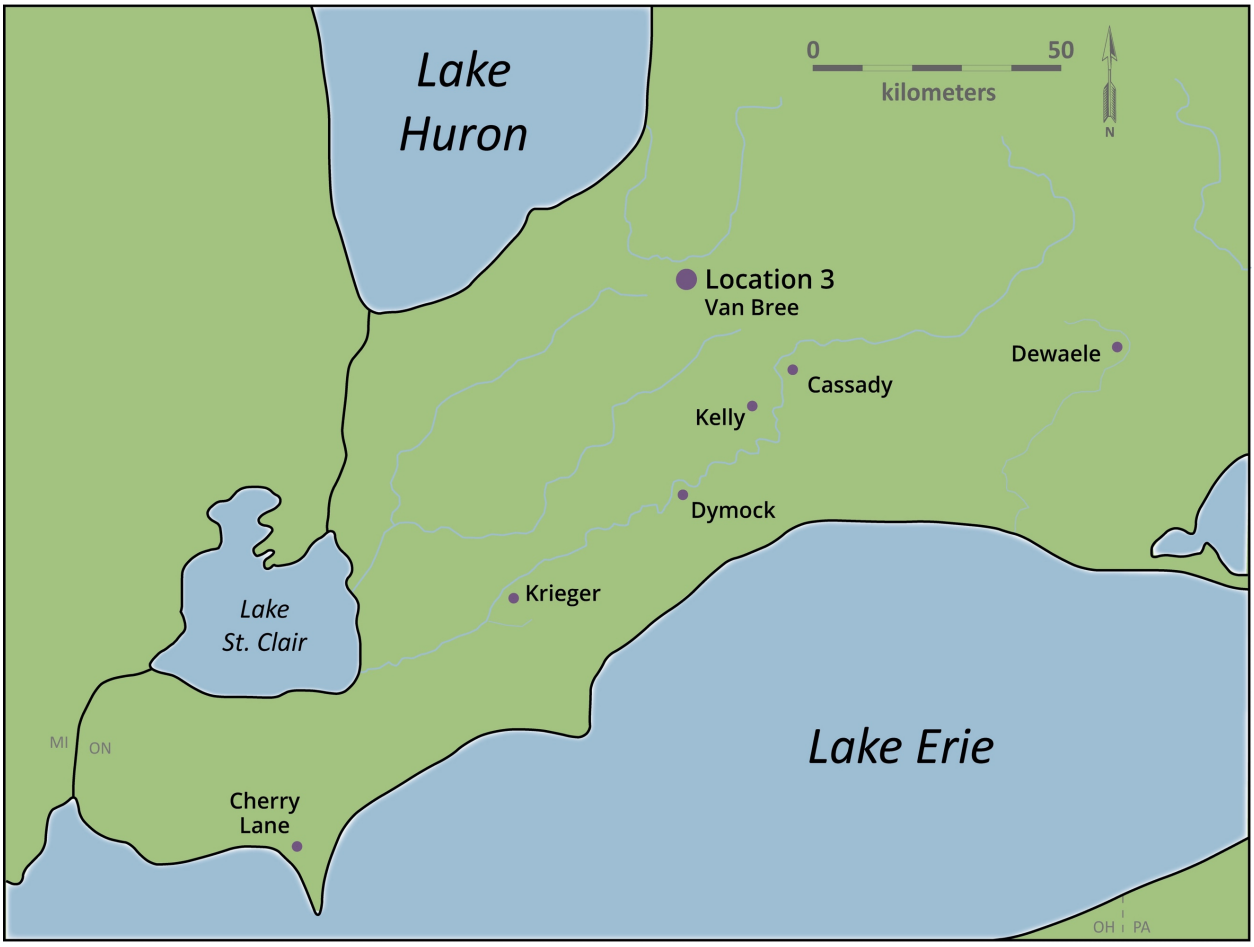

Figure 4. Early Ontario Iroquoian and Western Basin sites mentioned in this study

2.3 Previous Research

Over the last sixty years, the archaeological study of the Late Woodland period in the lower Great Lakes region has distinguished two broad cultural traditions, namely Northern Iroquoian, found throughout much of south-central Ontario, upstate New York, and the St. Lawrence valley, and the Western Basin Tradition, which appears throughout extreme

southwestern Ontario and parts of adjacent Michigan, Ohio, and Indiana (e.g., Lee 1952; Ferris and Spence 1995; Murphy and Ferris 1990; Ritchie 1965; Wright 1966). J.V. Wright (1966) was first to provide a three-staged chronological sequence of Iroquoian developments in southern Ontario, the broad outlines of which remain in use today. His framework consists of *Early Ontario Iroquois* (AD 1100-1300), *Middle Ontario Iroquois*, which comprises the Uren (AD 1300-1350) and Middleport (AD 1350-1400) sub-stages, and the *Late Ontario Iroquois* (AD 1400-1500) periods. Meanwhile, the developmental sequence for the Western Basin Tradition was first established by James Fitting (1965), then referred to as the 'Younge Tradition', and later modified for use in Ontario by Carl Murphy and Neal Ferris (1990) based on their exhaustive analysis of material culture traits, settlement patterns, and mortuary practices. This sequence consists of the *Riviere au Vase* (AD 600-800 or 900), *Younge* (AD 900-1200), *Springwells* (AD 1200-1400) and *Wolf* (AD 1400-1600) Phases. Since Fitting's (1965) work, a concern within much of the existing literature on this Tradition has been the 'ethnic affiliation' of Western Basin groups. Through various, largely qualitative appraisals of Western Basin pottery collections, Stothers and his colleagues (e.g., Stothers et al. 1994:137) have long regarded Western Basin groups to be an 'ethnic variant' of Iroquoian populations to the east, who migrated and maintained their lifeways in this westerly region. By contrast, and with some reluctance to frame material distinctions in terms of broad ethnic categories, Murphy and Ferris (1990:276) argued that the Western Basin Tradition represents a single cultural development distinct from Iroquoian peoples to the east, and with cultural patterns that are more in keeping with eighteenth century Algonquian-speaking Ojibway groups in southwestern Ontario (see also Ferris et al. 1985).

This orientation towards attributing material differences to ethno-linguistic entities has been criticized as underplaying the dynamic processes of interaction between the two 'traditions' and the possibility for regional cultural variety (e.g., Ferris 1999; Watts 2008:27). More recently, archaeologists have gravitated towards the employment of more conceptually explicit approaches in ceramic studies. Through the distinct spatial clustering of pottery, Cunningham (2001) identified both Western Basin (Younge) and Early Iroquoian potting practices at the Van Bree site, while Watts' subsequent (2008:78-79) analysis of the same collection disfavoured such an interpretation and instead suggested an amalgam of pottery design elements resulting from social syncretization between the two traditions. Further, Watts' (2008) study of seven single-component sites associated with either Western Basin and Iroquoian traditions in Ontario demonstrated the extent of socio-material boundedness between the two potting traditions, without classifying pottery into ethnic categories. Rather, through an attribute-based analysis and a material agency approach, Watts demonstrated that contrasting forms of social organization and their impacts on regimes of craft transmission culminated in the unique phenomenological experiences of potters, and hence, differences in pottery design repertoires between the two traditions.

While these works have undoubtedly advanced our understanding of identity formation in the region vis-à-vis pottery production, both their conceptual underpinnings and interpretations have yet to be tested on the recently emerged 'borderland' sites. Particularly, the characterization of pottery production from Location 3 will serve as an initial foray into advancing these notions. Additionally, the settlement pattern at Location 3 is also examined herein and compared with other Arkona cluster sites to better situate the manner(s) in which localized identities and 'communities of practice' emerged along the spatial interstice between the Iroquoian and

Western Basin archaeological manifestations. In order to comment on these phenomena, the following section outlines the culture-historical trajectory of the pottery design and landscape practices among both Early Iroquoian and Western Basin (Younge Phase) groups in southwestern Ontario.

2.4 Culture History

Iroquoian and Western Basin archaeological manifestations in southwestern Ontario are situated to the east and west of the Arkona locale. In the east, between the western end of Lake Ontario and the Grand River Valley, Early Ontario Iroquoian occupations are seen to develop from the Transitional Woodland Princess Point Complex (AD 500-900/1000) based on continuities in material culture and settlement-subsistence patterns at sites such as Porteous and Holmedale in Brantford, Ontario (Crawford and Smith 1996:787; Warrick 2000:434-438). Williamson's (1985) research on Glen Meyer sites in the Caradoc Sand Plain region suggests that Early Iroquoian settlements were comprised of small, palisaded villages and often situated in upland locales. These villages were likely oriented towards maize horticultural practices, while tethered to smaller, task-oriented campsites such as Kelly, and often consisted of a single-row palisade enclosing one or two houses. At the thirteenth century Calvert site near London, Timmins' (1997a) investigation revealed three sequential site occupations, involving three to four superimposed longhouses, over the course of 50 to 60 years. Similar to earlier Princess Point practices, nuclear and extended families would have occupied these village settlements while seasonal task groups dispersed to various locales to take advantage of locally abundant resources (Smith and Crawford 1995; Williamson 1990:318-319).

Generally, Early Iroquoian pottery retains the cord-wrapped stick decoration from preceding Princess Point times with linear stamped obliques being the most prevalent motif. Vessels are typically castellated and collarless, given that "incipient" and later fully developed collars occurred during Middle Iroquoian times. However, as Williamson (1985:287) suggests, there is a shift in the twelfth century toward decorative practices comprising multiple rows of incised horizontal lines with dentate stamping in the east and linear-stamping tools more common in the west. Distinct from Western Basin potting practices, interior punctation and external bossing are often employed in Early Iroquoian vessels.

Figure 5. Example of Early Ontario Iroquoian pottery from the Edith Smith site, Glencoe (Photo courtesy of Dr. Christopher Watts)

In terms of surface treatments, pottery is often variously smoothed over or malleated using a ribbed paddle and/or checked stamps (Williamson 1990:297-298) (Figure 5).

Toward the western end of Lake Erie, Western Basin (Younge Phase) peoples employed a settlement pattern that developed seamlessly from earlier Riviere au Vase Phase times. Contrary to Early Iroquoian occupations to the east, these groups maintained a settlement-subsistence program consisting of short-term, warm weather occupations in littoral environments, as suggested by the Cherry Lane and Bruner-Colasanti sites in the Point Pelee region (see Reid 1981; Ferris and Mayer 1990; Lennox 1982). This was followed by cold-weather habitation and utilization of nut and deer resources at inland riverine areas, as supported by Younge Phase sites near the Thames River such as Dymock near Glencoe and Krieger in Chatham (Murphy and Ferris 1990:232; see also Fox 1982; Kidd 1954).

With regard to vessel morphology, Younge Phase pots typically contain everted and occasionally folded-over rims, elongated necks, and castellations. Rims are frequently and variously decorated using cord-wrapped, linear, annular, and dentate tools, often through stamping. These designs can be superimposed over rows of exterior punctates, leaving bossed effects on vessel interiors. As well, the neck region is commonly treated with a variety of decorative motifs, such as alternating plain and filled triangular and/or diamond motifs, which are regarded as a “hallmark” of this ware (Murphy and Ferris 1990:205; Watts 2008:33) (Figure 6).

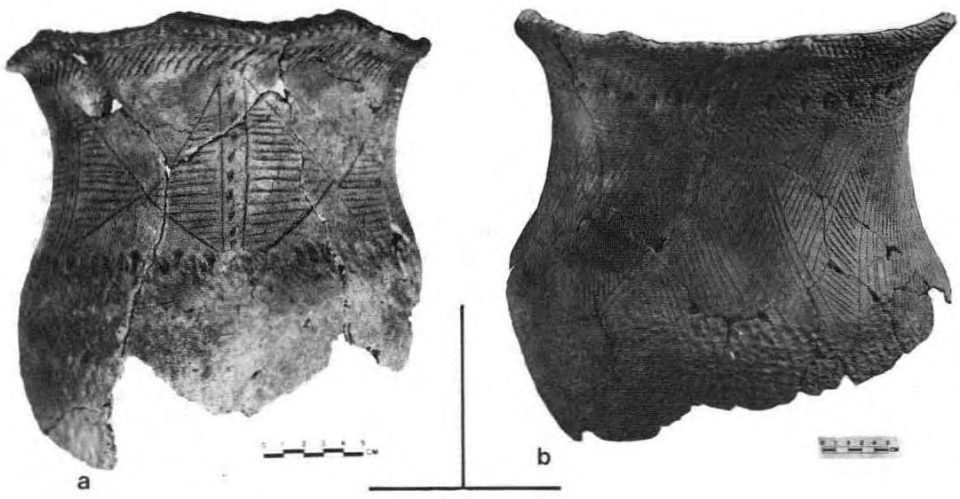

Figure 6. Examples of Younge Phase pottery from: a) Bruner-Colasanti, Essex Co.; b) Krieger, Kent Co. (Murphy and Ferris 1990)

In the early twelfth century, the present day Arkona locale appears to have witnessed a westward relocation of groups from the east, which may have resulted in increasing interaction between Iroquoian and Western Basin peoples (Ferris and Wilson 2009:15-17). This is perhaps marked by the presence of both Early Iroquoian and Younge Phase potting practices at Van Bree (Cunningham 2001; Watts 2008). Furthermore, this borderland is thought to continuously shift to the west as archaeological work has yet to discover use of this locale after ca. AD 1300. Therefore, Location 3 and the other Arkona Cluster settlements likely represent several generations of potters, and the social networks of which they were part, living through this transitory and dynamic time. In the following sections, I present my analysis of the ceramic rim sherd assemblage from Location 3 and assess the extent to which designs overlap between the two potting practices. However, rather than furthering traditional notions that equate pottery styles with ethnic identities, this study employs a more nuanced approach that couples materiality theory and the concept of 'Communities of Practice' (Lave and Wenger 1991) to underscore the significance of situated, practical, and co-constructed approaches to learning and

the formation of identities within a community. Importantly, the relational properties understood to characterize this approach are taken up and applied in this study to both intragroup social dynamics (i.e., human-human interaction) as well as socio-material configurations (i.e., human-thing interaction).

2.5 Materiality Theory and The Communities of Practice Approach

Beginning in the 1980s, and extending throughout the social sciences, various discussions emerged around the idea that material culture did not simply reflect broader societal norms and values, but rather was an active medium *through* which social life was constituted (see e.g., Appadurai 1986; Miller 1987). Among archaeologists, these considerations initially took flight with the writings of post-processual scholars, most notably the phenomenologically oriented works of Thomas (e.g., 1996) and Tilley (e.g., 1994), who argued for a relational rather than essential view of materiality – that an understanding of the world ultimately rests on an aesthetic appreciation for the way its products are 'disclosed' to us (Thomas 2000:154). This concern with the senses has served to obviate more traditional approaches where things are treated as stable and passive entities, and only understood through representation. This can be seen in the normative conception of 'pots equal people', as noted above, which views artifacts simply as the materialization of broader cultural ideals (see e.g., Wobst 1977). Yet despite a more attuned interpretive ear, theories of materiality in archaeology are still often understood independently of and/or reduced to socio-cultural concerns (Knappett 2012:190). Within this framework, the Cartesian distinction between mind/matter, along with broader Western dichotomies such as human/nonhuman are maintained, thereby downplaying the intricacies of human-artifact relationships and the capacities for people and things to combine and shape each other.

A strand of materiality theory which embraces this idea comes from the longstanding French concern with the anthropology of *techniques* (e.g., Leroi-Gourhan 1993; Mauss 1973) and considers the agential capacities of artifacts to shape human social lives through daily, practical engagements (see Knappett and Malafouris 2008; Latour 2000). Within this work, some scholars have granted things and their properties an ontological position independent of their relations with humans (see e.g., Olsen 2012; Witmore 2014). Others, however, emphasize the distribution among and flow of agency between humans and the things with which they interact (see e.g., Hodder 2012; Knappett 2005). For Knappett (2012), materiality can best be conceptualized along four dimensions, namely material relations, social relations, vitality, and plurality. Material and social relations emphasize that while human activities may be bound up in things through practical engagements, such as producing or using material culture, things too are capable of shaping social relations. Materiality as vitality recognizes that a dimension of things possesses agential power, or material agency, exerted through their "brute" nature defined independently of human relations and intentions (Bennett 2010; Olsen 2010). Another dimension is plurality, through which materiality is defined by an assemblage of different materials across varying scales. This "ensemble" of material properties combines as a form of 'potential' that can be recognized through practical and/or conceptual engagements (Knappett 2012:188-196). Hence, things and their properties can be said to possess *affordances* that surface from an object's potential to prompt certain actions within a context of practical activity (see Gibson 1979; Ingold 2000:166-168). In everyday situations, a particular object and the materials from which they were made afford certain engagements or potentials that are distinct from another. These properties influence or direct humans to exercise their agency in producing or using such objects, and in turn, the capacity of things is understood through these very interactions

(Knappett 2005:140-142). In this view, as Ingold puts it, "…human beings do not exist on the 'other side' of materiality, but swim in an ocean of materials" (2007:7). Both humans and things are found within a constant flux of reproduction, transformation, and regeneration as they intersect at a particular time and place. As well, the formal properties of things are far from stable as they undergo continual yet sometimes momentary processes of combining and congelation, while simultaneously shaping the choices and creativity of the human. By virtue of these ongoing interactions, things are not simply comprised of fixed attributes or essences inscribed in the mind, but rather they contain elements that carry specific historicities, temporalities, and narratives (Hodder 2012:98-99; Ingold 2007:151). What is required for archaeologists concerned with such issues is an empirical study design that illuminates the mechanical processes of artifact production through which such engagements can be best revealed.

By far, methodological approaches in archaeology have concentrated on the examination of artifact technologies ranging from their production (e.g., Gosselain 2000) through the processes of use, reuse, and discard (e.g., Hollenback and Schiffer 2010). In particular, studies of production processes, such as those involving pottery, are effective in inferring how sensual and cognitive dimensions are affected through an intimate engagement with the material world (Knappett 2012:197-201; see also Malafouris 2008). Pottery making is unique as it requires a form of tacit knowledge, sensory perception, and motor skills developed through a lifetime's experience, as well as a practical involvement with materials, in crafting successful ceramic products (Ingold 2007:13-14, 2012:434). Such knowledge constitutes an understanding of the properties of clay, water, and temper, their combination (plasticity), the environment (e.g., the

right atmospheric temperature to avoid warping or cracking), and the tools, techniques, and pigments needed to create the desired form and decorative motifs (Rice 1989).

The communities of practice approach developed by Lave and Wenger (1991; see also Wenger 1998) highlights this idea – that knowledge is situated and associated with cultural practices, but also expands upon it by recognizing that people maintain and/or renew relations by participating in communal acts, such as pottery production. Throughout an individual's lifetime, this domain of participation may change and other ways of producing pottery may be learned, perhaps as 'rites of passage' in becoming new members of other communities and hence, a sense of group identity and integration may develop by means of practice. As suggested by materiality theory, however, the reinforcement of social relations in such contexts is perpetually mediated by the affordances of the things involved.

To advance the notions of materiality and communities of practice described here, I employ in this study an attribute-based approach to pottery design as a methodology that considers how pottery is produced by artisans through their practical relations with the material world. Attribute analysis, as opposed to typological analysis, is employed due to its sensitivity in identifying subtle variations in the individual elements of form and decoration. This allows for a more fine-grained detection of agential practices during pottery production, which in turn can provide insight into how communities of potters at Location 3 might have adopted, manipulated, and/or maintained such attributes and their placement across the vessel surfaces through time (Rice 1989; Watts 2008:41).

2.6 Methodology: An Attribute-based Approach

Stage 4 excavations at Location 3 resulted in the recovery of 16,606 artifacts, 21.6 percent of which (n=3,580) were ceramics. The initial pottery analysis performed by

Archaeologix (2012) resulted in the identification of 130 rim sherds comprised of 46 'adult' forms and 16 individual 'juvenile' vessels. These rim sherds were selected for further analysis as part of this study. For Eastern Woodlands pottery, the vessel rim is considered the most useful analytical entity as spatially and temporally sensitive decorative components are placed, sometimes exclusively, on the interior, lip, and exterior surfaces of this vessel part. For the purposes of this study, a specimen was only considered for analysis if it contained at least two of these three vessel surfaces. While specimens varied in their surface/decorative completeness, only 3 rim sherds (8%) within the overall sample were missing an entire surface (see Tables B.5a through B.5c).

Examination of the vessel rims from Location 3 began with an enumeration and classification of analytic entities. This involved a 'vessel sort', a process which ensures that each rim sherd represents a unique pottery vessel. Indeed, as used here, a 'vessel' does not refer to a complete ceramic pot, as rim sherds are often fragmentary, but instead refers to specimens that contain analyzable designs and parts from what were once whole vessels, namely the lip, rim, neck, shoulder and body sections. This stage provides a safeguard against the duplication of analytical units from the same vessel, thereby avoiding overrepresentation in the vessel sample.

Although the initial vessel sort performed by Archaeologix identified a total of 46 individual vessels, this study distinguished nine fewer vessels through mending procedures, resulting in a sample of 37 vessels. Similarly, the number of individual 'juvenile' vessels was reduced from 16 to 15 vessels. These mends included 'crossmends', which are pottery sherds identified as having originated from the same vessel, but typically recovered from different feature contexts across the site. The provenience of these sherds was identified and mapped according to their respective features, in order to visualize the spatial distributions of specimens

and to determine which features were used contemporaneously. Rim sherds that appeared to have been parts of the same vessel, based on similar aspects of form and decoration, but could not be physically mended together, were also considered crossmends (i.e., counted as one vessel) but labelled as 'inferred mends'.

Upon completion of this stage, a quantitative analysis of pottery design (form and decoration) was performed on the 37 vessels and recorded in a database. This study borrows the definition of 'decoration' used by Smith (1997), which refers to an "observed individual mark or alteration on the surface of a vessel". Of the 37 vessels, 26 (70%) are represented by 'sizable' sections that contain variously the presence of rim, neck, shoulder, and body, in addition to interior, lip, and exterior surfaces (see Table B.1). This study employs an attribute-based classificatory code developed by Smith (1997) and Watts (2008), which provides both discrete and continuous variables, along with appropriate attribute states, that can be used to effectively classify Woodland Period pottery within the region (See Appendix A).

With the aid of this code, rim sherds were analyzed according to eleven variables of form (Nature of Specimen, Castellation Form, Lip Form, Upper Rim Profile, Rim Form, Lip Thickness, Interior, Lip and Exterior Surface Modification, Profile of the Core, Collar Height, and Basal Collar Thickness) and three non-continuous variables of decoration (Tool, Technique, and Motif), the latter of which was used to classify horizontal bands of decoration on the interior, lip, and exterior surfaces of the specimens.

In this study, a maximum of three interior bands, two lip bands, and six exterior bands of decoration were analyzed and were recorded quantitatively based on the configuration of non-continuous variables of tool, technique, and motif. Next, all seven variables of form, and a total of three interior bands, one lip band, and four exterior bands of decoration were compared to

quantitative data generated using comparable variables by Watts (2008) on pottery assemblages from single-component Western Basin and Early Iroquoian sites, as well as the Van Bree site. This was undertaken to assess the degree of correspondence between tool, technique, and motif at Location 3 and design elements employed at other, roughly contemporaneous Iroquoian and Western Basin sites.

2.7 Data and Analysis

Regarding the quantitative data of Lip Form, as Table B.2a indicates, Location 3 vessels contain high frequencies of flat lip surfaces (n=29; 78%), which is comparable to data from the Kelly (81%) and Van Bree (96%) sites. Owing to the fragmented nature of the vessels at Location 3, only 7 vessels (18.9%) were recorded as 'castellated'; all others were labelled 'indeterminate' to account for specimens that, while not displaying castellations, may have originated from a vessel with this feature (Table B.2b). As noted in Table B.2c, Location 3 vessels are largely uncollared, which supports the notion that formal collars do not appear in the record until later (Uren and Springwells) times within the Iroquoian and Western Basin developmental continua, respectively. The Upper Rim Profile data (Table B.3) from Location 3 contains a high frequency of concave forms (73%) that is comparable to data from Krieger (n=27; 76%). As well, the average lip thickness from Location 3 (9.3 mm) bears close resemblance to the means from Dymock, Krieger, and Van Bree (8.7-8.9 mm). Furthermore, all Location 3 vessels contain high frequencies of smoothed over interior (n=23; 62%), lip (n=30; 81%), and exterior (n=30; 81%) surfaces that are comparable to numbers from all seven sites examined by Watts (2008).

With regard to attributes of decoration on interior vessel surfaces at Location 3, overall tool use across bands displays significant frequencies of cord-wrapped instruments (CWI). In Band 1, along with CWI, suture stamp, and linear tool use is also significant. In particular, the high proportion of suture stamping exceeds that found at other sites, with Dymock being the most similar (n=15; 17%). Such bias toward CWI and linear tool use at Location 3 correlates with the high incidence of parallel stamping on this band, which is comparable to frequencies from all seven sites. In terms of motif, linear right oblique (LRO) decoration is predominant in Band 1, which corresponds with data from Dymock (n=47; 52%) and Kelly (n=28; 40%). In Band 2, the prevalence of pointed tool use (30%) reflects the preference for both punctation and bossing techniques in motifs from this region of the vessel. The frequency of interior punctates (n=7; 26%) is lower than that found at Cassady (n=43; 42%) but in line with data from DeWaele (n=22; 23%), Kelly (n=10; 26%), and Van Bree (n=7; 21%). In addition, the Van Bree site also has multiple occurrences of both punctates and bosses in Bands 2 (n=7; 21%) and (n=4; 12%), as well as Band 3 (n=4; 18%) and (n=2; 10%), respectively (see Table B.6a through Table B.9c).

In the lip section of Location 3 vessels, the use of CWI is also prevalent and consistent with data from Krieger (n=40; 36%) and Dymock (n=28; 30%), and interestingly, higher in frequency than values from Kelly (n=9; 13%). Again, the use of suture-stamping seems to exceed this tool's use at all sites examined by Watts (2008). Further, the popularity of linear tool use results in the high frequency of parallel stamping, which surpasses numbers from Dymock (n=63; 66%), Krieger (n=71; 65%) and Van Bree (n=30; 65%). Curiously, this frequency (n=32; 87%) is furthest from the 'true' Early Iroquoian sites of Cassady (n=60; 41%) and DeWaele (n=95; 30%). Equally intriguing is the low count of plain specimens at Location 3 (n=2; 5.4%), which resembles frequencies from Krieger (n=18; 16%) and Dymock (n=11; 12%). In Band 1,

there are equal proportions of linear right and linear left obliques used as motifs, at 32.4% each. In lip Band 2, only linear straight and suture stamping tools are recorded, which prompts the high frequency of parallel stamping technique and equal proportions of linear right, linear left obliques, and linear vertical motifs. However, such proportions may be biased by the limited sample displaying this band (see Table B.10a through Table B.11c).

On the Exterior vessel surfaces, Band 1 decoration display a high frequency of CWI tool impressions at 44% (n=16), which is comparable to data from Krieger (n=43; 40%) and, to an extent, Dymock (n=27; 28%). Interestingly, other sites, including Kelly, display relatively low preferences for this tool (n=12; 17%). The frequency of suture stamp again exceeds that found in other sites, with Dymock being the closest (n=15; 16%). At 19% (n=7), the use of linear tools at Location 3 is in line with Krieger (n=22; 20%), Dymock (n=18; 19%), and Van Bree (n=15; 30%). Equally interesting is the high frequency of linear right obliques on this band (n=26; 70%) and the presence of punctates, as they are typically placed in lower bands of vessels. It is notable, however, that the only other sites containing punctates in this band are Krieger (n=4; 4%) and Dymock (n=2; 2%) (see Table B.12a through B.12c).

For Bands 2 and 3, although only represented by 26 and 16 vessels respectively, the high incidence of CWI continues and corresponds with data from Krieger (n=25; 29%) and Dymock (n=13; 19%), as well as Cassady (n=26; 21%) and Kelly (n=11; 21%). Likewise, the high frequency of suture stamping at Location 3 has no analogue in other sites, with the exception of Van Bree (n=5; 14%). With regard to Band 2 technique, there is equal preference for punctation and bossing (n=8; 16% each). In particular, the frequency of bossing is in keeping with Van Bree (n=5; 14%), while the occurrence of punctation is closest to Van Bree (n=3; 8%) and Dymock (n=4; 7%). On Band 3, the high frequency of suture stamp use also outstrips numbers in other

sites, with Van Bree coming closest at (n=5; 18%) Given such an affinity toward CWI and suture stamp, parallel stamping is the most prevalent technique at Location 3 (n=12; 75%) and across other sites. Interestingly, the low occurrence of bossing (n=1; 6%) in this band departs from Cassady (n=20; 12%) and Kelly (n=7; 29%). As well, a horizontal difference (HD) in the application of decorative elements, which often indicates zoning of neck decoration in Younge Phase pottery, is low (n=1; 6%) compared to data from Krieger (n=8; 17%), Dymock (n=10; 30%), and Cherry Lane (n=3; 33%). Furthermore, in Band 4, the use of CWI and cord amounts to 35% (n=5), which parts company with all sites examined by Watts (2008), but compared most favourably to Kelly (n=2; 15%), Dymock (n=3; 20%), and Krieger (n=3; 14%). Similarly, the appearance of suture stamping in this band also surmounts the frequencies from other sites. In addition, due to the fragmented nature of Location 3 vessels, Bands 5 and 6 are only represented by seven and three vessels, respectively, and when present, contain high occurrences of plain surfaces (see Table B.13a through Table B.17c).

2.8 Discussion

Several notable patterns emerge from the attribute analysis of pottery from Location 3. Regarding vessel morphology, it would appear that Location 3 potters adhered to a fairly prescribed set of formal designs with strict preferences for flat lips, concave profiles, and smooth surface modifications. As well, it would seem there is a degree of stylistic ‘convention’ present among potters with regard to the decorative attributes, as evident in the dominant use of CWI, suture-stamping, and parallel-stamping as techniques in the composition of various linear oblique motifs. At this time, CWI is more commonly found in Western Basin (Younge Phase) pottery assemblages, though it does occur initially in Early Iroquoian collections (Williamson

1990:298). Therefore, the high incidence of CWI at Location 3 may suggest an influence of Western Basin decorative practices, or perhaps the continuance of Early Iroquoian potting practices. If the latter is true, CWI could perhaps be considered a spatial rather than a temporal marker, at least in this region. With regard to motif, the higher frequencies of linear right obliques compared to linear left obliques may speak to the handedness of potters, and possibly the presence of matrilocality at Location 3. In a study of Stallings Island pottery from the Southeast, Sassaman and Rudolphi (2001:419-420) indicate that left-handedness is a constant minority trait in populations worldwide and that this frequency, along with the long-term, non-random distribution of left-handedness among potters, are traits impacted by maternal influence. As it is difficult, however, to ascertain handedness from the orientation of oblique impressions, this interpretation for Location 3 should be seen as highly speculative and in need of further analysis.

Unlike aspects of form, however, pottery decoration seems to be an arena within which potters can express their freedom of creativity and manipulation. In particular, when compared to Early Iroquoian and Western Basin (Younge Phase) pottery in Watts' (2008) study, vessels from Location 3 would appear to contain select pottery elements from each 'tradition'. Qualitatively, overall vessel design seems to resemble Watts' (2008) description of Early Iroquoian pottery with occurrences of interior punctation/exterior bossing, as seen in Vessels 25 (Figure 7) and 29 (Figure 8). As demonstrated in the quantitative analysis, however, many of the variables described above show attribute frequencies that align with the Western Basin sites of Krieger, Dymock and Van Bree. For example, Vessel 1 (Figure 9) displays an alternating triangular motif characteristic of Younge Phase pottery. However, such attributes are incorporated with the absence of several diagnostic features of Younge Phase pottery, such as a strong preference

towards exterior punctation/interior bossing and the elongated neck form described by Murphy and Ferris (1990:203) as a 'canvas' for zoned and elaborate decorative designs. Similarly, these designs also lack a clear orientation toward either Kelly or Cassady, despite superficially resembling Iroquoian decorative regimes, which is made all the more surprising by the geographical proximity of these sites to Location 3. As indicated by the crossmend analysis, however, the presence of both Early Iroquoian and Western Basin (Younge Phase) decorative practices is not reflected spatially at this site. Indeed, if the spatial clustering of the two potting practices occurred in the early 12th century, as Cunningham has suggested (2001:6-12), this was perhaps resolved within the span of roughly 100 years between Van Bree and Location 3.

Figure 7. Interior punctates on Vessel 25

Figure 8. Interior punctates on Vessel 29

Figure 9. Alternating triangular motif on Vessel 1

As well, while pottery appears to be distributed across Location 3, the majority of both adult and 'juvenile' examples are found in proximity to the proposed house area (Figure 10). While it is difficult to ascertain whether the entire pottery assemblage was produced at Location 3 or a neighbouring site, pottery production clearly occurred on site and was presumably organized at the household level. This is supported by evidence of fired clay lumps from Features 36, 39, and 48, as well as the 'juvenile' vessel remains, which were unlikely to have been transported from another locale. The latter, in particular, also suggests a degree of craft transmission played out at the site between established and emergent potters. It is evident from JVE Vessel 5 (Figure 11a) that potters were likely attempting to 'properly' form the upper part (rim) of the vessel. As well, efforts at decorating pottery with linear tools are reflected in JVE Vessel 1 (Figure 11b), while JVE Vessel 15 (Figure 11c) exhibits the incised triangular decorative motifs also seen in the more refined vessels. In Timmins' (1997b:5-7) study of juvenile vessels from the Early Iroquoian Calvert site, however, young potters seem to have prioritized the proper construction of vessel form over the replication of adult decorative practices. Perhaps, as with Calvert, young potters at Location 3 also followed less rigid decorative conventions provided by the adult potters and focused more on perfecting motor skills and the foundations of making pottery. Though the intended design of juvenile pottery can be difficult to determine, it may also be that such endeavours were carried out in a collaborative manner. In an analysis of ceramics from the American Southwest, Crown (2007:679, 685) demonstrated that tasks were often divided between skilled and unskilled members of potting communities throughout each stage of the production process, recasting the prevalent assumption that a single individual artisan produced an entire ceramic object. Perhaps as Michelaki (2007:157-158) suggests, this learning process took place within a community of practice of

'peer groups' and not necessarily between family members. Crafting technique, is often attained informally in the early stages of enskilment, as part of the process of becoming a community member (see also Ingold 2000:36-37). As seen among Comanche and Navajo potters, mobile groups may incorporate individuals or families through captivity or marriage, while establishing kinship ties with nearby sedentary neighbours to increase access to resources (Beck 2009:333-335). It may be that mobility encourages variation in design choices among potters, despite the limited range of tools and techniques involved during production.

If it is true that potting practices at Location 3 were influenced by mobile ways of life, this is also reflected in the settlement pattern data. Lacking a palisade and containing a few postmolds, this 1650 m^2 site is comprised of some 90 pit features arranged into three clusters. Pits in the west central portion of the site likely betray a house structure, as indicated by the roughly north-south configuration of features.

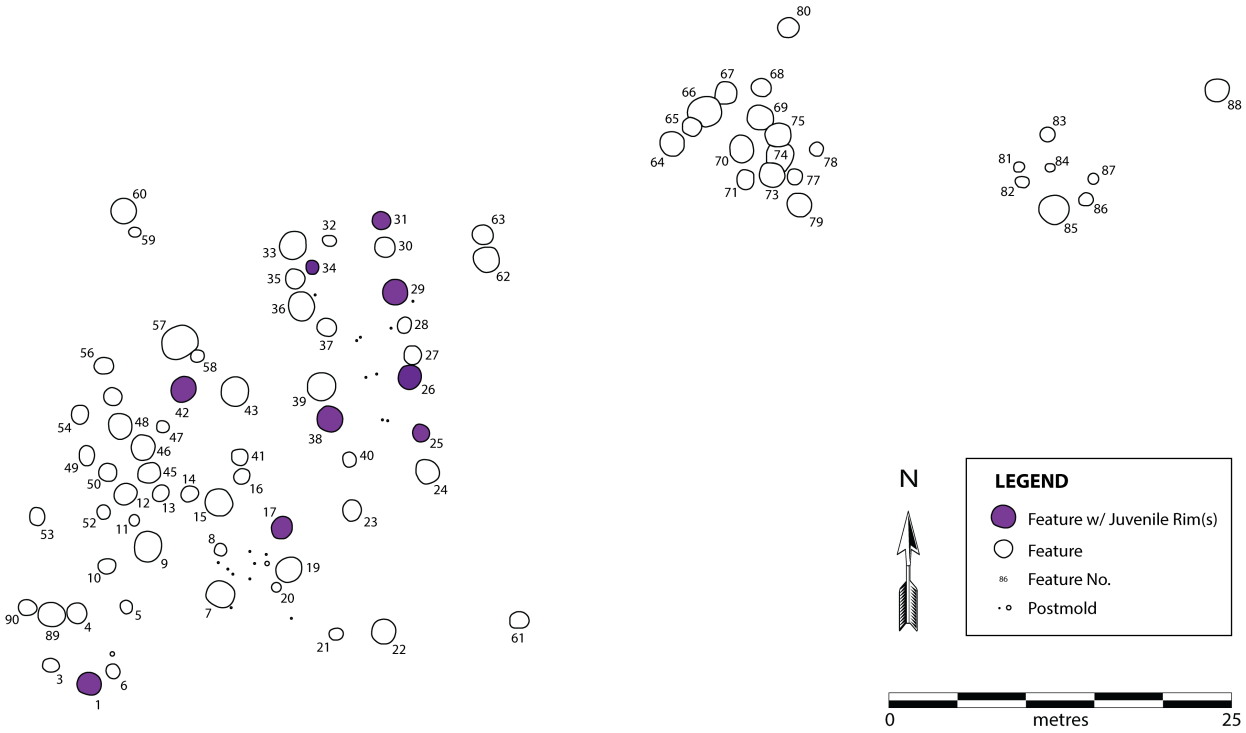

Figure 10. Features with Juvenile Rims

Similar patterns, albeit with house wall outlines, have been documented for example at the nearby Bingo Village site. Assuming this is indeed a dwelling at Location 3, there is evidence of interior activity in the form of pit features, four of which were in use at the same time as adjacent (exterior) features to the south and west, as indicated by both physical and inferred pottery mends (Figure 12). The paucity of postmolds at this site may be caused by poor preservation, disturbance, or even dry soil conditions during excavation. It may be too, however, that post holes were intentionally kept shallow, in keeping with the site's temporary configurations, which

can be attributed to the relatively short length of occupation anticipated by its inhabitants (see Kent and Vierich 1989).

a)

b) c)

Figure 11. Juvenile Vessels: a) Vessel 5; b) Vessel 1; c) Vessel 15

Additionally, several features in this area were designated as refuse pits (i.e., Features 22, 36, and 39) if they contained more than 100 items, while features 12, 45, 46, and 47 were identified as storage pits. These determinations were made based on their relatively large size, vertical walls with slightly sloping sides, and minimal contents, which is consistent with descriptions provided by Murphy and Ferris (1990:236-244; see also Kidd 1954:145; Lennox 1982:10, 155) for storage features found at Western Basin (Younge Phase) sites. At these sites, storage pits were used by hunter-gatherers-fishers to cache foodstuffs and other resources during

the seasonal round (Murphy and Ferris 1990:236; Watts et al. 2012:449). Add to this a lack of associated middens, and it would appear that Location 3 likely served as a short-term task-oriented campsite inhabited by a locally configured, residentially mobile group that may be a part of larger communities residing in other Arkona Cluster sites.

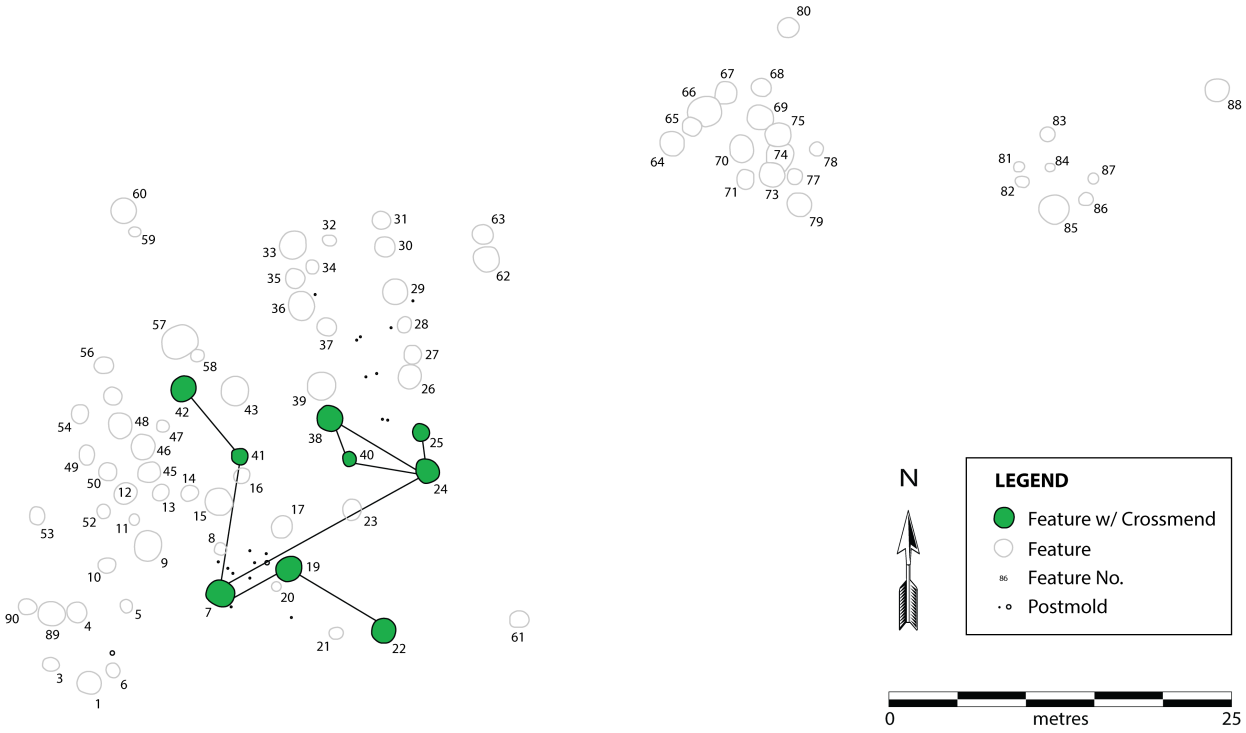

Figure 12. Map of features with pottery crossmends

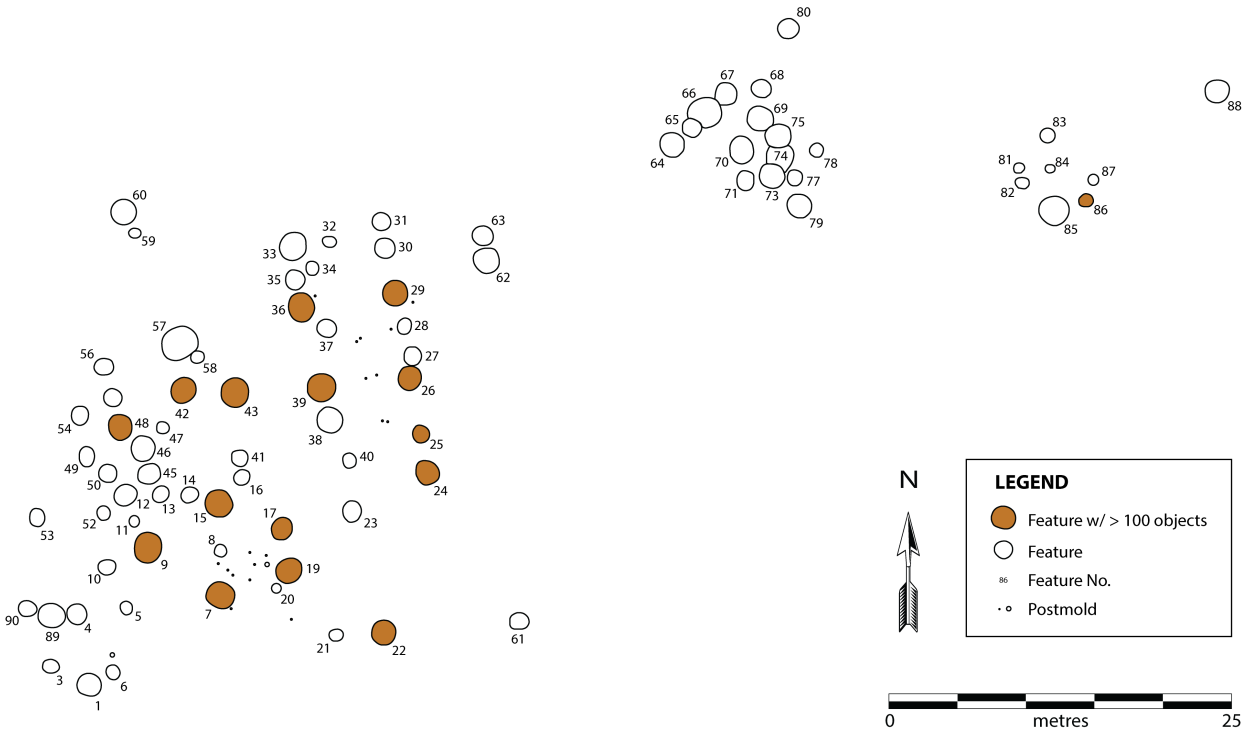

Figure 13. Features with more than 100 objects

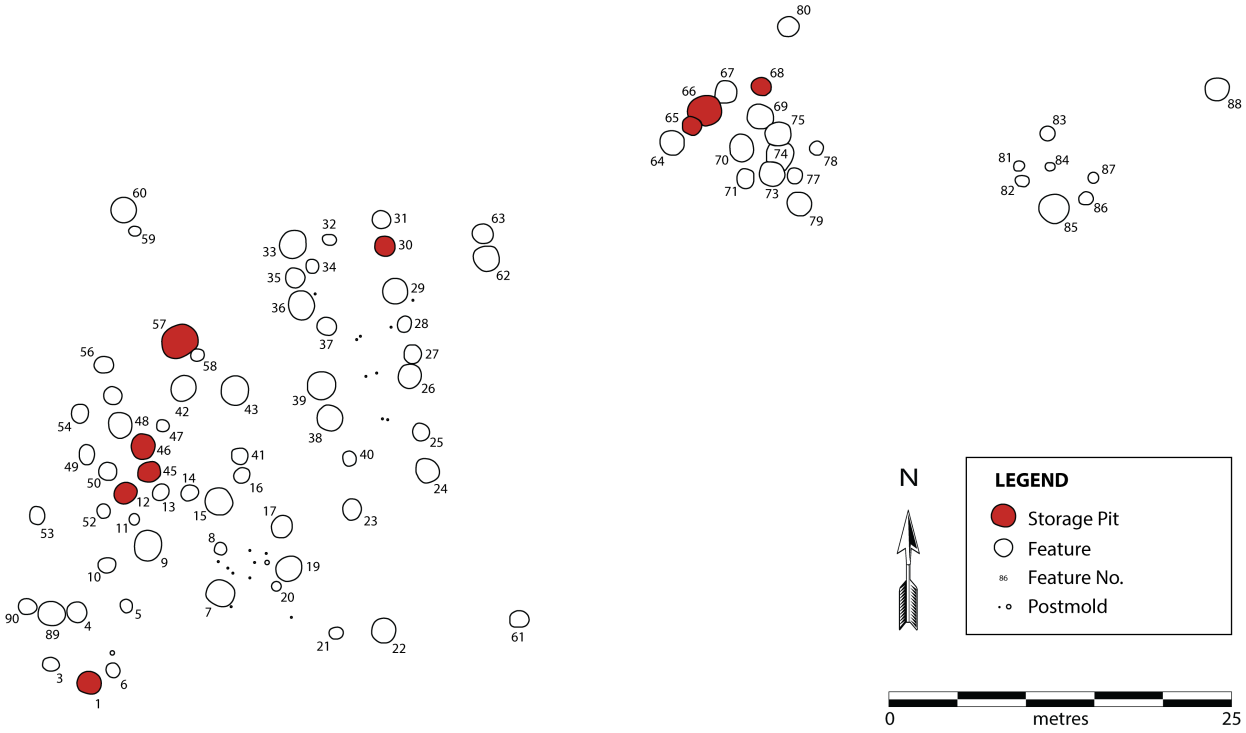

Figure 14. Features designated as storage pits

Within its broader 'Arkona Cluster' settlement system, Location 3 was likely connected in some fashion to the larger, village-like sites of Figura (located some 150m to the north), Bingo, or perhaps even Location 9 or 12. Moreover, although each of these sites is spatially discrete and there is only evidence for one or possibly two dwellings at Location 3, the community of potters at this site could have been drawn from wider social networks, given qualitative similarities in vessel form and decoration throughout the locale. Generally, vessel rims contain a combination of linear oblique motifs, which appear to be decorated variously using CWI, suture-stamping, pointed or linear straight tools, and also evince interior punctates/external bossing and exterior punctates/internal bossing (Figure 15, Figure 16). This may further point to an emerging yet shared sense of localized identity, at least amongst potters. Given the proximity of these sites to one another, it is entirely possible that people moved effortlessly between settlements, which would have resulted in recurrent social interactions and the circulation of craft knowledge and thus, stylistic conventions may have served as an expression of localized, community identity.

Furthermore, as indicated by multiple data point correspondence between Location 3 and Van Bree (e.g., similar frequencies of flat lip, average of lip thickness, and interior and exterior punctates/bosses), this notion of a localized 'Arkona Cluster' sense of identity, and the potting practices which emerged therefrom, may have developed over several generations. While clearly showing influences from both the east (Iroquoian) and west (Western Basin), the pottery assemblage at Location 3 seems to be unique to this time period and locale, and can be considered distinct from the assemblages described by Watts (2008) from adjacent and more distant regions. Therefore, it seems possible that localized pottery designs emerged along the spatial interstice between more distinctive manifestations of the Iroquoian and Western Basin

Traditions. Admittedly, Location 3 offers only a relatively small pottery sample from which to extrapolate and such culture-historical interpretations are far from definitive.

Figure 15. Vessel 55 and Vessel 6 from Location 9 (Archaeologix Inc. 2012)

Figure 16. Vessel 23 and Vessel 66 from the Figura site (Archaeologix Inc. 2012)

Despite its small size, however, the sample from Location 3 also invites further, more conceptually oriented thought on the composition and products of potting communities in the Arkona Cluster, including the extent to which craft knowledge and identities can be seen as shared. Perhaps most helpful in this regard is the Community of Practice approach discussed earlier. The distribution of design attributes at Location 3 point more toward an occurrence of a unique social blending than a materially/spatially distinct co-occupation of the site by Iroquoian and Western Basin peoples. Perhaps, to maintain these relations, pottery production was perceived as a field of co-participation through which people developed a shared sense of identity and formed a syncretization of previously disparate potting practices. Within a framework of materiality theory, it is through production that humans and things participate in dynamic, co-constitutive ontological formations, where humans take part in transforming previously discrete materials into the medium of pottery, while the clay's affordances elicit the creativity and choices of humans in producing newly recombinant ceramic forms. As Ingold states, "[p]roduction…is a process of correspondence: not the imposition of preconceived form on raw material substance, but the drawing out or bringing forth of potentials immanent in a world of becoming" (2012:435). In this process, an aspect of human identity is performed and constituted within the gestures, including bodily movements and sensory perception, that develops through continual engagement with the media, tools, and corporeal techniques involved in molding, forming, and decorating pottery (Knappett et al. 2010:589). 'Ethnic identities', if indeed a factor in the definition of social boundaries among individuals at Location 3, would have been actively constructed and maintained through group interaction and the production processes rather than simply inscribed as ceramic designs (Michelaki 2007; Pikirayi 2007:290-291). Therefore, the technical knowledge used to make pottery was not simply stored in the mind

but rather negotiated and situated within a set of entangled relations involving the potters themselves, the materials used in their craft, and the activity areas (places) in which these phenomena came together. In this sense, materiality constitutes the social and material fabric within which the lives of people and things are interwoven, and brought forward in practical engagements. Certainly, understanding materiality in this manner can help advance a more holistic approach to production which seeks to resolve the division between humans and things, as well as mind and matter. People and things do not exist on opposite sides of materiality but together, immersed within a flux of diverse materials that go through (re)generative processes of admixture and refinement, and ephemeral period of congealment and dispersion (Ingold 2007:7). What we see at Location 3 is one such period: a brief intersection in time where potters, perhaps drawn from previously dissimilar backgrounds, brought their skills and tools to bear on clay, water, and fire, and gave rise to the historically and contextually contingent admixture of pottery designs that we recognize today. The properties of things, whether human or nonhuman, are not merely sets of stable attributes but instead enfold fleeting moments and specific historicities that shape, and were shaped by, manipulated, or combined during the very practices by which they were collectively brought forth (Ingold 2012:434). These memories endure, embedded in this particular time and place, and encapsulated in the materialized products of past lived experiences, namely the vessels.

2.8 Conclusion

In this study, the coupling of communities of practice and materiality theory has been employed to better understand the specific context and practices that gave rise to pottery from Location 3. As demonstrated by the quantitative data on vessel form and decoration from this

site, design elements associated variously with Early Ontario Iroquoian and Western Basin Tradition potting practices seem to have been actively combined by potters in the Arkona Cluster. Likely, such unique designs emerged in the relational, provisional, and context-specific network of people and things that can be said to characterize Location 3. Through a practical engagement between communities of potters and their craft, aspects of vessel form and decoration materialized alongside nascent identities. In turn, these intersections between potters and pots, however fleeting, molded a sense place that lives on in the products of their labour within this pluralistic 'borderland' setting.

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Appendices
Appendix A – Glossary

Pottery Rim Section Analysis: Definitions

Adopted from Watts (2008), after Smith (1997)

RIM SHAPE VARIABLES

Nature of Specimen: Specifies parts of vessels represented by the rim section.

Profile of the Core: Specifies the nature of core in cross-section.

Lip Form: Specifies the nature of the lip surface in terms of its overall morphology.

Rim Form: Specifies the shape of the upper rim portion of the rim section.

Castellation Form: Specifies the presence or absence of protrusions along the rim.

Lip Thickness: Specifies the thickness of the rim section at the lip.

Upper Rim Profile: Specifies the orientation of the rim relative to the rest of the vessel, if observable.

Surface Modification: Specifies the nature of non-decorative modifications to the interior, lip, and exterior surfaces.

RIM DECORATION VARIABLES

Decorative Completeness (Interior, Lip, Exterior):
Specifies the number and completeness of decorative bands on the interior, lip and exterior surfaces of the vessel section.

Tool (Interior, Lip, Exterior): Refers to the inferred tool with which decoration was applied.

Technique (Interior, Lip, Exterior): Refers to the inferred motion with which the decoration was applied.

Motif (Interior, Lip, Exterior): Specifies the pattern in which elements are combined to form the decoration on a rim section.

*For the list of possible values and codes for each attribute, see Watts (2008).

Appendices
Appendix B- Tables

Table B.1. Nature of the Specimen

	Location 3	
UR	1	2.70%
UR+Lip	1	2.70%
UR+Lip+Int	9	24.32%
UR+Lip+Int+Neck+Cas+Shldr	1	2.70%
UR+Lip+Int+Neck+Shldr	6	16.22%
UR+Neck+Lip+Int	14	37.84%
UR+Neck+Lip+Int+Cas+Shldr	1	2.70%
UR+Neck+Lip+Int+Cas+Shoulder+Body	2	5.41%
UR+Neck+Lip+Int+Shoulder+Body	2	5.41%
Total	37	100.00%

Table B.2a. Lip Form

	Location 3	
Flat	29	78.38%
Pointed	3	8.11%
Rounded	1	2.70%
Indeterminate	1	2.70%
Furrowed	3	8.11%
Total	37	100.00%

Table B.2b. Castellation Form

	Location 3	
Not Present	1	2.70%
Present	7	18.92%
Indeterminate	29	78.38%
Total	37	100.00%

Table B.2c. Rim Form

	Location 3	
Not Collared	33	89.19%
Indeterminate	4	10.81%
Total	37	100.00%

Table B.3. Upper Rim Profile

	Location 3	
Concave	27	72.97%
Straight	3	8.11%
Indeterminate	7	18.92%
Total	37	100.00%

Table B.4a Interior Surface Modification

	Location 3	
Smooth	23	62.16%
Wiped	10	27.03%
Indeterminate	4	10.81%
Total	37	100.00%

Table B.4b Lip Surface Modification

	Location 3	
Smooth	30	81.08%
Wiped	5	13.51%
Indeterminate	2	5.41%
Total	37	100.00%

Table B.4c Exterior Surface Modification

	Location 3	
Smooth	30	81.08%
Wiped	5	13.51%
Indeterminate	2	5.41%
Total	37	100.00%

Table B.5a Interior Decorative Completeness

	Location 3	
pB1>Break	6	16.22%
B1>Break	2	5.41%
B1>pB2>Break	4	10.81%
B1>B2>Break	11	29.73%
B1>B2>B3>Break	11	29.73%
B1>B2>B3>B4>Break	1	2.70%
Indeterminate	2	5.41%
Total	37	100.00%

Table B.5b Lip Decorative Completeness

	Location 3	
B1>B2>Break	3	8.11%
B1>Break	33	89.19%
Indeterminate	1	2.70%
Total	37	100.00%

Table B.5c Exterior Decorative Completeness

	Location 3	
pB1>Break	11	29.73%
B1>pB2>Break	8	21.62%
B1>B2>pB3>Break	1	2.70%
B1>B2>Break	2	5.41%
B1>B2>B3>pB4>Break	2	5.41%
B1>B2>B3>Break	1	2.70%
B1>B2>B3>B4>pB5>Break	3	8.11%
B1>B2>B3>B4>Break	5	13.51%
B1>B2>B3>B4>B5>pB6>Break	1	2.70%
B1>B2>B3>B4>B5>Break	1	2.70%
B1>B2>B3>B4>B5>B6>Break	2	5.41%
Total	37	100.00%

Table B.6a Interior Band 1 Tool

	Location 3	
Plain	2	5.56%
Linear (Straight)	6	16.67%
Linear (Curved)	1	2.78%
Linear (Suture)	9	25.00%
Pointed (Round)	1	2.78%
CWI	14	38.89%
Indeterminate	3	8.33%
Total	36	100%

Table B.6b Interior Band 1 Technique

	Location 3	
Plain	2	5.56%
Stamp (Parallel)	30	83.33%
Incised	1	2.78%
Indeterminate	3	8.33%
Total	36	100.00%

Table B.6c Interior Band 1 Motif

	Location 3	
Plain	2	5.56%
Linear Right Oblique	22	61.11%
Linear Left Oblique	3	8.33%
Linear Vertical	6	16.67%
Indeterminate	3	8.33%
Total	36	100.00%

Table B.7a Interior Band 2 Tool

	Location 3	
Plain	11	40.74%
Linear (Straight)	2	7.41%
Linear (Suture)	1	3.70%
Pointed (Round)	3	11.11%
Pointed (Annular)	1	3.70%
Pointed (Elliptical)	2	7.41%
Pointed (Polygonal)	1	3.70%
CWI	5	18.52%
SI Pointed (Round) over Linear (Suture)	1	3.70%
Total	27	100.00%

Table B.7b Interior Band 2 Technique

	Location 3	
Plain	11	40.74%
Stamp (Parallel)	7	25.93%
Stamp (Perpendicular)	6	22.22%
Bossed	2	7.41%
Stamp (Perp.) over Stamp (Par.)	1	3.70%
Total	27	100.00%

Table B.7c Interior Band 2 Motif

	Location 3	
Plain	11	40.74%
Linear Right Oblique	6	22.22%
Linear Left Oblique	1	3.70%
Punctate Vertical	2	7.41%
Punctate Horizontal	4	14.81%
Bossed Horizontal	2	7.41%
PunH over LLO	1	3.70%
Total	27	100.00%

Table B.9a Interior Band 3 Tool

	Location 3	
Plain	10	83.33%
Pointed (Elliptical)	1	8.33%
SI Pointed (Round) over CWI	1	8.33%
Total	12	100.00%

Table B.9b Interior Band 3 Technique

	Location 3	
Plain	10	83.33%
Bossed	1	8.33%
SI Stamp (Perp.) over Stamp (Par.)	1	8.33%
Total	12	100.00%

Table B.9c Interior Band 3 Motif

	Location 3	
Plain	10	83.33%
Bossed Vertical	1	8.33%
SI PunH over LLO	1	8.33%
Total	12	100.00%

Table B.10a Lip Band 1 Tool

	Location 3	
CWI	13	35.14%
Indeterminate	1	2.70%
Linear (Curved)	1	2.70%
Linear (Straight)	9	24.32%
Plain	2	5.41%
Pointed (Round)	1	2.70%
SI Cord over CWI	1	2.70%
Linear (Suture)	9	24.32%
Total	37	100.00%

Table B.11b Lip Band 1 Technique

	Location 3	
Plain	2	5.41%
Stamp (Parallel)	32	86.49%
Stamp (Perpendicular)	1	2.70%
Push-Pull	1	2.70%
Indeterminate	1	2.70%
Total	37	100.00%

Table B.11c Lip Band 1 Motif

	Location 3	
Plain	2	5.41%
Linear Right Oblique	12	32.43%
Linear Left Oblique	12	32.43%
Linear Vertical	4	10.81%
Linear Horizontal	3	8.11%
Punctate Horizontal	1	2.70%
Plaits Linear Horizontal	1	2.70%
SI LinH over LLO	1	2.70%
Indeterminate	1	2.70%
Total	37	100.00%

Table B.11a Lip Band 2 Tool

	Location 3	
Linear (Straight)	1	33.33%
Linear (Suture)	2	66.67%
Total	3	100.00%

Table B.11b Lip Band 2 Technique

	Location 3	
Stamp (Parallel)	3	100.00%
Total	3	100.00%

Table B.11c Lip Band 2 Motif

	Location 3	
Linear Left Oblique	1	33.33%
Linear Right Oblique	1	33.33%
Linear Vertical	1	33.33%
Total	3	100.00%

Table B.12a Exterior Band 1 Tool

	Location 3	
Linear (Straight)	6	16.22%
Linear (Suture)	10	27.03%
Linear (Curved)	1	2.70%
CWI	15	40.54%
SI Pointed (Round) over Linear (Suture)	1	2.70%
SI Pointed (Elliptical) over Linear (Straight)	1	2.70%
SI Pointed (Elliptical) over CWI	1	2.70%
Indeterminate	2	5.41%
Total	37	100.00%

Table B.12b Exterior Band 1 Technique

	Location 3	
Stamp (Par.)	32	86.49%
SI Stamp (Per.) over Stamp (Par.)	2	5.41%
SI Incised over Stamp (Par.)	1	2.70%
Indeterminate	2	5.41%
Total	**37**	100.00%

Table B.12c Exterior Band 1 Motif

	Location 3	
Linear Right Oblique	26	70.27%
Linear Left Oblique	6	16.22%
SI LinH over LRO	1	2.70%
SI PunH over LRO	2	5.41%
Indeterminate	2	5.41%
Total	37	100.00%

Table B.13a Exterior Band 2 Tool

	Location 3	
Linear (Straight)	2	7.69%
Linear (Suture)	7	26.92%
Linear (Curved)	1	3.85%
Pointed (Round)	3	11.54%
Pointed (Elliptical)	1	3.85%
CWI	5	19.23%
Cord	1	3.85%
SI Pointed (Round) over CWI	1	3.85%
SI Pointed (Elliptical) over Linear (Suture)	1	3.85%
SI Pointed (Elliptical) over CWI	2	7.69%
SI Pointed (Annular) over Linear (Straight)	1	3.85%
Indeterminate	1	3.85%
Total	26	100.00%

Table B.13b Exterior Band 2 Technique

	Location 3	
Stamp (Parallel)	14	53.85%
Stamp (Perpendicular)	1	3.85%
Incised	3	11.54%
SI Stamp (Per.) over Stamp (Par.)	3	11.54%
SI Bossed over Stamped (Par.)	4	15.38%
Indeterminate	1	3.85%
Total	26	100.00%

Table B.13c Exterior Band 2 Motif

	Location 3	
Linear Right Oblique	8	30.77%
Linear Left Oblique	4	15.38%
Linear Horizontal	3	11.54%
Punctate Horizontal	1	3.85%
SI BosH over LRO	1	3.85%
SI BosH over LLO	3	11.54%
SI PunH over LRO	3	11.54%
HD LLO / LinH	1	3.85%
Indeterminate	2	7.69%
Total	26	100.00%

Table B.14a Exterior Band 3 Tool

	Location 3	
Linear (Straight)	2	12.50%
Linear (Suture)	5	31.25%
Linear (Curved)	1	6.25%
Pointed (Round)	1	6.25%
CWI	4	25.00%
SI Pointed (Round) over Linear (Suture)	1	6.25%
HD CWI / Plain	1	6.25%
Indeterminate	1	6.25%
Total	16	100.00%

Table B.14b Exterior Band 3 Technique

	Location 3	
Stamp (Par.)	12	75.00%
Incised	1	6.25%
SI Bossed over Stamped (Par.)	1	6.25%
HD Stamp Parallel / Plain	1	6.25%
Indeterminate	1	6.25%
Total	16	100.00%

Table B.14c Exterior Band 3 Motif

	Location 3	
Linear Right Oblique	7	43.75%
Linear Left Oblique	5	31.25%
Linear Horizontal	1	6.25%
SI BosH over LLO	1	6.25%
HD Triangle Linear Horizontal / Plain	1	6.25%
Indeterminate	1	6.25%
Total	16	6.25%

Table B.15a Exterior Band 4 Tool

	Location 3	
Plain	3	21.43%
Linear (Straight)	1	7.14%
Linear (Suture)	3	21.43%
Pointed (Round)	1	7.14%
Pointed (Elliptical)	1	7.14%
CWI	3	21.43%
Cord	2	14.29%
Total	14	100.00%

Table B.15b Exterior Band 4 Technique

	Location 3	
Plain	3	21.43%
Stamp (Parallel)	9	64.29%
Stamp (Perpendicular)	1	7.14%
Incised	1	7.14%
Total	14	100.00%

Table B.15c Exterior Band 4 Motif

	Location 3	
Plain	3	21.43%
Linear Right Oblique	5	35.71%
Linear Left Oblique	2	14.29%
Linear Horizontal	2	14.29%
Punctate Horizontal	1	7.14%
SI LRO over LLO	1	7.14%
Total	14	100.00%

Table B.16a Exterior Band 5 Tool

	Location 3	
Cord	1	14.29%
CWI	1	14.29%
Linear (Straight)	1	14.29%
Plain	2	28.57%
Pointed (Round)	1	14.29%
Linear (Suture)	1	14.29%
Total	7	100.00%

Table B.16b Exterior Band 5 Technique

	Location 3	
Incised	1	14.29%
Plain	2	28.57%
Stamp (Parallel)	4	57.14%
Grand Total	7	100.00%

Table B.16c Exterior Band 5 Motif

	Location 3	
Linear Horizontal	1	14.29%
Linear Left Oblique	1	14.29%
Linear Right Oblique	3	42.86%
Plain	2	28.57%
Total	7	100.00%

Table B.17a Exterior Band 6 Tool

	Location 3	
Plain	2	66.67%
Linear (Suture)	1	33.33%
Total	3	100.00%

Table B.17b Exterior Band 6 Technique

	Location 3	
Plain	2	66.67%
Stamp (Parallel)	1	33.33%
Total	3	100.00%

Table B.17c Exterior Band 6 Motif

	Location 3	
Linear Right Oblique	1	33.33%
Plain	2	66.67%
Total	3	100.00%

Table B.18a Interior Band 1 Tool x Technique x Motif

	Location 3	
Plain	**2**	**5.56%**
Linear (Straight)	**6**	
Stamp (Parallel)	6	
Linear Left Oblique	1	2.78%
Linear Right Oblique	3	8.33%
Linear Vertical	2	5.56%
Linear (Suture)	**9**	
Stamp (Parallel)	9	
Linear Left Oblique	2	5.56%
Linear Right Oblique	5	13.89%
Linear Vertical	2	5.56%
Linear (Curved)	**1**	
Stamp (Parallel)	1	
Linear Right Oblique	1	2.78%
Pointed (Round)	**1**	
Incised	1	
Linear Vertical	1	2.78%
CWI	**14**	
Stamp (Parallel)	14	
Linear Right Oblique	13	36.11%
Linear Vertical	1	2.78%
Indeterminate	3	8.33%
Total	36	100.00%

Table B.18b Interior Band 2 Tool x Technique x Motif

	Location 3	
Plain	**11**	40.74%
Linear (Straight)	**2**	
Stamp (Parallel)	1	
Linear Right Oblique	1	3.70%
Stamp (Perpendicular)	1	
Punctate Vertical	1	3.70%
Pointed (Round)	**3**	
Bossed	1	
Bossed Horizontal	1	3.70%
Stamp (Perpendicular)	2	
Punctate Horizontal	2	7.41%
Pointed (Annular)	**1**	
Bossed	1	
Bossed Horizontal	1	3.70%
Pointed (Elliptical)	**2**	
Stamp (Perpendicular)	2	
Punctate Horizontal	2	7.41%
Pointed (Polygonal)	**1**	
Stamp (Perpendicular)	1	
Punctate Vertical	1	3.70%
CWI	**5**	
Stamp (Parallel)	5	
Linear Left Oblique	1	3.70%
Linear Right Oblique	4	14.81%
Linear (Suture)	**1**	
Stamp (Parallel)	1	
Linear Right Oblique	1	3.70%
SI Pointed (Round) over Linear (Suture)	**1**	
Stamp (Per.) over Stamp (Par.)	1	
PunH over LLO	1	3.70%
Total	27	100.00%

Table B.18c Interior Band 3 Tool x Technique x Motif

	Location 3	
Plain	**10**	83.33%
Pointed (Elliptical)	**1**	
Bossed	1	
Bossed Vertical	1	8.33%
SI Pointed (Round) over CWI	**1**	
SI Stamp (Per.) over Stamp (Par.)	1	
SI PunH over LLO	1	8.33%
Total	12	100.00%

Table B.19b Lip Band 2 Tool x Technique x Motif

	Location 3	
Linear (Straight)	**1**	
Stamp (Parallel)	1	
Linear Vertical	1	33.33%
Linear (Suture)	**2**	
Stamp (Parallel)	2	
Linear Left Oblique	1	33.33%
Linear Right Oblique	1	33.33%
Total	3	100.00%

Table B.19a Lip Band 1 Tool x Technique x Motif

	Location 3	
Plain	**2**	5.41%
Linear (Straight)	**9**	
Push-Pull	1	
Linear Horizontal	1	2.70%
Stamp (Parallel)	8	
Linear Horizontal	1	2.70%
Linear Left Oblique	2	5.41%
Linear Right Oblique	3	8.11%
Linear Vertical	1	2.70%
Plaits Linear Horizontal	1	2.70%
Linear (Suture)	**9**	
Stamp (Parallel)	9	
Linear Left Oblique	4	10.81%
Linear Right Oblique	5	13.51%
Linear (Curved)	**1**	
Stamp (Parallel)	1	
Linear Right Oblique	1	2.70%
Pointed (Round)	**1**	
Stamp (Perpendicular)	1	
Punctate Horizontal	1	2.70%
CWI	**13**	
Stamp (Parallel)	13	
Linear Horizontal	1	2.70%
Linear Left Oblique	6	16.22%
Linear Right Oblique	3	8.11%
Linear Vertical	3	8.11%
SI Cord over CWI	**1**	
Stamp (Parallel)	1	
SI LinH over LLO	1	2.70%
Indeterminate	1	2.70%
Total	37	100.00%

Table B.20a Exterior Band 1 Tool x Technique x Motif

	Location 3	
Linear (Straight)	**6**	
Stamp (Parallel)	6	
Linear Left Oblique	1	2.70%
Linear Right Oblique	5	13.51%
Linear (Suture)	**10**	
Stamp (Parallel)	10	
Linear Left Oblique	3	8.11%
Linear Right Oblique	7	18.92%
Linear (Curved)	**1**	
Stamp (Parallel)	1	
Linear Left Oblique	1	2.70%
CWI	**15**	
Stamp (Parallel)	15	
Linear Left Oblique	1	2.70%
Linear Right Oblique	14	37.84%
SI Pointed (Round) over Linear (Suture)	**1**	
SI Incised over Stamp (Parallel)	1	
SI LinH over LRO	1	2.70%
SI Pointed (Elliptical) over CWI	**1**	
SI Stamp (Per.) over Stamp (Par.)	1	
SI PunH over LRO	1	2.70%
SI Pointed (Elliptical) over Linear (Straigh	**1**	
SI Stamp (Per.) over Stamp (Par.)	1	
SI PunH over LRO	1	2.70%
Indeterminate	2	5.41%
Total	37	100.00%

Table B.20b Exterior Band 2 Tool x Technique x Motif

	Location 3	
Linear (Straight)	**2**	
SI Stamp (Per.) over Stamp (Par.)	1	
SI PunH over LRO	1	3.85%
Stamp (Parallel)	1	
Linear Left Oblique	1	3.85%
Linear (Curved)	**1**	
Stamp (Parallel)	1	
Linear Right Oblique	1	3.85%
Linear (Suture)	**7**	
SI Bossed over Stamped (Parallel)	1	
SI BosH over LLO	1	3.85%
Stamp (Parallel)	6	
Linear Left Oblique	2	7.69%
Linear Right Oblique	4	15.38%
Pointed (Round)	**3**	
Incised	3	
HD LLO / LinH	1	3.85%
Linear Horizontal	2	7.69%
Pointed (Elliptical)	**1**	
Stamp (Perpendicular)	1	
Punctate Horizontal	1	3.85%
CWI	**5**	
Stamp (Parallel)	5	
Indeterminate	1	3.85%
Linear Left Oblique	1	3.85%
Linear Right Oblique	3	11.54%
Cord	**1**	
Stamp (Parallel)	1	
Linear Horizontal	1	3.85%
SI Pointed Round over CWI	**1**	
SI Bossed over Stamped (Parallel)	1	
SI BosH over LRO	1	3.85%
SI Pointed (Elliptical) over Linear (Suture)	**1**	
SI Bossed over Stamped (Parallel)	1	
SI BosH over LLO	1	3.85%
SI Pointed (Elliptical) over CWI	**2**	
SI Bossed over Stamped (Parallel)	1	
SI BosH over LLO	1	3.85%
SI Stamp (Perpendicular) over Stamp (Parallel)	1	
SI PunH over LRO	1	3.85%
SI Pointed (Annular) over Linear (Straight)	**1**	
SI Stamp (Per.) over Stamp (Par.)	1	
SI PunH over LRO	1	3.85%
Indeterminate	1	3.85%
Total	26	100.00%

Table B.20c Exterior Band 3 Tool x Technique x Motif

	Location 3	
Linear (Straight)	**2**	
Stamp (Parallel)	2	
Linear Right Oblique	2	12.50%
Linear (Suture)	**5**	
Stamp (Parallel)	5	
Linear Left Oblique	3	18.75%
Linear Right Oblique	2	12.50%
Linear (Curved)	**1**	
Stamp (Parallel)	1	
Linear Left Oblique	1	6.25%
Pointed (Round)	**1**	
Incised	1	
Linear Horizontal	1	6.25%
CWI	**4**	
Stamp (Parallel)	4	
Linear Left Oblique	1	6.25%
Linear Right Oblique	3	18.75%
SI Pointed (Round) over Linear (Suture)	**1**	
SI Bossed over Stamped (Par.)	1	
SI BosH over LLO	1	6.25%
HD CWI / Plain	**1**	
HD Stamp (Par.) / Plain	1	
HD Triangle Linear Horizontal / Plain	1	6.25%
Indeterminate	1	6.25%
Total	16	100.00%

Table B.20d Exterior Band 4 Tool x Technique x Motif

	Location 3	
Plain	**3**	**21.43%**
Linear (Straight)	**1**	
Stamp (Parallel)	1	
Linear Left Oblique	1	7.14%
Linear (Suture)	**3**	
Stamp (Parallel)	3	
Linear Left Oblique	1	7.14%
Linear Right Oblique	2	14.29%
Pointed (Round)	**1**	
Incised	1	
SI LRO over LLO	1	7.14%
Pointed (Elliptical)	**1**	
Stamp (Perpendicular)	1	
Punctate Horizontal	1	7.14%
CWI	**3**	
Stamp (Parallel)	3	
Linear Right Oblique	3	21.43%
Cord	**2**	
Stamp (Parallel)	2	
Linear Horizontal	2	14.29%
Total	14	100.00%

Table B.20e Exterior Band 5 Tool x Technique x Motif

	Location 3	
Cord	**1**	
Stamp (Parallel)	1	
Linear Horizontal	1	14.29%
CWI	**1**	
Stamp (Parallel)	1	
Linear Left Oblique	1	14.29%
Linear (Straight)	**1**	
Stamp (Parallel)	1	
Linear Right Oblique	1	14.29%
Plain	**2**	
Plain	2	
Plain	2	28.57%
Pointed (Round)	**1**	
Incised	1	
Linear Right Oblique	1	14.29%
Linear (Suture)	**1**	
Stamp (Parallel)	1	
Linear Right Oblique	1	14.29%
Total	**7**	100.00%

Table B.20f Exterior Band 6 Tool x Technique x Motif

	Location 3	
Plain	**2**	
Plain	2	
Plain	2	66.67%
Linear (Suture)	**1**	
Stamp (Parallel)	1	
Linear Right Oblique	1	33.33%
Total	**3**	100.00%