THE JEWELRY OF TIJERAS PUEBLO

By

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In November, 2011, five turquoise pieces that had been on display at the Albuquerque Museum of Art and History (Figure A.1) were returned to the Maxwell Museum. These pieces were not available for close examination during my study, so the exact identity of certain artifacts was uncertain (see Page 84). Once the five pieces were returned to the Maxwell Museum, the pendant listed in the report as Catalogue No. 78.67.397 was found to correspond to Catalogue No. 78.67.111, listed as "unavailable for examination." Likewise, the pendant listed as Catalogue No. 78.67.141B was found to correspond to Catalogue No. 78.67.397. The Tijeras jewelry Excel spreadsheet and master artifact spreadsheet have been updated to reflect the new information. As a result of these revisions, the number of artifacts originally reported is overstated by one. The total collection includes 450 specimens, 390 *jewelry artifacts*, and 92 pendants.

L.C.S.

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Foreword

From the outset, the Maxwell Museum Technical Series was intended to be a rapid, low-cost means of publication, with free distribution via the Internet. That part of the plan has worked as expected. The surprise (at least to me) is the extent to which the series has involved volunteers as authors or co-authors. Up to this point, however, the volunteer contributors have been retired professionals.

With No. 15 in the series, for the first time, the author is someone with no formal training and no history of employment in the field. This did not keep the author from producing a detailed and useful account of the jewelry from Tijeras Pueblo. Having seen her work as a Maxwell Museum volunteer since 2004, and knowing something of her career with IBM, I'm grateful for the current study but not surprised by its quality. Archaeologists who read this report will no doubt look forward to her future publications on the region's prehistoric jewelry.

David A. Phillips, Jr., Series Editor

Acknowledgments

This research effort would not have been possible without the encouragement and guidance of David Phillips, who also provided access to documents and artifacts at the Maxwell Museum of Anthropology, photographed the artifacts currently on display at the Albuquerque Museum of Art and History, and edited the drafts. Many others were very generous with their time and knowledge, including Linda Cordell (who answered countless questions about her work at the Tijeras Pueblo excavation, provided current research results, and reviewed the draft), Nick Damp (who generated GIS-based maps), Tony Thibodeau (who provided access to artifacts at the Laboratory of Anthropology), Ronna Jane Bradley (who identified shell types), Bruce Huckell (who identified stones types), Hayward Franklin (who identified ceramics), Heather Edgar (who clarified burial data), Charles Carroll (who described his excavation experiences at Tijeras Pueblo), Joan Mathien (who provided information on turquoise sources), and Bernie Bernard (whose magnificent artifact photographs are to be found throughout this report). Finally, my thanks to the efforts of the many Maxwell Museum volunteers led by Karen Armstrong, who together reorganized the Tijeras Pueblo collections.

Note added January 2011. This is a slightly revised version, based on additional information provided by David Phillips and Robin M. Cordero.

Chapter 1

INTRODUCTION

In the 1970s, the University of New Mexico conducted archaeological field schools at Tijeras Pueblo (LA 581), in the Sandia Ranger District of Cibola National Forest. Reports of on-going excavations were published by the USDA Forest Service (Cordell 1975, 1977; Judge 1974) and Linda Cordell edited a volume of research papers on the site (Cordell 1980). The collections were submitted to the Maxwell Museum in accordance with the terms of the excavation permits and the museum's policies and procedures for curating archaeological collections. The Maxwell Museum continues to hold the artifacts in perpetuity for the USDA Forest Service.

Once the collections were submitted, selected artifacts were stored on an individual basis, but "bulk" artifacts (such as bags of potsherds) were shipped to a campus warehouse. As was the standard at the time, the museum stored many artifacts in their original paper field bags, which were kept in commercial cardboard boxes. The associated records were not maintained in a fashion that supported use of the collections. In 2004, a volunteer group drawn from the Friends of Tijeras Pueblo began reorganizing the collections in order to bring them up to current curatorial standards and to make them more "user-friendly" for researchers.

The volunteer effort had three specific objectives. First, to place the field and lab notes from Tijeras Pueblo in archival folders and document cases. Second, to improve storage for the "bulk" artifacts by repacking them in polyethylene bags, and by replacing commercial cardboard storage boxes with plastic bins. Third, to create electronic catalogues with detailed information about the contents, provenience, and storage location of each paper document and each bag of artifacts. The effort resulted in the reorganization of more than 15,000 bags of artifacts and more than 500 paper documents, along with the creation of Excel spreadsheets that could be used separately and could also be incorporated into the museum's master database. All of the collections (including those formerly in the museum's warehouse) are now housed at UNM's Hibben Center, making the collections highly accessible to researchers.

The team of volunteers was led by Karen Armstrong, under the direction of Dave Phillips, Curator of Archaeology. I was one of the volunteers and created the artifact Excel spreadsheets. Following the completion of the project, in early 2008, I began a study of the jewelry from Tijeras Pueblo. The objectives of my own research were (1) to identify potential jewelry artifacts and the contexts in which they were found; (2) to develop criteria for identifying artifacts as jewelry and for classifying the actual jewelry; (3) to make my data and results available to other researchers.

Jewelry is mentioned in a variety of archaeological studies but rarely treated as a topic by itself, except in art history studies. In many archaeological studies, jewelry items are listed with all artifacts of a given material or are discussed in relation to burial goods. The focus of this study is on jewelry as articles of personal adornment worn on the body or attached to clothing, much as we think of jewelry today.

Areas of future research will include a similar study of the jewelry from Pottery Mound, and a comparison of jewelry found at the two sites. Pottery Mound and Tijeras Pueblo are each near Albuquerque, New Mexico and their occupation dates overlap.

Southwest Jewelry

It has been said, only half in jest, that what sets humans apart from other species is the ability to accessorize. Ornaments and other items of beauty have been found among all people during all times. In the prehistoric Southwest, evidence of jewelry use is found in excavations as well as in artistic depictions of people and other living beings. These depictions include kiva murals that date to the Pueblo IV period (Tanner 1976:9), Mimbres pottery designs (Brody 2004, Figures 26, 29, 30, and 200), and rock art panels (Grant 1972:116–117, Martineau 1987, Figure 40).

Turquoise and shell were the most important materials used, and are found in Anasazi/Ancestral Puebloan¹ sites (including those of the Rio Grande area) from Basketmaker III times (A.D. 500–700) onward (Jernigan 1978; Mathien 1981, Tables 13 and 14; Mathien 1984, 1985, cited in Mathien 1993:31; Snow 1973, cited in Mathien 1993:53).

Turquoise was mined in North America for at least 1,000 years, from sources in Arizona, California, Colorado, New Mexico, Nevada, and northern Mexico (Hull 2006:1). The Hohokam obtained turquoise from several sites in Arizona and the Mogollon may have used similar sources. The Mimbres had sources in southwestern New Mexico. The Anasazi/Ancestral Puebloans had sources in the Cerrillos Hills and in southern Colorado (Jernigan 1978:214). The Anasazi/Ancestral Puebloan, Hohokam, Aztec, Maya, and Toltec peoples all "were involved with the transport of turquoise" (Hull 2006:2). Southwestern turquoise was traded to Mesoamerica, where it was a precious stone connected to religious activities. Mesoamerican nobles exchanged turquoise and merchants often gave gifts of turquoise mosaics to high-ranking guests (Weigand 2008:345–346). Modern Pueblo people associate turquoise with the sky. Tewa speaking groups refer to it as "Turquoise Woman" or "Turquoise Mother." Zuni people connect turquoise with Turquoise Boy. Many groups associate turquoise with the North, while Tiwaspeaking people connect it with the South. "Finally, in general all Pueblo peoples believe that turquoise has the power to make someone or something attractive or desirable to others in this world or in some other world" (Tisdale 2006:18).

Most shells came from the Gulf of California, including those collected by the Hohokam and traded through the Mogollon area as unworked whole shells or preworked into blanks (Jernigan 1978:162, 211, 213). The Hohokam obtained shell from the north end of the Gulf of California near Adair Bay, while the Casas Grandes people used shell from the middle to the southern end of the Gulf of California near Guaymas (Di Peso et al. 1974 6:401 [cited in Bradley 1993:141], 8:162–170). Casas Grandes reached its peak as a trading center between A.D. 1300 and 1450 (Ravesloot et al. 1986, cited in Bradley 1993:125). *Olivella* was the dominant shell among the Anasazi/Ancestral Puebloans from earliest times (Jernigan 1978:162). *Glycymeris* was found in

¹ While the modern Pueblos currently prefer the term "Ancestral Puebloan" for certain cultural remains, the Navajo Nation continues to prefer the term "Anasazi." The museum serves both constituencies and wishes to acknowledge both preferences—*Series Editor*.

large numbers in the Southwest as a whole (Bradley 1993:134). Fresh water shells of the Unionidae, or of other but unidentified nacreous taxa, do not occur in the Rio Grande but are found in the Pecos, Gila, and Texas drainage basins (R. J. Bradley, 2009 personal communication). Today's Pueblo people place great value in shell beads because they see shell as a sacred material coming from water. Shell symbolizes the power of water as a life-giving fluid (Orchard 1975:19)

Argillite, mined near Prescott, Arizona (Jernigan 1978:214) was popular among the Anasazi/Ancestral Puebloans (Tanner 1976:148–149). Jet (an anthracite-like substance) seems to have been unique to the Anasazi/Ancestral Puebloan regions (Jernigan 1978:147).

According to Tanner (1976:151–157), all forms of jewelry were worn by both priests and "commoners" and included:

- Necklaces of beads and pendants.
- Pendants, sometimes re-worked from other items such as bracelets.
- Earrings, generally of shell or stone. These can be difficult to distinguish from pendants. Some earrings possessed two holes, one for stringing and the other to hold a stone in a position where both sides of the stone could be seen.
- *Glycymeris* valves were the most popular material for one-piece bracelets and anklets. Other such items consisted of short strings of beads.
- Rings, generally of bone, stone, or shell.
- Buttons might have a hole in the back to allow attachment to clothing.
- Hair ornaments.
- Nose and lip plugs.
- Tinklers, generally from *Conus* shells, were used as beads, pendants, attachments to clothing, and rattles. They might be tied at the knees for a burial or hung from the bottom of belts (as depicted in kiva murals).

The most common Anasazi/Ancestral Puebloan jewelry items were stone beads (Tanner 1976:167). Full strings of beads served as necklaces. Great lengths of stringed beads have been found. Burials at Grasshopper Ruin contained thousands of beads for a single skeleton (Tanner 1976:166). A 17 m (56 foot) long strand of 31,000 disc beads was found at Aztec Ruin (Jernigan 1978:158). Kiva murals from Awatovi, Pottery Mound, and Kawaika-a depict multiple strands of beads around the neck, choker-style, with a single dangling loose strand. The last strand (nearest the base of the neck) is in a Figure 8 arrangement that sometimes includes a pendant (Hibben, 1975, Figure 18; Vivian 2007:75; Tanner 1976:176). Beads came in many shapes and sizes, including very small disc beads.

Emil Haury suggested that it could have taken 15 minutes to create a single small disc bead, most of which are made of stone and can be no more than 2 mm in diameter. Thickness is generally less than 1 mm (Haury 1931:81-83).

Many Southwest prehistoric peoples wore *Glycymeris* shell bracelets, at least some of which were produced by the Hohokam. Archaeologists believe the Hohokam developed a process for etching shell using fermented juice from saguaro fruit, a unique approach to modifying shell surfaces (Jacka and Hammack 1975). Jernigan (1978:179) indicates that shell bracelets were fairly rare in the Rio Grande region.

In Great Kivas I and II at Chetro Ketl, jewelry and pieces of unworked turquoise, jet and shell were found in caches and niches. The niches were filled and plastered over, so that no one would have realized they were present (Mills 2008:88-91). These caches included long strands of beads; Mills suggests that "the strands of beads were ways of ensuring that these structures would be ritually dressed throughout their lives" (Mills 2008:91). The murals in Kiva 2 at Pottery Mound also indicate walls adorned with multiple strands of beads, with colors matching the elaborate necklace on at least one of the people depicted in the mural (Hibben 1975, Figure 17). Modern Zunis dedicate new homes during Shalako ceremonies and cover interior walls with textiles and jewelry (Mills 2008:98).

Bone hairpins are uncommon among the Anasazi/Ancestral Puebloans and most examples have been found in burials (Jernigan 1978:184).

Archaeological Studies at and near Tijeras Pueblo

People have lived in the Tijeras Canyon area since about A.D. 900 (Cordell 1977:146), although there is no evidence of permanent occupation in the canyon between 900 and 1150 (Spielmann 2010:19). Tijeras Pueblo (LA 581) is a prehistoric village of more than 130 rooms, about 24 km (15 miles) east of Albuquerque. The Pueblo is on USDA Forest Service property behind the Sandia Ranger Station. It is on the National Register of Historic Places and is open to the public.

In the 1930s, H. P. Mera visited Tijeras Pueblo and drew a sketch map of the site (Figure 1.1). The main part of the site was labeled "A" and other areas were labeled "B" through "M" (Judge 1974:5). Mera recorded neighboring sites (LA 580, LA 583 and LA 586) and commented on their pottery types (Cordell 1977:129–130).

The National Register of Historic Places Registration Form indicates that in 1931 and 1933, W. S. Stallings collected tree ring samples that dated between A.D. 1387 and 1393.

In 1948, Vulture Gulch (LA 586) was excavated by Fred Wendorf and Tijeras Pueblo (then called the Cedro Canyon site) was excavated by Stanley Stubbs. Vulture Gulch is about 1.2 km (3/4 mile) north of Tijeras Pueblo and dated to the Pueblo II and III periods. Wendorf maintained a field book for the period June–July 1948 (Maxwell Museum Catalogue No. 91.31.1). No report is available for Stubbs's work at Tijeras Canyon.



Figure 1.1. Mera sketch map of Tijeras Pueblo, showing room block designations.

Stubbs used Mera's maps and room designations; his excavations included nine rooms and a pit house in Block A (the main room block), two rooms and a trench in Block B, seven rooms in Block C, one room and a trench in Block D, three rooms in Block E, and four additional trenches for a total of 22 rooms, one pit house and six trenches.

In 1968, Stuart Peckham conducted a salvage excavation at Tijeras Pueblo. He excavated 14 rooms and half of a fifteenth room, including two rectangular ground-level "room kivas," in Block H (Judge, 1974:9). No report is available, but a sketch map indicates the locations of the various features identified (Figure 1.2). Judge later commented that Block H represented a "distinct social unit" during some point in the occupation and should be studied further (Judge 1974:54). Separately, but also in 1968, a burial was removed from Block A by a University of New Mexico graduate student (Judge 1974:10).

In 1969, David Snow excavated Block M in conjunction with road construction projects (Judge 1974:10).



Figure 1.2. Peckham's 1968 map of Block H. Original map at the Laboratory of Anthropology, Santa Fe. A faint north arrow pointing to the left can be seen at the center top of the sketch.

In 1971, W. James Judge inaugurated UNM's field school at Tijeras Pueblo with an excavation of three areas in Block A (Rooms 1–3, 6-10, and 14–17) and all of Block K (Rooms 4, 5, 11–13, and 18) (Judge 1974:11). In the fall, a University of New Mexico student led the excavation of Rooms 19–21. In 1972, Judge continued his fieldwork with Room 23 and other areas in Block A. In 1973, Judge directed sampling of rooms in Block A (Rooms 6, 9, 10, 14, 25, 26, 28, 31). Judge assigned new block identifications using Roman numerals, replacing Mera's alphabetic block designations (Judge 1974:14–16).

As part of the early field school efforts, Judge wrote a "Field School Techniques Manual" that included a coding scheme for the provenience for each artifact or sample (Judge 1974:25). The main datum was set at the highest point of Mera's Block A, east of the northeast corner of Room 7. Grids of 10 foot (3.05 m) squares were marked out with a 100 foot (30.5 m) steel tape. Grid designations identify the number of feet from the main datum (Judge 1974:25–27)

In 1972, David H. Snow surveyed the area in conjunction with state highway projects and reported on five sites (Judge 1974:5).

In 1973, Stuart Peckham conducted a survey along Route 14 North (Cordell 1977:133) including LA 11612 and LA 11613 (Pueblo III–IV periods), LA 11614 (Pueblo IV), and LA 11615 (Basketmaker III –Pueblo I).

From 1974 to 1976, Linda Cordell directed University of New Mexico summer field schools at Tijeras Pueblo (Cordell 1980:xiii). These excavations yielded the most artifacts and the most detailed information about the site (Figure 1.3). By the end of the work, 138 numbered rooms were documented at the site. Re-analysis (in 2009) of more than 450 tree ring samples has led to the conclusion that people were living in the area now called Tijeras Pueblo from the late 1100s to about 1425, based on tree ring samples dating from A.D. 1190 to the 1390s (Damp 2010; L. S. Cordell, 2009 personal communication). The occupation indicates two major construction periods in the 14th century (Figure 1.4). This date range equates to occupation through the Coalition or late Pueblo III Period (A.D. 1200–1325) and into the Classic or Pueblo IV Period (A.D. 1325–1600).

In March 1986, locations designated AS-10A and AS-10B were excavated by the Albuquerque Archaeological Society under the direction of William Sundt and Richard Bice (1989) (Figure 1.5). Within AS-10A, Feature 7 is a room with a bench along the west wall and with three shallow floor channels radiating from a fire pit. Such subfloor channels have been found in kivas and ceremonial rooms, including by Florence Hawley Ellis in a kiva at Sapawe (King and Bice 1992:6).

Tijeras Pueblo is in a pass between the Rio Grande Valley and the plains of eastern New Mexico. Archaeological evidence of trade between the Southwest farming pueblos in southeast New Mexico and the nomadic people of the Plains points to trade about 200 years before the arrival of the Spanish (Speth 2005:131), but most interaction between the eastern border pueblos and people of the Plains began in the 1400s (Spielmann 2010:22) and the latest occupation at Tijeras Pueblo appears to be around 1425. Studies of Tijeras Pueblo pottery temper indicate that pottery was traded from groups to the west, in the Rio Grande Valley, and from the south, instead of from closer communities to the north (Warren 1980:167, Cordell 1980:183).

Neighboring, partly contemporary villages north of Tijeras Pueblo would have included San Antonio and Paa-ko (both inhabited until the 1600s) (Cordell 1980:4–5). Archaeological surveys in the area have found a number of sites that date between A.D. 700 and 1325 (Cordell 1977:129–131, 1980:8–9).

Methods

This research project includes artifacts from the 1948 excavations conducted by Wendorf and Stubbs, Peckham's 1968 excavation, excavations by Judge and then Cordell in the 1970s, and the 1986 excavations reported by Sundt and Bice. The artifacts are at the Maxwell Museum of Anthropology, University of New Mexico, Albuquerque; The Albuquerque Museum of Art and History, Albuquerque; and the Museum of Indian Arts and Culture's Laboratory of Anthropology, Santa Fe. Please see Appendix A for details on the methods used to identify and categorize artifacts, definitions and classifications.



Figure 1.3. Map of Tijeras Pueblo. Courtesy of Linda Cordell.







Figure 1.5. AS-10A and AS-10B. From Sundt and Bice (1989).

The research addresses 451 specimens, categorized as *jewelry artifacts* (n=391), *raw material* (n=22), *unknown* (n=37), and *mosaic* (n=1). Jewelry artifacts are items of adornment such as beads and pendants worn as necklaces, bracelets, hair ornaments, and items attached to clothing such as pins, buttons or tinklers. Raw material includes turquoise, shell and a crinoid stem that could have been collected for the purpose of creating jewelry. Unknown includes additional pieces of turquoise and shell that were not originally documented as jewelry and were either unavailable for examination or are so damaged that they could not be classified as either jewelry or raw material. The mosaic is a unique piece consisting of jewelry artifacts, turquoise, other stones, and shell. Each group is discussed separately.

None of the photographs depict items associated with burials. Burial artifacts including jewelry are stored separately at the Maxwell Museum. Jewelry items discussed from sites other than Tijeras Pueblo may have been repatriated in accordance with current NAGPRA policies.

Chapter 2

JEWELRY AND RELATED ARTIFACTS

Jewelry artifacts were identified either through direct examination or from the original excavation and accession documents (Table 2.1).

Туре	Count	Percent
Beads	268	69
Pendants	93	24
Bead blanks	13	3
Pendant blanks	12	3
Button	1	< 1
Hairpin	1	< 1
Bracelet	1	< 1
Unidentified	2	< 1
Total	391	100

Table 2.1. Jewelry A	Artifacts.
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The two unidentified artifacts are shells with partial holes. One is *Anodonta* and the other is Unionidae. They could be either beads or pendants but their condition precludes a definitive identification.

All of the jewelry artifacts are stone, shell, bone, or ceramic (Table 2.2).

Туре	Shell	Bone	Stone	Ceramic	Total
Beads	159	70	39		268
Pendants	37	11	40	5	93
Bead blanks	4		9		13
Pendant blanks	3	1	8		12
Button			1		1
Hairpin		1			1
Bracelet	1				1
Unidentified	2				2
Total	206	83	97	5	391

Table 2.2. Jewelry Artifacts by Material.

The shells are both freshwater and marine. Most of the marine varieties come from the Gulf of California (R. J. Bradley, 2009 personal communication). Beads, pendants, and blanks make up

99 percent of the jewelry artifacts. Blanks are unfinished pieces, for the most part smoothed and formed but with an incomplete hole or no hole.

Unless a piece of jewelry is found in its context of use (as part of a burial, for example) it is difficult to know how that piece of jewelry was worn. At Tijeras Pueblo, beads and pendants were found as individual items, not in groups indicating a composite piece of jewelry such as a necklace. It is not possible to conclude how the artifacts were worn or on what occasions. The categories that follow are therefore based on morphology rather than on demonstrable function.

Beads

For this study, following Kidder's (1932:184) definitions, I define a bead as having a hole at its center, while a pendant's hole is off-center, close to one of the edges. I classified beads 5 mm or less in diameter as "tiny beads" (Figure 2.1 and Table 2.3). Haury (1931:81–83) described "minute" beads as being 2 mm or less in diameter, but none of the beads found at Tijeras Pueblo is less than 3 mm in diameter—so none qualifies as minute in Haury's classification scheme.



Figure 2.1. Tiny stone disc bead. Diameter: 5 mm. Catalogue No. 78.67.498.

Material	Larger Beads (> 5 mm diam.)	Tiny Beads (5 mm diam. or less)	Total
Shell	151	8	159
Bone	66	4	70
Stone	23	16	39
Total	240	28	268

Table 2.3. Beads.

Some of the items classified as pendants may have been strung along with beads and used as spacers, to add interest to what would otherwise have been a necklace of same-sized or smoothly graduated beads. It is also possible that some of the items classified in this study as beads and pendants were actually worn as earrings.

Beads are the most common jewelry item at Tijeras Pueblo, and vary greatly in shape and size. Of the 28 tiny beads from Tijeras Pueblo, 26 are disc shaped. One tiny bead is so thin that I classified it as heishi, a modern term for very thin disc beads commonly made from shell (see Table A.4 for explanations of descriptive terms used throughout this study). One tiny bead is square.

Shell accounts for more than half the beads in the study (Table 2.3). The assemblage also includes 70 beads of bone and 39 of stone. The predominant shell used in beads is *Olivella* (Table 2.4). Most of the worked pieces of *Olivella* are beads made from the whole shell (Figure 2.2), with the spire lopped off (no attempt was made to determine how this was done). About 36 percent of all of the jewelry artifacts from Tijeras are *Olivella* whole shell beads. One *Olivella* bead was not found for examination.

Material	Larger Beads	Tiny Beads	Total
Olivella	144		144
Conus	1		1
Unidentified	6	8	14
Total	151	8	159

 Table 2.4. Shell Beads by Material.



Figure 2.2. Olivella whole shell bead. Length: 20 mm. Catalogue No. 2005.25.37.

Three *Olivella* beads are tubular (sometimes called "barrel beads"); in addition to the spire, the bottom of the shell has been removed. I was able to find two tubular beads for examination (Figure 2.3).



Figure 2.3. Olivella tubular bead. Length: 9 mm. Catalogue No. 2005.25.1385.

All of the tiny shell beads are disc shaped (Table 2.5). The *Conus* shell bead is conical. The six beads of unidentified shape were not found for examination.

Shape	Larger Beads	Tiny Beads	Total
Whole shell	140		140
Disc		8	8
Tubular	3		3
Triangular	1		1
Conical	1		1
Unidentified	6		6
Total	151	8	159

Table 2.5. Shell Beads by Shape.

Most bone beads in the study are from bone shafts, for which the species was not identified. Of the 66 larger bone beads, 63 are tubular (Figure 2.4) and the remaining three were not found for examination. The four tiny bone beads are all disc shaped. One tubular bone bead from the Cedro Canyon excavation in 1948 is not only polished but shows evidence of incising.



Figure 2.4. Tubular bone beads. Left to right, the beads are 29 and 53 mm long. Catalogue Nos. 78.67.59 (left) and 78.67.208 (right).

Crinoid stem beads account for about half of the stone beads. Crinoids are the most common fossil found at the crest of the Sandia Mountains (Aubele et al. 2005:32). The specific material of many of the other stone beads is unknown (Table 2.6).

Type of Stone	Larger Beads	Tiny Beads	Total
Crinoid stem	11	8	19
Calcite	1	2	3
Selenite	2		2
Turquoise	1		1
Argillite	1		1
Unidentified	7	6	13
Total	23	16	39

Table 2.6. Specific Materials Used in Stone Beads.

Most of the stone beads (all of the crinoid stems) are disc shaped (Table 2.7). The six tiny beads of unidentified stone are all disc shaped; one of them is so thin that I classified it as heishi. One tiny calcite bead is square. The other non-disc beads (of unidentified material) include one tubular and one subrectangular. One stone bead of unidentified material was not found for examination.

Combining the shell and stone examples, "whole shell" dominates the shapes due to the predominance of *Olivella* shell beads (Table 2.8). The next most common shape is tubular, due to the large number of beads made from bone shafts.

The shapes of 10 beads could not be determined due to their condition.

Shape	Larger Beads	Tiny Beads	Total
Disc	20	14	34
Heishi		1	1
Tubular	1		1
Subrectangular	1		1
Square		1	1
Unidentified	1		1
Total	23	16	39

Table 2.7	. Stone	Beads	by	Shape.
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Shape	Larger Beads	Tiny Beads	Total
Whole shell	140		140
Tubular	67		67
Disc	20	26	46
Heishi		1	1
Square		1	1
Conical	1		1
Subrectangular	1		1
Triangular	1		1
Unidentified	10		10
Total	240	28	268

Bead Size

Size data are included for only those dimensions that could be measured. For damaged beads, not all of the dimensions were recorded. Some artifacts were not found for examination. Consequently, the number of beads included in calculations of averages and size ranges varies from one dimension to the next.

Previously documented measurements were used when available. Otherwise, dimensions were measured with calipers and include length, width, thickness, and diameter of hole.

Length was defined as the bead's maximum extent. Width and thickness were measured at 90 degree angles to length and to each other. As most beads are not perfectly round, the width was the larger of the two additional measurements. The diameter of the hole was measured at its narrowest point, in order to indicate the maximum thickness of stringing material. Measurements were rounded to the nearest millimeter and averages were rounded to the nearest tenth of a millimeter.

Because the collection includes so many *Olivella* whole shell beads and tubular bone beads, they are presented first (Tables 2.9 and 2.10). The tubular bone beads vary greatly in length, but two of those beads can be considered statistical outliers. The longest bead (at 78 mm) was not found for examination but is documented in reports of the 1948 excavation at Cedro Canyon. The next longest bead was measured at 53 mm (Figure 2.4). Removing these two beads from the sample reduces the length range to 13–44 mm, and changes the average to 27.1 mm.

LengthWidthThicknessHoleSize Range10–205–95–81–5Average12.96.45.92.1

109

Number of Beads

Table 2.9. Olivella Bead Sizes (mm).

Table 2.10.	Tubular	Bone Bead	Sizes	(mm).
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129

127

98

	Length	Width	Thickness	Hole
Size Range	13–78	4–13	3–13	2–9
Average	28.5	8.3	6.7	4.3
Number of Beads	52	54	47	44

Disc beads, including the tiny beads, represent the next most common shape, and are made of bone, shell and stone. There are no larger shell disc beads. Half of the tiny stone disc beads are crinoid stems. All of the bone disc beads are tiny. The size data are summarized in Tables 2.11–2.14.

	Length	Width	Thickness	Hole
	Tiny I	Beads		
Size Range	3–5	3–5	1–3	1–2
Average	4.3	4.3	1.8	1.4
Number of Beads	16	16	15	14

 Table 2.11. Tiny Shell Disc Bead Sizes (mm).

	Length	Width	Thickness	Hole	
	Larger	· Beads			
Size Range	6–13	4–12	1–6	1–4	
Average	9.2	8.4	3.0	2.2	
Number of Beads	18	17	18	16	
Tiny Beads					
Size Range	3–5	3–5	1–2	1–2	
Average	4.2	4.2	1.6	1.2	
Number of Beads	5	5	5	6	

Table 2.12. Stone Disc Bead Sizes (mm).

 Table 2.13. Tiny Bone Disc Bead Sizes (mm).

	Length	Width	Thickness	Hole
Size Range	4–5	4–5	1–3	1–2
Average	4.7	4.7	2	1.8
Number of Beads	3	3	3	4

Table 2.14. Sizes (mm) for All Tiny Disc Beads (Shell, Bone and Stone).

	Length	Width	Thickness	Hole
Size Range	3–5	3–5	1–3	1–2
Average	4.3	4.3	1.8	1.4
Number of Beads	24	24	23	24

The 26 tiny disc beads are more consistently round than the larger crinoid stem and stone disc beads. The one tiny bead classified as heishi was 5 mm in diameter (length and width) and less than 1 mm thick, with a hole diameter of 1 mm.

Tubular bone beads may not have been strung with other types of beads. Given the large diameter holes in tubular bone beads, beads of other materials could have slipped inside a tubular bone bead if they were strung without knotting between beads. In contrast, the hole sizes for shell, stone, and bone disc beads are similar and it is easy to imagine their being strung together to create a necklace.

Bead Blanks

A bead blank is worked to the point where it clearly was to become a bead, but was not finished. Typically this means that a hole started at the center of the bead was not completely drilled. Tiny bead blanks are those 5 mm or less across. All bead blanks from Tijeras Pueblo are stone (Table 2.15).

	Larger Bead Blanks	Tiny Bead Blanks	Total
Crinoid stem	2	2	4
Selenite	2		2
Argillite	1		1
Chalcedony	1		1
Unidentified	1	4	5
Total	7	6	13

Table 2.15. Stone Bead Blanks by Material.

The larger bead blanks include single examples of disc, oval, subrectangular, and tubular shapes. The shape of three larger bead blanks could not be determined. As there are so few larger bead blanks, the measurements are summarized without regard to shape. In Table 2.16, "hole" refers to incomplete holes. All six tiny bead blanks were disc-shaped; the size data are summarized in Table 2.17. As the blanks represent unfinished work, it is difficult to say what exact shape and size the finished beads would have taken.

	Length	Width	Thickness	Hole
Size Range	8–32	6–19	2–13	1–3
Average	17.2	10.1	6.6	2.3
Number of Blanks	7	7	7	3

Table 2.16. Larger Bead Blank Sizes (mm).

Table 2.17. Tiny	Bead	Blank	Sizes	(mm).
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	Length	Width	Thickness
Size Range	3–5	3–5	1–3
Average	4.2	4.2	1.7
Number of Blanks	6	6	6

Button

The turquoise piece in Figure 2.5 resembles buttons where an angled hole in the back allows stringing material to be invisible from the front of the piece (Tanner 1976:157). It is the only piece found at Tijeras Pueblo with this type of angled hole. The angled holes are also common in Mesoamerica (Phillips 1979:181, Figure 28) where sometimes this type of piece was classed as a bead. Since the hole is not in the center, I have classified it as a button. The color in the photo is accurate (turquoise which can often be greenish).



Figure 2.5. Turquoise button. The left image shows the angled hole and the right image shows the front of the button. Length, 11 mm. Catalogue No. 2005.25.14928.

Pendants

The pendants found at Tijeras Pueblo were made of stone, shell, bone, and ceramic. Stone and shell accounted for more than four-fifths of the pendants (Table 2.18).

Material	Number	Percent
Stone	40	43
Shell	37	40
Bone	11	12
Ceramic	5	5
Total	93	100

Table 2.18. Pendants by Material.

About one-third of the stone pendants are made from argillite and roughly one in seven are from turquoise (Table 2.19).

The three mica pendants are extremely fragile. One is paper-thin. Another, with four holes, was found in 1968. The other two were found in 1948. These pendants are stored at the Laboratory of Anthropology in Santa Fe.

Type of Stone	Number
Argillite	13
Turquoise	6
Calcite	4
Mica	3
Jet	2
Shale	2
Steatite	2
Banded travertine	1
Selenite	1
Siltstone	1
Slate	1
Muscovite	1
Unidentified	3
Total	40

Table 2.19. Stone Pendants by Specific Material.

The banded travertine pendant takes the form of an extremely elongated triangle with the hole at the "base" end (opposite the point). Shallow grooves extend from one end of the suspension hole, around both sides of the pendant, to the other end of the hole. Thus, a string may have been wrapped around the pendant (possibly to secure something along the side of the pendant) at the hole, in addition to the string extending through the hole for suspension.

Most (70 percent) of the shell pendants are Unionidae, *Conus*, and *Glycymeris* (Table 2.20). A wider range of shell types was used in making pendants than for making beads.

Taxon	Number
Unionidae	10
Conus	9
Glycymeris	7
Cerithidea	2
Gastropod	1
Haliotis	1
Unidentified	7
Total	37

Table 2.20. Shell Pendants by Taxon.

The *Glycymeris* pendant (Figure 2.6) is complete; it is most likely re-worked from a bracelet. Perhaps the original bracelet was highly prized, so was re-worked after it broke. The pendant includes a hole in the umbo area. Such re-worked pieces have not been found in Hohokam sites (Nelson 1991:71), suggesting that the work done to reshape the bracelet into a pendant may have occurred at Tijeras Pueblo.



Figure 2.6. *Glycymeris* pendant. Length, 19 mm. Catalogue No. 78.67.269.

Plain *Glycymeris* bracelets are one of the most common Hohokam shell jewelry items, and are found in increasing numbers at non-Hohokam sites after A.D. 900. The pendant found at Tijeras Pueblo does not have any of the etching or other modifications which would have suggested the original bracelet was a unique piece obtained via a "prestige sphere of exchange" (Nelson 1991:40–45). Instead it was derived from the more widely available plain form of Hohokam *Glycymeris* bracelets.

Three *Conus* pendants (Figure 2.7) illustrate different designs. One could have been used as a tinkler (Catalogue No. 2005.25.14909). A second pendant (Catalogue No. 2005.25.10011) has been cut through from top to bottom, leaving a curved section of shell. The last pendant (Catalogue No. 78.67.354) is about as flat a section as could be cut from the shell.

The study identified two *Cerithidea* pendants (Figure 2.8). The first (Catalogue No. 78.67.426) appears to have four filed or abraded oval holes created to expose the internal structure of the shell. The second (Catalogue No. 78.67.353) has a smoothed exterior and a single hole. *Cerithidea* pendants were generally available throughout the Southwest during the period when Tijeras Pueblo was occupied (R. S. Nelson, 2010 personal communication).

The one *Haliotis* pendant was reworked after damage. The piece has a complete hole near the center and a partial hole near one edge (Figure 2.9). It may be that when the original suspension hole broke, a second hole was added. *Haliotis* comes from the Pacific Coast and is unusual in New Mexico sites (Brand 1937:301). As is suspected for the reworked *Glycymeris* pendant, rarity may have led a local jeweler to salvage a damaged item. The *Haliotis* specimen was classified as a pendant because neither hole was in the center of the piece.



Figure 2.7. Three *Conus* pendants. From left to right, the pendants are 14, 19 and 16 mm long. Catalogue Nos. 2005.25.14909 (left), 2005.25.10011 (middle), and 78.67.354 (right).



Figure 2.8. Two *Cerithidea* pendants. From left to right, the pendants are 23 and 12 mm long. Catalogue Nos. 78.67.426 (left) and 78.67.353 (right).



Figure 2.9. Haliotis pendant. Length, 10 mm. Catalogue No.78.67.462.

The 11 bone pendants include one from a fish operculum and another from a turtle or tortoise carapace (Figure 2.10), one from a claw, one a bear tooth, three from canine teeth (Figure 2.11), and four from other bones. The turtle shell pendant is incised.



Figure 2.10. Pendants of fish operculum and turtle or tortoise shell carapace. Operculum pendant to the left is 38 mm long. Catalogue Nos. 78.67.558 (left) and 2005.25.11714 (right).



Figure 2.11. Three canine pendants. From left to right, the pendants are 34 mm, 32, and 27 mm long. Catalogue Nos. 2005.25.11576 (left), 78.67.48 (middle), and 78.67.161 (right).

One bone pendant (Figure 2.12) is somewhat unusual in that it is wider than it is long and the bottom appears to curve toward the back of the piece. The bottom is somewhat rough, and it is not clear what the original shape of the complete piece would have been.



Figure 2.12. Unusual bone pendant. Width, 25 mm. Catalogue No. 78.67.392.

The pendants were made in a variety of shapes (Table 2.21).

Shape	Stone	Shell	Bone	Ceramic	Total
Trapezoid	3	3	1	2	9
Triangular	3	3		1	7
Subrectangular	4	2			6
Whole shell		6			6
Round top, square base	4	1		1	6
Sawtooth	2	3			5
Oval	4	1			5
Conical		4			4
Claw/talon			4		4
Doughnut	1	2			3
Rectangular		1	1		2
Tooth			1		1
Arc		1			1
Bi-lobe		1			1
Round		1			1
Disc				1	1
Unidentified	19	8	4		31
Total	40	37	11	5	93

Table 2.21. Pendants by Material and Shape.

Tables 2.22 through 2.24 list the shape of the stone, shell, and bone pendants. The five ceramic pendants include two trapezoidal, one disc-shaped (round), one triangular, and one with a rounded top and squared base.

Bi-lobe (or bilobate) items were common among the Hohokam, who used them for necklaces or bracelets, either alone or mixed with other types of shell beads. Because of the definitions used in this study for beads and pendants, the one bi-lobe piece (Figure 2.13) is classified as a pendant. Among the Hohokam, bi-lobe pieces were found most commonly in mortuary contexts. The one example from Tijeras Pueblo was not found with a burial, however. Bi-lobe items have also been found in Chaco Canyon and other New Mexico sites (Nelson 1991:62).

The ceramic pendants appear to be made from potsherds. Of the two Agua Fria Glaze-on-red ceramic pendants, only one has a clear design (Figure 2.14, *left*) but is broken off at the bottom. The plainware ceramic pendant (Figure 2.14, *right*) has a design of three concentric incised circles and only the right edge is partially smoothed.

There are six fetishes documented in the collection. Five of these pieces were broken and showed no drill marks. The sixth piece also did not have any drill marks or evidence of a hole. There is no evidence that the fetishes at Tijeras were also worn as pendants, so no reason to consider them as jewelry.

	Sub- rectangular	Oval	Round top, square base	Trape- zoidal	Triangle	Sawtooth	Doughnut	Unknown	Total
Argillite	1	2		1		1		8	13
Turquoise	2	1	1					2	6
Calcite		1			1			2	4
Mica								3	3
Jet			1	1					2
Shale			1	1					2
Steatite								2	2
Travertine					1				1
Selenite						1			1
Siltstone							1		1
Slate			1						1
Muscovite					1				1
Unidentified	1							2	3
Total	4	4	4	3	3	2	1	19	40

 Table 2.22. Stone Pendants by Material and Shape.

Table 2.23. Shell Pendants by Taxon and Shape.

	Whole shell	Conical	Trapezoidal	Triangular	Sawtooth	Doughnut	Sub- rectangular	Round	Oval	Rectangular	Bi-lobe	Arc	Rounded top, square base	Unknown	Total
Unionidae			1		2	1	1	1		1				3	10
Conus		2	2	2										3	9
Glycymeris	5											1		1	7
Cerithidea		2													2
Gastropod	1														1
Haliotis													1		1
Unidentified				1	1	1	1		1		1			1	7
Total	6	4	3	3	3	2	2	1	1	1	1	1	1	8	37

	Shape										
Part	Tooth- like	Claw- like	Trape- zoidal	Rect- angle	Un- known	Total					
Operculum (Fish)			1			1					
Turtle or Tortoise					1	1					
Claw		1				1					
Tooth	1	3				4					
Other Bone				1	3	4					
Total	1	4	1	1	4	11					

Table 2.24. Bone Pendants by Part and Shape.



Figure 2.13. Bi-lobe pendant. Length, 10 mm. Catalogue No. 2005.25.10746.

Pendant Size

In measuring the size of the pendants in the study, the same approach was taken as was used for beads. Only those dimensions that indicate the size of the complete item were included in the data. Consequently, the number of pendants included in averages and size ranges varies from one dimension to the next. Some pieces were not found for examination. Documented measurements were used when available; otherwise, the objects were measured. Length is the distance from the pendant's top to its bottom, when the piece was suspended from its hole. Width was the greatest extent measured at a 90 degree angle from the length. Thickness was measured from the front to the back, at the thickest point. The diameter of the hole was measured at its narrowest point in order to indicate the maximum thickness of stringing material. Measurements are rounded to the nearest millimeter and averages are rounded to the nearest tenth of a millimeter.


Figure 2.14. Two ceramic pendants. The right pendant is 49 mm long. Catalogue Nos. 78.67.255 (left) and 78.67.587 (right).

Argillite and Unionidae represent the largest number of pendants of a single material (Tables 2.25 and 2.26).

	Length	Width	Thickness	Hole
Size Range	16–36	14–41	1–5	2–3
Average	28.0	26.8	2.3	2.1
Number of Pendants	5	5	13	11

Table 2.25. Argillite Pendant Sizes (mm).

Table 2.26.	Unionidae	Pendant Size	es (mm).
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	Length	Width	Thickness	Hole
Size Range	12-28	7-14	1-2	1-3
Average	15.5	10.8	1.2	2.0
Number of Pendants	6	4	10	6

The pendants found represent a number of different materials and shapes, and many of them are unique within the assemblage, so the concept of an average dimension is not relevant except for the hole diameter. A summary of pendant size information is presented in Table 2.27.

	Stone	Shell	Bone	Ceramic	All Materials		
	Length						
Size Range	12–52	10–29	13–38	17–59	10–59		
Number of Pendants	16	27	8	3	54		
Width							
Size Range	6–41	5–47	6–42	19–44	5–47		
Number of Pendants	15	21	9	3	48		
	T	hickness					
Size Range	1–9	1-12	1–10	4–7	1–12		
Number of Pendants	30	31	11	4	76		
Hole Diameter							
Size Range	1–5	1–3	1–3	2–6	1–6		
Average	2.2	1.9	2.0	3.4	2.1		
Number of Pendants	27	22	9	5	63		

Table 2.27. Pendant Sizes (mm).

Given their hole and overall sizes, many of the stone and shell pendants could have been strung as beads along with the items classified as beads. Only the ceramic pendants appear to have a larger hole, on average, than those of beads.

Pendant Blanks

Similar to a bead blank, a pendant blank is worked to a degree, but remains unfinished. Typically some of the edge is smoothed or worked, but the hole is incomplete. The 12 pendant blanks in this study include eight of stone, three of shell, and one of bone. As was the case for pendants versus beads, the type of material used is more varied among the pendant blanks than among the bead blanks.

The three shell pendant blanks include two of Unionidae and one of *Glycymeris*. The last (Figure 2.15) appears to be cut from a large doughnut-shaped piece of shell (in other words, both the original center hole and the original rim were quite large). One edge is polished, suggesting that the piece was reworked after breaking. Small marks along the edge were enhanced. Zigzag engraved markings, at an angle, cross the front of the piece. This blank is similar to an incised shell from the Medio Period found at Paquimé (Di Peso et al. 1974 6:403, Figure 503.1).

The eight stone pendant blanks include two each of argillite and turquoise, and one each of jet, obsidian, siltstone, and shale. The shale pendant blank was not found for examination.

Table 2.28 lists pendant blank shapes; Table 2.29 lists sizes. As there were not multiple pendant blanks of the same shape or material, sizes varied widely and the idea of an "average" size does not apply.



Figure 2.15. *Glycymeris* pendant blank. Length, 27 mm. Catalogue No. 78.67.371.

Shape	Shell	Stone	Bone	Total
Oval		2		2
Circular		1		1
Doughnut	1			1
Subrectangular	1			1
Diamond		1		1
Unidentified	1	4	1	6
Total	3	8	1	12

Table	2.28.	Shapes	of F	Pendant	Blanks.
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Table 2.29. Pendant Blank Sizes (mm).

	Length	Width	Thickness	Hole
Size Range	10-30	7–30	1–4	2
Number of Blanks	10	8	10	1

Hairpin

A hairpin (Figure 2.16) was found in 1986, during the Albuquerque Archaeological Society's rescue excavation (Sundt and Bice 1989). In 2010, Dr. Bruce Huckell identified the bone as being from a large mammal, probably deer or elk. The hairpin is 144 mm long, 8 mm wide, and 4 mm thick. The hairpin's shape is reminiscent of a tuning fork's and is similar to one shown by Tanner (1976, Figure 5.20*b*), found at Grasshopper Ruin and now at the Arizona State Museum (G. M. Jacobs, 2010 personal communication). It is also similar to a piece found at Pecos Pueblo and tentatively identified as a hair ornament (Kidder 1932:246, Figure 206f).



Figure 2.16. Bone hairpin. Length, 144 mm. Catalogue No. 2006.76.195.

Bracelet Fragment

A *Glycymeris* shell fragment is from a bracelet with a band about 7 mm wide and 4 mm thick (Figure 2.17). The fragment is not large enough to indicate the diameter of the original bracelet. Jernigan (1978:179) indicates that shell bracelets were fairly rare in the Rio Grande region.



Figure 2.17. *Glycymeris* bracelet fragment. Width, 7 mm. Catalogue No. 78.67.412.

Mosaic

A mosaic was found on the floor of Room 64, a kiva (Figures 2.18 and 2.19). The mosaic is included in this study because it incorporates jewelry artifacts and raw materials. Room 64 measured 5.5 by 4.1 m (18 by 13.5 feet). The roof and four support posts had burned. A ventilator in the center of the east wall extended into Room 108, another kiva. The floor features in the room were oriented east-west. A cylindrical cist was present just west of the ventilator, and a hearth, ash pit, and deflector were found west of the cist. The hearth was square and lined with stone. A J-shaped edge around the hearth was shaped by mounding adobe to a height of about 5 to 8 cm (2 to 3 inches) (Cordell 1975:11–13). The excavators referred to this raised edge as a coping (C. Carroll, 2010 personal communication).

The mosaic was found west of the coping, in the polished adobe floor. In addition, two tiny turquoise fragments were embedded in the coping. Figure 2.20 is a close-up of the mosaic in its current state.

The tesserae in the mosaic include shell, turquoise pendants, turquoise, and hematite. The inclusion of pendants in the mosaic is another indication of the willingness to reuse jewelry items. The mosaic is currently on display in the Maxwell Museum of Anthropology, but was briefly removed from display for this study. The mosaic measures about 170 by 133 mm and contains four east-west lines of stone. The individual tesserae are described from east to west and the rows are described from north to south.



Figure 2.18. Original context of the mosaic. The mosaic is between the signboard and the hearth. North is to the bottom of the photograph.



Figure 2.19. Sketch of Room 64, showing the mosaic. North is to the top of the sketch; the axis of the room extends east-west. Source: C. Carroll, 1974 student notebook.



Figure 2.20. Mosaic from Room 64. When the mosaic was still in context, north was to the top of the photograph (see Figure 2.19). To see the mosaic as it was viewed along the axis of the room, readers should turn the page 90 degrees counterclockwise. Overall length is 17 cm. Catalogue No. 76.37.1.

Row 1: One turquoise subrectangular pendant (17 mm long by 8 mm wide with a 2 mm diameter hole) set into the mosaic, with the pendant hole positioned to the west.

Four circular or near-circular pieces of shell set in decreasing sizes from east to west. Two pieces measure 7 by 7 mm. The third piece measures 6 by 5 mm. The fourth piece measures 4 by 4 mm.

Row 2: One rectangular piece of hematite (15 by 10 mm).

One large rectangular piece of hematite (66 by 16 mm).

One chunk of turquoise (5 by 4 mm).

Row 3: One chunk of turquoise (5 by 4 mm).

One subrectangular piece of turquoise (13 by 8 mm). This piece looks as if it could have been a pendant blank, but there is no evidence of a hole.

Row 3, continued:

One turquoise pendant (7 mm long and 7 mm wide with a 2 mm diameter hole), with the pendant hole positioned to the west.

One 5-sided piece of turquoise with prominent matrix (14 by 11 mm).

One rectangular piece of turquoise (9 by 4 mm).

One subrectangular turquoise pendant fragment (7 mm wide, 1 mm diameter hole) with a broken base, with the pendant hole positioned to the west. The original pendant was more than 9 mm long.

Row 4: One turquoise fragment, irregular but somewhat triangular in shape (5 by 9 mm).

One rectangular piece of hematite (56 by 11 mm).

One oval piece of turquoise (5 by 3 mm).

One chunk of turquoise (5 by 5 mm).

The pieces of turquoise are not uniform and may have come from different sources. All three turquoise pendants in the mosaic are positioned with the hole to the west, which may have had some meaning. The placement of the possible pendant blank is such that if a hole had been present, it would also have been to the west.

The pieces of hematite are very thin and banded reddish and black. Hematite is commonly found in the Tijeras Canyon district and in the Sandia Mountains (Northrup 1944:173).

A detailed sketch of the mosaic (Figure 2.21) indicates that when found, the mosaic also included depressions from two missing stones and a piece of pink stone originally described as coral but later identified as mudstone (L. S. Cordell, 2010 personal communication). The piece of pink stone was in the middle of the six turquoise pieces in the third row, but is no longer in place.

The turquoise was not discolored, so the mosaic may have been covered and thus protected when the kiva burned. Room 108, the kiva below Room 64, which measured 7.0 by 6.4 m (23 ft by 21 feet) (Cordell 1977:112–113), was also severely burned. The fire in that kiva was hot enough to fuse sand particles.

Raw Material

Unworked or minimally worked shells, turquoise and a crinoid stem were studied, as probable materials for planned jewelry pieces. The pieces that are "minimally worked" could not be classified as either bead or pendant blanks and were therefore left in the "raw material" category (Table 2.30).



Figure 2.21. Drawing of mosaic in Room 64. North is to the left. Source: C. Carroll, 1974 student notebook. In this drawing, the vertical axis of the mosaic corresponds with the axis of the room.

Material	Minimally Worked	Unworked	Total
Shell	11	5	16
Turquoise	1	4	5
Crinoid stem		1	1
Total	12	10	22

Table 2.30. Unworked and Minimally Worked Materials.

Shell taxa are listed in Table 2.31.

Material	Minimally	Unworked	Total
	Worked		
Conus	3		3
Gastropod	2	1	3
Unionidae	1	3	4
Cerithidea	1		1
Glycymeris	4		4
Unidentified		1	1
Total	11	5	16

Table 2.31. Unworked and Minimally Worked Shell by Taxon.

One of the *Glycymeris* pieces is *G. gigantea*. Although the piece appears to be partly worked, it is not clear what the final form would have been.

The unworked gastropod is a complete shell.

Unknown Items

The study documented 37 artifacts that could not be placed into a category because of their condition, the lack of descriptive documentation, their not being found for examination, or some combination of these factors.

Three of the items are of stone. One was described as "turquoise chips," which are fine as dust. The other two stone items were described as "either turquoise or malachite" but were not found for examination. The remaining 34 are shell: 13 *Olivella*, 10 Unionidae, one snail, and 10 for which the taxon is unknown.

Chapter 3

ARTIFACTS BY EXCAVATION AND PROVENIENCE

The study examined artifacts from multiple excavations, which used a variety of field methods and data recording techniques. The 451 artifacts were found by Fred Wendorf and Stanley Stubbs, University of New Mexico, in 1948; by Stewart Peckham, Museum of New Mexico, in 1968; during archaeological field schools directed by Jim Judge and then Linda Cordell, University of New Mexico, in the 1970s; and by Richard Bice and William Sundt, Albuquerque Archaeological Society, in 1986 (Table 3.1).

	1948	1068	1970s	1986	
Туре	(Wendorf and Stubbs)	(Peckham)	(Judge/ Cordell)	(Bice and Sundt)	Total
Beads	10	3	227		240
Tiny Beads	2		17	9	28
Bead Blanks			7		7
Tiny Bead Blanks				6	6
Pendants	4	2	87		93
Pendant Blanks	1		11		12
Buttons			1		1
Hairpins				1	1
Bracelets			1		1
Mosaic			1		1
Unidentified Jewelry			2		2
Worked Raw Material			12		12
Unworked Raw Material			6	4	10
Unidentified			36	1	37
Total	17	5	408	21	451

Table 3.1. Artifacts by Project.

In Table 3.2, a distinction is made between (1) completed jewelry artifacts and (2) blanks (partly prepared items) and raw materials. (The mosaic discussed in Chapter 2 fits into neither category.) Completed jewelry was found by each of the major excavations. The Peckham excavation in 1968 was the only one that did not recover blanks or raw material (Table 3.3).

Information on the early excavations is rather limited; the maps, when available, provide few clues to supplement information recorded about the provenience of artifacts. Each excavation is discussed separately. Artifacts that could not be identified as either completed jewelry or raw materials are listed in Appendix B.

Completed Jewelry	Blanks or Raw Materials
Larger beads	Bead blanks
Tiny beads	Tiny bead blanks
Pendants	Pendant blanks
Buttons	Worked raw material
Bracelets	Unworked raw material
Hairpins	
Unidentified jewelry	

Table 3.2. Completed Jewelry versus Blanks or Raw Materials.

Table 3.3. Jewelry Items by Excavation.

Excavation	Completed Jewelry	Blanks or Raw Materials	Total
Wendorf and Stubbs, 1948	16	1	17
Peckham, 1968	5		5
Judge/Cordell, 1970s	335	36	371
Bice and Sundt, 1968	10	10	20
Total	366	47	413

Wendorf and Stubbs Excavations, 1948

Of the 17 pieces found in 1948, two were from Vulture Gulch, 14 were from Cedro Canyon, and one was from the ranger station. Documents about artifacts found at the two sites, Cedro Canyon and Vulture Gulch, are confusing as both sites included "mounds" and mounds at both sites were designated A, B, etc. They are separate sites, however. Records at the Laboratory of Anthropology and 1948 student notebooks were used to identify the provenience of each artifact when possible. All of the artifacts excavated in 1948 are at the Laboratory of Anthropology in Santa Fe.

Vulture Gulch

There is no detailed map for the Vulture Gulch excavation by Wendorf. A Sandia Ranger District Research Update, dated 1991, includes information from a telephone communication with Dr. Wendorf (Catalogue No. 93.16.103). Vulture Gulch was 8 km (5 miles) east of the ranger station, on the north side of the canyon, off I-40, and featured masonry construction. One of the student notebooks (Catalogue No. 81.25.22) describes the site as dating between A.D. 1000 and 1400, with two occupations and including two pit houses.

Two pieces of completed jewelry were found at Vulture Gulch. An *Olivella* bead was found on the surface of Mound A. A mica pendant was found in the fill of Room 2 in Mound B. The mica

pendant is paper thin and very fragile; it has a carefully shaped hole in one corner. No blanks or raw materials were found at Vulture Gulch.

Cedro Canyon

The excavation at Cedro Canyon is thought to have been based on the mounds indicated in the Mera map (Figure 1.1). Within the site's main room block, the "central section of the north tier of rooms manifests extensive disturbance and may well be the locus of 1948 activities" (Judge 1974:7–8). Besides the rooms, and according to various student notebooks and Wendorf's notes (Catalogue No. 91.31.1), the crew found at least eight burials. The Cedro Canyon excavations yielded 13 examples of completed jewelry: nine beads, two tiny beads, two pendants; and one pendant blank (Table 3.4).

Provenience	Description	
	Mound A	
Room 1	Tiny stone disc bead; tiny shell disc bead	
Room 2	Tubular bone bead	
Room 3	Tubular bone bead	
Room 4	Engraved tubular bone bead	
Room 6	Tubular bone bead	
Room 21	Mica pendant; Olivella whole shell bead from a burial	
Room 23	Stone pendant; tubular bone bead	
	Mound C	
Room 4	Tubular Olivella shell bead near burial; oval jet pendant blank	
Non-mound Proveniences		
Room 1	Tubular bone bead	
Room 2	Tubular bone bead	

 Table 3.4. Completed Jewelry and Blanks or Raw Materials from the Cedro Canyon

 Excavation.

The tubular bone bead in Room 4 is the longest (78 mm) reported bone bead in the collection. Proveniences for the two beads listed under "non-mound proveniences" in Table 3.4 identified the room number but not the mound where they were found.

In addition to artifacts clearly reported as being from either the Cedro Canyon or Vulture Gulch excavations, the most interesting piece from the 1948 excavations is the banded travertine pendant found "at the Tijeras Ranger Station." No other provenience information is available.

Peckham Excavation, 1968

The 1968 excavation was conducted at Block H as noted on the Mera map (Figure 1.1) which was later classified as Block 8 (Figure 1.4). A hand-drawn map of the Peckham excavations

(Figure 1.2) indicates masonry and adobe rooms in a block, as well as other, freestanding features. Four of the five jewelry artifacts identified in this study are from four features in the block of rooms. Only one artifact was found at each feature. The fifth artifact was described as found in "L. gen fill, F A, BHI" which has been interpreted as Backhoe Trench 1, Feature A, general fill (Table 3.5). Features on the map (Figure 1.2) are numbered, but the project records indicate Features lettered A through F and backhoe trenches numbered 1 through 5. There is no indication of a Feature A on the map, nor are there any trenches marked on that map.

There were no blanks or raw materials reported. All of the 1968 artifacts are stored at the Laboratory of Anthropology in Santa Fe.

Provenience	Description
Feature 3, Floor 3	Tubular bone bead
Feature 8, fill	Tubular bone bead
Feature 11	Subrectangular shell pendant
Feature 14, floor	Mica pendant
Feature A, fill	Olivella whole shell bead

 Table 3.5. Completed Jewelry from the Peckham Excavation.

Records at the Laboratory of Anthropology in Santa Fe indicate that at least three burials were found during Peckham's 1968 excavations. It does not appear that any of the jewelry artifacts were associated with those burials.

UNM Field School Excavations, 1970s

The excavations in the 1970s produced the largest number of artifacts and the most precise information regarding provenience. Excavation maps indicate room blocks and grid locations. Jewelry artifacts were found in a large number of rooms and many grid positions. The excavated rooms yielded 186 completed pieces and 18 blanks or pieces of raw material. The grid units yielded 147 completed pieces and 18 blanks or pieces of raw material. Two additional artifacts (one *Olivella* whole shell bead and one turquoise pendant blank) do not have known proveniences and were found during the 1970's but may not have come from the field school excavations.

A recent reanalysis of the tree ring data, by Linda Cordell, indicates that 51 of the artifacts in the study came from proveniences (a level within a grid unit or room) datable by tree ring samples. The earliest provenience with a jewelry artifact is an area in Room 60, associated with a tree ring date of 1289. There, a calcite tiny disc bead was found. Several artifacts were found in rooms with tree ring dates of 1393 or later.

Grid-based units were laid out at the start of the excavations. Only later, as architectural details were uncovered, were rooms identified and given numbers. Details of artifacts found within rooms are discussed first, followed by artifacts recovered from grid positions.

More than half of the 130-plus rooms excavated in the 1970s contained completed jewelry artifacts. This implies that jewelry was not limited to a select few. In all, 186 pieces of completed jewelry and 18 blanks or pieces of raw material were distributed across 74 rooms. Thirteen rooms contained both completed jewelry and blanks or raw materials. Only three rooms contained blanks or raw materials but no completed jewelry. Given that 18 blanks or pieces of raw material were found in 16 separate rooms, jewelry fabrication was not restricted to a single part of the site.

Most (70 percent) of the study items were found in fill, but other contexts are also represented. Tree ring data are provided where possible. A plus sign following the tree ring date indicates that the date is not based on a terminal ring, so the cutting date is later.

Table 3.6 contains a listing of the individual items of completed jewelry, blanks and raw material from each room. Figure 3.1 provides a view of artifact distribution across the excavation area. Figure 1.4 identifies rooms within room blocks and also identifies construction periods based on known tree-ring dates.

The following discussion highlights artifacts that appear in photographs throughout this analysis that were found in identified rooms. Pieces of shell and turquoise that could not be classified as jewelry versus raw material are listed in Table B.1.

Room Blocks 3 and 4

Room Blocks 3 and 4 are contiguous (Figure 1.4).

Kivas were identified in Rooms 64, 108 and 128 in these blocks. These kivas were actually constructed one on top of the other with the kiva in Room 128 being on the lowest level and the oldest of the three kivas. Room 128 contained one bead from a location associated with a tree-ring date of 1272+.

The kiva in Room 108 was on top of the Room 128 kiva. Room 108 contained more jewelry artifacts than any other room excavated in the 1970s: 12 beads, one pendant, and one piece of worked raw material. Tree ring dates associated with some of the jewelry artifacts range from sometime after 1298 through 1377.

The last constructed kiva in Room 64 was on the top level. The map (Figure 3.1) indicates that Rooms 108 and 128 were larger than Room 64 and extended to the east of Room 64. Room 64 is the location of the floor mosaic (Figure 2.20). The room also yielded two beads, a pendant and a turquoise pendant blank (Catalogue No. 78.67.275) currently on display at the Albuquerque Museum of Art and History. The pendant is associated with a tree ring date after 1393. The blank could not be examined closely (Figure A.1). It is classified in this study as a blank because a hole is not visible from outside the display case.

Room No.	Items	Context	Tree Ring Date
2	Bone pendant	Fill below 1st floor, Level 2	
	Olivella whole shell bead	Fill below 1st floor, Level 3	
3	Stone disc bead	Surface	
4	Olivella whole shell bead	Fill, Level 3	
6	2 Olivella whole shell beads	Fill, Level 1	
	Calcite pendant	Fill, Level 1	
7	Siltstone disc shaped pendant	Level 1	1391
	Shattered Unionidae bead or	Level 1	1391
	pendant		
8	Olivella whole shell bead	Test Area 1	
9	Stone disc bead	Fill, Level 1	
10	Tubular bone bead	Fill below 1st floor, Level 1	
	Tubular bone bead	Fill below 1st floor, Level 4	1389
	Bone bead	Fill below 1st floor, Level 6, wall fall	
11	Tiny crinoid stem disc bead	1st floor	
14	Tubular bone bead	Fill below 1st floor, Level 1	
	Bone pendant	Fill below 1st floor, Level 2	
	Steatite pendant	Fill below 1st floor, Level 2	
15	Shell tiny disc bead	1st floor	
	Olivella whole shell bead	Fill below 1st floor, Level 1	
16	Canine pendant	Surface	
	Steatite pendant	Surface	
	Shale pendant blank	Surface	
17	Olivella whole shell bead	2nd floor	
18	Olivella whole shell bead	1st floor	
19	Calcite pendant fragment	Fill, Level 6	
	Olivella whole shell bead	1st floor	
	Tubular bone bead	Fill below 1st floor, Level 1	
	Bone tiny disc bead	Fill below 1st floor, Level 1	
	Turquoise oval pendant	Fill below 1st floor, Level 1	
	Diamond-shaped argillite pendant	Fill below 1st floor, Level 1	
	blank	E'll haland let file and soul 2. De land	
	Arginite subrectangular pendant	Fill below 1st floor, Level 2, Rodent	
		Durrow	
22	Calcile tiny square bead	Fill below 1st floor, Level 4	
23	Olivella whole shell bead	Roof fall, Level 1	
25	Divella whole shell bead	Ist floor	
25	Bone tiny disc bead	Fill, Level 2	
	Givernments whole shell pendant	Koof Iall, Level 1	
0.64	worked turquoise	Fill, Level 9	1010
26A	Olivella whole shell bead	Fill, Level I	1312+
	2 Olivella whole shell beads	Fill, Level 2	1357+
	<i>Glycymeris</i> whole shell pendant	Fill, Level 2	1357+
	Olivella whole shell bead	Fill, Level 3	1355+

Room No.	Items	Context	Tree Ring Date
26A	Incised utility ware ceramic	Fill, Level 3	1355+
260	pendant		
26B	<i>Cerithidea</i> pendant	Fill, Level 3	
28	Crinoid stem tiny disc bead	Fill, Level I	
29	Crinoid stem tiny disc bead	2nd floor	
	Selenite pendant	Hearth, Level 4	
30	Calcite oval pendant	Fill below 1st floor, Level 3	
31	2 Olivella whole shell beads	Fill, Level 2	1353
	4 Olivella whole shell beads	Fill, Level 4	
	Olivella whole shell bead	1st floor	
	Olivella whole shell bead	1st floor, subfloor pit	
	Selenite disc bead	Fill below 1st floor, Level 5	
32	Olivella whole shell bead	Fill, Level 1	
	Claw pendant	Fill, Level 2	
	Tubular bone bead	Fill, Level 4	
36	Unionidae pendant	Fill, Level 1	
38	Slate pendant	Fill, Level 2	
40	Olivella whole shell bead	Fill, Level 1	
	Tubular bone bead	Fill, Level 1, Test Area 1	
41	Olivella whole shell bead	Surface	
43	Oval argillite pendant	Fill, Level 1	
	Olivella whole shell bead	Fill, Level 5, Test Area 1	
44	Olivella whole shell bead	Fill, Level 1	
	Conus pendant	Fill, Level 1	
45	Bone bead	Surface	
	Conus pendant	Fill, Level 2	
47	Unionidae pendant	Fill, Level 2	1368
	Olivella whole shell bead	1st floor	
51	Conus pendant	Surface	
	Olivella whole shell bead	Fill, Level 1	
	Olivella whole shell bead	Fill, Level 2, Test Area 4	
	Tubular bone bead	Fill, Level 2, Test Area 4	
	Olivella whole shell bead	Fill, Level 3, Test Area 3	
	Olivella whole shell bead	Fill below 1st floor, Level 1, Test	
		Area 1	
	Trapezoidal shale pendant	Fill below 1st floor, Level 1, Test	
		Area 2	
	Olivella tubular bead	Fill below 1st floor, Level 5, Test	
		Area 1	
53	Conical Cerithidea shell	Fill, Level 2, Test Area 1	
55	Crinoid stem disc bead	Surface	
55	Tubular bone bead	Fill, Level 1, Test Area 1	
	Triangular shell pendant, sawtooth	Fill, Level 2	
	edge		

Room No.	Items	Context	Tree Ring Date
55	Olivella whole shell bead	Roof fall, Level 1	1310
56/57	Olivella whole shell bead	Surface	
	Crinoid stem disc bead	Surface	
	Crinoid stem disc bead blank	Surface	
57	Tubular bone bead	Fill, Level 1, Test Area 1	
	Incised turtle shell pendant	Below 1st floor, Level 1, Test Area 2	
58	Conus cut conical bead	Surface	
	Turquoise button, angled back hole	Surface	
	Crinoid stem disc bead	Fill, Level 1	
	Olivella whole shell bead	Fill, Level 2	1393+
	Tubular bone bead	Fill, Level 2	1393+
59	Olivella whole shell bead	Surface	
	Olivella whole shell bead	Fill, Level 1	
	Tubular bone bead	Fill, Level 2, Test Area 1	
	3 Olivella whole shell beads	Fill, Level 3	
	2 Tubular bone beads	Fill, Level 6	
60	Unworked turquoise	Fill, Level 1	
	Doughnut-shaped shell pendant	Fill, Level 1	
	<i>Glycymeris</i> pendant blank	Fill, Level 3	1363+
	Calcite tiny disc bead	Fill below 1st floor, Level 1	1289
	2 Stone disc beads	Surface	
62	Crinoid stem disc bead	1st floor	1393
	Olivella whole shell bead	Fill below 1st floor, Level 1, Test	
		Area 1	
	Argillite pendant	2nd floor	
	Argillite pendant blank	2nd floor	
	Bone pendant blank	2nd floor	
63	Olivella whole shell bead	Fill below 1st floor, Level 1	
	Olivella whole shell bead	2nd floor	
64 (Kiva)	Olivella whole shell bead	Surface	
	Turquoise disc bead	Fill, Level 3	
	Turquoise pendant blank	Roof Fall, Level 1	1393+
	Oval argillite pendant	Roof Fall, Level 1	1393+
68	Tubular bone bead	1st floor	
69	Olivella whole shell bead	Fill, Level 1	
	Unionidae pendant blank	Fill, 1st floor	
	Crinoid stem disc bead	Fill below 1st floor, Level 1	
	Tiny bone disc bead	Fill below 1st floor, Level 1	
72	Olivella whole shell bead	Fill, Level 2	1386+
73	Shell bead	Fill, Level 2	
	Ceramic pendant	Fill below 1st floor, Level 3	
79	Argillite pendant	Fill, Level 1, Test Area 1	
	Trapezoidal argillite pendant	Roof fall, Level 3	
81	Unworked turquoise chunk	Fill, Level 2, Test Area 1	

Room No.	Items	Context	Tree Ring Date
81	Stone pendant	Fill, Level 3	
82	2 <i>Olivella</i> whole shell beads	Surface	
	2 Olivella whole shell beads	Fill, Level 1	
	Olivella whole shell bead	Fill, Level 1	
85	Triangular shell bead	Fill, Level 1	
	Olivella whole shell bead	Fill, Level 1, Test Area 1	
	Triangular muscovite pendant	Fill, Level 1, Test Area 1	
	Olivella whole shell bead	Fill, Level 2	
	Olivella whole shell bead	Roof fall, Level 1	
	Tubular bone bead	1st floor	
	Selenite disc bead	Fill below 1st floor, Level 2, Test	
		Area 1	
	Trapezoidal operculum (fish)	Fill below 1st floor, Level 2, Test	
	pendant	Area 1	
89	Olivella whole shell bead	1st floor	
90	Olivella whole shell bead	Roof fall, Level 5	
	Agua Fria Glaze-on-red disc	Roof fall, Level 5	
	pendant		
	Tubular bone bead	Fill, in a "pedestal"	
92	Olivella whole shell bead	Fill, Level 1, Test Area 1	
	Tubular bone bead	Roof fall, Level 1	
	Unionidae trapezoidal pendant	Roof fall, Level 4	1310+
93	Olivella whole shell bead	Fill, Level 1	
96	Olivella whole shell bead	Surface	
	Conus triangular pendant	Surface	
	Olivella whole shell bead	Roof fall, Level 1	
	Trapezoidal worked <i>Glycymeris</i>	Roof fall, Level 1	
	Fossil shell pendant	1st floor	1341+
98	Olivella whole shell bead	Fill, Level 3	
99	Worked whole Conus shell	Fill, Level 2	
100	Haliotis pendant	first floor, in a storage bin	1393
101	Olivella whole shell bead	Fill, Level 3, Test Area 1	
	Tubular bone bead	Fill, Level 4	
	Glycymeris pendant	Fill, Level 5	
102	Olivella whole shell bead	Fill, Level 1	
102	Olivella whole shell bead	Fill, Level 2	
	Subrectangular Unionidae pendant	Fill, Level 2	
	Tubular bone bead	Fill, Level 2	
	Olivella whole shell bead	Fill, Level 3, Test Area 2	
106	Olivella whole shell bead	Fill, Level 1	
	Unionidae pendant blank	1st floor	
108	Olivella whole shell bead	Fill, Level 2	1317+
(Kiva)	2 Olivella whole shell beads	Fill, Level 3	1367+
	3 Olivella whole shell beads	Fill, Level 4	1377

Room No.	Items	Context	Tree Ring Date
108	Olivella whole shell bead	Fill, Level 5	
(Kiva)	Glycymeris whole shell pendant	Fill, Level 5	
	Worked Conus shell	1st floor, Basin	1307+
	Burned tubular bone bead	Fill below 1st floor, Level 1	
	Olivella whole shell bead	Fill below 1st floor, Level 2	
	Burned tubular bone bead	Fill below 1st floor, Level 2	
	Tubular bone bead	Fill below 1st floor, Level 2	
	Shattered tubular bone bead	Fill below 1st floor, Level 3	1298+
115	jet pendant	Fill, Level 2	1346
116	Unionidae pendant	Fill, Level 4	1284+
	Argillite pendant	Fill, Level 4, Test Area 1	
117	Glycymeris bracelet fragment	Fill, Level 2	
122	Tubular bone bead	Fill, Level 5	
	Olivella whole shell bead	1st floor	1335
125	Bone pendant	Fill, Level 1	
	Tubular bone bead	Fill, Level 5	
127	Tubular bone bead	Roof fall, Level 1	1369+
	Turquoise subrectangular pendant	Roof fall, Level 1	1369+
	Anodonta bead or pendant	Roof fall, Level 1	1369+
128	Olivella bead	Fill below 1st floor, Level 1 test area	1272+
(Kiva)			
129	Worked gastropod	Fill, Level 2	
130	Olivella whole shell bead	Surface	
131	Olivella whole shell bead	1st floor	
135	Tubular bone bead	Fill, Level 1	
	Selenite bead blank	Fill, Level 1	



Figure 3.1. Jewelry distribution by room, 1970s UNM field schools. Prepared by Nicholas E. Damp; courtesy of Linda S. Cordell. There is evidence of burning in both kivas in Rooms 64 and 108. This area of the pueblo, with its three layers of kiva construction, must have been important from the late 1200s to sometime after 1393.

Some of the more unusual pieces found in Blocks 3 and 4 include:

- Room 2: the unusually shaped bone pendant in Figure 2.12.
- Room 53: a conical *Cerithidea* shell with holes abraded to expose the internal shell structure.
- Room 57: the incised turtle shell pendant in Figure 2.10.
- Room 58: the turquoise button in Figure 2.5.
- Room 60: the *Glycymeris* pendant blank in Figure 2.15.
- Room 85: the pendant made from a fish operculum in Figure 2.10.
- Room 96: a *Conus* pendant (Cat No. 2005.25.10011) shown in Figure 2.7.

Many rooms in Room Blocks 3 and 4 shared a common wall or a corner with another room that also contained jewelry, blanks, or raw materials. These rooms (2, 7, 8, 15–17, 51, 53, 55–60, 62, 63, 68, 69, 72, 73, 96, and 102) were all close to the three kivas in Rooms 64, 108 and 128.

The remaining rooms in Room Block 4 that contained jewelry, blanks or raw materials, while still connected to the room block, are separated by rooms that did not contain any jewelry, blanks, or raw materials. These rooms are south of an open area that may have served as a plaza, just east of the Room 108 kiva.

Room Block 5

Block 5 is southeast of Block 4 (Figure 1.4). All of the rooms in this room block yielded jewelry, blanks, or raw materials.

Room 127 is northeast of, and apart from, Room Block 5. The turquoise pendant (Catalogue No. 78.67.309) found in Room 127 is on display at the Albuquerque Museum and could not be examined closely (Figure A.1).

A block of three rooms stands southeast of the main part of Block 5, and includes Rooms 25, 26A, and 26B. All three rooms contained completed jewelry or blanks and raw material. A number of items were recorded as coming from Room 26; I assumed that Room 26 and Room 26A are the same. Room 26A contained the utility ware pendant (Figure 2.14, Catalogue No. 78.67.587). Room 26B, east and next to Room 25, contained the *Cerithidea* pendant with four oval holes worked to expose the internal shell structure (Figure 2.8, Catalogue No. 78.67.426).

Another block of three rooms stands south of the east end of the main part of Block 5, and includes Rooms 98–100. All three of these rooms contained completed jewelry or blanks and raw materials. Room 100 contained the *Haliotis* pendant that was reworked and includes two holes in Figure 2.9. It was found on the first floor, in a storage bin. A tree ring date of 1393 is associated with this context.

Room Block 2

Room Block 2 is north and east of Room Block 4 (Figure 1.4).

Room 117 contained the *Glycymeris* bracelet fragment in Figure 2.17.

Room 122 is slightly north of the main part of Room Block 2 and contained the 53 mm long tubular bone bead in Figure 2.4.

Room Block 1

Room Block 1 is east of Room Block 2 and north of Room Block 5 (Figure 1.4).

Room 101 contained the *Glycymeris* pendant that appears to be re-worked from a bracelet and is shown in Figure 2.6.

Room 19 contained a turquoise pendant (Catalogue No. 78.67.397), which is on display at the Albuquerque Museum and could not be examined closely (Figure A.1).

Room Block 6

This block of six rooms is north of Room Block 2 (Figure 1.3). Three of the six rooms contained completed jewelry artifacts. No blanks or raw materials were found in these rooms.

Room Block 8

This block of five rooms is in the far northeast portion of the site (Figure 1.3). Three of the five rooms contained completed jewelry and blanks or raw materials. This block includes the area excavated by Peckham in 1968.

Table C.1 lists counts of completed jewelry artifacts and blanks or raw materials by room, for the 1970s excavations.

Artifacts Recorded by Grid Positions

In all, 147 pieces of completed jewelry and 18 blanks or pieces of raw material were recorded at 60 grid locations, rather than being associated with numbered rooms (Figure 3.2). Grid position 042S/080E was a trench with five pieces of completed jewelry and no blanks or raw material. Seventeen of the 60 grid positions are located more or less over excavation areas that were later identified as room blocks, but it is not possible to associate the artifacts collected by grid positions (vertically, at or near the surface) with collections made in rooms. For many grid locations, no excavation took place.



Figure 3.2. Locations of jewelry artifacts and related items collected by grid unit. Units are feet (1 foot = 0.3048 m).

The grid positions in these excavations cover a large area, from 120S to 320N and from 130W to 370E. At least nine of the grid positions were documented as being trash areas (Table 3.7).

Grid Positions	Completed Jewelry	Blanks or Raw Materials	Total
020N/000W	10	2	12
020N/020W	22		22
100S/030E	10		10
030N/020W	7		7
000N/100E	7		7
000N/120E	5	1	6
000N/130E	4	2	6
010N/020W	4		4
170N/130W	2	2	4
200N/370E	1		1
Total	72	7	79

Table 3.7. Jewelry Artifacts from Trash Areas.

A large kiva, 45 feet in diameter, was identified at grid position 300N/320E. It was originally mapped as Structure I on Mera's map (Figure 1.1). Excavation within the kiva was limited to a trench to the floor (L. S. Cordell, 2010 personal communication). No jewelry artifacts were found in the large kiva.

A detailed listing of the items can be found in Table 3.8, in which proveniences are presented from the site datum outward.

Grid Position	Items	Context	Date
From the Datum North and East to 100N/100E			
000N/040E	Tubular stone bead	Disturbed surface	1387
000N/090E	Olivella whole shell bead	Surface	
000N/100E	Olivella whole shell bead	Surface, Test Area 1	
	Tubular bone bead	Fill, Level 1	
	Shell bead	Fill, Level 7, Test Area 2	
	Burned oval shell pendant	Fill, Level 7, Test Area 2	
	Triangular calcite pendant	Fill, Level 9	
	Triangular shell pendant	Fill, Level 9	
	Argillite pendant	Fill, Level 9, Test Area 3	
010N/040E	Argillite pendant	Disturbed surface	
030N/040E	Olivella whole shell bead	Fill, Level 1, Test Area 5	
	Trapezoid Conus pendant	Fill, Level 2, Test Area 5	
030N/080E	2 Olivella whole shell beads	Surface, Test Area 1, Burial 31	
	Stone bead blank	Surface, Test Area 1, Burial 31	
050N/040E	Olivella whole shell bead	Fill, Level 5, Burial 37	
	Shell bead	Fill, Level 5, Test Area 2	
	Tubular bone bead	Fill, Level 6, Test Area 2	
	From the Datum South an	nd East to 100S/100E	
000S/060E	Olivella whole shell bead	Surface	
	Subrectangular stone pendant	Surface	
010S/000E	Olivella whole shell bead	Surface	
	Crinoid stem disc bead	Surface	
020S/020E	Worked Unionidae	N/A	
020S/030E	Crinoid stem disc bead	Surface	
020S/040E	Calcite disc bead	Disturbed surface	1386
	Olivella whole shell bead	Disturbed surface	1386
020S/090E	Olivella whole shell bead	Surface	
025S/016E	Worked Glycymeris	Fill, Level 2	
030S/020E	Turquoise pendant	Surface	
030S/040E	Obsidian pendant blank	Surface, Test Area 1	
	Olivella whole shell bead	Fill, Level 1, Test Area 5	
	Bear tooth pendant	Fill, Level 1, Test Area 5	
030S/090E	Tubular bone bead	Surface	
	Olivella whole shell bead	Surface	

Grid Position	Items	Context	Date
030S/100E	Olivella whole shell bead	Fill, Level 1	
040S/020E	Worked Glycymeris gigantea	Fill, Level 1, Test Area 1	
040S/040E	Olivella whole shell bead	Fill, Level 4, Test Area 1	
	Tubular bone bead	Fill, Level 6, Test Area 2	
040S/080E	Tubular bone bead	Fill, Level 3	
	Canine pendant	Fill, Level 7	
	Tubular bone bead	Fill, Level 8	
042S/080E	Olivella whole shell bead	Surface	
	Triangular Agua Fria Glaze-on-red		
	pendant	Fill, Level 2	
	Olivella whole shell bead	Fill, Level 3	
	Tubular bone bead	Fill, Level 3	
	Tubular bone bead	Fill, Level 4	1352
042S/087.25E	Tubular bone bead	Fill, Level 12	
080S/000E	Olivella whole shell bead	Fill, Level 1	
090S/040E	Olivella whole shell bead	Surface	
100\$/030F	Olivella whole shell bead	Surface	
1005/0502	Argillite pendant, sawtooth edge	Surface	
	Tiny shell disc bead	Fill, Level 2	
	Canine pendant	Fill, Level 3	
	2 tubular bone beads	Fill, Level 4	
	Shell bead	Fill, Level 6	
	Tubular bone bead	Fill, Level 8	
	Tubular bone bead	Fill, Level 9	
	Bone bead	Fill, Level 10	
	From the Datum South and V	Vest to 100S/100W	•
010S/000W	Argillite disc bead	Surface	
	Subrectangular stone bead	Surface	
010S/010W	2 Olivella whole shell beads	Fill, Level 1	
	Conical whole Cerithidea pendant	Fill, Level 1	
	Trapezoid Conus pendant	Fill, Level 1	
010S/030W	Round Unionidae pendant	Fill, Level 1	
020S/010W	Olivella whole shell bead	Fill, Level 1, Test Area 1	
020S/020W	Tubular bone bead	Surface	
030S/030W	2 Olivella whole shell beads	Surface	1297+
030S/090W	Conical cut Conus pendant	Surface	
	From the Datum North and W	Vest to 100N/100W	
000N/030W	Rectangular bone pendant	Surface	
010N/020W	Olivella whole shell bead	Fill, Level 2	
	2 Olivella whole shell beads	Fill, Level 3	
	Glycymeris whole shell pendant	Fill, Level 7	
020N/000W	Olivella whole shell bead	Surface	
	Unionidae disc pendant	Fill, Level 2, Test Area 1	
	Olivella whole shell bead	Fill, Level 3, Test Area 1	
	Unionidae pendant	Fill, Level 4	

Grid Position	Items	Context	Date
020N/000W	Triangular Conus pendant	Fill, Level 4	
	Subrectangular turquoise pendant	Fill, Level 4, Test Area 1	
	Unworked crinoid stem cylinder	Fill, Level 4, Test Area 1	
	Tubular bone bead	Fill, Level 5	
	Tubular bone bead	Fill, Level 10, Burial 27	
	Olivella whole shell bead	Fill, Level 11	
	Oval crinoid stem bead blank	Fill, Level 12	
	Olivella whole shell bead	Fill, Level 13	
020N/020W	2 Olivella whole shell beads	Surface	
	Olivella whole shell bead	Surface, Test Area 1	
	Olivella whole shell bead	Fill, Level 1, Test Area 2	
	Olivella whole shell bead	Fill, Level 2, Test Area 1	
	Olivella whole shell bead	Fill, Level 3	
	2 Olivella whole shell beads	Fill, Level 4	
	3 Olivella whole shell beads	Fill, Level 5	
	Olivella whole shell bead	Fill, Level 6	
	Shell bead	Fill, Level 6	
	Olivella whole shell bead	Fill, Level 7	
	Argillite pendant	Fill, Level 7	
	Tubular bone bead	Fill, Level 7, Test Area 4	
	<i>Glycymeris</i> whole shell pendant	Fill, Level 10	
	2 tubular bone beads	Fill, Level 11, Test Area 3	
	2 tiny disc shell beads	Fill, Level 13, Test Area 4	
	Tubular bone bead	6th floor (?)	
023.5N/022.5W	Tiny shell disc bead	Fill, Level 3, Test Area 1	
030N/010W	Argillite pendant	Surface	
	Crinoid stem disc bead	Surface	
030N/020W	Turquoise pendant	Surface, Test Area 1	
0501002000	Tubular <i>Olivella</i> bead	Fill, Level 2, Test Area 2	
	Tiny disc shell bead	Fill, Level 2, Test Area 3	
	Olivella whole shell bead	Fill, Level 3, Test Area 2	
	Olivella whole shell bead	Fill, Level 4, Test Area 1	
	Olivella whole shell bead	Fill, Level 4, Test Area 2	
	Trapezoidal jet pendant	Fill, Level 4, Test Area 2	
	From 100N/000E North and	East to 200N/100E	•
130N/030E	Tiny bone disc bead	N/A	
	From 000N/100E North and	East to 100N/200E	I
000N/120E	Olivella whole shell bead	Disturbed surface	
	Worked Glycymeris	Fill, Level 6	
	Tubular bone bead	Fill, Level 6, Burial 52	
	2 tubular bone beads	Fill, Level 8	
	Olivella whole shell bead	Fill, Level 9	
000N/130E	Worked Conus	Surface	
-	Tubular chalcedony bead blank	Fill, Level 1	
	<i>Olivella</i> whole shell bead	Fill. Level 1	

Grid Position	Items	Context	Date
000N/130E	Tubular bone bead	Fill, Level 2	
	Tubular bone bead	Fill, Level 6	
	Rectangular Unionidae pendant	Fill, Level 7	
	From 000S/100E South and E	East to 100S/200E	
000S/120E	Olivella whole shell bead	Fill, Level 9, Test Area 1	
000S/140E	Oval siltstone pendant blank	Fill, Level 1	
010S/160E	Stone bead	Fill, Level 3	
	Selenite bead blank	Fill, Level 3	
013S/150E	Olivella whole shell bead	Fill, Level 1	
013S/160E	Argillite pendant	Fill, Level 1	
030S/120E	Turquoise pendant blank	Disturbed surface	
	Unworked turquoise chunk	Disturbed surface	
	From 100S/100E South and E	East to 200S/200E	
110S/140E	Burned shale pendant	Fill – level 3	
	Bi-lobe shell pendant	Fill – level 4	
120S/140E	Crinoid stem disc bead	Surface	
	Tubular bone bead	Fill, Level 4	
	Worked gastropod	Fill, Level 5	
	Glycymeris pendant	Fill, Level 6	
	Unionidae pendant	Fill, Level 8	
	From 100S/000E South and E	East to 200S/100E	
110S/000E	Crinoid stem disc bead	Fill, Level 1	
	Whole gastropod fossil pendant	Fill, Level 2, Burial 2	
	Crinoid stem disc bead	Fill, Level 3	
	Burned tiny stone disc bead	Fill, Level 3, Burial 2	
110S/010E	Olivella whole shell bead	Fill, Level 1	
	Tiny crinoid stem disc bead	Fill, Level 1	
	From 100N/100W North and V	Vest to 200N/200W	
170N/130W	Olivella whole shell bead	Surface	
	Unworked whole gastropod	Surface, Test Area 1	
	Subrectangular argillite bead blank	Fill, Level 2	
	Slipped, glaze red pendant	Fill, Level 3	
	From 200N/000W North and V	Vest to 300N/100W	
202N/020W	Unworked Unionidae	Fill, Level 11, Test Area 3	
295N/000W	Olivella whole shell bead	Fill, Level 3, Test Area 1	
	From 300N/300E North and E	East to 400N/400E	-
300N/331E	Tubular bone bead	Fill below 1st floor, Level 2	
310N/330E	Olivella whole shell bead	Surface	
320N/311E	Olivella whole shell bead	Surface	
	Conical Conus pendant	Fill, Level 1	
	From 200N/300E North and E	East to 300N/400E	-
200N/370E	Olivella whole shell bead	Fill, Level 2, Test Area 1	

Several artifacts summarized in Table 3.8. are of particular interest:

- Two of the canine pendants in Figure 2.11 were found in 040S/080E (Cat. No. 78.67.161) and 100S/030E (Cat. No. 78.67.48).
- 110S/140E: the bi-lobe shell pendant in Figure 2.13.
- 042S/080E: the triangular Agua Fria Glaze-on-red pendant in Figure 2.14
- 030S/090W: the conical cut *Conus* pendant in Figure 2.7.
- 010S/010W: the conical whole *Cerithidea* pendant in Figure 2.8.
- 030N/020W: the tubular *Olivella* bead in Figure 2.3.

Table C.2 summarizes completed jewelry artifacts and blanks or raw materials by grid position, for the 1970s excavations. Pieces of shell and turquoise that could not be classified as jewelry versus raw material are listed in Table B.2.

Albuquerque Archaeological Society Excavations, 1986

AS-10A and AS-10B are thought to be blocks J and L, respectively, on the original Mera map (Figure 1.1). Hand-drawn maps from the Albuquerque Archaeological Society excavations in 1986 indicate that rooms and other areas excavated at AS-10A (Figure 3.3) and AS-10B (Figure 3.4) were assigned feature numbers. The Society's overall work area was designated Room Block 7 (Sundt and Bice 1989:1). Ten completed jewelry items and ten blanks or pieces of raw material were found, and are discussed by feature (Figure 3.5).

AS-10A

AS-10A includes features numbered 1 through 11. Sundt and Bice stated that AS-10A probably had about 20 rooms in an L-shaped room block that was site J on Mera's map (Sundt and Bice 1989:1), and that they excavated eight rooms. Not all of the numbered features represent rooms, however. Feature 3 does not appear to have walls around it. Features 9 and 11 appear to be areas that run into each other. Feature 5 appears to be a room but is spatially isolated. Features 1, 2, 4, and 6–11 appear to constitute a room block, or part of such a block. Several floors were found in some rooms.

Feature 7 is a large square room with 3 subfloor channels, a bench, and a hearth. Subfloor channels typically occur in kivas or ceremonial rooms and those found in Feature 7 are similar to those found by Florence Hawley Ellis in a kiva at Sapawe and were described by her as the spirits' path into a building (King and Bice 1992:6).

Three completed jewelry items and one unworked piece of raw material were found in two features at AS-10A (Table 3.9). Both features appear on the maps as rooms (Figure 3.3); they are next to each other and to Feature 7.



Figure 3.3. Map of AS-10A, showing feature numbers.



Figure 3.4. Map of AS-10B, showing feature numbers.



Figure 3.5. Jewelry distribution by room, AS-10A and AS-10B.

Item	Context
Crinoid stem tiny disc bead	Feature 1 (room), fill
Stone tiny disk bead	Feature 1 (room), floor (middle of room)
Bone hairpin	Feature 8 (room), SW quad; 35.2N/21.0W, 180 MBD

Unworked Unionidae

Feature 8 (room), roof fall; 35.2N/20.9W

The bone hairpin (Figure 2.16) somewhat resembles a tuning fork. It was found in Feature 8, next to Feature 7, the room with the three subfloor channels. No burial was found in Feature 8, but hairpins were often found associated with burials (Jernigan 1978:184).

A shell that could not be classified due to its condition was found in a context described as the "fill to surface" of Feature 3.

AS-10B

A hand-drawn map of AS-10B (Figure 3.4) illustrates architectural details in Features 6, 11, 12, 14, and 17, but it is not clear what those architectural details are. Again, the features are numbered on the map; other than Features 3, 7, 16, and 18, each appears to be a room in what Sundt and Bice (1989:2) describe as a "T-shaped" room block that probably was Block L on Mera's map (Figure 1.1). Feature 10 is not visible on the hand-drawn map (Figure 3.4). Seven completed jewelry items, six blanks, and three pieces of unworked raw material were found. None of the proveniences for those artifacts was described as fill (Table 3.10).

Item	Location	
Crinoid stem tiny disc bead	Feature 2, room, in SE corner of wall	
Crinoid stem tiny disc bead	3.65 MBD	
3 stone tiny bead blanks	Feature 3, test trench	
Stone tiny bead blank	Feature 7, upper floor, test area	
Stone tiny bead	Feature 8, pot hole, 3.9–4.1 MBD	
Unworked turquoise	Feature 9, room, backdirt	
Unworked shell	Backdirt	
2 stone tiny disc beads	Feature 11, room, SE quadrant, on the floor	
Unworked Unionidae	Feature 12, room, 5 cm below the surface	
Shell tiny disc bead	Level 5	
Crinoid stem tiny disc bead	Feature 14, 2.7 MBD	
2 crinoid stem tiny disc bead blanks	Surface	

Table C.3 summarizes completed jewelry artifacts and blanks or raw materials by feature, for the 1986 excavations.

Burials

The records for the 1948 (Cedro Canyon) excavation note at least eight burials. Jewelry was associated with two of the burials.

Burial 8 was found in the fill of Mound A, Room 21, and the *Olivella* whole shell bead in Room 21 was found 25 cm north of the skull of Burial 8. This adult appeared to be covered in, and

resting on top of, twilled yucca matting and may have been covered with hide. The skeleton of an infant was located in the adult's pelvis area.

Burial 7 was in the fill of Room 4 of Mound C (student notebooks; Catalogue Nos. 81.25.3 and 81.25.18). The tubular *Olivella* bead was found near the ribs. More than 99 percent of tubular shell beads found among the Hohokam were found in mortuary contexts (Nelson 1991:58). The other two tubular *Olivella* beads found at Tijeras Pueblo were not associated with burials.

At least three burials were found during Peckham's 1968 excavation, and separately, a burial was removed from Block A by a University of New Mexico graduate student (Judge 1974:10). Laboratory of Anthropology artifacts include items from Burial 3 in Feature 26 and a child burial in Feature 14, Floor 5, but there is no record of jewelry artifacts being found with them.

The Maxwell Museum's osteology records document 55 burials from the 1970s field schools. Seven burials have associated jewelry artifacts. When osteology records were matched to the provenience information recorded for artifacts, some discrepancies were found. Student notebooks were reviewed to determine whether artifacts are associated with a burial.

The association of jewelry with burials is certain in the following seven cases (five adult males, one adult female, and one male child).

Burial 2: a 30+ year old male was found with a fossilized gastropod pendant (Catalogue No. 78.67.394), a stone tiny bead (Catalogue No. 78.67.408), and debitage. The burial was in the second level of fill at grid position 110S/000E. The pendant was found in the same level. The stone bead was found in the third level of fill.

Burial 27: a 2 1/2 to 3 year old male child was found with a tubular bone bead, debitage, sherds, and maize. The burial was in the tenth level of fill at grid position 020N/000W.

Burial 31: a 30 year old male was found with one stone bead blank (Catalogue No. 2005.25.13813) under his chin, two unworked *Olivella* shells (Catalogue Nos. 2005.25.13815) and 2005.25.13816), and sherds near the skull. The burial was in Test Area 1, in grid location 030N/080E.

Burial 37: a 25 to 35 year old male was found with an *Olivella* whole shell bead (Catalogue No. 78.67.515). The burial provenience is 050N/040E-2E&2F-T2-B1. The bead was found at 050N/040E-2E-B1-10.1.

Burial 47: a 35 year old male was found with a cloud blower and a bone bead. The bead was not found for examination and is not included in the study figures. The burial was found in the fifth level of fill at grid position 000N/120E.

Burial 51: a 40 year old male was found with a shell bead, debitage, a core or core fragment, and four non-human bones. A large fragment of a corrugated bowl covered the face. The shell bead was not found for examination and is not included in the study figures. The burial was found in Room 134, in a test area in the fill below the first floor (Level 3).

Burial 52: a 20 to 25 year old female was found with a tubular bone bead (Catalogue No. 2005.25.6406), a piece of worked bone, and sherds. The burial was found in the sixth level of fill at grid position 000N/120E.

For the next four burials, for reasons indicated, the burials are not considered to be associated with jewelry artifacts, or vice versa. Other researchers working with the records might reach different conclusions.

Burial 9A: an infant, 6 months to 1 year old, was buried with an adult male (Burial 9B) and possibly with an argillite subrectangular pendant (Catalogue No. 78.67.417). The pendant's provenience is reported as Room 19-5B-F2-10.1, which does not indicate a burial association; the location of the burial is Room 19-5C-B2. The student notebook (Cat. No. 79.84.88) states that a pendant, polishing stones, a worked sherd, and a paint slab were found in the room but not that the pendant was associated with the burial.

Burial 22: a 35 to 40 year old male was reportedly found with a stone pendant (Catalogue No. 78.67.593). Upon examination, the "pendant" appears to be an elongated natural stone. There is no hole or other indication that the piece was used as a pendant. The burial was in the ninth level of fill in grid position 030N/020W.

Burial 40: an 8 year old female was found with a gaming stone and "probably" with a drilled piece of shell (Catalogue No. 78.67.305). The remains were found in the fourth level of fill, at grid position 000N/130E. The drilled piece of shell, classified in this study as a rectangular Unionidae pendant, was found in the seventh level of fill at the same grid position. Given the difference in levels, the association of the piece of shell with the burial is questionable.

The specimen card for a red-slipped glazeware pendant (Catalogue No. 78.67.11) indicates an association with an unspecified burial.

There is no record of jewelry artifacts found with burials during the 1986 excavations of AS-10A and AS-10B.

Chapter 4

COMPARISON TO OTHER SITES

In order to determine whether the jewelry items found at Tijeras Pueblo were typical, unusual, or unique, the study included a review of published information on jewelry found at Arroyo Hondo, Coconito, Gran Quivira, Paa-ko, Pecos, and Tonque. None of the pieces from these sites was examined directly, and the review should not be considered exhaustive. In addition, these sites were excavated by different people using different approaches, and not all items found were identified in their reports.

This study focuses on items of jewelry worn as one would think of jewelry in the modern sense: as personal adornment or attached to clothing. Every attempt was made to identify all such items regardless of the context in which they were found or the excavation that uncovered them. In researching other sites and background material I found that some reports include information about jewelry in a discussion of all the artifacts made from a particular material (stone, bone, ceramics, etc.). Other reports include information about jewelry in discussions of ornaments. As many excavations encountered burials, jewelry is often discussed along with other artifacts associated with burials. Discussions that focus on jewelry for its own sake tend to be art history or arts and crafts texts, not archaeological reports.

At best it is possible to identify types of jewelry items that were common in Pueblo IV communities along or near the Rio Grande, versus those that were unusual. Each site is discussed in terms of what was found in burial contexts versus all other contexts.

Arroyo Hondo

Arroyo Hondo experienced two occupations, initially from about A.D. 1300 to 1345 and then from the 1370s to 1420 (Lang and Harris 1984:xvii). It comprised 1,000 rooms and 10 plazas (Palkovich 1980:ix).

Seventy of the 120 skeletons found were buried with grave goods (Palkovich 1980:xviii, 16). Seven burials yielded jewelry artifacts including beads and pendants of jet, turquoise, shell and slate. Five of these burials were of infants or children. One child burial included a bone bead and four beads strung on a pine stick (Beach and Causey 1984:205). It is not clear whether this is one of the seven burials reported by Palkovich.

About 6 percent of the burials included jewelry, less than the 13 percent at Tijeras Pueblo.

Arroyo Hondo yielded 255 shell artifacts. Shells were found in rooms, plazas, gateways, kivas, burials and on the surface, but the site contained no evidence of manufacture of shell ornaments (Venn 1984:239, 246). Marine species were from the Gulf of California (as was the case at Tijeras Pueblo), except for one piece of black abalone from the Pacific Ocean (Venn 1984:228). Most (170) of the 255 shell artifacts were found in rooms (Venn 1984:238); the rest were found

in contexts including plazas, kivas, and burials. Of the shell artifacts, 184 were beads, 47 were pendants, and 24 were unworked fragments of freshwater mussel. Seventy percent were *Olivella* and 10 percent were *Conus*. The shell included a necklace of 94 *Olivella* beads, five abalone pendants, and one *Conus* pendant cached in a jar in a room's wall fall (Venn 1984:227). Thus, this cache accounts for 100 of the 231 items identified.

Eight bone pendants were found (Venn 1984:230).

Two ceramic beads had diameters of 6.4 and 8.7 mm, with holes slightly less than 2 mm across (Thibodeau 1993:183, 184, 198).

Stone ornaments have been analyzed at least three times and different definitions were used each time. A report by Carl Phagan (1993:205–217) identifies "ornaments" as comprising 1 percent (n \approx 38) of the artifacts, with an additional 1.5 percent (n \approx 56) pieces of turquoise classified as "mineral" (so I assume that they are unworked) (Phagan 1993:217, Table 20). The "ornaments" are listed as "mostly beads and pendants." Ornaments are listed as made from turquoise, ocher, hematite, mica, and pyrite (Phagan 1993:209).

One burned wooden pendant was recovered from the trash fill in a room (Lang 1986:255, 271).

Discussion: The jewelry from Tijeras Pueblo includes no necklaces, caches, ceramic beads, black abalone, wood, ocher, or pyrite. Hematite does occur in the kiva floor mosaic from Tijeras Pueblo, but was not used in any of the actual jewelry found at the site.

Coconito Pueblo

Excavations at Coconito Pueblo (LA 10794), in Tijeras Canyon, recovered 13 beads, including nine tubular turkey bone beads, three tubular ceramic beads, one oval mother-of-pearl bead, and one rectangular shell pendant (which may have been reworked, as it had two holes) (Wiseman 1980:87). The bone beads ranged in length from 20 to 40 mm, and in diameter from 5 to 16 mm.

Discussion: All of the Tijeras Pueblo bone beads that were available for examination were also tubular; most ranged in length from 13 to 44 mm. No ceramic beads were found at Tijeras Pueblo.

Gran Quivira

Gran Quivira is a masonry pueblo of 21 mounds, occupied between A.D. 1300 and the 1670s. Excavations were limited to Mound 7 and part of Mound 10. Gordon Vivian excavated and stabilized 37 rooms in Mound 10 in 1951. Alden Hayes worked in Mound 7, the largest of the mounds, 1965 to 1967 (Hayes et al. 1981:v). In Mound 7, the upper rooms dated from A.D. 1550 to the 1670s and the lower rooms dated from the 1300s. The lower component consisted of more than 200 rooms laid out in a pattern of five to six concentric circles. The upper rooms were laid out in a rectangular pattern, and appear to have been built at a time of major changes at the site
(including a shift from Chupadero Black-on-white to Tabira Black-on-white and the introduction of cremations) (Carroll et al. 1984; Murphy 1993:16). Unlike other sites discussed in this paper, Gran Quivira displayed Mogollon cultural traits including pottery styles, basin metates, and pit houses (Hayes et al. 1981:5). The site was on the dividing line between the Mogollon and Anasazi/Ancestral Puebloan areas but is thought to have become thoroughly Anasazi (i.e., northern Ancestral Puebloan) in its material culture by about A.D. 1300 (Hayes et al. 1981:12)

The major excavation of Mound 7 uncovered 512 graves of 516 people (Hayes et al. 1981:169) and five kivas (Hayes 1981:2). It is not clear how many burials included jewelry artifacts. At least 23 burials included shell, and Hayes's report mentions another four burials relative to stone jewelry artifacts. It is safe to say that at least 5 percent of the burials included jewelry artifacts.

Of the 405 pieces of shell found, some 300 beads and pendants and unworked shells were found in 23 burials. Generally speaking, large numbers of shells were found with burials of children (Hayes et al. 1981:163–164). A young male was buried in Kiva N with 84 turquoise beads and 47 disk shell beads strung together (Young 1981:129, Hayes et al. 1981:163). An adult female burial was accompanied by 28 rectangular pieces of turquoise that might have been tesserae. Two of these appeared to be reused pendants with partial holes (Young 1981:129).

Worked shell at Gran Quivira included a strand of 47 *Olivella* shell beads, fine *Conus* beads and *Conus* tinklers, shell disc beads not identified by taxon, minute pieces of *Nassarius* from the northern part of the Gulf of California, freshwater mussels, *Arca* (suitable for pendants but uncommon in the Southwest; examples included a single *Arca multicostata*, the only shell from the Pacific coast of Mexico), *Glycymeris, Pinctada, Chama, Unio* (from east of the Rockies), and *Lampsilis* (found in eastern Kansas, Oklahoma, and Texas) (Keen 1958:42, cited in McKusick 1981; McKusick 1981:40-41; Morris 1951:10, cited in McKusick 1981). More *Olivella* shells (82) were found than of any other genus (McKusick 1981:40).

At Mound 7, stone pendants, turquoise beads, a shell necklace, stone tinklers, tubular bone beads and bone pendants were found (Hayes et al. 1981:127–129, 152). Thirty-five small worked pieces of turquoise and two pieces of azurite were described as being used in mosaics and inlays (Hayes et al. 1981:129, Figure 168). Seventeen stone pendants were found, of which 12 were turquoise, three were selenite, and two were schist. One rectangular piece of schist weighed more than 220 grams (8 ounces) and measured 177 by 99 by 8 mm. Four turquoise pendants and one selenite pendant were associated with four burials (Young 1981:127–128).

Tinklers of shell, limestone, chert, flint, chalcedony and jasper were found. They were long and thin, with a groove near one end for suspension. Young suggested that some may have begun as "pipedrills" on the Plains, as the stone is not from New Mexico or Texas, and were reworked at Gran Quivira to be tinklers (Young 1981:128). A single early Pueblo dance belt could have scores of such tinklers (D. A. Phillips, 2010 personal communication).

Three discs of white travertine were found, with diameters of 20 to 40 mm and thicknesses of 7 to 13 mm. These may have been blanks, as the two larger pieces had partial holes (Young 1981:129).

Other small worked pieces of turquoise and azurite may have been meant for mosaics or inlay work (Young 1981:129).

Bone items included six pendants and 182 tubular beads. The latter ranged in length from 9 to 123 mm but most were between 34 and 64 mm long. Twenty-seven of the beads were incised. Two had traces of paint (red and green). The bone pendants included claws (Hayes et al. 1981:152–154).

Fifteen pendants were made from sherds. Three had side notches for suspension, instead of holes (Hayes et al. 1981:159–160).

Murals were found in seven of 74 excavated rooms and in three of five excavated kivas (Peckham 1981:15). Kiva N, dated A.D. 1416, with the largest collection of murals (31 layers), had been burned and abandoned by A.D. 1500 (Peckham 1981:17). Unfortunately for this study, the murals at Gran Quivira do not portray any jewelry (Peckham 1981:37).

Discussion: As at Tijeras Pueblo, most Gran Quivira burials contained no completed jewelry. However, many raw materials not found at Tijeras Pueblo burials were found in Gran Quivira burials. These materials include *Nassarius, Arca, Pinctada, Chama, Unio,* and *Lampsilis.* No strands of beads were found at Tijeras Pueblo. No schist jewelry items were found at Tijeras Pueblo, and certainly no items as large as the schist pendant from Gran Quivira. The only tinklers found at Tijeras Pueblo were made of *Conus* shells. Only one travertine pendant was found at Tijeras Pueblo, and it was banded, not white. The only inlay pieces or tessarae found at Tijeras Pueblo were in the mosaic. No bone beads with traces of paint were found at Tijeras Pueblo.

Paa-ko

About one-third of the 15 burials at Paa-ko had associated jewelry artifacts. These included shell and turquoise pendants, along with bi-lobe beads and pendants whose materials were not identified. One pendant of note was a *Pecten* shell with three turquoise insets (Lambert 1954:135, 158). Three of the burials were of infants.

The 72 pieces of prehistoric shell documented included pearl oyster, *Glycymeris*, *Olivella*, *Conus*, *Cardium elatum*, and unionidae (Lambert 1954:157). Four *Conus* shells were found in the North East Communal Rooms, a broken shell pendant was found in Room 74, and a reworked *Glycymeris* pendant was found in Room 145 (Lambert 1954:158).

Fossil and stone jewelry items included two prehistoric crinoid stem beads, three jet pendants (possibly pendant blanks), 35 pieces of turquoise, and seven additional prehistoric stone beads and pendants. The turquoise items included four pendants found in Kiva 1, one tiny disc bead (1/8 inch [3 mm] in diameter), and one muscovite pendant from the fill above the floor in Room 37 (Lambert 1954:133).

Lambert also reported 111 "early" bone beads with lengths ranging from 25 to 102 mm. Two were from ceremonial Room 2, 19 were from stratigraphic tests, and 90 were from rooms and refuse areas. Two caches of bone beads were found: Room 37 contained a cache of 17 and Room 33 contained a cache of 6 (Lambert 1954:148).

Discussion: At Paa-ko the proportion of burials with jewelry was fairly high (one-third) compared to Tijeras Pueblo (fewer than 13 percent). The Paa-ko sample is too small to be statistically reliable, however. None of the jewelry from Tijeras Pueblo includes composite pieces (the floor mosaic incorporates pieces of jewelry, but is not itself a piece of jewelry). No *Cardium elatum* was identified at Tijeras Pueblo. The bone beads at Paa-ko included much longer examples than at Tijeras Pueblo (where most were from 13 to 44 mm long). No caches of beads were found at Tijeras Pueblo.

Pecos Pueblo

Pecos Pueblo was established after A.D. 1000, reached its maximum population about 1250, and was abandoned in 1838 (Kidder 1932:1–3). Kidder's excavations of some 12 to 15 percent of the site, over six field seasons, located 2,000 burials (Kidder 1932:4, 6). Of those, 39 (2 percent) included jewelry artifacts. Twelve of the 39 Pecos burials with such artifacts contained 10 to 199 artifacts and three contained more than 200 artifacts. Twenty of the 39 burials were children. Many adult burials at Pecos were not identified by gender, and only one adult with jewelry was identified as female. Jewelry found in Pecos burials includes a number of doughnut-shaped *Glycymeris* bracelets (Kidder 1932:103, 188–190) including one bracelet with turquoise inlay work. One pair of turquoise earrings backed with slate was found with a child burial (Kidder 1932:101–102). Other burial jewelry included shell pendants, tinklers, *Olivella* beads, *Alectrion (Nassarius)* beads, turquoise beads, a large (38 mm square) turquoise pendant, a quartz crystal bead, bone beads, pieces of turquoise, and stone and claw pendants (Kidder 1932:100–102,185–186, 188, 191, 193). Funerary objects including bead bracelets, beads, a button, worked shell and fragments, tinklers, necklaces, and pendants were repatriated in May of 1999 to Pecos descendants at Jemez Pueblo (Capone 2010:16).

Jewelry found in non-burial contexts was made of stone, ceramic, bone and shell. Most stone beads and pendants were turquoise; the exceptions were two slate beads, a limestone disc bead, a cylindrical steatite bead, a fragment of a keystone-shaped pendant of pink stone, and an oval pendant of diorite (Kidder 1932:100). The turquoise beads were almost always disc shaped; they ranged from 2/25 inch to 1/4 inch in diameter (2–6 mm). One three-inch strand of about 50 small pieces of irregularly shaped turquoise beads was reported (Kidder 1932:101). Twenty-four turquoise pendants were found. One piece of worked bone was identified as a possible hair ornament (Kidder 1932:246, Figure 206f).

The excavations recovered five ceramic beads and five ceramic pendants (Kidder 1932:141–142). Eight worked sherds may have been used as pendants but two of them are listed as being made of modern material (white improved earthenware, commonly referred to as "china") and are not prehistoric (Kidder 1932:151).

Shell disc beads ranged in size from 1/10 to 1/4 inch in diameter (3–6 mm). Strings of shell beads were found, including a string of shell disc beads 14.6 m (48 feet) long with more than 5,000 beads, a 1 inch (25 mm) long strand found in a plaza ceremonial cache, and a 10 inch (254 mm) strand with two tinklers found in the fire pit of Kiva 15. One saucer-shaped bead cut from the lower part of an *Olivella* shell was found (Kidder 1932:184–185). Seventy-five tinkler pendants (five of them historic) were found, mostly in refuse. Half were *Conus*, the rest *Oliva* (Kidder 1932:190–191). About 46 *Haliotis* and freshwater nacreous cut pendants were found, mostly in refuse areas—but three were found in ceremonial rooms (Kidder 1932:192). These pendants ranged from 1/2 to 5 inches long (13–127 mm).

Kidder defined tubular forms under 4.5 inches (114 mm) long as beads, and referred to larger forms as "tubes" that might have been used for purposes other than beads (Kidder 1932:256). Six "massive" beads, 1.5 inches long (38 mm), were reported as "Eastern" rather than Southwestern in style (Kidder 1932:188). From the mid-1400s onward, there is evidence of trading of food stuffs between the Pueblos and Plains people (Spielmann et al. 1990:746). Of the 1,925 tubular bone beads found, 511 were 1.5 inches (38 mm) or less long (Kidder 1932:257). Two prehistoric bone pendants were found made from teeth (grizzly bear and wolf) and five were made from bird claws (Kidder 1932, Figures 225 and 226). Forty eagle claws were found without drilled holes and may not have been intended for necklaces; 14 were found with two burials (Kidder 1932:271).

Discussion: Two percent of burials at Pecos included jewelry, compared to roughly one in eight Tijeras Pueblo burials. While burials with jewelry were rare at Pecos, two-thirds of the burials with jewelry contained multiple jewelry items—in many cases, 10 or more items. Of the nine burials with jewelry at Tijeras Pueblo, seven contained one artifact, one contained two jewelry artifacts, and one contained one jewelry artifact and two unworked shells.

Unlike at Pecos, no artifacts were identified as earrings at Tijeras Pueblo. Other items found at Pecos, but not at Tijeras Pueblo, included complete *Glycymeris* bracelets, quartz crystal beads, "saucer shaped" *Olivella* beads, ceramic beads, jewelry items of limestone or diorite, strings of beads, caches, and jewelry pieces with inlays.

Shell pendants at Tijeras Pueblo were from 10 to 29 mm long, a much smaller size range than those found at Pecos.

Tubular bone beads at Tijeras Pueblo ranged in length from 13 to 78 mm, and all but two were 44 mm or less—again, the small end of the size range for Pecos.

Tonque Pueblo

Tonque Pueblo was occupied from about A.D. 1428 to at least 1496 (a little later than Tijeras Pueblo), based on tree ring samples (Barnett 1969:12). A Spanish cast copper pestle found in one room suggests an occupation extending into the Historic period (Barnett 1969:13). Tonque Pueblo was extensively looted, but was also excavated on several occasions. In 1914, Nels Nelson excavated 218 rooms (Barnett 1969:21). Later avocational studies included excavation of

94 rooms by the Barnetts (Barnett 1969:xiii) and of 50 rooms by the Bices. The Maxwell Museum currently holds multiple collections from Tonque that are being reorganized for study.

Barnett reported five burials from Tonque, including three infants and two adults, as well as two partial skeletons (Barnett 1969:83, 216–217). None of these human remains had associated jewelry.

Four beads (two of shell, one of bone, and one ceramic) and one obsidian pendant were found on the site's surface (Barnett 1969: Table 1). The ceramic bead had a diameter of 1 inch (25 mm). Jewelry was found in 30 of the 94 rooms excavated (Barnett 1969:97). Of the jewelry found in rooms, most were found on the floor. Beads, pendants, and a mica gorget make up the jewelry items found in the rooms (Barnett 1969:98–99, Table 3).

Of the 22 beads, 11 were tubular bone, six were whole shell or tubular *Olivella*, one was ceramic, one was a turquoise disc bead, and three were disc beads of unidentified stone. The ceramic bead was spherical, unslipped, and undecorated, which Barnett (1969:99) described as rare.

The 11 pendants included two of mica, one of ceramic, six of shell, one of unidentified stone, and one turquoise piece that I would classify as a blank (as the hole had not been completed). Mica could be found just north of Tonque, in caves (Barnett 1969:100). The ceramic pendant was made from the neck and rim of a Rio Grande Glaze Ware jar, and was found on the floor of Room 92 (Barnett 1969:196).

Nine pieces of turquoise were found on room floors (Barnett 1969:100).

An addendum to Barnett's report discusses artifacts found by the Bices, but only if the artifacts differed from Barnett's finds (which are discussed in the main part of the report; see Barnett 1969:206). Based on the addendum, the Bices found (at least) the following items. A necklace of seven tubular bone beads was found on a ledge in Room A-25. The bead lengths ranged from 3 3/4 to 4 1/2 inches (95–114 mm) (Barnett 1969:220–221). A shell-shaped limestone pendant, 3 inches long and 2 5/8 inches wide (76 by 67) was found in the fill of Room A-20 (Barnett 1969:223–224).

Discussion. Jewelry items were found in more than half of the rooms excavated at Tijeras Pueblo but in fewer than one-third of the Tonque rooms. While the sample size at Tonque is a large one, differences in methods (especially in the amount of screening done) and the uncertainty of the actual number of items uncovered by the Bices may contribute to the disparity.

Unlike at Tonque, the finds at Tijeras Pueblo included no strung beads, ceramic beads, gorgets, or items of limestone. Bone beads in the Tonque necklace were much longer than even the two longest bone beads at Tijeras Pueblo (78 and 53 mm long).



Chapter 5

SUMMARY AND CONCLUSIONS

Jewelry items found at Tijeras Pueblo are representative of jewelry worn by Pueblo IV people across the Southwest. Although the Tijeras examples are modest, they provide a sense of the style of the day. Our knowledge of actual uses of such jewelry comes in part from kiva murals; Figure 5.1 shows a painted figure with necklace with shell pendant.



Figure 5.1. A necklace and pendant shown in a kiva mural at Pottery Mound. Excerpted from Hibben 1975, Figure 38.

Beads are the most common form of jewelry found at Tijeras Pueblo. About 59 percent of those beads were shell, 26 percent were bone, and 15 percent were stone. *Olivella* shells, which came from the Gulf of California, were used for 90 percent of the shell beads and account for more than a third of all jewelry artifacts found at Tijeras Pueblo. The second most common bead type is tubular bone beads, accounting for an additional 16 percent of the jewelry artifacts. The tiny disc beads found at Tijeras Pueblo are all larger than the "minute" (2 mm or less in diameter) beads found at Casa Grande and near Kayenta, where necklaces of more than 15,000 beads were found (Haury 1931:80–82).

The pendants found at Tijeras Pueblo are made from a wider variety of materials than the beads, even though the study includes 268 beads and just 93 pendants. The assemblage includes five ceramic pendants (all made from worked sherds) but no ceramic beads. Bone pendants were made from claws, turtle/tortoise scutes, and a bear tooth, but no beads were made from these

skeletal parts. Thirty seven pendants were identified as made from 12 types of stone, while 26 beads were identified as made from only five types of stone. Thirty shell pendants were identified as made from six types of shell, while 145 beads were identified as made from only two types of shell.

Pendants also showed greater variety in shape, including those made from a single type of material. It seems that more care was devoted to selecting the material and shape for a pendant than for a bead. There is also evidence of re-working of at least three pieces to fashion pendants from other pieces of jewelry. There was no such indication with beads.

No finger rings, nose ornaments, earrings, or lip plugs were found at Tijeras Pueblo. Among the Anasazi/Ancestral Puebloans, rings are not common outside Chaco Canyon (Jernigan 1978:177) and Jernigan (1978:172) mentions only one nose plug found, even though such jewelry is found in non-Anasazi/Ancestral Puebloan Southwestern sites (Jernigan 1978:208). More to the point, Tijeras Pueblo yielded no strung beads, in fact no concentrations of beads at all. In the Southwest, deposits of very large numbers of beads include the strand of 31,000 disc beads at Aztec Ruin (Jernigan 1978:158); the 250 bone tubular beads, 47 turquoise tiny disc beads, three large shell tubular beads (plus pieces of worked bivalve shell, turquoise, and Gilsonite) buried with an adult male at Pecos (Kidder 1932:102–103), and the string of more than 5,000 small disc beads found at Forked Lightning Ruin (Kidder 1932:184–185). The sites reviewed in Chapter 4 also included a number of caches or concentrations of beads.

Certain jewelry items stand out from the rest of the Tijeras Pueblo collection. These include the tuning fork-shaped bone hairpin (Catalogue No. 2006.76.195), the *Glycymeris* pendant blank that resembles a piece found at Paquimé (Catalogue No. 78.67.371; see Di Peso et al. 1974 6:403, Figure 503.1), the turquoise button (Catalogue No. 2005.25.14928) with an angled hole designed to conceal the attachment threads reminiscent of Mesoamerican design (Tanner 1976:157, Phillips 1979:181, Figure 28), the bi-lobe shaped pendant which was common in the Chaco area during Pueblo II times but rare in the Rio Grande region during the Pueblo IV period (Jernigan 1978:156), the reworked *Haliotis* pendant (Catalogue No. 78.67.462), and the banded travertine pendant. Banded travertine artifacts appear in small numbers at other prehistoric Southwestern sites, including at Pottery Mound (as my own research indicates). The mosaic found in the floor of the kiva in Room 64 included tesserae of shell, turquoise, turquoise pendants, and hematite. It is thought to be the only such mosaic of its kind in the Southwest (L. S. Cordell, 2010 personal communication). It is also another example of the reuse of jewelry artifacts.

Jewelry artifacts at Tijeras Pueblo were found in small numbers in any given provenience. Although there was evidence of reworking by local jewelers, and bones and other raw materials were readily available locally, no single room or location had a large number of completed jewelry pieces or of blanks and raw materials. Thus, Tijeras Pueblo had no known specialactivity areas that would have served as jewelry workshops.

Trade is indicated by jewelry artifacts made from shell from the Gulf of California, the Pacific Coast and by unworked marine shell. Argillite, which appears to have been the most popular material for pendants, was available from quarries near Prescott, Arizona (Jernigan 1978:214.) and probably elsewhere in the Southwest. The styling on at least two pieces of Tijeras Pueblo

jewelry resemble examples from Northwest Mexico and Mesoamerica. The *Glycymeris* pendant blank (Catalogue No. 78.67.371) resembles a piece found at Paquimé (Di Peso et al. 1974 6:403, Figure 503.1), and the turquoise button (Catalogue No. 2005.25.14928) follows a drilling pattern used in Mesoamerica (Phillips 1979:181, Figure 28). It is not difficult to imagine that pieces of jewelry, as well as jewelry designs, traveled far greater distances than ordinary commodities.

Available lead isotope data indicate that potters of the Rio Grande Glaze Ware tradition had ready access to lead from the Cerrillos Hills (Habicht-Mauche et al. 2000:711) which was also a source of turquoise. It is interesting to note that turquoise was found at sites such as Tijeras Pueblo in fairly small amounts, considering that turquoise was traded deep into Mesoamerica. This suggests that while the people of Tijeras Pueblo had access to the widespread turquoise trade, it was not a substance they could afford to accumulate.

All four of the major excavations at Tijeras Pueblo (1948, 1968, 1970s, and 1986) uncovered completed jewelry items. Bead and pendant blanks and raw materials were found in all but the 1968 excavation. Jewelry artifacts were not restricted to specific kivas, rooms or other areas, but appear to have been found widely distributed across rooms and grid positions. For example, the 1970s field schools found completed jewelry items in more that half of the rooms. About 70 percent of jewelry found in rooms came from fill, indicating that most of the jewelry reached archaeological contexts by being lost (when a necklace string snapped, for example) and thus becoming part of the accumulation of dirt within the site. The widespread distribution of such lost pieces suggests that no one part of the site held the lion's share of the community's jewelry.

Most Tijeras burials were found without any associated jewelry. The few jewelry artifacts found with burials (mostly male adults) resemble jewelry found elsewhere at Tijeras Pueblo. There were no burials with large quantities of beads, as have been found at other Southwestern sites (Jernigan 1978:158, Kidder 1932:102–103,184–185, Tanner 1976:166).

In conclusion,

- The distribution of jewelry artifacts across more than half the rooms at Tijeras Pueblo and the lack of large numbers of pieces in burials or in other caches support the idea that jewelry items were generally available rather than tightly restricted.
- Although beads were the most common jewelry item, pendants were made from a wider variety of materials.
- Trade brought jewelry and raw materials to Tijeras Pueblo. The residents had access to mined turquoise and argillite, and to jewelry fashioned from marine shells native to the Gulf of California and Pacific Coast. More than a third of all jewelry items found at Tijeras Pueblo were beads made from Gulf of California *Olivella* shells. There are rare indications of design approaches similar to those found at Casas Grandes and in Mesoamerica. No Plains style jewelry items were identified.
- The re-worked items indicates that jewelry was held in high enough regard to be refashioned even after being damaged. The blanks, pieces of raw material, and reworked

items were not concentrated in a few areas and it appears that jewelry work was done in a number of locations across Tijeras Pueblo.

- The mosaic found in the Room 64 kiva included turquoise pendants and appears to have been protected when the room was burned. Protection of the mosaic may have been to ensure that the kiva would remain "ritually dressed" and adorned appropriately (Mills 2008:88–91). Beads, pendants, and crushed turquoise have been used "as offerings to be renewed periodically in shrines and placed with prayers in acts of appreciation to Nature" (Ellis 1976:38).
- Small amounts of jewelry were found associated with a few burials, mostly adult males.
- A comparison of Tijeras Pueblo jewelry-related artifacts to those of other Pueblo IV Rio Grande sites shows that most have beads and pendants made from freshwater and Gulf of California and Pacific Coast shells, from bones, and from a variety of stones. In addition, each community, including Tijeras Pueblo, had access to a few types of materials or design elements that allowed them to make some unique pieces of jewelry (Table 5.1).

	Arroyo Hondo	Coconito	Gran Quivira	Paa-ko	Pecos	Tonque	Tijeras Pueblo
Tubular bone beads	Х	Х	Х	Х	Х	Х	х
Olivella	Х		Х	Х	Х	Х	х
Turquoise	Х		Х	Х	Х	х	х
Jewelry in Burials	6%		5%	33%	2%		13%
Stone beads	Х			Х	Х	Х	Х
Freshwater shell	Х		Х	Х			Х
Gulf of California shell	Х		Х	Х			Х
Conus	Х		Х	Х			Х
Ceramic beads	Х	х			Х	Х	
Stone pendants	Х			Х	Х		Х
Large numbers of beads	Х		Х	Х	Х		
Haliotis (Abalone)	Х	х	Х				Х
Strands of beads	Х		Х		Х		
Glycymeris				Х	Х		Х
Mica	Х					Х	Х
Jet	Х			Х			х
Claw pendants			Х		Х		х
Ceramic pendants			Х			Х	х
Bone pendants	Х		Х				Х
Turquoise inlaid shell				Х	Х		
Crinoid stem				Х			Х
Selenite			Х				х
Travertine			Х				X
Limestone					Х	Х	
Bi-lobe				Х			X
Button					Х		Х
Hairpin					Х		Х
Hematite	Х						(Mosaic)
Tessarae			Х				(Mosaic)
Wood pendant	Х						
Arca			Х				
Shells from east of N.M.			Х				
Stone tinklers			Х				
Schist			Х				
Painted bone			Х				
Earrings					Х		
Diorite					Х		
Operculum pendant							Х
Mosaic							Х
NW Mexico/							
Mesoamerican styling							X

Table 5.1. Comparison of Jewelry by Site.(Arranged by most to least common in the comparison sites.)



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Appendix A

DETAILED METHODOLOGY

Selection of Items

My research began with "bulk" collections excavated during the 1970s, stored at the Maxwell Museum and recently re-housed and catalogued under accession number 2005.25 (see Chapter 1). "Bulk" artifacts were catalogued to the bag level; in some cases, bags contained single items. In searching the resulting records, I identified jewelry and related artifacts based on descriptions such as "bead," "bead blank," "pendant," and "pendant blank." As the volunteers were not specifically looking for jewelry-related items during their artifact processing, I also examined all other items identified as shell or turquoise, as well as any bone and ceramic artifacts described as "worked." Almost all of the repackaged bags contain multiple artifacts, and additional jewelry-related artifacts may remain hidden in those bags.

Previously, a number of artifacts had been catalogued individually, under accession number 78.67. Most were available for examination at the Maxwell Museum. Five of those artifacts were on display at the Albuquerque Museum of Art and History (Figure A.1) and were unavailable for close examination.



Figure A.1. Turquoise on Display at the Albuquerque Museum of Art and History. Maxwell Museum Catalogue Nos. (left to right) 78.67.309, 78.67.397, 78.67.275, 78.67.551, and 78.67.141B. According to the Maxwell Museum's records, the five loaned items were Catalogue Nos. 78.67.141, .275, .309, .397, and .551, but the display did not indicate which was which. In the analysis, these five turquoise artifacts were handled as follows:

- Three turquoise artifacts (Catalogue Nos. 78.67.275, 78.67.309 and 78.67.551) were positively identified based on drawings on specimen cards.
- Catalogue No. 78.67.275 does not have a visible hole and is recorded as a pendant blank in this study. This piece should be examined closely when it becomes available, to determine whether it was a pendant or a blank.
- The two remaining turquoise pendants on display at the Albuquerque Museum were assigned Catalogue Nos. 78.67.141B and 78.67.397. As both are turquoise pendants, the only question is the relationship between the two numbers and the accompanying proveniences. In the jewelry Excel spreadsheet, the provenience for the pendant with Catalogue No. 78.67.397 is Room 19. The pendant with Catalogue No. 78.67.141B is listed in the jewelry Excel spreadsheet without a provenience. Note that there is an argillite pendant in the study originally assigned Catalogue No. 78.67.141. The argillite pendant is currently listed in the jewelry Excel spreadsheet with Catalogue No. 78.67.141A.

When the exhibited artifacts become available for examination, the database will be updated to ensure that the data for each artifact includes the correct catalogue number and provenience.

Other artifacts in the study were accessioned by the Maxwell Museum in 2006. They were excavated in 1986, during a "rescue" operation by members of the Albuquerque Archaeological Society (AAS) under the direction of William M. Sundt and Richard A. Bice (Sundt and Bice 1989). The AAS work took place at two room blocks, designated AS-10A (Accession No. 2006.76) and AS-10B (Accession No. 2006.82). These loci were on private land about to be developed. The re-packaging and cataloguing of the AS-10A and AS-10B artifacts was completed under the direction of Karen Armstrong, with input from Phyllis Davis, and resulted in Excel spreadsheets designed to match the one for the UNM field schools at Tijeras Pueblo.

One item accessioned by the Maxwell Museum in 1976 is a floor mosaic consisting of jewelry artifacts and other materials. The floor mosaic is currently on display in the Maxwell Museum of Anthropology but was temporarily removed for study (Catalogue No. 76.37.1).

Artifacts excavated in 1948 (by Fred Wendorf and Stanley Stubbs) and in 1968 (by Stuart Peckham) are housed at the Laboratory of Anthropology (Museum of Indian Arts and Culture), Santa Fe. At the Lab I examined the records for the projects, including inventory lists and specimen cards. The Lab's computer records identify boxes containing artifacts from these two excavations, along with the general contents of each box. I later visited the Lab to examine all of the boxes from 1968, along with the boxes from 1948 that were listed as containing jewelry artifacts. Some jewelry artifacts not mentioned in the paper documents were found during my examination of the boxes, and are included in this analysis.

Data Assembly

I created a Tijeras Pueblo jewelry Excel spreadsheet from the following electronic sources:

- The Excel spreadsheet from the Tijeras Pueblo LA 581 re-packaging effort.
- The two Excel spreadsheets from the AS-10A and AS-10B re-packaging effort.
- Spreadsheets generated from the Maxwell Museum's Oracle database, for artifacts accessioned in 1978 and for the mosaic.

The jewelry Excel spreadsheet was then augmented using information obtained from paper documents at the Maxwell Museum, including the "Blue Books" (pre-computer master records), specimen cards for the artifacts accessioned in 1978, and specimen cards from the Laboratory of Anthropology. Specimen cards were filled out by excavators and often include drawings of the artifacts, dimensions, and provenience information. Some old specimen cards include catalogue numbers, but most do not. Where possible I matched artifacts mentioned on the specimen cards to actual artifacts, based on provenience, appearance, and excavation date. Where a match was found, data from the specimen card was added to the jewelry Excel spreadsheet. In the case of the Maxwell Museum collections, I also added the catalogue number to the specimen card.

Trips to the Maxwell Museum's warehouse resulted in the retrieval of additional boxes of Tijeras Pueblo artifacts, overlooked during the re-packaging project. These artifacts (including some jewelry) were re-packaged, accessioned, and recorded in both the Tijeras Pueblo re-boxing Excel spreadsheet and the jewelry Excel spreadsheet.

In most cases, there is a good match among the artifacts, the paper documents, and electronic data. Some discrepancies were found, of course, and in such cases I considered the data recorded by the excavator to be the most accurate.

Some artifacts could not be located for study. For those artifacts I used the available paper or electronic data, and state in this report that the item was not available for examination.

The review of artifacts from the 1948 and 1968 work included only jewelry items. As a result, the jewelry Excel spreadsheet was updated as appropriate. For jewelry artifacts from the 1948 and 1968 excavations that are documented but were not examined, the jewelry database indicates their current location as "Lab of Anthro?"

The resulting jewelry Excel spreadsheet is available through the Curator of Archaeology, Maxwell Museum.

Data Additions and Revisions

Dr. Ronna Jane Bradley was very generous with her time (on three occasions) and identified types of shell used in artifacts. Fossilized seashells that had not been worked or actually formed into a piece of jewelry were eliminated from the study, as we cannot assume they were acquired

for the purpose of creating jewelry. Limestone deposits are common in the Tijeras Canyon area and such fossils could be present naturally.

Dr. Bruce Huckell identified types of stone used in artifacts.

Dr. Hayward Franklin identified the pottery types for the few ceramic artifacts in the study.

The information provided by these three individuals was added to the jewelry Excel spreadsheet.

Some of the selected artifacts are from contexts with tree ring dates. Dr. Linda Cordell is conducting ongoing research on Tijeras Pueblo and provided tree ring dates for certain levels within rooms and grid locations. All of the tree ring dates were for structural wood samples, to reflect the dating of construction (L. S. Cordell, 2009 personal communication). When multiple tree ring dates were available for the same context, the latest tree ring date was added to the jewelry Excel spreadsheet as a conservative indication of artifact age. If a sample was missing the outer rings, the date is followed by a plus sign.

Mr. Bernie Bernard took digital photographs of artifacts representative of the jewelry at Tijeras Pueblo, and of noteworthy artifacts, using the items at the Maxwell Museum.

Measurements of each artifact were made with calipers as follows, and added to the jewelry Excel spreadsheet:

- Length, width, depth, and diameters of holes were rounded to the nearest millimeter.
- Only jewelry dimensions that indicated the size of the intact piece were measured. If, for instance, the bottom of a pendant is missing, but the width, depth (thickness) and hole size were not changed by breakage, measurements were taken for width, depth and diameter of hole but omitted for length.
- Blanks were measured in no particular way, so that length is the longest dimension and depth the shortest one.
- Fragments or chunks that do not seem to be blanks or other identifiable jewelry components were not measured.
- Some artifacts are so shattered or broken so that no measurements could be taken.

Maxwell Museum catalogue numbers of field school student notebooks were added to the jewelry Excel spreadsheet when available to identify notes from the excavator of the artifact.

Codes were added to the jewelry Excel spreadsheet to facilitate analysis by artifact description, material, condition, shape and archival status (see below).

Student notebooks from the 1948 excavations are housed at the Maxwell Museum. These notebooks were reviewed to supplement the inventory lists and specimen cards found at the Laboratory of Anthropology. There are some discrepancies between the two sets of records. The

following jewelry items were reported in student notebooks but were not found during my examination of artifacts and do not correspond to artifacts listed in the specimen cards or paper inventories:

- Bone bead, broken, found near skull of Burial 7, in Room 4 (June 29; notebook Catalogue No. 81.25.18).
- Pacific Coast seashell bead, Room 4 (June 29; notebook Catalogue No. 81.25.18).
- *Olivella* bead, 16 inches below surface (June 22; notebook Catalogue Nos. 81.25.7 and 81.25.9).

These three artifacts were not included in the jewelry database or in the analysis.

At the beginning of the 1970s UNM field school excavations, a site grid was established. As excavation proceeded, and as walls and rooms were identified, room numbers were assigned and used to supplant the grid-based horizontal control. The "Summary Report—All Excavated Rooms 1974" (Blevins and Atwood 1974) and various artifact analysis forms were used to identify room numbers for artifacts whose initial horizontal provenience was a grid value where possible. Reports by Linda Cordell identify the locations of middens, which were extensively excavated. These data were updated only in the jewelry Excel spreadsheet.

As a result of this research project, data for the artifacts in the jewelry Excel spreadsheet was used to update data in the Excel spreadsheets for the Tijeras Pueblo LA 581, AS-10A and AS-10B re-packaging efforts.

Details of the Jewelry Excel Spreadsheet

Table A.1 defines the data stored in each column of the jewelry Excel spreadsheet. Each row contains the known data for an individual artifact.

Most of the artifacts resulted from University of New Mexico field school excavations, where initial excavation control was based on the site grid. The North/South position was depicted first, followed by the East/West position. As structural remains were identified, room numbers were assigned. The resulting provenience designation is typically a string of indicators beginning with "1-" and separated by hyphens.

After the "1-" prefix, the first entry in the provenience string is the grid designation or room number. Next is the level (Table A.2). Next is the feature number (F1, F2, F3, etc.) or burial number (B1, B2, B3, etc.). Note that features were not necessarily consistently numbered, so consultation with the corresponding student field notebook is necessary to interpret any feature. Finally, a numeric indicator is used to identify the category of item found, along with a bag number within the provenience and artifact category (Table A.3).

Column Heading	Definition
Accn Year	Year the accession was recorded by the Maxwell Museum, or "581" for an artifact
	housed at the Lab of Anthropology.
Accn No	Nth accession in the accession year at the Maxwell Museum, or the feature number at
	the Lab of Anthropology.
Obj No	Nth artifact within the accession.
Duplicates	Alphabetic character to identify multiple objects within the same accession number.
Count	Number of objects. If object is broken into pieces, the count is still 1. For shattered
	items and for those not found for examination, the count is assumed to be 1 unless
	otherwise documented.
Description	Type of artifact (bead, pendant, shell, etc.).
Description Code	See Table A.4 for details.
Material	What the artifact is made of.
Material Code	See Table A.4 for details.
Provenience	Where the artifact was found, including all known details.
Standardized	Room number or grid location, using abbreviated versions to ease sorting.
Provenience	A Room number is given for grid/level positions later identified as a room. "Trash" is
	added for grids that are trash middens.
Level	Depth at which an item was found (see Table A.2).
Cutting Date	See discussion of tree ring dates, above.
Assoc With	Burial number assigned by Maxwell Museum Osteology Dept. or in 1948 or 1968
Burial	excavation records.
Condition	Current appearance of the artifact.
Condition	See Table A.4 for details.
Code	
Shape of	Shape of artifact in its original state.
ricco	
Shape Code	See Table A 4 for details
Field	Maxwell Museum catalogue number for student field notebook if known
Notebook	Maxwell Museum catalogue number for student field hotebook, if known.
New Box No	If at the Maxwell Museum, number of the plastic storage bin containing the artifact
	bag. If at the Lab of Anthropology, number of the cardboard storage box.
Display	"y" indicates object is suitable for display.
Archival	See Table A.4 for details.
Status	
Storage	Either room, shelf or drawer location of New Box at Maxwell Museum, or Lab of
Location	Anthropology, or current location where artifact is displayed.
Comments	
Discrepancy	Mismatches between artifact and recorded information.
Spec Box #	Catalogue No. of Specimen Box in Maxwell Museum records, containing the earliest
	recorded information.
Field	Excavation date.
Collection	
Date	

Table A.1. Data Fields for the Jewelry Excel Spreadsheet.

Column Heading	Definition
Photo	"y" indicates that a photograph is available.
Drawing	"y" indicates that a sketch is present on the specimen card.
Length	Rounded to nearest millimeter. Generally the longest dimension except:
-pendants	-measured from the edge nearest the hole to the opposite edge.
-tubular beads	-measured from hole to hole.
-disc beads	-longest outer diameter.
-Conus	-from top (end with small opening) to bottom of shell.
Width	Rounded to nearest millimeter. Generally the maximum extent measured at a 90
	degree angle from the length; the second greatest extent for rounded objects.
Depth	Maximum thickness. Rounded to nearest millimeter. Measured at 90 degree angles
	from the length and width.
Hole diameter	Rounded to nearest millimeter. Smallest diameter of the hole.

Table A.1. Data Fields for the Jewelry Excel Spreadsheet.

 Table A.2. Level Designations for the UNM Field Schools.

Code	Explanation
1	Surface
2	Fill
2A	Fill, Level 1
2B, etc.	Fill, level 2, etc.
3	Roof fall
3A	Roof fall, Level 1
3B, etc.	Roof fall, Level 2, etc.
4	Floor
4A	First floor
4B, etc.	Second floor, etc.
5	Fill below first floor
5A	Fill below first floor, Level 1
5B, etc.	Fill below first floor, Level 2, etc.
6, 7, etc.	Fill below second floor, third floor, etc.
6A	Fill below second floor, Level 1
6B, etc.	Fill below second floor, Level 2, etc.
T1, T2, etc.	Following a level designation (e.g., 4A-T1) this
	indicates that a test was performed (and assigned
	No. 1, 2, etc.) but was not at the same level as non-
	test areas within the same room or grid.
XA	As a level designation, indicates a disturbed
	surface.

Designation	Explanation
1.1, 1.2, etc.	First, second, etc. bag of sherds from
	that provenience
2.1, 2.2, etc.	Lithic debitage
3.1, 3.2, etc.	Bone fragments
4.1, 4.2, etc.	Pollen samples
5.1, 5.2, etc.	Soil samples
6.1, 6.2, etc.	Charcoal (radiocarbon) samples
7.1, 7.2, etc.	Tree-ring samples
8.1, 8.2, etc.	Flotation samples
9.1, 9.2, etc.	Other
10.1, 10.2, etc.	Artifacts

Table A.3.	Collection	Type	Designation	ations for	the	UNM	Field	Schools.
1 4010 1100	concerton	- , P -	2001911		ULL U		1 1010	

Two examples serve to illustrate the UNM control system:

- The provenience 1-100N/050E-2A-1.1 indicates that a bag is the first bag of sherds (1.1) from the first level of fill (2A) from Grid 100N/050E.
- The provenience 1-Rm 14-4A-B1-10.2 indicates an artifact is the second artifact (10.2) found in the first burial (B1) on the first floor level (4A) of Room 14.

For the survey of Tijeras Canyon conducted during the field schools, each site was given a field designation (TCS-1, TCS-2, etc.). The permanent (LA) site numbers are found in a report by Linda Cordell (1977:133–135). Tijeras Pueblo (LA 581) includes TCS 053–056 and TCS 058–065. LA 586 is TCS 129. The Tijeras Pueblo re-packaging catalog includes information on all TCS artifacts at the Maxwell Museum.

Codes for Sorting

Table A.4 lists codes used for the Description, Material, Shape, Condition, and Status of each artifact.

Code	Category	Comments			
	Description				
D1	Bead	Hole is in the center.			
D2	Bead, tiny	Diameter of 5 mm or less.			
D3	Bead blank	Probably would have been made into a bead.			
D4	Bead blank, tiny	Probably would have been made into a tiny bead.			
D6	Bracelet				
D7	Hairpin				
D8	Pendant	Hole is near one edge (off-center).			

Table A.4. Standard Codes.

Table A.4. Standard Codes.

Code	Category	Comments
D9	Pendant blank	Probably would have been made into a pendant.
D10	Mosaic	Shell, turquoise and other materials arranged as a single architectural element.
D11	Unidentified jewelry	Either a bead or a pendant, but cannot determine which.
D12	Raw material—worked	Shell, turquoise or other materials, modified but not enough to
		indicate a specific form.
D13	Raw material—	Shell, turquoise or other materials without visible modifications.
	unworked	
D14	Unknown	Item could not be identified as either jewelry or raw material due to
		its condition.
D15	Button	Hole through the back side, not visible from the front.
		Material: Shell
M1	Anodonta	
M2	Cerithidea	
M3	Conus	
M5	Gastropod	
M6	Glycymeris	
M7	Glycymeris gigantea	
M8	Haliotis	Abalone; from the Pacific Coast.
M9	Olivella	
M10	Unionidae	
M11	Unidentified shell	
M30	Snail shell	
		Material: Stone
M4	Crinoid stem	Naturally cylindrical stem segments from fossilized sea lilies.
M12	Jet	Also known as anthrocite.
M13	Argillite	Also known as baked shale.
M14	Calcite	
M15	Chalcedony	
M16	Muscovite	
M17	Obsidian	
M18	Selenite	
M19	Siltstone	
M20	Slate	
M21	Steatite	
M22	Turquoise	
M23	Unidentified stone	
M29	Shale	
M32	Travertine	
M33	Mica	
	1	Material: Bone
M24	Bone	Other than scutes and teeth.
M25	Tortoise/turtle	Scutes.
M31	Tooth	

Code	Category	Comments
M34	Operculum	Fish
M35	Claw	
		Material: Other
M26	Ceramic	In this assemblage, all examples were worked sherds.
M28	Mosaic	Multiple raw materials.
		Shape
S1	Disc	
S2	Doughnut	Larger hole seen than on most disc-shaped jewelry.
S3	Tubular	
S4	Bi-lobe	Figure 8 shape, with a hole in one of the lobes.
S5	Heishi	Very thin, very small disc.
S6	Arc	
S7	Claw/talon	
S 8	Round	
S 9	Conical	
S10	Tooth	
S11	Triangular	
S12	Trapezoid	
S13	Diamond	
S14	Two prong	Resembles a tuning fork.
S15	Whole shell	
S16	Unknown	
S17	Oval	
S18	Cylinder	
S19	Olivella fragment	
S20	Rectangular	
S21	Subrectangular	Rectangular with rounded corners.
S22	Square	
S23	Rounded top, squared	A shape found in pendants.
	bottom	
S24	Sawtooth	Serrated edge.
	1	Condition
C1	Broken	In a countable number of pieces.
C2	Burned	If present along with other conditions, "burned" was recorded.
C3	Identifiable	(as jewelry or raw material)
C5	Not identifiable	(as jewelry or raw material)
C6	Good	
C7	Poor	
C8	Shattered	Too many fragments to count.
C9	Unknown	
	1	Status
A1		Found at the Maxwell Museum or the Laboratory of Anthropology.
A2		Listed in records but not found for examination.
A3		Currently on exhibit, so not available for close examination

Table A.4. Standard Codes.

Appendix B

Unidentified Artifacts

Thirty-seven items could not be classified as jewelry or as raw material due to their condition, or because they could not be found for examination. Twenty such items found in rooms during the 1970s excavations are listed in Table B.1.

Room	Item	Provenience	Comments
6	Olivella	Fill, Level 1	Fragment
14	Olivella	Fill below 1st floor, Level 1	Fragment
	Turquoise?	Fill below 1st floor, Level 2	Unavailable for examination
15	Unidentified shell	Fill, Level 2	Fragment
	Unidentified shell	Fill, Level 2	Shattered
19	Unionidae	Fill, Level 1135	Fragment, badly decayed
25	Unionidae	Fill, Level 6	Shattered
32	Unionidae shell	Fill, Level 3	Shattered
59	Unidentified shell	1st floor, Test Area 1	Fragment
62	Unidentified shell	2nd floor	Fragment
73	Snail shell	Fill, Level 2	Unavailable for examination
82	Shell	Fill, Level 1	Fragments
108	Unidentified shell	1st floor	Burned
	Unidentified shell	1st floor	
	Olivella shell	Fill, Level 2	Burned and shattered
115	Olivella	2nd floor	Fragment
127	Unionidae	Surface	Fragment
	Unionidae	Roof fall, Level 1	Fragment
128	Olivella	Fill below 1st floor, Level 1, Test Area	Fragment. Date of 1272+
135	Olivella	Fill, Level 1	Fragment

Table B.1. Unidentified Artifacts by Room from the 1970s Excavations.

Sixteen items found at grid locations during the 1970s excavations could not be identified. They are listed in Table B.2.

The last item that could not be identified was from the 1986 excavation at AS10-A. A piece of shell found in the fill of Feature 3, this item was unavailable for examination.

Grid	Item	Provenience	Comments
000N/030W	Unionidae	Surface	Shattered
000N/130E, trash	Olivella	Surface	Fragment
010S/140E	Turquoise	Surface	Tiny chips, almost dust
020N/000W, trash	Unionidae	Fill, Level 10	Fragment
020N/020W	Unidentified shell	Fill, Level 11, Test Area	Unavailable for
		3	examination
020N/020W	Olivella	Fill, Level 3	Fragment
020S/140E	Olivella	Fill, Level 2	Unavailable for
			examination
100S/030E, trash	Unidentified shell	Fill, Level 3	Unavailable for
			examination
100S/030E, trash	Olivella	Fill, Level 2	Fragment
110S/140E	Olivella	Fill, Level 4	Fragment
116S/144E	Unionidae	Fill, Level 4	Fragments
120S/140E	Malachite or	Fill, Level 5	Unavailable for
	Turquoise?		examination
120S/150E	Unionidae	Fill, Level 2	Fragment
120S/150E	Unionidae	Fill, Level 3	Fragments
120S/150E	Olivella	Fill, Level 2	Fragment
260N/340E	Olivella	Fill, Level 1	Fragment

Table B.2. Unidentified Artifacts by Grid from the 1970s Excavations.

Appendix C

COMPLETED JEWELRY VERSUS BLANKS AND RAW MATERIALS.

During the 1970s excavations, completed jewelry and blanks or raw materials were found in rooms and grid positions (Tables C.1 and C.2). One additional piece of completed jewelry was found with a provenience of TCS-002 and one completed piece has no recorded provenience.

Room #	Completed Jewelry	Blanks and Raw Materials	Total
Room 2	2	0	2
Room 3	1	0	1
Room 4	1	0	1
Room 6	3	0	3
Room 7	2	0	2
Room 8	1	0	1
Room 9	1	0	1
Room 10	3	0	3
Room 11	1	0	1
Room 14	3	0	3
Room 15	2	0	2
Room 16	2	1	3
Room 17	1	0	1
Room 18	1	0	1
Room 19	7	1	8
Room 23	2	0	2
Room 25	2	1	3
Room 26A	6	0	6
Room 26B	1	0	1
Room 28	1	0	1
Room 29	2	0	2
Room 30	1	0	1
Room 31	9	0	9
Room 32	3	0	3
Room 36	1	0	1
Room 38	1	0	1
Room 40	2	0	2
Room 41	1	0	1
Room 43	2	0	2

Table C.1. Distributions by Room: 1970s Excavations.

D #	Completed	Blanks and Raw	T - 4 - 1
Koom #	Jeweiry	Materials	Total
Room 44	2	0	2
Room 45	2	0	2
Room 47	2	0	2
Room 51	8	0	8
Room 53	0	1	1
Room 55	4	0	4
Room 56/57	2	1	3
Room 57	2	0	2
Room 58	5	0	5
Room 59	8	0	8
Room 60	2	2	4
Room 62	5	2	7
Room 63	2	0	2
Room 64	3	1	4
Room 68	1	0	1
Room 69	3	1	4
Room 72	1	0	1
Room 73	2	0	2
Room 79	2	0	2
Room 81	1	1	2
Room 82	4	0	4
Room 85	9	0	9
Room 89	1	0	1
Room 90	3	0	3
Room 92	3	0	3
Room 93	1	0	1
Room 96	4	1	5
Room 98	1	0	1
Room 99	0	1	1
Room 100	1	0	1
Room 101	3	0	3
Room 102	5	0	5
Room 106	1	1	2
Room 108	13	1	14
Room 115	1	0	1
Room 116	2	0	2
Room 117	1	0	1
Room 122	2	0	2

 Table C.1. Distributions by Room: 1970s Excavations.

Room #	Completed Jewelry	Blanks and Raw Materials	Total
Room 125	2	0	2
Room 127	3	0	3
Room 128	1	0	1
Room 129	0	1	1
Room 130	1	0	1
Room 131	1	0	1
Room 135	1	1	2
Total	186	18	204

 Table C.1. Distributions by Room: 1970s Excavations.

 Table C.2. Distributions by Grid Location: 1970s Excavations.

Grid Location	Completed Jewelry	Blanks and Raw Materials	Total
170N/130W	2	2	4
030S/090W	1	0	1
030S/030W	2	0	2
010S/030W	1	0	1
000N/030W	1	0	1
023.5N/022.5W	1	0	1
020S/020W	1	0	1
010N/020W	4	0	4
020N/020W	22	0	22
030N/020W	7	0	7
202N/020W	0	1	1
020S/010W	1	0	1
010S/010W	4	0	4
030N/010W	2	0	2
010S/000W	2	0	2
020N/000W	10	2	12
295N/000W	1	0	1
110S/000E	4	0	4
080S/000E	1	0	1
010S/000E	2	0	2
110S/010E	2	0	2
025S/016E	0	1	1
040S/020E	0	1	1
030S/020E	1	0	1

	Completed	Blanks and Raw	
Grid Location	Jewelry	Materials	Total
020S/020E	0	1	1
100S/030E	10	0	10
020S/030E	1	0	1
130N/030E	1	0	1
090S/040E	1	0	1
040S/040E	2	0	2
030S/040E	2	1	3
020S/040E	2	0	2
000N/040E	1	0	1
010N/040E	1	0	1
030N/040E	2	0	2
050N/040E	3	0	3
000S/060E	2	0	2
042S/080E	5	0	5
040S/080E	3	0	3
030N/080E	2	1	3
042S/087.25E	1	0	1
030S/090E	2	0	2
020S/090E	1	0	1
000N/090E	1	0	1
030S/100E	1	0	1
000N/100E	7	0	7
030S/120E	0	2	2
000S/120E	1	0	1
000N/120E	5	1	6
000N/130E	4	2	6
120S/140E	4	1	5
110S/140E	2	0	2
000S/140E	0	1	1
013S/150E	1	0	1
013S/160E	1	0	1
010S/160E	1	1	2
320N/311E	2	0	2
310N/330E	1	0	1
300N/331E	1	0	1
200N/370E	1	0	1
Total	147	18	165

Table C.2. Distributions by Grid Location: 1970s Excavations.

During the 1986 excavations, completed jewelry and blanks or raw materials were found in features (Tables C.3).

Provenience	Completed Jewelry	Blanks and Raw Materials	Total
	AS-10A		
Feature 1	2		2
Feature 8	1	1	2
Subtotal	3	1	4
AS-10B			
Feature 2	2		2
Feature 3		3	3
Feature 7		1	1
Feature 8	1		1
Feature 9		2	2
Feature 11	2		2
Feature 12	1	1	2
Feature 14	1	2	3
Subtotal	7	9	16
Total	10	10	20

Table C.3. Distribution by Feature Number: AS-10A and AS-10B.

