

The Cayo del Oso Site (41NU2)

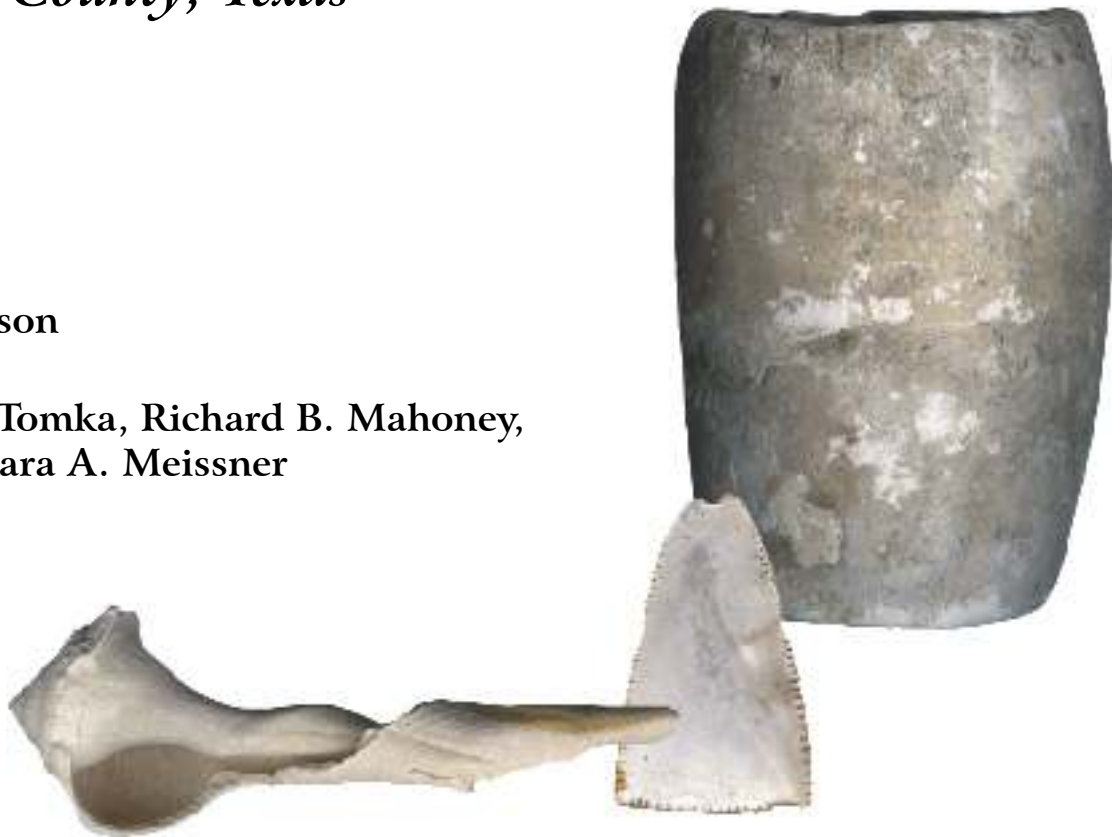
Volume I *A Historical Summary of Explorations of a* *Prehistoric Cemetery on the Coast of False Oso Bay,* *Nueces County, Texas*

by

A.T. Jackson

and

Steve A. Tomka, Richard B. Mahoney,
and Barbara A. Meissner



Environmental Affairs Division
Texas Department of Transportation
Archeological Studies Program, Report No. 68



Center for Archaeological Research
The University of Texas at San Antonio
Archaeological Survey Report, No. 350

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Principal Investigator

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2004

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Abstract:

This report summarizes the historical information available on one of the most important cemetery sites in the state, the Cayo del Oso site (41NU2) in Nueces County, Texas. This document serves as the background volume to the Texas Department of Transportation's ongoing monitoring efforts in conjunction with road improvement activities along Spur 3, including a section of Ennis Joslin Road and Alameda Street, in Corpus Christi. The results of the ongoing monitoring will be published in a separate volume following the termination of construction activities. The present volume summarizes the history of work conducted from the early 1900s through the early 1960s at site 41NU2 by both collectors and archeologists. In addition, it publishes for the first time the A.T. Jackson manuscript that reports the results of the 1933 University of Texas at Austin excavations at the site. Finally, based on the available information, the authors provide some interpretive conclusions related to five aspects of the site: the vertical and horizontal structure and distribution of the deposits; the cultural and depositional stratigraphy; the age of the deposits; the implications of extra-regional artifacts; and general characteristics of the large skeletal population.

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Table of Contents:

Abstract	i
Figures	iv
Tables	vi
Acknowledgments	vii
Chapter 1: Introduction <i>by</i> Richard B. Mahoney, Barbara A. Meissner, and Steve A. Tomka	
Introduction	1
Report Layout	4
Chapter 2: The Cayo del Oso Site in the Early Twentieth Century <i>by</i> Richard B. Mahoney, Barbara A. Meissner, and Steve A. Tomka	
The Cayo del Oso Site in the Early Twentieth Century	7
Chapter 3: Excavation of the Cayo del Oso Burial Site <i>by</i> A.T. Jackson	
Burial M-1	19
Burial M-2	27
Burial M-3	28
Small Fire Pit	28
Midden Material	28
Burial M-4	28
Burial M-5	31
Burial M-6	32
Burial M-7	32
Burial M-8	32
Burial M-9	34
Burial M-10	34
Burial M-11	35
Burial M-12	36
Burial M-13	36
Burial M-14	38
Burial M-15	42
Burial M-16	42
Burial M-17	45
Burial M-18	45
Burial M-19	46
Burial M-20	46
Burial M-21	46
Burial M-22	47
Burial M-23	47
Burial M-24	48
Burials M-25 and M-26	48
Burial M-27	49
Burial M-28	49
Burial M-29	49
Burial M-30	49
Burial M-31	51
Burial M-32	51
Burials M-33 and M-34	51
Burial M-35	51
Burial M-36	52
Suspension and Resumption of Work	52

Burial M-37	53
The Testing of Shell Heaps	53
Burial M-38	54
Burial M-39	54
Exploratory Trenching	54
Deep Deposit	56
Recapitulation of Orientation Data	58
Comparisons of Burial Customs at Oso Site, Nueces County, with Ones from Certain Central Texas Sites	60
Data Regarding Coastal Tribes	61
Conclusions	61
Chapter 4: Discussion and Summary <i>by</i> Steve A. Tomka and Richard B. Mahoney	
The Structure and Distribution of Deposits	63
The Cultural and Depositional Stratigraphy	64
The Age of the Deposits	67
Extra-Regional Material Culture	72
Aspects of the Skeletal Population	74
Summary of Results	77
References Cited	79
Appendix A: Summary of Skeletal Remains Recovered from the Cayo del Oso Site	
Summary of Skeletal Remains Recovered from the Cayo del Oso Site	81

Figures:

Figure 1-1. Overview of the Cayo del Oso site area with current roadways shown.	2
Figure 1-2. 1934 aerial overview of the project area.	3
Figure 1-3. Coast Chart No. 210, showing Aransas Pass and Corpus Christi Bay in 1887.	5
Figure 2-1. Vicinity of Cayo del Oso site showing urban setting and transportation corridor.	7
Figure 2-2. Vegetation covering portions of the Cayo del Oso site at the time of A.T. Jackson’s excavations.	8
Figure 2-3. General view of erosion across sections of the Cayo del Oso site in the 1930s.	8
Figure 2-4. Detail of eroded land surface in portion of the Cayo del Oso site, early 1930s.	9
Figure 2-5. Pumice pipe recovered from the Cayo del Oso site by John Dunn.	9
Figure 2-6. Distal end of cloud-blower pipe recovered by John Dunn from burial in “bone-pit.”	10
Figure 2-7. Proximal end of cloud-blower pipe.	10
Figure 2-8. Opposite faces of silver sword hilt recovered from a Cayo del Oso burial by John Dunn.	11
Figure 2-9. Worked shell specimens from the Dunn Collection, recovered from the Cayo del Oso site.	12
Figure 2-10. Additional worked shell specimens from the Cayo del Oso site collected by John Dunn.	12
Figure 2-11. Artifacts found by John Dunn in association with a burial from Cayo del Oso.	14
Figure 2-12. Detailed drawing of bead found by John Dunn in association with a burial from Cayo del Oso.	15
Figure 2-13. Plan view of E.B. Sayles’ excavation area and positions of the skeletal remains encountered.	16
Figure 3-1. General view of the eroded Cayo del Oso burial site before beginning work.	19
Figure 3-2a. Map of excavation areas at the Cayo del Oso site, SE of Corpus Christi, Nueces County, Texas.	20
Figure 3-2b. Map of burial groups at the Cayo del Oso site.	21
Figure 3-3a. Successive stages in the excavation of Burial M-1. Top of burial pit.	22
Figure 3-3b. Burial M-1, middle of burial pit.	23
Figure 3-3c. Burial M-1, bottom of burial pit.	24
Figure 3-4. Six of the worked shell pendants recovered in association with Burial M-1.	25
Figure 3-5. Possible bone flaking tool recovered in association with Burial M-1.	26
Figure 3-6. Disturbed remains of infant, Burial M-2.	27
Figure 3-7. Distribution of skeletal remains in Burial M-4.	29
Figure 3-8. Worked bone with possible traces of asphaltum in association with skeleton No. 1 in Burial M-4.	30
Figure 3-9. Position of skeletons in Burial M-5.	31
Figure 3-10. Worked clam shells recovered in association with skeleton No. 1 in Burial M-7.	33
Figure 3-11. Position of skeletons in Burial M-8. Note deposit of small seeds next to skull of skeleton No. 2.	33
Figure 3-12. Position of skeleton in Burial M-9.	34
Figure 3-13. Position of four skeletons, one adult and three infants, in Burial M-10.	35
Figure 3-14. Position of fourteen skeletons within Burial M-12.	37
Figure 3-15. Lightning whelk columella awl found in association with skeleton No. 6 in Burial M-12.	38
Figure 3-16. Position of skeletons in Burial M-13.	39
Figure 3-17. Two worked and polished mussel shell fragments associated with skeleton No. 6 in Burial M-13.	40
Figure 3-18. Position of skeletons in Burial M-14.	41
Figure 3-19. Position of skeletons in Burial M-15.	43
Figure 3-20. Position of seven skeletons in Burial M-16.	44
Figure 3-21. Polished clam shell fragment associated with skeleton No. 6 from Burial M-16.	45
Figure 3-22. Small worked shell specimen associated with skeleton in Burial M-21.	47
Figure 3-23. Five worked clam shell fragments associated with the skeleton in Burial M-22.	48
Figure 3-24. Position of skeletal remains recovered in Burials M-30, M-31, M-33, M-34, and M-35.	50
Figure 3-25. Position of skeletal remains in Burial M-36.	52
Figure 3-26. Position of skeletal remains in Burial M-39.	55
Figure 3-27. Deep midden deposit located approximately 150 yards northeast of main excavation area.	56
Figure 4-1. Photo taken by G.C. Martin in 1929 prior to excavation in the “bone pit” at the Cayo del Oso site.	65
Figure 4-2. Photo of skeletal material in Corpus Christi Bay cliff at mouth of Oso, False Oso Bay dune.	66

Figure 4-3. Profile of south wall of University of Texas (A.T. Jackson) excavation area in “bone pit.” 67

Figure 4-4. Plan map of University of Texas excavation area drawn by W.A. Price in 1947. 68

Figure 4-5. Photograph of the lower horizon or paleosol along an eroded portion of the Cayo del Oso dune. 69

Figure 4-6. Small, triangular arrow points from the Cayo del Oso site. 69

Figure 4-7. Perdiz and triangular (Fresno?) points from the Cayo del Oso Site. 70

Figure 4-8. Additional Perdiz (left) and triangular (Fresno?; right) points from the Cayo del Oso site. 71

Figure 4-9. Interior surfaces of Rockport sherds from the Cayo del Oso site. Note asphaltum coating. 71

Figure 4-10. Exterior surfaces of Rockport sherds from the Cayo del Oso site. 72

Figure 4-11. Mix of arrow and dart points recovered from the Cayo del Oso site. 73

Figure 4-12. Refugio (left) and Bulverde (right) points from the Cayo del Oso site. 73

Figure 4-13. Catán point (left) and untyped dart point from the Cayo del Oso site. 73

Figure 4-14. Skeletal elements showing pathologies from the Cayo del Oso site, 75

Figure 4-15. Close-up of proximal end of ulna (from Burial M-14) with embedded dart point fragment. 76

Figure 4-16. X-ray images of different aspects of the proximal end of the ulna with embedded dart point fragment. 77

Tables:

Table 3-1. Dimensions of Shell Pendants Associated with Burial M-1	25
Table 3-2. Summary of Burial Data from the Cayo del Oso Site	57
Table 3-3. Summary of the Head Orientation of Burials from the Cayo del Oso Site	58
Table 3-4. Summary of the Positions of the Feet and Legs for Burials from the Cayo del Oso Site	58
Table 3-5. Position of the Hands and Arms for Burials from the Cayo del Oso Site	59
Table 3-6. Summary of the Positions of Torsos for Burials from the Cayo del Oso Site	59
Table 3-7. Comparison of Burial Customs at the Cayo del Oso Site with Ones from Certain Central Texas Sites	60
Table A-1. Skeletal Remains Recovered from the Cayo del Oso Site (41NU2)	82

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The Texas Archeological Research Laboratory and the Witte Museum generously granted CAR permission to use and publish the A.T. Jackson manuscript (TARL) and photographs (TARL and Witte Museum) presented in this report.

Chapter 1: Introduction

Richard B. Mahoney, Barbara A. Meissner and Steve A. Tomka

In 1996 the Texas Department of Transportation (TxDOT) initiated a project in Corpus Christi to rebuild and widen Spur 3, including a section of Ennis Joslin Road from State Highway 358 (South Padre Island Drive) to its intersection with Alameda Street, and Alameda Street north to its intersection with Ocean Drive. This section of Spur 3 faces False Oso Bay and was known to traverse site 41NU2, the Cayo del Oso prehistoric cemetery and campsite (Figure 1-1). TxDOT began the project with archeological testing in the fall of 1996 to define the nature and extent of archeological deposits remaining along the right-of-way to be impacted by road improvements (Ricklis 1997:4). This project resulted in the excavation of 20 test units and 30 sediment cores and recovered evidence of extensive archeological deposits and a human burial (Ricklis 1997:72–73). Based on these results, TxDOT contracted with the Center for Archaeological Research of The University of Texas at San Antonio in 2002 to provide testing and monitoring of the road construction work through the site (Meissner 2000, 2003). These monitoring efforts are ongoing and are being conducted under Texas Antiquities Permit No. 2445. The results of the monitoring as well as a summary of work and observations regarding the site made between the 1960s and the early 1990s will be published as part of Volume II of this report. In contrast, the goal of the current volume is to compile all existing information related to the Cayo del Oso site obtained between 1900, when the site was first discovered, and the 1960s. These early investigations, in particular, provide an archeological context for the reasons and extent of current TxDOT-sponsored investigations at the site.

The Cayo del Oso site, known in the literature as Cayo del Oso, Calle del Oso, and Cale del Oso, is located in the southeastern portion of Nueces County on clay dunes facing Corpus Christi Bay and a wind-tide mudflat known as the False Oso (i.e., the false outlet of Oso Bay; Figure 1-2). The actual outlet of Oso Bay is east of Ward Island (Figure 1-3). Based on reports by collectors and professional archeologists, in the early 1900s the site covered more than a mile of the coastline. Cultural materials appeared to have been deposited in an L-shaped pattern with an approximately ½-mile-long segment along Corpus Christi Bay and the other ½-mile-long segment along False Oso Bay. Coast Chart number 210 (Figure 1-3) shows what appears to be a large

dune on the northwest shore of the False Oso but only a narrow dune formation is shown on the opposite side of the landform on the Corpus Christi Bay portion of the coastline. The large dune facing False Oso Bay is also pictured in a map accompanying a letter written by W. Armstrong Price to J.E. Pearce, who was working in the area at the time, discussing the processes that were responsible for the formation of the dunes along False Oso Bay (letter from W.A. Price to J.E. Pearce, July 25, 1933, on file at Texas Archeological Research Laboratory). The map does not show dunes along Corpus Christi Bay, but does show campsite debris on several of the dunes along the western shore of Oso Bay (identified as La Cala del Oso).

Nonetheless, George C. Martin (1930) describes the site as consisting of two halves, and his description suggests differences in site structure across the mile-long distribution of cultural materials. The western portion of the site, facing Corpus Christi Bay, appears to have contained signs of structures (“tepee sites”) and campsite refuse seems to have been common in the form of broken pottery, flint debris, and “arrow heads.” This mix of residential refuse continued to the eastern end of the dune facing Corpus Christi Bay where it seems to have been even more common than at the western end. The principal part of the camp is described as being located to the south along False Oso Bay. This portion is described as having even more camp debris than the north-facing segment. Evidence of human occupation is said to reach about 100 meters inland from the shore of the bay and anywhere from 15–45 meters of this “beach” was covered with heavy concentrations of shells (oyster, clam, and conch) and a few scattered potsherds. It is this dune that is commonly identified as the location where hundreds of human remains were uncovered over the years. (Early site descriptions mention concentrations of conch, but many of the archeological specimens relocated for illustration are lightning whelk [*Busycon perversum*]. Lightning whelk were the most commonly observed gastropod remains on the site during recent investigations, with some Florida horse conch [*Pleuroploca gigantea*] also present).

Because its existence was first reported by collectors in 1900, the Cayo del Oso site is one of the earliest known prehistoric cemetery sites in Texas. Unfortunately, much of our knowledge about the site comes from collectors that



Figure 1-1. Overview of the Cayo del Oso site area with current roadways shown.

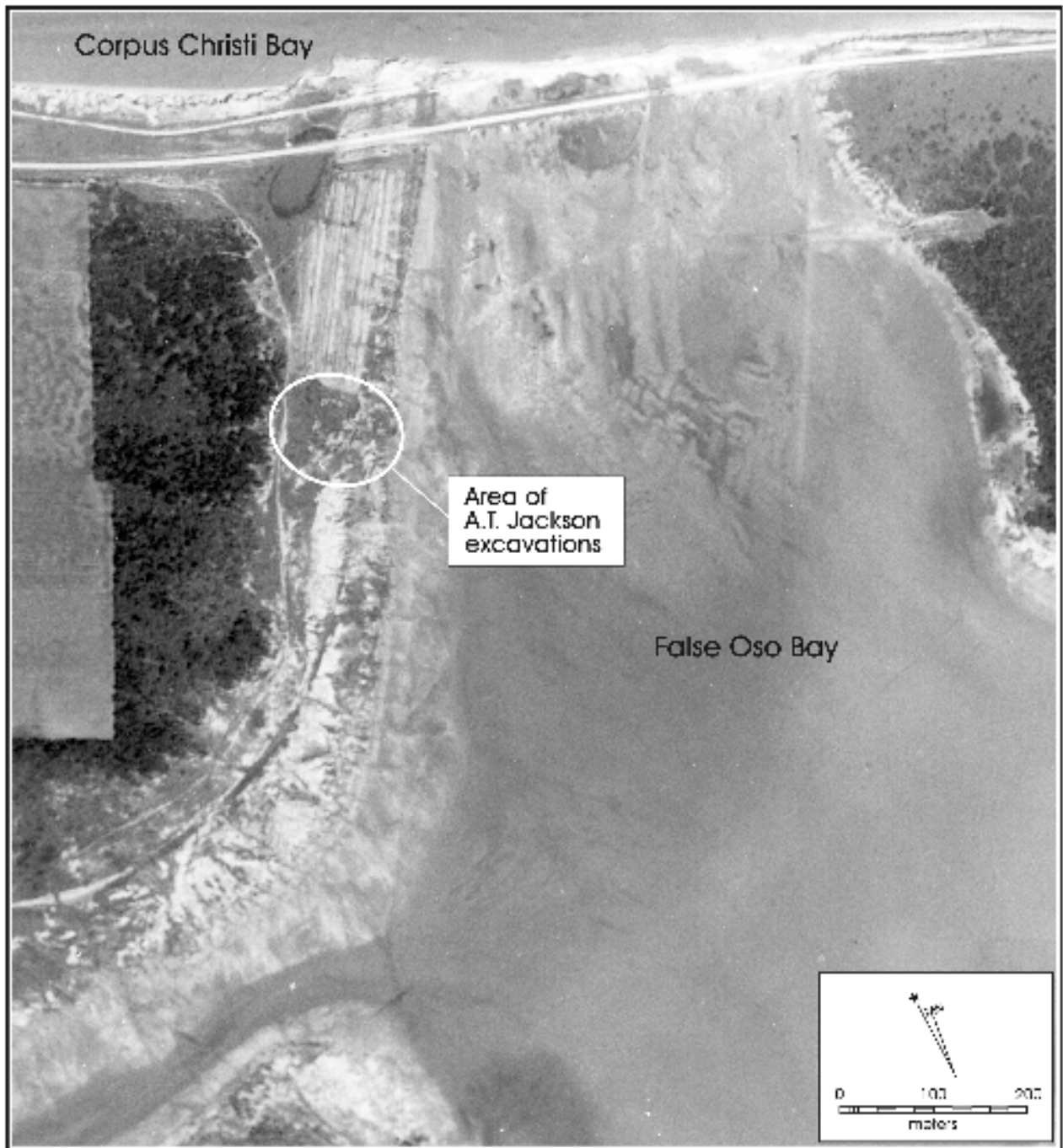


Figure 1-2. 1934 aerial overview of the project area.

have visited the site since the early 1900s. Although several formal and informal excavations were conducted at the site during the 1920s and 1930s, with a few exceptions (Martin 1929, 1930), the materials these investigations generated are in various repositories and the documentation, for the most part, remains unpublished.

In 1933, A. T. Jackson, of the University of Texas at Austin, excavated a large number of prehistoric burials from 41NU2. Sometime after his excavations at the site, Jackson wrote an undated draft version of the results of his investigations; however, a final report was never produced, and Jackson's unpublished manuscript, containing 44 black and white photographs and 42 hand-drawn sketches, was ultimately filed at the Texas Archeological Research Laboratory (TARL) at the University of Texas at Austin.

In summarizing the history of investigations at the site, one of our principal goals was to publish A.T. Jackson's manuscript detailing the results of his 1933 excavations at the Cayo del Oso site. In addition, we also wanted to compile the results of a more recent inventory of the skeletal materials that were recovered by Jackson. This inventory was completed by Barbara Jackson, physical anthropologist on staff at TARL, and is an accurate evaluation of the number of individuals recovered by A.T. Jackson from each burial. The counts of osteological elements resulting from this analysis often differ from Jackson's field counts. Although the focus of this review of the Cayo del Oso site is on the results of professional archeological work, information derived from collectors will also be summarized when available, to flesh out a history of investigations and findings from the site.

To obtain a comprehensive summary of the documentation and information available on the site and the collections of artifacts that have been made by professional archeologists and some collectors, we visited TARL and the Witte Museum (San Antonio), and contacted the Corpus Christi Museum of Science and History and the Center for Archaeological Studies at Texas State University for information concerning the 41NU2 collections and documentation in their care. Photographs of the site and artifacts are used with permission from TARL and the Witte Museum.

Report Layout

This publication is intended to summarize the results of work conducted at 41NU2 during the early 1900s and what is known about the site based on the earliest investigations at the site. Because the work by A.T. Jackson was one of the earliest and largest in scale, and because its results were hitherto unpublished, it was our intent to publish the results of Jackson's work to provide a complete picture of his findings at the site. In addition, however, we have compiled the results of work at the site by a number of other individuals, both avocational and professional archeologists, during the early twentieth century.

Following this introductory chapter, Chapter 2 contains a summary of the work that was carried out by numerous individuals immediately prior to and subsequent to the A.T. Jackson excavations. Chapter 3 consists of Jackson's typed manuscript on file at TARL. We have made minimal formatting and grammatical changes to the original document. Jackson's original tables have been reformatted and the majority of his hand-drawn burial sketches have been redrawn for publication to accurately reflect the originals. In some cases, labels have been added to the drawings. Figure numbers and captions have been added and referenced in the text. Handwritten notes that appear on the original (presumably added by Jackson) have been included in this reproduction. Otherwise, no substantive changes have been made to the text, tables, or drawings as originally produced by Jackson. The burial photographs in Jackson's original manuscript have not been reproduced here, given the sensitivity surrounding photographs of Native American remains. Instead, we opted to reproduce his most detailed field sketches to illustrate individual burials or burial groupings. In addition, those burial-associated artifacts that could be relocated have been scanned and are shown. Chapter 3 includes data for each of the 39 discrete burial groups excavated by the University of Texas at Austin crew, describes ancillary testing of the cemetery and surrounding cultural features, and examines the data recovered and presents Jackson's deductions of the mortuary practices of the site's inhabitants. After presentation of Jackson's data, a final chapter, *Discussion and Summary*, offers a brief analysis of the relationship of Jackson's work to our current understanding of 41NU2. A single appendix with a table of all skeletal material curated at TARL concludes the report.

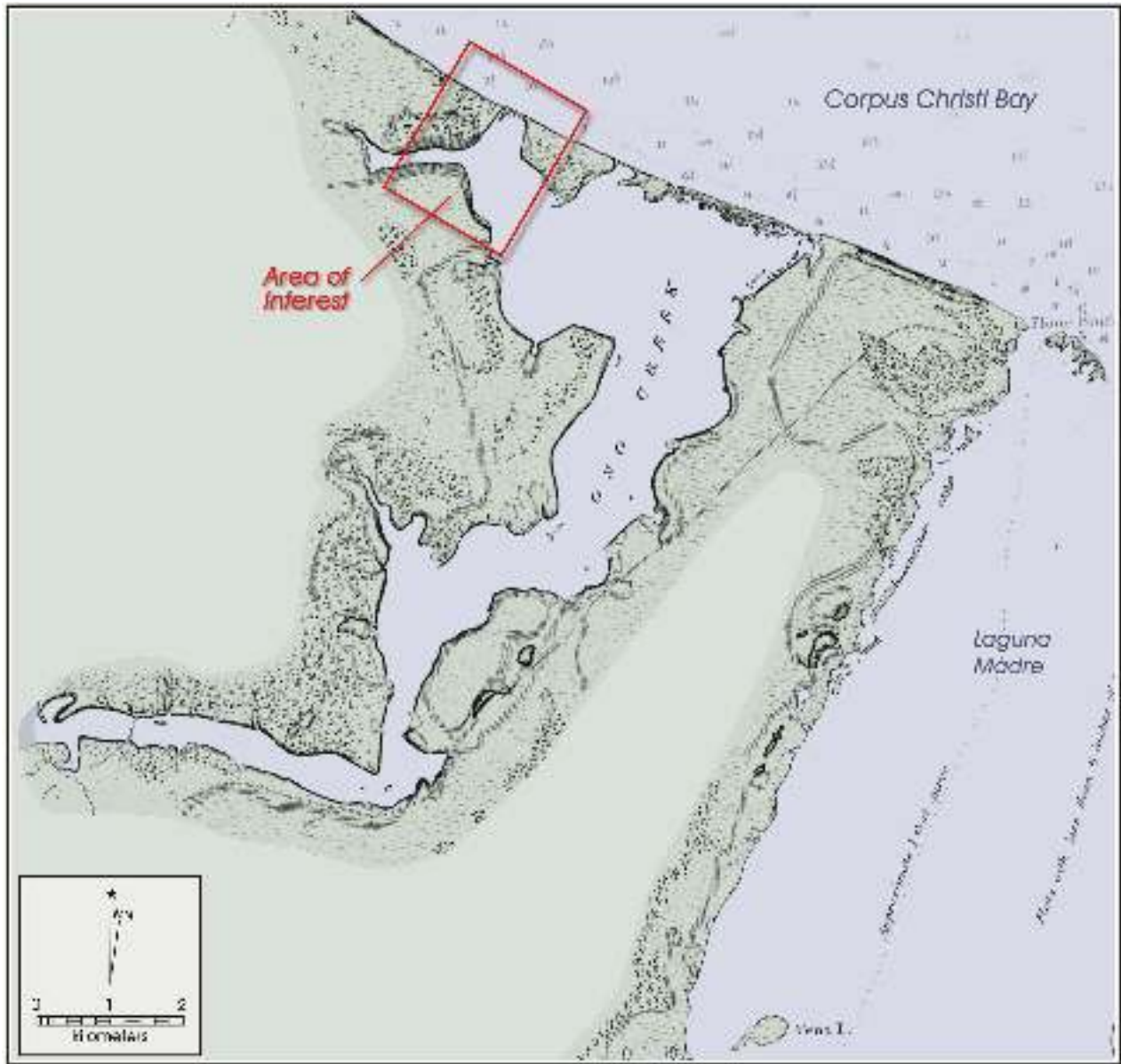


Figure 1-3. Coast Chart No. 210, showing Aransas Pass and Corpus Christi Bay in 1887.

Chapter 2: The Cayo del Oso Site in the Early Twentieth Century

Richard B. Mahoney, Barbara A. Meissner and Steve A. Tomka

Today, the Cayo del Oso site is in an urban setting, with streets and houses covering much of the original site area (Figure 2-1). In the early decades of the twentieth century, however, the site was very different. An aerial photograph dating to 1934 (see Figure 1-2) shows agricultural fields nearby, but the site itself was not in use. Ground-level photographs from the period show sparse vegetation (Figure 2-2) and extensive erosion along the edges of the clay dunes, exposing shell features and burials (Figures 2-3 and 2-4).

The earliest mention of the site and its surroundings comes from a historical paper published by B. Copewood in 1898. In this document, a footnote states “The bones on the Cala del Oso have been found in quantities down to within the last ten years” (Copewood 1898:117).

In 1929, George C. Martin interviewed John B. Dunn, a local collector, about the site. Dunn, contradicting the previous account, suggests that the area was covered with brush in the 1860s, with no evidence of prehistoric occupation (Martin 1930:9). It is possible that the two

accounts refer to different portions of the site. Otherwise, the contradiction between the two statements may reflect the possibility that the cultural materials at the site were covered and uncovered repeatedly as dune formation and erosion impacted the surface over the years. This possibility is echoed in a statement made by Mr. Martin Pearse, who bought the property around 1900. In 1929 he indicated to Martin, who was excavating at 41NU2 at the time, that shortly after the hurricane that devastated the Texas coast, flooding exposed over 5,000 skeletons across the site (Martin 1930:9). The fact that all of the bones were said to be in good condition suggests that they had not been exposed and weathered for an extended period of time.

Dunn worked on the property during the Civil War, but he did not begin collecting from the site until the early 1900s when he became interested in archeology. By this time, erosion precipitated by land clearing had begun to expose skeletal materials (Martin 1930:9). The timing of the first collecting episodes and what may have been recovered by Dunn is unclear, what is clear, however, is that sometime



Figure 2-1. *Vicinity of Cayo del Oso site showing urban setting and transportation corridor.*



Figure 2-2. *Vegetation covering portions of the Cayo del Oso site at the time of A.T. Jackson's excavations.* Courtesy of TARL, UT-Austin, Cat. #41NU2-1.



Figure 2-3. *General view of erosion across sections of the Cayo del Oso site in the 1930s.* Courtesy of the Witte Museum, San Antonio, Texas.

between 1900 and 1929, Dunn returned to the site repeatedly and collected several skulls and skeletal materials. At least some of the skulls were reportedly later stolen from him (Martin 1930:9).

At some point during these collecting trips, Dunn found a pumice stone pipe at 41NU2, presumably associated with a burial (note titled “Elbow Pipe said to have come from Oso Site,” T.N. Campbell’s Notes 1946-47 on file at TARL). The pipe was $3\frac{1}{2}$ inches long and the bowl was $2\frac{3}{16}$ inches high. Figure 2-5 shows a drawing of the pipe based on a sketch on file at TARL. The stem is $1\frac{1}{4}$ inches long and the hole in the stem is $\frac{3}{8}$ inches in diameter. Two additional artifacts collected by Dunn from a single burial found within the “bone pit” have attracted attention. One of the artifacts is a stone tubular pipe or “cloud-blower,” the other is a silver sword hilt. In his 1933 notes related to the find, A.T. Jackson indicates that the “burial site is surrounded by an extensive campsite which occupies the southern half of a long clay dune along the northwest shore of the embayed mouth of Oso Creek.” He further indicates that the burial site is located “about one-fourth mile south of the Ocean Drive.” The cloud-blower pipe pictured in Figures 2-6 and 2-7 appears to have been made of limestone. It is $3\frac{1}{4}$ inches long, $2\frac{1}{16}$ inches in diameter at its widest and $1\frac{5}{8}$ inches in diameter at its narrowest (A.T. Jackson notes dated 6/8/33 on file at TARL). The only decorations noted on the specimen consist of 14 notches around a portion of the large end. The second artifact associated with the burial was a silver hilt. Martin describes the artifact as “of Mexican workmanship heavily embossed with Aztec figures.” Figure 2-8 shows the hilt with a blade and a chain attached at a later date. It is clear that the designs on the hilt are not Aztec. The design of the hilt is rococo style, popular in Western and Central Europe starting about 1750. The hilt was most likely made between 1750 and 1780, though its origin could not be determined (Stuart Pyhrr, Department of Arms and Armor, Metropolitan Museum of Art, personal communication 2004). The hilt is from a hunting sword. It would have been used to ceremoniously dispatch prey once it was brought down, not for protection. The asymmetrical, elaborate designs on the hilt reflect a very popular style in the mid-eighteenth century in Europe (Stuart Pyhrr, personal communication 2004). The hilt exhibits relatively inexpert workmanship. It is possible the hilt was made in Mexico, copying a popular mainstream European style. Together with a stick of incense found at the site by another Corpus Christi collector, Mr. Henry Fulton, these two items were the only European materials known to have been recovered from the Cayo del Oso site.



Figure 2-4. Detail of eroded land surface in portion of the Cayo del Oso site, early 1930s. Courtesy of TARL, UT-Austin, Cat. #41NU2-12.

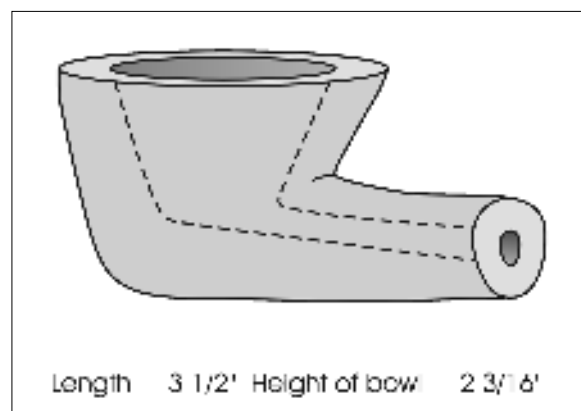


Figure 2-5. Pumice pipe recovered from the Cayo del Oso site by John Dunn. Redrawn from sketch in the T.N. Campbell Notes 1946-1947, TARL, UT-Austin.

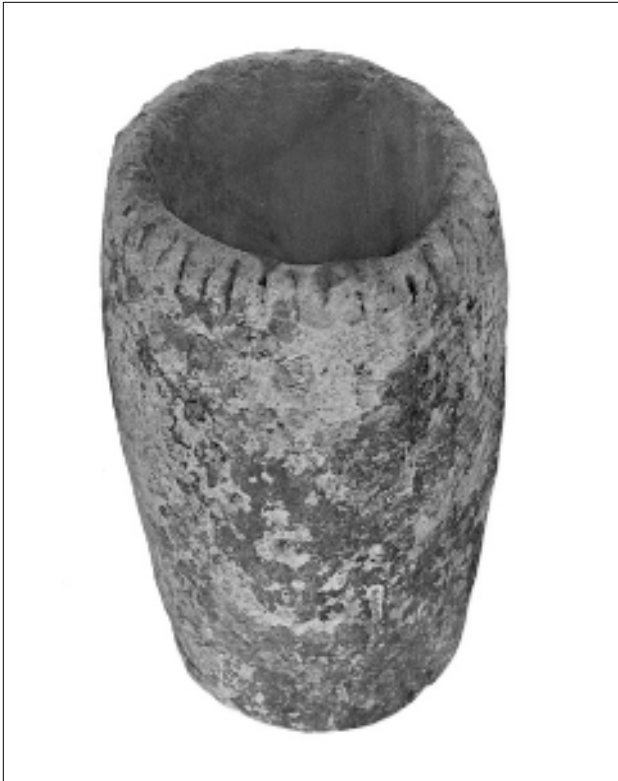


Figure 2-6. Distal end of cloud-blower pipe recovered by John Dunn from burial in "bone-pit" at the Cayo del Oso site. Courtesy of TARL, UT-Austin.

Finally, although no indication exists regarding their provenience, Dunn also recovered several pieces of worked shell. It is unclear whether some of the specimens served as tools (i.e., adzes) but at least a few appear to be triangular pendants with beautifully serrated perimeters (Figure 2-9). Others may represent pendant blanks that never reached a finished stage (Figure 2-10).

In 1928, Mr. Alexander Cox, another collector from Corpus Christi, removed five complete skulls from 41NU2 and found, but apparently did not remove, many that were crushed and broken. He continued collecting from the site and in July 1929, before Martin's excavations, uncovered one additional complete skull and found three other fragmentary specimens (Martin 1930:9). The interesting aspect of these finds is that the tops of the crania were not more than six inches (15 cm) below ground surface.

In late August 1929, Martin and Wendell H. Potter excavated for two days at the Cayo del Oso site beginning at the edge of the hole made by Cox (Martin 1930:9). The excavation unit consisted of a seven-foot-long by four-foot-wide trench that was dug to a depth of two feet. A large number of bones were encountered at around eight inches (20 cm) below the surface and extended some 8–10 inches below this in what was seemingly a heavily disturbed secondary context. Martin notes that prior to the extensive erosion of the surface during



Figure 2-7. Proximal end of cloud-blower pipe. Courtesy of TARL, UT-Austin.



Figure 2-8. *Opposite faces of silver sword hilt recovered from a Cayo del Oso burial by John Dunn. From the collections of the Corpus Christi Museum of Science and History.*

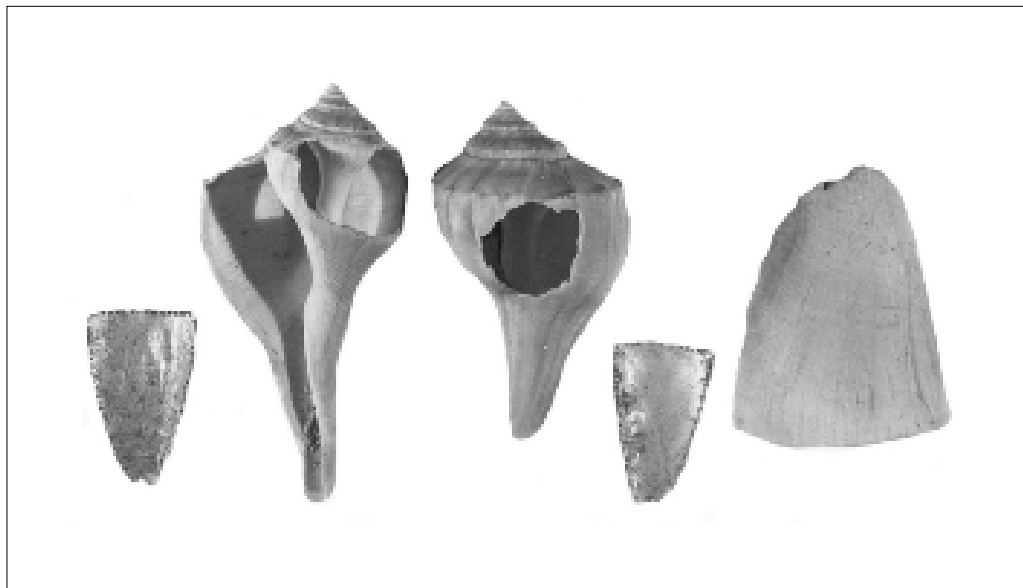


Figure 2-9. *Worked shell specimens from the Dunn Collection, recovered from the Cayo del Oso site.* Courtesy of TARL, UT-Austin.



Figure 2-10. *Additional worked shell specimens from the Cayo del Oso site collected by John Dunn.* Courtesy of TARL, UT-Austin.

the 1900 hurricane, the original ground surface was some 12 inches higher (Martin 1930:11). This indicates that the human remains recovered by Martin and Potter were some 20 inches (50 cm) below the original ground surface of the dune. The bones were poorly preserved, and although some specimens were articulated, many were fragmentary and jumbled.

Altogether, during the two-day excavation, Martin and Potter identified 21 skulls but none of them were sufficiently well preserved to be removed from the site. In addition, he estimated that they had “removed portions of skeletons to account for about forty burials.” Few burial offerings were encountered during the excavations. Martin states that “a single flat disc of clam shell, drilled, was lying against one of the skulls” and a portion of a drilled shell pendent with small notches along its edges was found in the backdirt of another excavation (Martin 1930:11). The description of this specimen is similar to the notched triangular pendants shown here from the Dunn Collection.

In September, October and November of 1929, Martin returned to Cayo del Oso and excavated a total of 22 additional square feet removing 32 skulls, and “many complete skeletons of adults, children, and infants” were also uncovered (Martin 1930:12). In contrast to the earlier excavations, the majority of the remains were in their original articulated positions suggesting that these excavations occurred in undisturbed deposits. The recovery of burial-associated artifacts, namely a single unifacial mano and “two triangular arrowheads of large size,” during the excavations may support this interpretation (Martin 1930:12).

Dr. J. Alden Mason, of the University of Pennsylvania, accompanied Martin during one of the excavations in the fall of 1929. He uncovered a fairly complete skeleton and several incomplete skulls and skeletons. Among the finds was a triangular piece of conch shell that appears to have been a digging tool (Martin 1930:12). This specimen may be similar to the large triangular piece shown in Figure 2-10 (center piece).

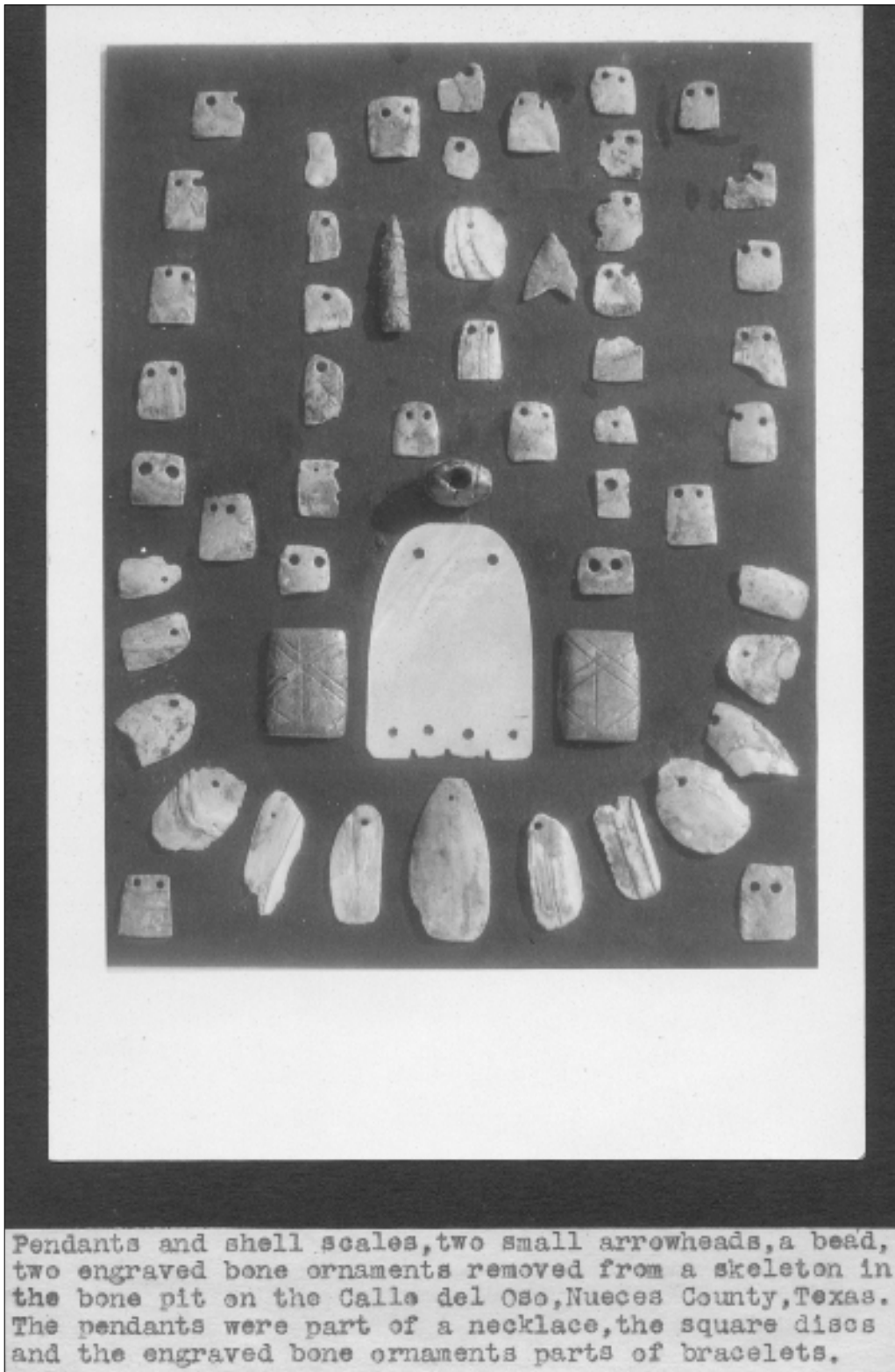
Not long after Martin left the site, Dunn returned and began digging where Martin’s excavation ended. According to Martin (1930:12-13), Dunn found a remarkable burial. He reported the burial as lying face down, with arms extended above the head. At both wrists, Dunn found a number of small square mussel shell ornaments, most of which had two holes drilled on one side (Figure 2-11). These shell ornaments have been found occasionally in other Late

Prehistoric burials (Anne A. Fox, personal communication 2004) and very similar rectangular ornaments, with two holes drilled in one side, are not uncommon at Colonial-period sites in San Antonio (see Fox et al. 1976:72). Under the chest area, larger shell ornaments with one hole each were discovered. In addition, two small pieces of bone with incised decoration were found near the hands and an engraved bead (Figure 2-12; which Martin [1930:13] believed was ivory) was found in the burial matrix nearby. Dunn reported the presence of two arrow points in the burial matrix in close association with the burial (Figure 2-11). One of these is clearly a Starr arrow point (Harry Shafer, personal communication 2004), a Late Prehistoric point type found in the lower Rio Grande Valley and up the coast to the Corpus Christi area (Turner and Hester 1999:231). The other point is reminiscent of a Guerrero type that is often found on mission sites.

It is possible that other artifacts may have also been associated with this burial or that artifacts associated with burials dug by Dunn may have been passed along to a number of individuals. We surmise this from a handwritten note dated July 1933 found in the TARL files. The note reads:

Mr. Busbee, a hunter and fisherman of Corpus, claims to have found ten carved and highly polished stone ornaments; and a number of stone discs with pit on each side, near center, on west side of Oso Creek, some 8 miles South of Corpus Christi, Nueces County. In grave. J.B. Dunn of Corpus got several of the ornaments and U of T got one from him.

Sometime following Martin’s excavations, probably late in 1931, E.B. Sayles excavated a single test unit, approximately five feet by nine feet, at 41NU2 (a record in 41NU2 file at TARL describing the site is dated 1/15/32 and initialed E.B.S.). An unpublished preliminary report on file at TARL includes a number of photographs and drawings of the burials (Sayles n.d., on file at TARL). The test pit was excavated in the “bone pit” but it is impossible to determine exactly where in relationship to Martin’s excavations. Sayles encountered 12 individuals (Figure 2-13). Burials 1 and 2 were encountered at a depth of 17 inches below the surface of the eroding bank and only an inch or two below a six-inch-thick zone of dark soil that probably represented a buried paleosol. Many of the bones from the two skeletons were broken and only the long bones of Burial 2 were articulated. Sayles surmised that Burial 1 may have represented a bundle burial. During the cleaning and excavation of Burials 1 and 2, a third burial (Burial 3) was



Pendants and shell scales, two small arrowheads, a bead, two engraved bone ornaments removed from a skeleton in the bone pit on the Calle del Oso, Nueces County, Texas. The pendants were part of a necklace, the square discs and the engraved bone ornaments parts of bracelets.

Figure 2-11. Artifacts found by John Dunn in association with a burial from Cayo del Oso. Courtesy of the Witte Museum, San Antonio, Texas.

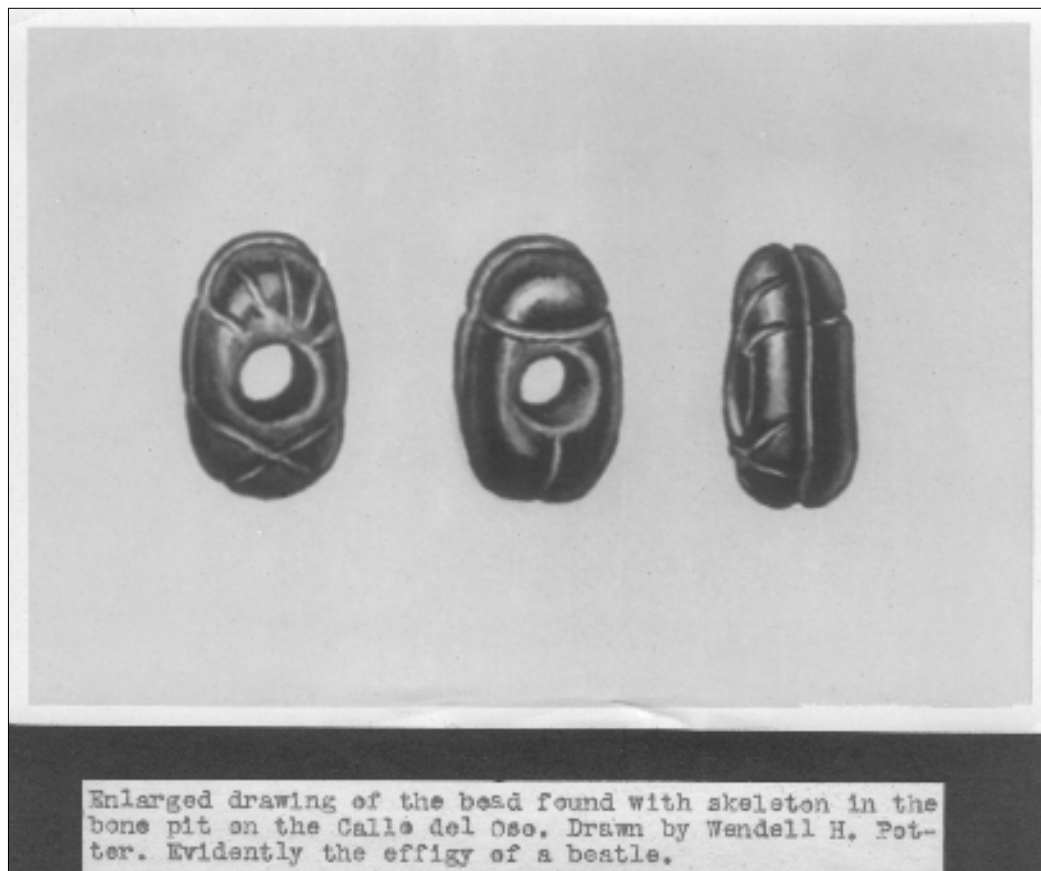


Figure 2-12. Detailed drawing of bead found by John Dunn in association with a burial from Cayo del Oso. Courtesy of the Witte Museum, San Antonio, Texas.

encountered. Eventually a fourth individual burial was encountered in proximity to the two original interments. Of the 12 burials, Burials 1, 2, and 9 were all fragmentary and apparently mixed. Sayles suggests that these skeletons may represent early burials disturbed by the interment of the later individuals that were found at greater depths or that they were disturbed by wind or water action. The other possibility is that these burials were disturbed by looters who did not reach the deeper buried remains before giving up. The remaining nine burials were largely complete and undisturbed. The remains were positioned facing west, laying on their left sides with arms flexed and hands near their heads, and loosely flexed legs. Only the skull of Burial 12 was removed from the site.

Burial offerings were associated with the remains in Burials 6, 10, and 11, all laying in contact with each other. Shell pendants were found around the right ankle of Burial 6, which appears to be that of a child (not an infant), while red

coloring, probably from ocher, was present on the pelvis of Burial 10 and the skull of Burial 11, a small child (possibly an infant). Shell pendants were found around the neck of Burial 11 and seed beads were recovered from near the pelvis of Burial 6.

The question of what, exactly, Sayles meant by “seed bead” is an intriguing one. He may have meant literally beads made from seeds. Usually, however, the term refers to small (ca. 2–4 mm) glass beads. Such beads are very common in Protohistoric and Colonial sites, as they were a major trade item for both the Spanish and the French. However, the presence of glass beads in what had been presumed to be a prehistoric site should have occasioned at least a more detailed description, even in the limited notes made by Sayles. The question of the nature of these “seed beads” remains a mystery at this time. Though the shell pendants described in Sayles’ notes were among the artifacts sent to TARL by the Arizona State Museum in 1990, no mention of

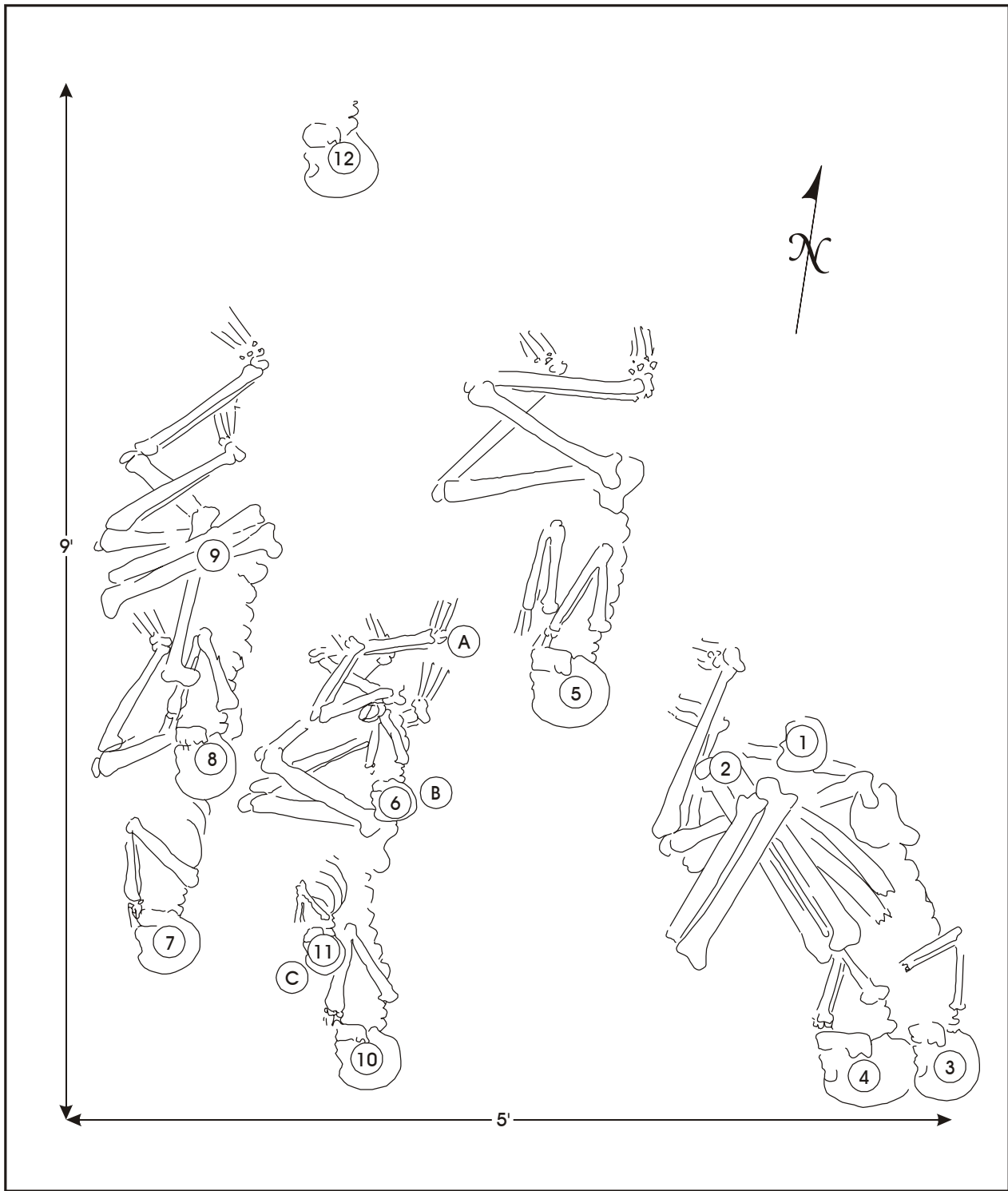


Figure 2-13. Plan view of E.B. Sayles' excavation area and positions of the skeletal remains encountered. Redrawn from sketch map in E.B. Sayles Folder, TARL, UT-Austin.

the “seed beads” is made in a letter dated 1995 concerning artifacts associated with burials from 41NU2 at the Peabody Museum (Darrell Creel [TARL] to Patricia Capone [Peabody Museum of Archaeology and Ethnology, Harvard University], dated 11/7/95, in the Sayles notes at TARL).

The A.T. Jackson excavations that constitute the bulk of this volume represent the largest single excavation to date at the site. They were carried out during 1933 and resulted in the excavation and documentation of 39 burials containing a total of 105 individual skeletons that were originally identified in the field as representing 93 individuals. The bulk of the hand excavations were centered in a large block overlying the “bone pit,” although a series of additional isolated blocks were also excavated by hand. The majority of the burials were identified in the “bone pit” area. Finally, seven parallel machine scrapings were also carried out to search for and define the outer edges of the cemetery area. By July of 1933, Jackson reported to J.E. Pearce that “The oso site has played out, but we are running exploratory trenches...” (letter from A.T. Jackson to J.E. Pearce dated July 17, 1933, Nueces County File, TARL).

Later work at the site never approached the scale and returned the amount of cultural materials produced during Jackson’s investigations. Early January 1947, T.N. Campbell visited the Cayo del Oso site accompanied by W. Armstrong Price, Alex D. Krieger, and Sam Fitzpatrick. In a handwritten letter dated Jan. 9, 1947, on file at TARL, Campbell indicates that Price and Krieger removed a burial during this visit and Fitzpatrick located another burial at the top of a bluff. Although the photographic records clearly identify this location as being on the site, it is not possible to determine exactly where it is located on 41NU2. In a letter written to Krieger and Campbell on February 21, 1947, and intended as a summary and an exchange of research results, W. Armstrong Price mentions that on February 22, Sam Fitzpatrick collected, in the presence of Price, a skull and numerous other skeletal elements from the second excavation made by Krieger and R.L. Stevenson at 41NU2 on January 28, 1947 (letter in T.N. Campbell’s Notes 1946-47 on file at TARL). The second excavation by Krieger and Stevenson was located west of the clay dune at False Oso and Corpus Christi Bay bluff. The skull was encountered 14 inches below the surface that had already been eroded some 12 inches at the time of the excavation. Price specifies that at the depth of approximately 26 inches below the original surface, the skull was just below a former surface on which shell rested. The human remains recovered by

Price, Stevenson and Krieger, and Fitzpatrick were sent to TARL for curation.

Since dozens of individuals collected material from the site over the years, no doubt many of the artifacts from 41NU2 have been widely scattered within and possibly even outside of Texas. This is emphasized by the fact that TARL houses records and/or artifacts from no less than six different collections from the site, including the Jackson Collection, the Sayles Collection, the G.C. Martin Collection, the Benedict and Price Collection, the Fitzpatrick Collection, and the J.B. Dunn Collection. Many other privately held collections probably exist from the site.

The human remains and associated artifacts excavated by Dunn, Martin, and Sayles also have been scattered to many different institutions across the country over the years. Dunn is known to have had an extensive personal collection. After his death in the 1940s, his collection was willed to the Benedictine Fathers of Texas at the Corpus Christi Abbey, where some of it was displayed until 1963 when the collection was transferred to the Corpus Christi Museum for security. The museum purchased the collection from the Benedictine Fathers in 1989. The human remains were transferred to Texas State University (formerly Southwest Texas State University) in San Marcos (Rick Stryker, personal communication 2004). Of the Dunn collection remaining in the Corpus Christi Museum, only the silver sword hilt appears to have come from 41NU2 (Robert Drolet, personal communication 2004).

In 1929, Martin sent skeletal material from 41NU2 to Cyrus N. Ray in Abilene (Ray 1930:16). It is unclear where this material is at this time. Martin also sent some of the skeletal material from 41NU2 to the Witte Museum in San Antonio, where it is still being curated.

The skeletal material excavated by Sayles (n.d.) was originally curated at the Gila Pueblo in Arizona. Gila Pueblo transferred all of their collections to the University of Arizona in 1950, where they were curated at the Arizona State Museum. At some point, some of this material was apparently transferred to the Peabody Museum at Harvard University, though the associated artifacts appear to have remained in Arizona (letter from Darrell Creel to Patricia Capone, dated 11/7/95, in the Sayles notes at TARL), until all of Sayles’ remaining Texas collection was sent to TARL in 1990 (Arizona State Museum Deaccession No. DP-91-3).

Chapter 3: Excavation of the Cayo del Oso Burial Site (So-called “Bone Pit”) at Mouth of False Oso Creek, 8 Miles South of Corpus Christi, Nueces County, Texas

Excavated by A.T. Jackson and crew June 4, 1933 to June 5, 1933; June 21 to July 18, 1933

The site occupies the southern half of a long clay dune along NW shore of the embayed mouth of Oso Creek on Corpus Christi Bay [Figure 3-1]. There may once have been pond water behind the clay dune.

The burial site on the False Oso is located about ¼ mile south of the paved highway (Ocean Drive) from Corpus Christi to Flower Bluff. It is on land owned by Dr. Josephs of Weslaco, Texas, but is leased by and under the management of Mr. Hall who lives at 1312 Thirteenth St., Corpus Christi, Texas. Mr. Hall granted University of Texas permission to excavate the burial site [Figures 3-2a and 3-2b].

Burial M-1

A deposit of bones was located at a depth of 16". Bearing NW-SE [Figure 3-2b].

Length of the deposit was 39" and width 22". Bones were badly mixed, and did not seem to be a bundle burial or reburial.

Lengths of femurs: 18¼", 19½", and 18¾".

Teeth of lower jaw were in excellent condition except that considerably worn.



Figure 3-1. General view of the eroded Cayo del Oso burial site before beginning work. Burials were found in the right background. Courtesy of TARL, UT-Austin, Cat. #41NU2-3.

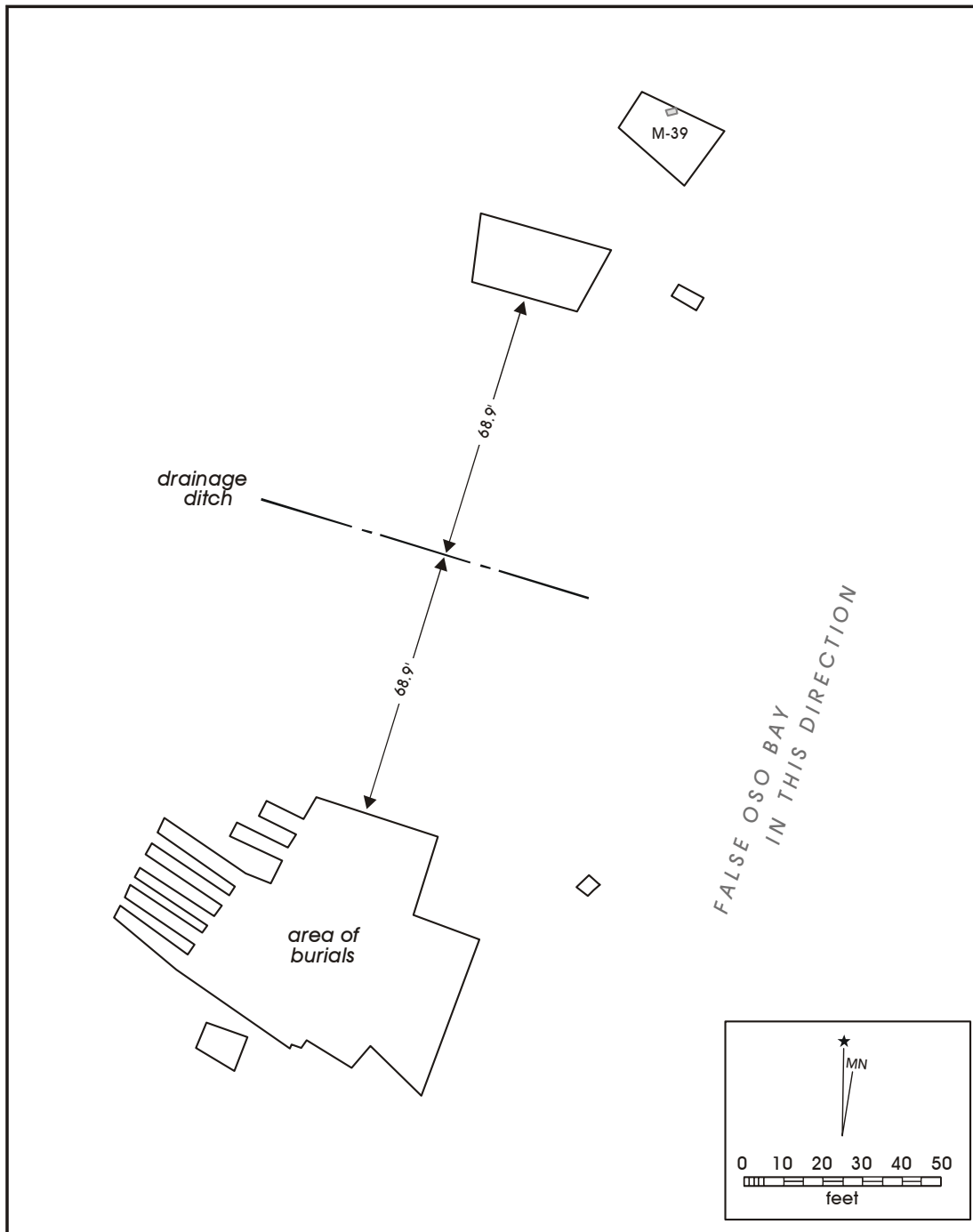


Figure 3-2a. Map of excavation areas at the Cayo del Oso site, SE of Corpus Christi, Nueces County, Texas.

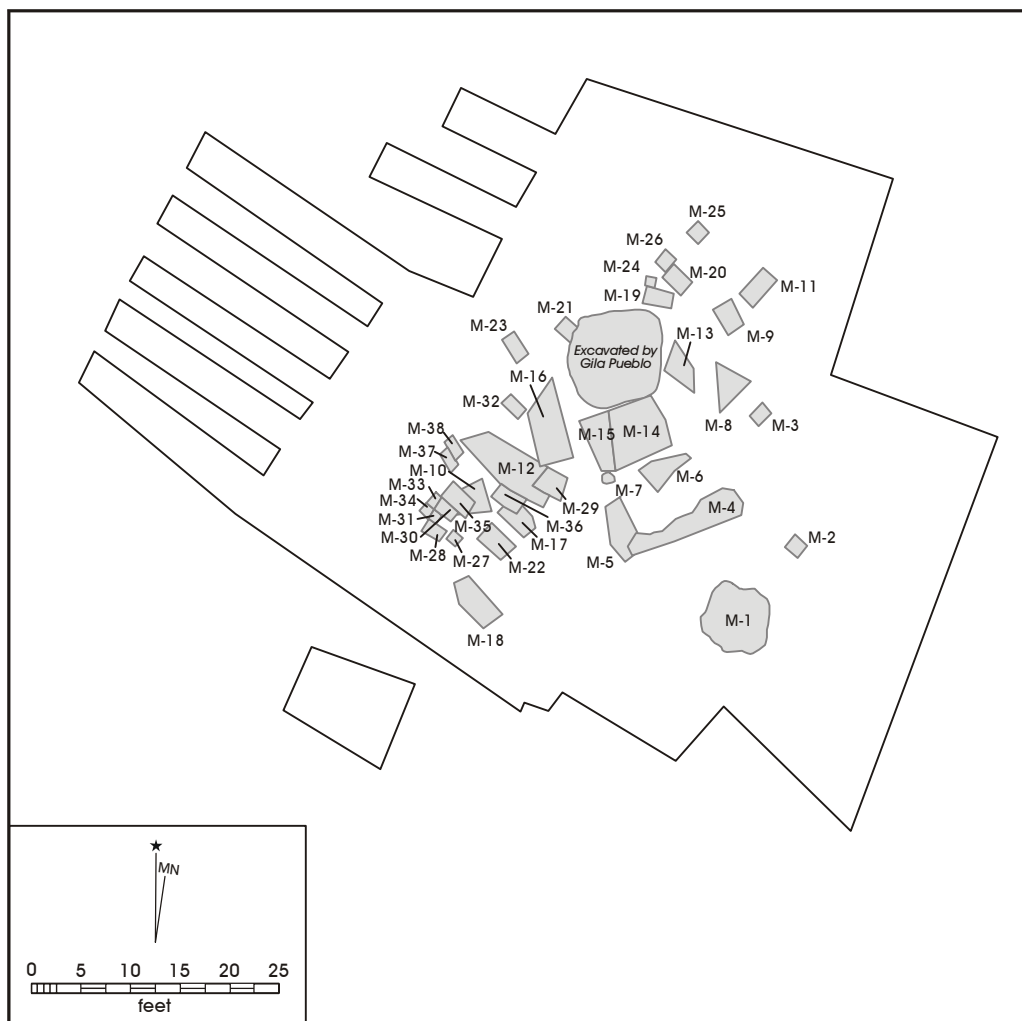


Figure 3-2b. Map of burial groups at the Cayo del Oso site.

With the bones were found part of a tortoise shell, a crude shell pendant(?) and a flint chip.

The list of the bones noted immediately upon exposure of the burial includes:

- 1) femur; 2) jaw; 3) pelvis; 4) femur; 5) skull;
- 6) tibia; 7) radius; 8) pelvis; 9) tibia; 10) scapula;
- 11) vertebrae; 12) femur; 13) humerus; 14) ribs;
- 15) ribs; 16) vertebrae; 17) vertebrae.

[Figure 3-3 shows the successive stages in the excavation of the burial.] In removing the mixed bones, there were encountered two skulls, at the SE and SW corners of the

bone pile. The skulls were placed back to back with the nearest points about six inches apart. One at SE was articulated.

Just to the south, and partly beneath the top of the skull to the SE, were discovered eight shell pendants. All are of the same general shape and pattern, although they vary somewhat in size. The dimensions were as tabulated on following page [Table 3-1].

Being made of the side of a small thin shell, each pendant has concave-convex surfaces. The notches show more prominently on the concave side. [Six of the eight specimens are shown in Figure 3-4.]

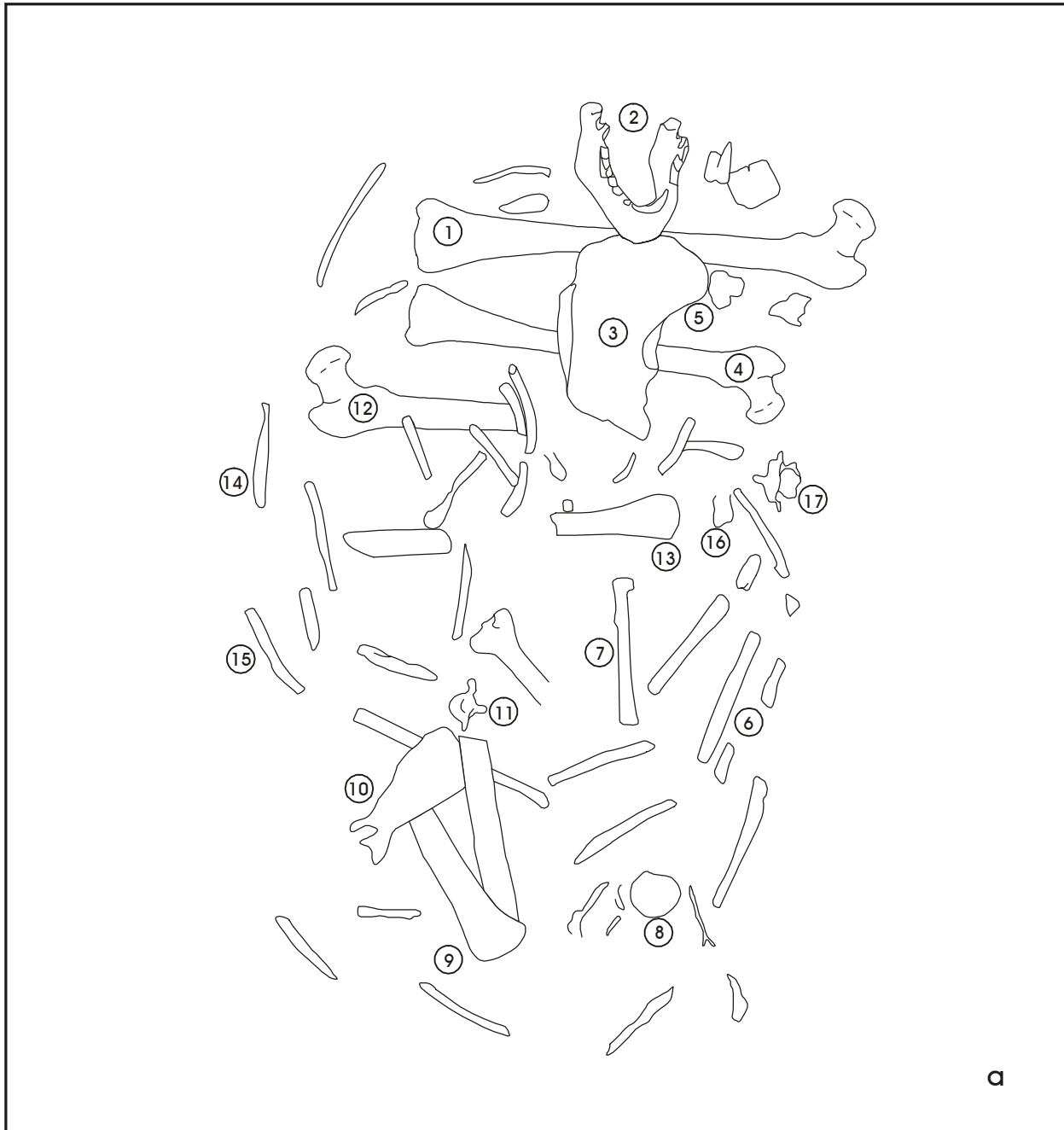


Figure 3-3a. Successive stages in the excavation of Burial M-1. Top of burial pit. 1) femur; 2) lower jaw; 3) pelvis; 4) femur; 5) skull; 6) tibia; 7) radius; 8) pelvis; 9) tibia; 10) scapula; 11) vertebrae; 12) femur; 13) humerus; 14) ribs; 15) ribs; 16) vertebrae; 17) vertebrae.

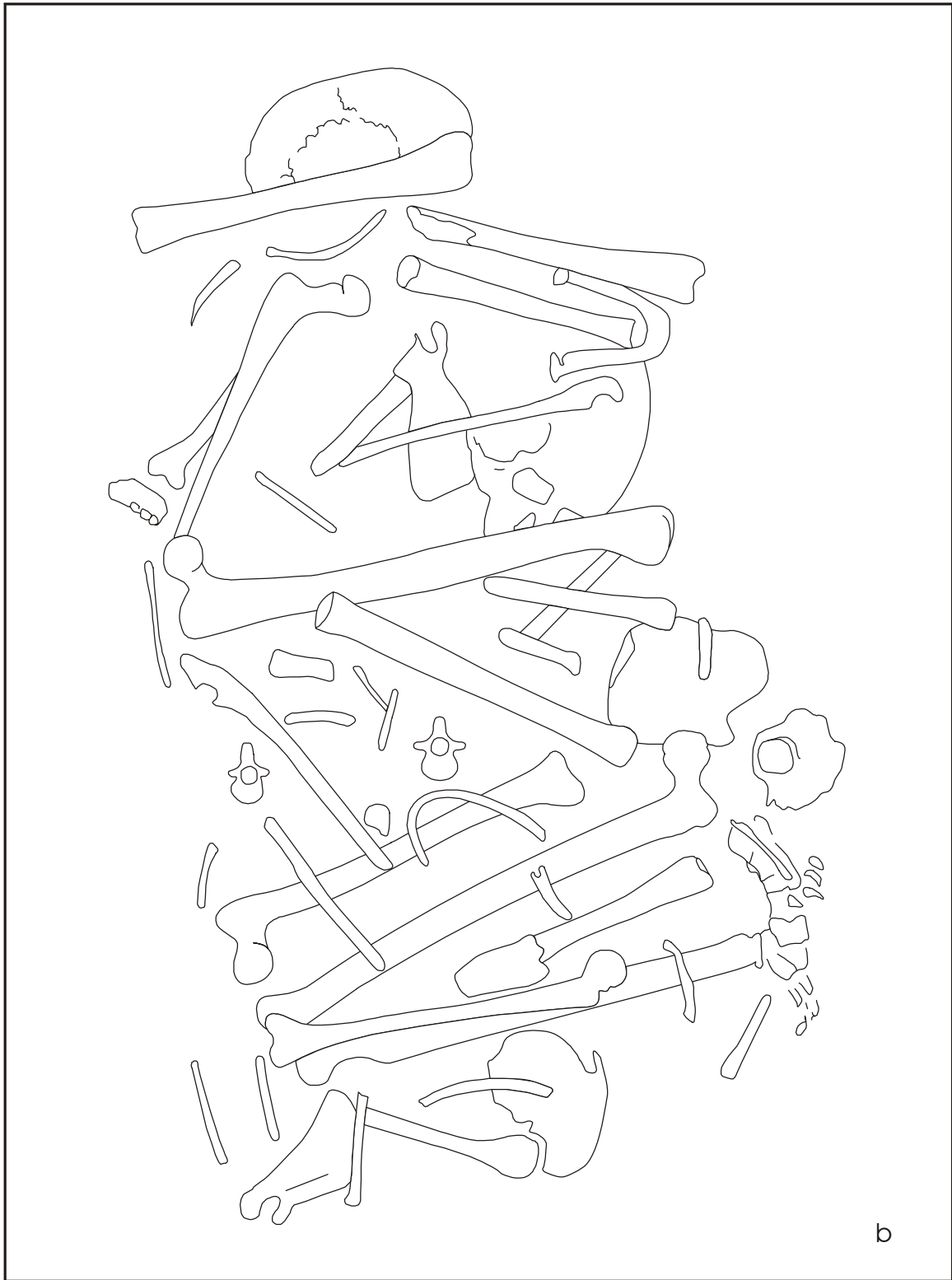


Figure 3-3b. Burial M-1, middle of burial pit.

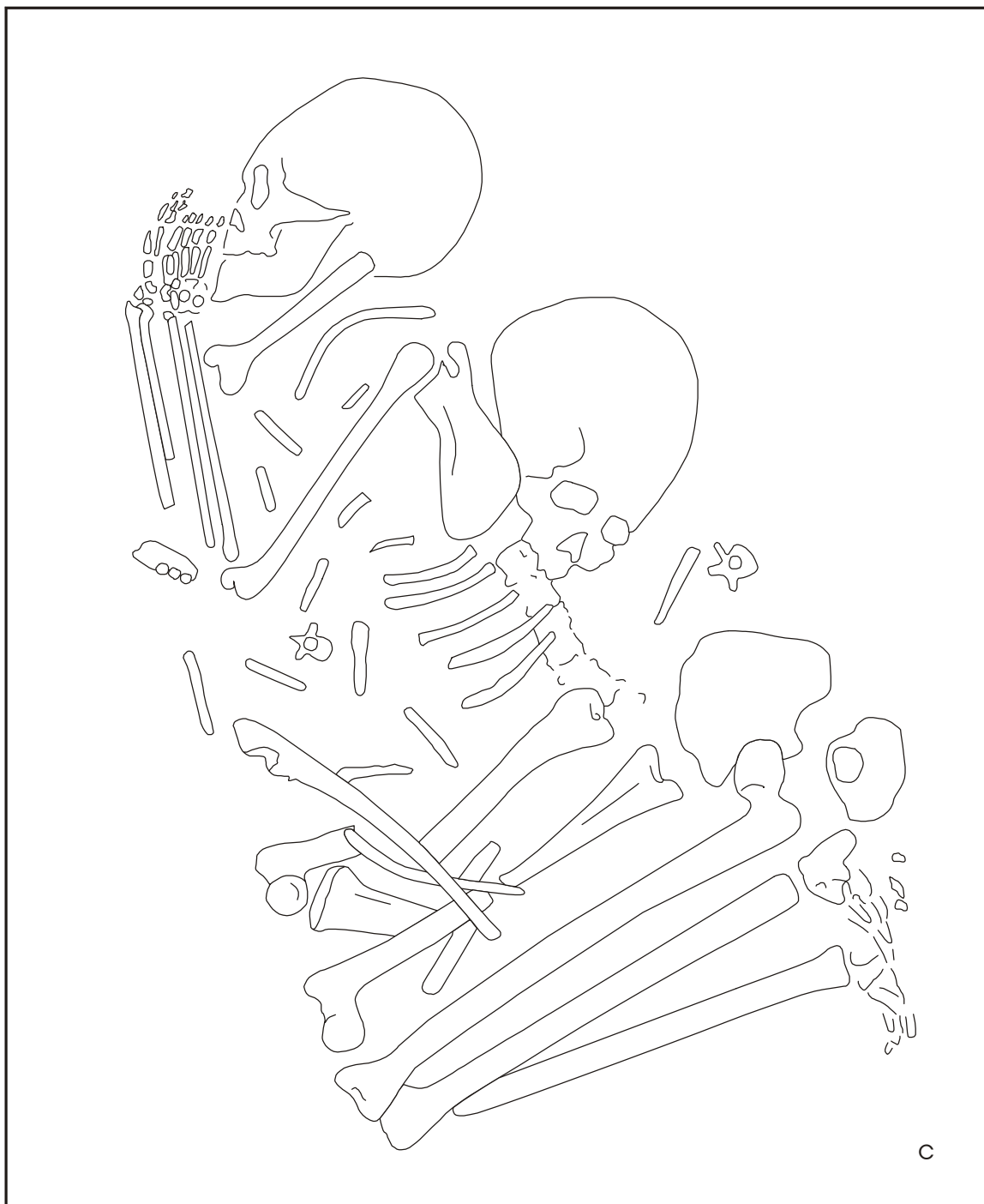


Figure 3-3c. Burial M-1, bottom of burial pit.

Table 3-1. Dimensions of Shell Pendants Associated with Burial M-1*

Length	Width at Lower End	Number of Notches around Edges
1 3/4	1 1/16	90
1 13/16	1	80
1 3/8	1	40
1 13/16	1 1/8	52
1 5/16	1	40
1 11/16	1 1/16	76
1 11/16	1 1/16	55

*all measurements in inches



Figure 3-4. Six of the worked shell pendants recovered in association with Burial M-1. A.T. Jackson Collection, TARL, UT-Austin.

Both hands were folded over mouth in the case of the skull under which pendants were found. The scapula, ribs, radius, and other bones of left side of this skeleton were found—on removing other bones above—still articulated. In other words, this skeleton—and this one only—was given a natural burial, lying on the right side flexed.

The other skull was minus the lower jaw, and was buried against the shoulder of the one that received natural burial. An extra lower jaw rested on top and between the two skulls. Half of a lower jaw was also found near the left elbow of the complete skeleton. As already mentioned, another extra lower jaw was in the pile of bones first found in this hole.

Four additional femurs were found—making a total of seven femurs in this one grave. This would seem to show that there were parts of three other skeletons in addition to the one complete skeleton.

A number of skull fragments were found, but not enough to make two additional skulls.

Several long bones were split and parts missing; but there were noticed no evidences of hacking or cutting on any of the bones in this grave.

Near the breast of the complete skeleton was a deer antler implement showing a worn and rounded end—perhaps a flaking tool or gouge [Figure 3-5].

Near the knees of the complete skeleton were fragments of several oyster shells. A fragment of conch shell was in the grave near the hips of the complete skeleton.

Total depth of grave 22".

Of the extra skull in the grave, all the teeth were in place in the upper jaw except one incisor which was missing.

The complete skeleton seems to be that of an adult female; while the extra skull appears to be an adult male.

Just back of the skull of the complete skeleton was a small lump of red pigment.

The length of femur of the complete skeleton was 18".

Just beneath the chin of the complete skeleton were sixteen disc beads made of a thin shell. They ranged in diameter from $\frac{7}{16}$ of an inch to $\frac{9}{16}$ of an inch. In thickness they are scarcely $\frac{1}{10}$ of an inch.

No artifacts were found in association with the extra skull or any of the extra bones; unless it be considered that the roughly shaped, undrilled and undecorated piece of shell with the upper bones might be a crude pendant. The real pendants, beads and antler flaking tool all were in direct association with the complete skeleton.



Figure 3-5. Possible bone flaking tool recovered in association with Burial M-1. A.T. Jackson Collection, TARL, UT-Austin.

The foregoing facts would seem to indicate that only one complete skeleton was buried in place; and that parts of three other skeletons were placed in the grave after the meat had been removed from the bones.

There was not sufficient evidence, in the form of broken and hacked bones, to definitely conclude that the three fragmentary skeletons represent victims of a cannibalistic feast. Two split bones with parts missing do, however, seem to suggest such a practice.

The extra skull in the grave agrees with certain finds made in another portion of the Texas Coastal region; namely, at the Caplen Mound on Bolivar Peninsula, Galveston County, Texas.

Digging has been done at this site by several persons. Chief among them are Messrs. George C. Martin formerly of Rockport and now of San Antonio; and E.B. Sayles, who is connected with the Gila Pueblo Museum of Globe, Arizona.

Mr. Martin's report on his work at this site, which he terms a "bone pit," is contained in Vol. II of the *Texas Archeological Society Bulletin*, pp. 7–13, 1930.

With regard to his finds, Mr. Sayles reports: "This site has been reported as a bone pit, where only bundle or disturbed burials are found. But there are undisturbed burials beneath the shallow bones. These burials have been subjected to great pressure—but can be removed.

"Put down a test hole for the bone pit, and before I could turn loose took out nine burials. No artifacts except shell pendants on infants." (Report E.B.S. to J.E.P. 1/22/32).

Mr. John B. Dunn, who has a private museum just outside the city limits of Corpus (on Highway 9 to Calallen) reports finding a so-called "cloud blower" or "blow-pipe" along with a silver sword hilt in a shallow burial at this Oso site. He also has about twenty small shell pendants reported by him to have come from the site. The pipe is of limestone.

With regard to this site, Martin¹ reports: "Potsherds are present but scarce." Dunn and Henry Fulton, Jr., report finding no potsherds. I found none in the burial site, but did

find a few in a campsite some 300 yards north and some across the False Oso on a small island.

June 21, 1933 to July 18, 1933.

Returned to Oso Site to work it out. Had force of six men. Began excavation at extreme east edge of the burial site that had been exposed by high water.

The eroded portion from which skeletal material came is about 40 x 60 feet, with the longer distance to NW-SE.

Burial M-2

Depth – 6".

Bearing – Uncertain.

Location – 8 ft. NE of M-1 [Figure 3-2b].

Dimensions of bone-heap was 11" x 8".

Skeleton of a young child.

Skull missing. Femurs in place in pelvis. Trace of ribs and vertebrae. Bones in a poor state of preservation [Figure 3-6].

Probably part of grave dug away by amateur diggers.

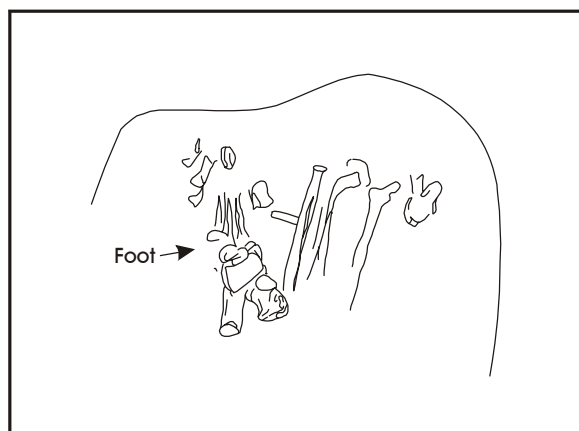


Figure 3-6. Disturbed remains of infant, Burial M-2.

¹Martin, Geo. C., "Two Sites on the Callo del Oso, Nueces County, Texas," pp. 7-13, *Bulletin of the Texas Archeological and Paleontological Society*, Vol. II. Abilene, Texas, 1930.

No evidence of other human skeletal remains in the grave.

The grave was originally—before eroded—some 18" deep.

No artifacts accompanied the burial.

Burial M-3

Depth – 8".

Bearing – Uncertain.

Location – 11 ft. E of N of M-4 [Figure 3-2b].

Dimensions of area occupied by bones 23" x 31".

Bones badly mixed and some missing. None of skull present except lower jaw, which lay alongside long bones. Three vertebrae.

Although shallow, erosion had not reached down to the bones, and could not have been responsible for the condition of the skeletal material.

The earth around the bones was packed and appeared to be undisturbed by previous diggers. This would seem to indicate that the burial as we found it was in the condition in which buried. If a bundle burial, or reburial, one wonders why the other bones were not also placed in the grave.

No artifacts with burial.

Small Fire Pit

About 12 ft. NE of burial M-1 was a small fire pit bearing considerable charcoal. It was encountered at a depth of 16", was only a few inches in depth and approximately 16" x 24". No bones or shells in the pit.

Midden Material

While there is much evidence (in the form of conch, oyster and snail shells) of camp life adjoining the burial site on north and south, very few such evidences were found in the general digging in the cemetery.

At one point, some 4 to 6 ft. SE of M-1, were some oyster shells at a depth of 12" to 15".

A few deer bones, broken, were found at various places; also one buffalo bone and a buffalo tooth. At another place was part of buffalo jaw with 4 teeth.

The camp deposit extends for half a mile both up and down the creek from the cemetery. The deposit is not continuous, but consists of numerous small piles or heaps of shells. These are from 6" to 15" high and from 3 to 10 ft. in diameter; and are spaced at irregular intervals ranging from 8 to 25 ft. All these facts tend to suggest that these small shell heaps were built up as refuse heaps from tepees.

Many of the conch shells have a hole about 1" in diameter, roughly broken on one side possibly for removing the meat.

Burial M-4

Depth – 15" to 19".

Bearing:

No. 1 – 10 degrees N of E.

No. 2 – Uncertain.

Nos. 3, 4, 5 – Uncertain.

No. 6 – Due E.

Location – 16 ft. SE of a group of nine skeletons exhumed by E.B. Sayles, of Gila Pueblo, Globe, Ariz., in spring of 1932 [Figure 3-2b].

Skeleton No. 1, with head 10 degrees N of E, was deepest. It was on left side, flexed, facing south. Skull crushed. Hands in front of eyes and forehead. Femur 18" long. Knees within 4" of chin. Bones in bad condition, broken, but apparently by weight of earth, as they seem to be articulated. (Extra femur back of skull No. 1.)

Skeletons Nos. 2 and 3 above parts of No. 1 [Figure 3-7]. Parts of Nos. 2 and 3 missing and bearings uncertain. No. 2 seems to be same position as No. 1, but skull not present. No. 3 seems to have been flexed on right side, facing north. Skull gone. Femur, 16" long.

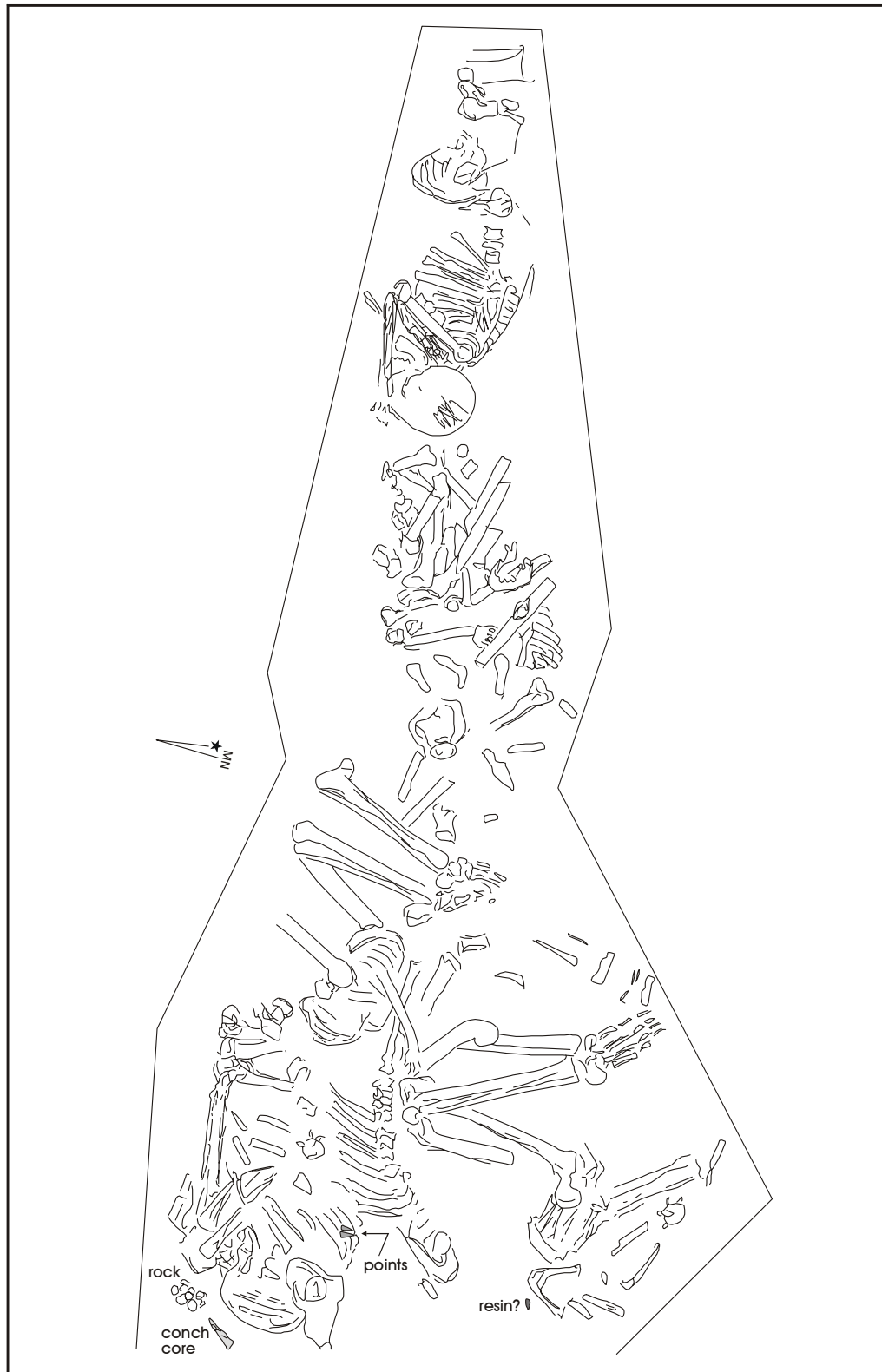


Figure 3-7. Distribution of skeletal remains in Burial M-4.

Accompanying the burial were artifacts as follows:

- 1 Small resinous-like article (shaped).
- 2 Tiny flint scrapers (on ribs of No. 1).
- 1 Core (columella) of conch shell (6" E of No. 1).
- 12 Small pebbles, smooth (beside conch core).
- 6 Small pebbles, rough (beside conch core).
- 1 Pendant, shell (part gone; between feet of No. 2 and No. 3).

Skeleton No. 4 and skeleton No. 5 badly torn and scattered. Little of a definite nature can be stated concerning them. No artifacts with No. 4 or No. 5.

Skeleton No. 6, as well as No. 5, may have been interred at different times from the others. But they are considered as part of a group burial for the following reasons:

- (a) They are at approximately the same depth.
- (b) They are separated by 3" and 4" from other skeletons, which would seem to belie an intrusive burial.

Skeleton No. 6 is perfectly articulated from head to hips, but the lower limbs are missing. On left side with head to east,

facing south. Hands crossed in front of eyes and forehead. Seems to be a youth. Teeth good condition; skull crushed.

Length over all 6 skeletons was 11½"; width, minimum at W, 8"; maximum 3' 8".

In removing skeletal material, three medium sized pebbles were found over the chest of skeleton No. 1.

Immediately beneath the stones was a bone artifact 4½" long and 1" in diameter [Figure 3-8]. It seems to have been made from a human humerus, and is cut at each end. There remains on the outer surface of bone specimen traces of black paint (asphalt). This may have been a large bead.

A few inches from the bone specimen were two small flint chips.

It will thus be noted that all the offerings accompanied skeleton No. 1—except for a few small pieces of red ochre and a flint chip with skeletons 5 and 6.

The line of skeletons varied only 5 degrees from an east-west course.



Figure 3-8. Worked bone with possible traces of asphaltum in association with skeleton No. 1 in Burial M-4. A.T. Jackson Collection, TARL, UT-Austin.

Burial M-5

Depths – 12" to 15".

Bearings:

Skeleton No. 1 – SE.

Skeleton No. 2 – Due E.

Skeleton No. 3 – Uncertain.

Location – 15 ft. due S of E.B.S. burials [Figure 3-2b].

Skeleton No. 1, with skull to SE, was on left side in a semi-flexed position, facing south [Figure 3-9]. Hands folded in front of mouth and eyes. Skeletal material badly disintegrated. Only one femur remained intact; it measured 16½" in length.

The skull of skeleton No. 2 rested immediately back, and partly on, the pelvis of skeleton No. 1. Skull badly crushed, but not so far advanced in decay as the skull of No. 1. The other bones of No. 2, however, were in a worse condition than the corresponding bones of skeleton No. 1. Teeth of No. 2 in good condition and all in place. Five inches north of the right shoulder of No. 2 was half of a lower human jaw containing two molars and the three adjoining small teeth, all in good condition. Lower limbs missing and appear to have been dug out by amateurs who had sunk a hole at that point.

Skeleton No. 3, to north of, and resting against skeleton No. 2, had been disturbed by amateur diggers with the result that no definite information of value can be determined. It consisted of a mass of broken bones, with only a few vertebrae and ribs seeming to remain in place.

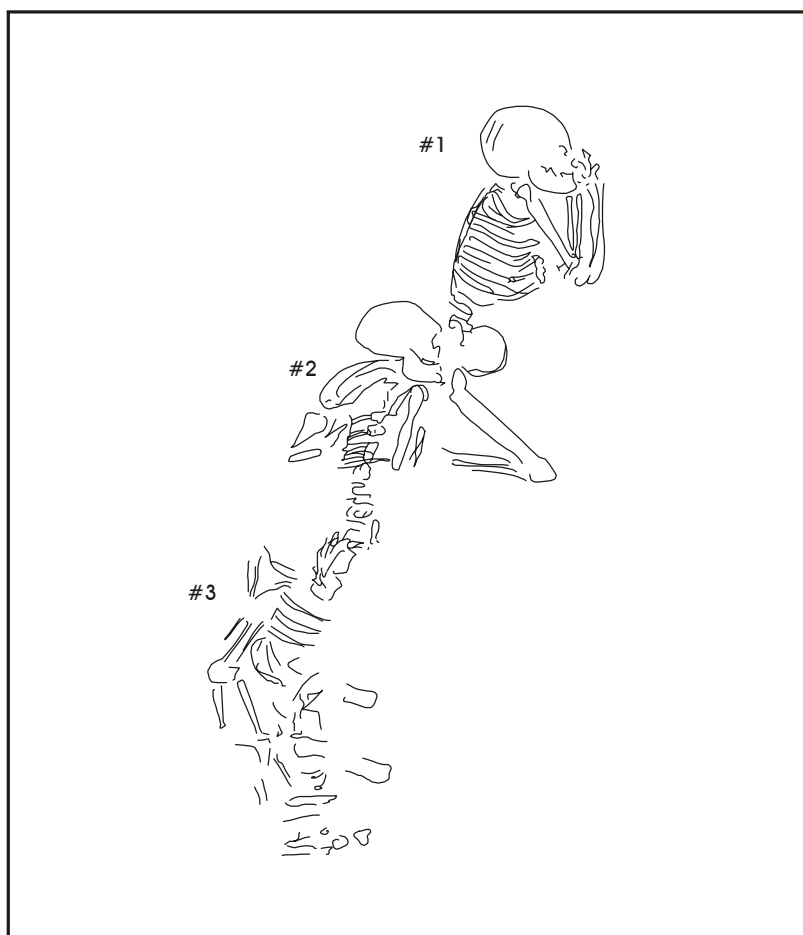


Figure 3-9. Position of skeletons in Burial M-5.

Length over the three skeletons, NW- SE, was about 65" with a N-S width of some 34".

A small conch shell was found 6" N of skull of skeleton No. 2, and a small chunk of resin-like material. No other offerings accompanied the burial.

All indications are that none of these is an intrusive burial; but were all made at the same time. For this reason the three skeletons are considered as a group burial.

Burial M-6

Depth – 15"

Bearing – Uncertain.

Location – 11 ft. 20 degrees E of S of E.B. Sayles' excavation (measured from center to center of the two graves [Figure 3-2b]).

Skeleton badly mixed and very few bones articulated.

Length of femur was 16¼".

Only two fragments of skull present in grave. Grave apparently had not been disturbed by diggers and seems to represent the condition in which originally buried. While all long bones were broken, it seems to be the result of the weight of the earth. There was no case of a split bone in this grave.

Burial M-7

Depth – 15"

Bearing – Uncertain.

Location – 11 ft. S of Sayles' excavation [Figure 3-2b].

All that remained of this badly decayed group burial were the skulls of two children and a few finger bones.

The skull in best condition is on its back to the east, facing west. Age perhaps 7 to 9 years. Other skull in very badly decayed condition.

Three partly worked clam shells were near chin of Skeleton No. 1 [Figure 3-10]. No other offerings with the burial.

Burial M-8

Depth – 22"

Bearings:

No. 1 – Northwest.

No. 2 – Northeast.

Location – 12 ft. E of Sayles' burials [Figure 3-2b].

Skeleton No. 1, with skull to NW, is in several respects one of the most unusually arranged of the skeletons found at this site. The variations are as follows:

- a. On right side.
- b. Body straight from shoulders to hips.
- c. Femurs bent inward almost at right angles.
- d. Feet beneath skull of skeleton No. 2.
- e. Right hand extended along forehead with palm up and thumb against skull.
- f. Left hand 8" south of stomach.

The entire skeleton (No. 1) was in a fair state of preservation and fully articulated [Figure 3-11]. Skull somewhat crushed and lower jaw broken. Teeth in good condition but worn. A male. Distance from top of skull to upper end of femur was 32". Length of femur was 16".

Skeleton No. 2, with skull to NE, was on left side. Hands over mouth and eyes, as is common at this site. Body straight, much like skeleton No. 1, with femurs out at right angles and feet doubled back a few inches from the pelvis. Bones in a somewhat worse state of decay than those of skeleton No. 1. Distance from top of head to upper end of femur was 31". Length of femur, 15½". Female.

Distance from top of skull of No. 1 to front of skull of No. 2 was 47"; from top of skull of No. 2 to feet of same was 36". Back of skull No. 1 to knees of No. 2, 60".

The placing of the skull of No. 2 only 6" below the pelvis of No. 1 is similar to the position of skeleton No. 2 in burial M-5.

No artifacts accompanied the burial.



Figure 3-10. Worked clam shells recovered in association with Skeleton No. 1 in Burial M-7. Note: TARL records identified four specimens as having come from this burial. A.T. Jackson Collection, TARL, UT-Austin.

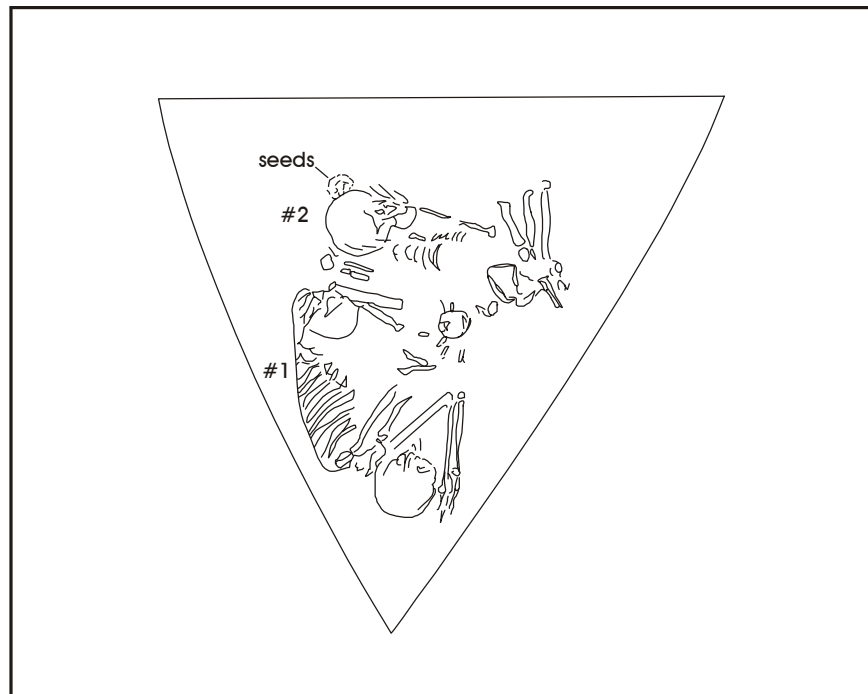


Figure 3-11. Position of skeletons in Burial M-8. Note deposit of small seeds next to skull of Skeleton No. 2.

A fact of interest concerning skeleton No. 2 (of M-8) was the presence of a considerable deposit of what appear to be small seeds in the earth for some four inches around the skull. They did not seem to have been carried there by rodents and probably were placed in the grave at the time of burial. They are about the size of okra seed, white and most of them are broken in half (Anaquá seed).

No seed accompanied skeleton No. 1.

Burial M-9

Depth – 22" to 26".

Bearing – 20 degrees E of S.

Location – 10 ft. NE of Sayles' excavation [Figure 3-2b].

Adult skeleton, lying on stomach, with head twisted to right until chin rested on right scapula [Figure 3-12]. Back of skull toward east. Skeletal material in fair condition. Legs flexed, with knees to SW and toes to NE, resting against left side pelvis. Length of femur, 17¾". Teeth badly worn.

Seven inches to NE of lower ribs was a conch shell 5½" in length; twelve inches SW of right elbow was a small split-bone awl 2½" long. The lower end has been ground down somewhat but is not well finished. [These artifacts could not be relocated for illustration.]

Burial M-10

Depth – 9".

Bearings:

No. 1 – SE.

No. 2 – 20 degrees S of E.

No. 3 – 30 degrees S of E.

No. 4 – SE.

Location – 19 ft. SW of Sayles' excavation [Figure 3-2b].

Group burial consisting of one adult female and three infant skeletons [Figure 3-13]. The adult skeleton, No. 1, was on left side, with head to SE; hands doubled in front of eyes and forehead; body twisted near hips with pelvis almost upright; the legs flexed with feet doubled up within few inches of hips. Length of femur 17". Skeletal material in fair state of preservation, but long bones broken and skull crushed.

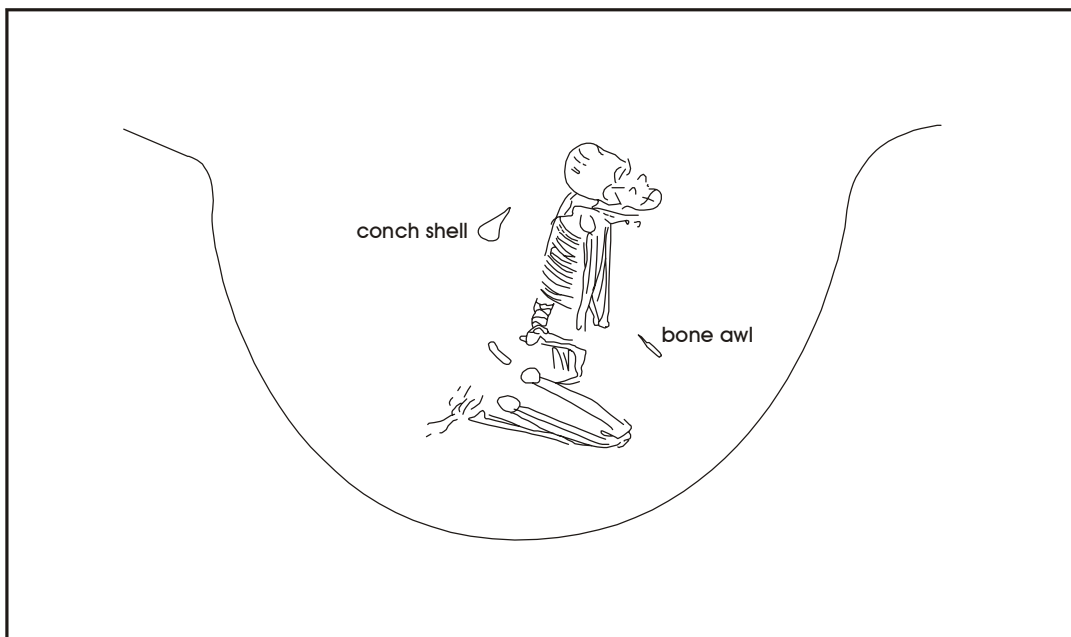


Figure 3-12. Position of skeleton in Burial M-9.

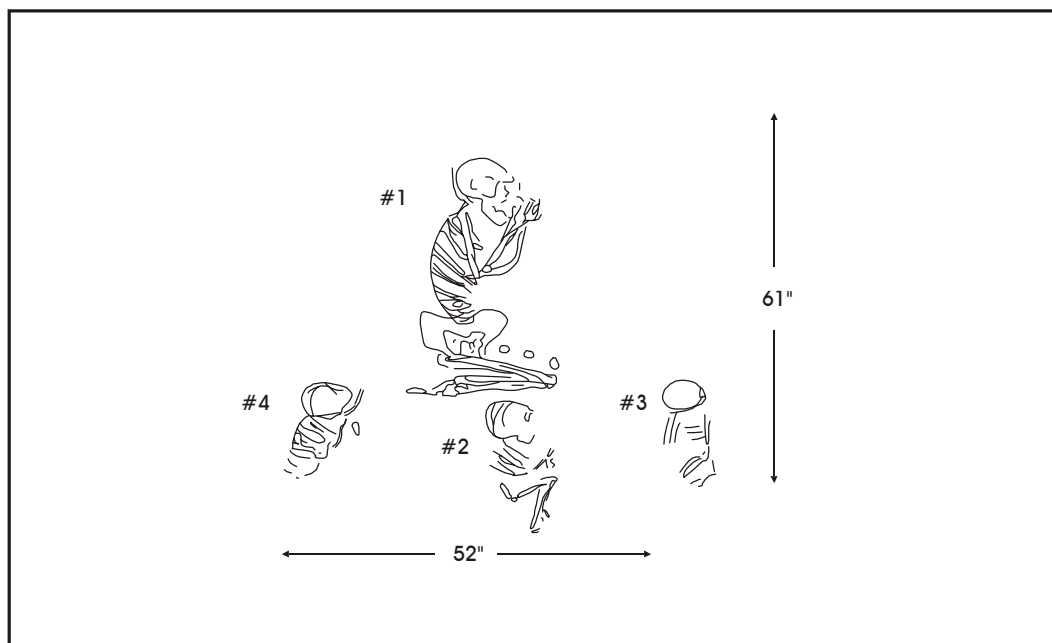


Figure 3-13. Position of four skeletons, one adult and three infants, in Burial M-10.

Burial M-11

Skeleton No. 2, with skull 5" west of right ankle of No. 1, was on left side; with hands folded 3" below chin; and legs flexed, with knees 2" below hands. Skeletal material in very bad condition. A few milk teeth were present.

Skeleton No. 3, 12" SW of No. 2, was on left side, but in such an advanced state of decay that no additional data of value can be determined. Apparently very young.

Skeleton No. 4, 13" N of feet of No. 1, was on left side; in little better condition than No. 3.

The only offerings accompanying these burials were 5 fragments of worked shells with No. 1 and one such fragment with No. 4. One of those with No. 1 was 4" S of the skull; other four were near the femurs. That with No. 4 was located just south of the skull. [These artifacts could not be relocated for illustration.]

Depth – 13".

Bearing – 5 degrees W of S.

Location – 12 ft. NE of Sayles' excavation [Figure 3-2b].

Burial of one adult. Head varied only a few degrees from south. Fingers of both hands extended beside each other, completely covering the face from chin to forehead. Fully flexed with knees within 4" of chin. Feet doubled back against pelvis. Length of femur 18½". Skull in fair condition; other bones badly broken by pressure of earth. On left side, facing west.

Length – 33" (N-S); width 19".

No artifacts accompanied the burial.

Burial M-12

Depth – 9" to 14".

Bearings:

- Nos. 1 and 13 – Due E.
- Nos. 2, 3, 5, 6 – SE.
- Nos. 7, 8, 10, 12, 14, 4 – S.
- No. 9 – 20 degrees E of S.
- No. 11 – Uncertain.

Location – 15 ft. 30 degrees W of S of Sayles' excavation [Figure 3-2b].

Distance over all – Length, 11' 10"; width 46" to 57".

Group of fourteen skeletons, nine of which are piled one upon another in an inextricable manner [Figure 3-14]. Five of them may possibly have been separate burials; but, due to their being so closely spaced and in such apparent connection they are here considered as one huge group burial. The two most interesting skeletons are Nos. 6 and 9. They are the largest and most prominently placed of any in the grave. Of those two, No. 6 is the more outstanding. Adult male; length of femur, 19½"; on left side; facing S; left arm and fingers of left hand extended full length with wrist 9" S of pelvis and tips of fingers 2" E of left femur. Right arm along body to elbow, then bent at almost right angle, the wrist crossing over the left arm slightly above elbow; (see Burial M-23) fingers of right hand bent slightly. Beside fingers of right hand was an awl of columella of conch [actually of lightening whelk, *Busycon perversum*, Figure 3-15]. Skeletal material in fair condition but the skull badly crushed; teeth good condition but worn; legs flexed with feet 3" to 10" west of pelvis. This skeleton (No. 6) is on top of three others, and is the most elevated of the group.

Skeleton No. 9, in the west-central part of the grave, is on left side, with skull partly covered by long bones of another skeleton. Length of femur 18½"; legs flexed; feet excellent condition, with heels 7" and 9" NW of pelvis. Hands folded just beneath the chin. Near ends of toes were two oyster, a tip of a conch and 13 fragments of clam shells. Another fragment of clam shell rested against the skull. [These artifacts could not be relocated for illustration.]

Six of the 14 skeletons were those of infants. All of the tiny skeletons were in a very poor state of preservation. Three

were arranged in triangular form in NE corner of grave; other three in triangular form near foot of grave.

The easternmost and deepest skeleton (No. 1) was on left side, with hands over mouth. When others removed, this skeleton was found to have 16 snail shells around left elbow. On back, legs semi-flexed. Hands to mouth. [These snail shells could not be relocated for illustration.]

The westernmost skeleton (No. 14) has skull 6" SW of knees of No. 9; and has an infant skeleton immediately to the east and some 4" deeper than skull (of No. 14). Skeleton No. 14 is on left side, fully flexed with knees over elbows, and with hands over mouth. Feet 5" SW of pelvis. Adult female.

One of the infants (No. 12) had two fragments of clam shell near (south) the skull. [This artifact could not be relocated for illustration.]

Skeleton No. 10, to north of and parallel with No. 9, is articulated and complete except for the absence of head. On left side; legs flexed, with knees resting on pelvis of No. 9.

This would seem to suggest a sacrificial burial, with twelve other humans (6 adults and 6 infants) sacrificed to Nos. 6 and 9.

Of the fourteen skeletons, eleven were on left side and three uncertain.

[Handwritten note] One of the skulls contained a partly healed hole about ¼" diameter?

Burial M-13

Depth – 15" to 19".

Bearings:

- No. 1 – S.
- No. 2, 3, 4, 5 – Uncertain.
- No. 6 – NW.

Location – 8 ft. E of Sayles' excavation [Figure 3-2b].

Dimensions over all: length, 82"; width, 53". Length runs N-S.

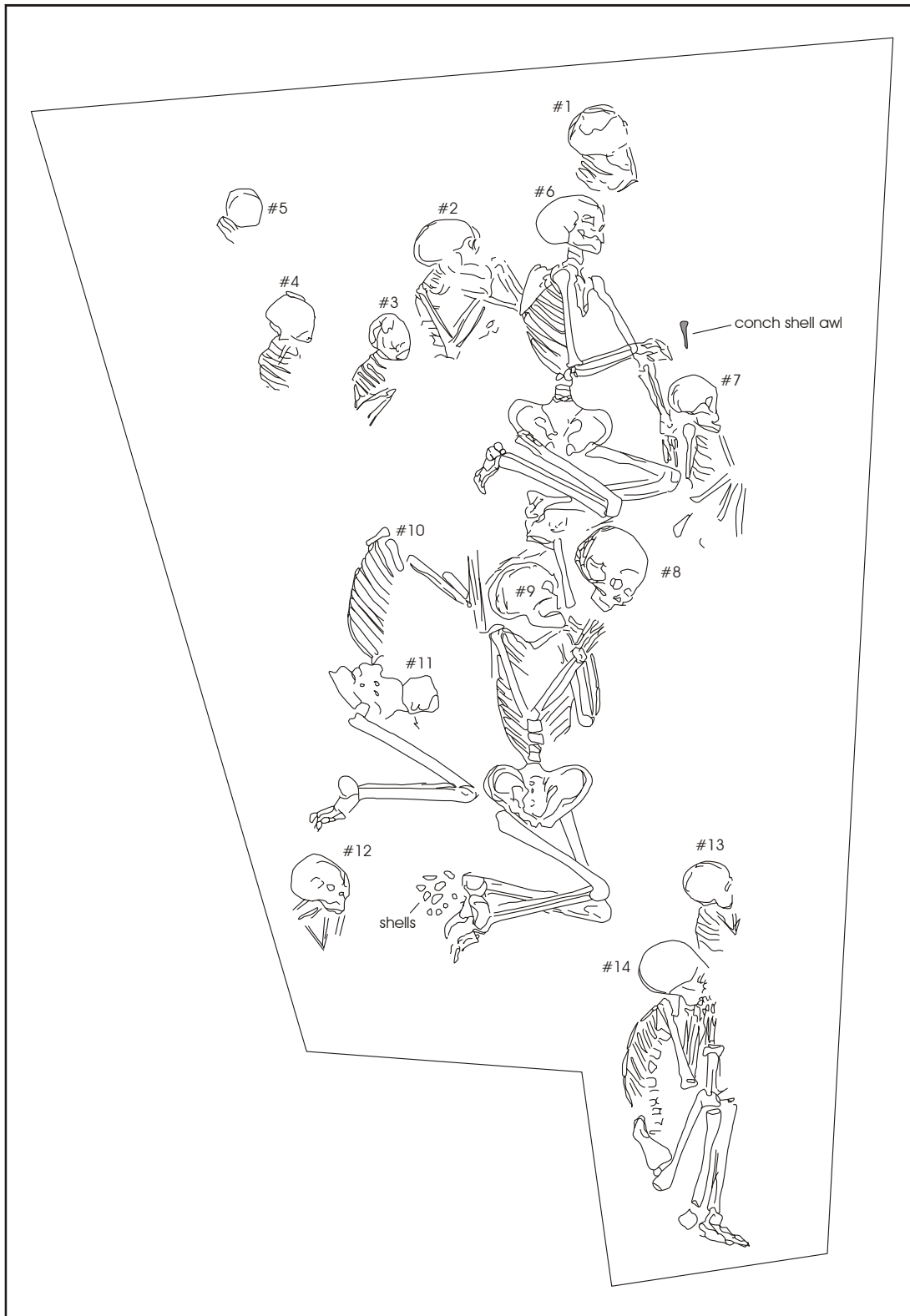


Figure 3-14. Position of fourteen skeletons within Burial M-12.



Figure 3-15. Lightening whelk columella awl found in association with skeleton No. 6 in Burial M-12. A.T. Jackson Collection, TARL, UT-Austin.

Group of six skeletons. Four adults, one youth and one infant [Figure 3-16].

Skeleton No. 1, head to south, on left side, facing west. Adult male. On top of skeleton No. 2 and beneath skeletons 3, 4, 5 and part of 6.

Skeleton No. 2 deepest of all, on left side. Mostly covered by other skeletons.

Skeleton No. 3, infant beneath Nos. 4 and 6; nothing showing but skull. Bad condition.

Skeleton No. 4, beneath No. 5; little showing besides skull. Skeleton No. 4 was on left side.

Skeleton No. 5, skull facing south, but other bones (some of which were broken and not articulated) were extending northward. Seems to have been dismembered before burial.

Skeleton No. 6, on top with skull to NW—an unusual position. On left side. Bones in bad condition, with fragments of other long bones across and beside the articulated skeleton.

Offerings in the grave included four small conch shells, one of which had a hole broken in for removing meat; also parts of two polished mussel shells [Sunray Venus clam,

Macrocallista nimbosa, Figure 3-17]. All on or near skeleton No. 6. Water-worn pebble on skull No. 1.

Burial M-14

Depths – 4" to 13".

Bearings:

No. 1 – Southeast.

No. 2 – Southeast.

No. 3 – 30 degrees E of south.

No. 4 – 10 degrees W of south.

No. 5 – Uncertain.

Location – 9 ft. S of Sayles' excavation [Figure 3-2b].

Group burial consisting of six practically complete skeletons and certain bones from additional skeletons [Figure 3-18].

Dimensions of grave: length, N-S, 8½ ft.; width, E-W, 5 ft.

Southernmost skeleton (No. 1) was an adult male on left side; legs flexed with feet doubled back and heels 3" and 6" from pelvis. Feet 6" beneath skull No. 4. Arms extended at an angle of 45 degrees, with left on top of right arm from elbow downward. The extended fingers reached within 2" of the flexed right femur. Length of femur, 17". Skull in

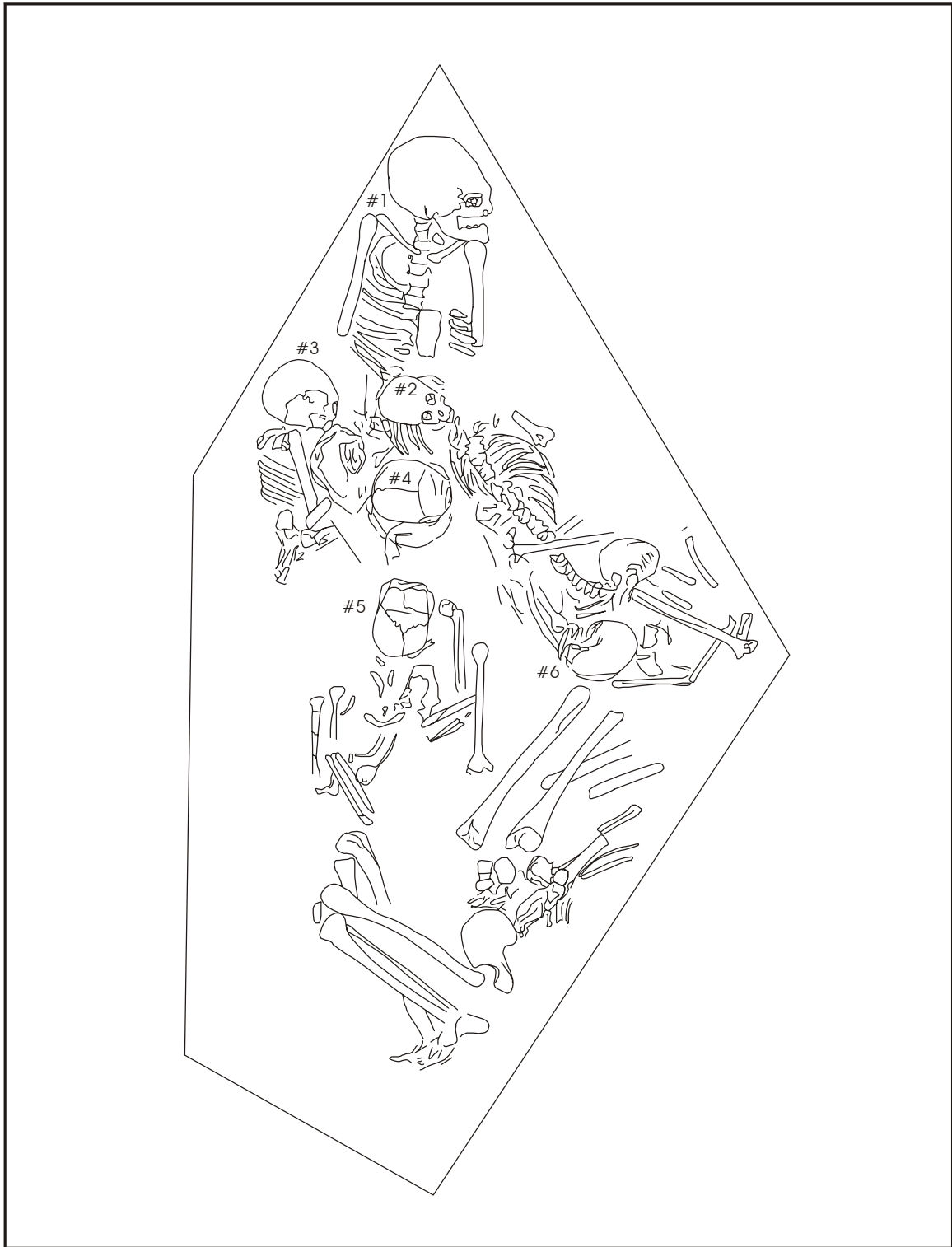


Figure 3-16. Position of skeletons in Burial M-13.



Figure 3-17. Two worked and polished mussel shell fragments associated with skeleton No. 6 in Burial M-13. A.T. Jackson Collection, TARL, UT-Austin.

very bad condition. Teeth in fair condition; one incisor missing. Other bones in a bad state of preservation.

Skeletons Nos. 2 and 3 are piled in with No. 3 beneath No. 2, and lower limbs of both beneath skeleton No. 4 and parts of a dismembered skeleton. Both Nos. 2 and 3 are on left side, with skull No. 2 on top of skull No. 3. Hands of No. 2 extended over chin and mouth. Judging from skull and teeth, appears to be an adult female. Bones of Nos. 2 and 3 in bad condition.

Skeleton No. 4, on top of the heap, was in a very bad state of preservation. The most unusual feature about it is a long skull, with what seems to be a trace of artificial deformation. Both size and shape of the skull are suggestive of Caddo skulls of NE Texas. On right side, facing east. Teeth badly worn. Bones articulated from hips upward; but lower limbs not articulated and broken with some parts missing. Half of an extra skull rested on torso of No. 4 (No. 5, infant beneath No. 4, partly in place).

Three extra sets of lower limbs are scattered in the north part of the grave. One set of these leg bones articulated and would seem merely to have been severed from the body

and buried with the flesh on. The two other sets are disarticulated, broken and some parts of bones missing.

Only two offerings were found in the grave. One of these, a flint knife or projectile point, was just beneath the bones of the forearm, 4" west of the chin of skeleton No. 2. The specimen was well chipped and shaped as follows: [Hand-drawn illustration is an outline of an ovate biface.]

The other specimen was a crude, kidney-shaped hammer stone, 6" x 4" x 1" rounded at ends, resting against the skull of skeleton No. 4 in such way as to cover the eyes, forehead and mouth.

[Neither of these artifacts could be relocated for illustration.]

In removing skeletons in burial M-14, a skeleton not previously visible was encountered about five inches beneath skeleton No. 1. This latter one is accordingly designated as skeleton No. 6 of burial M-14.

Depth of skeleton No. 6 was 15" to 19".

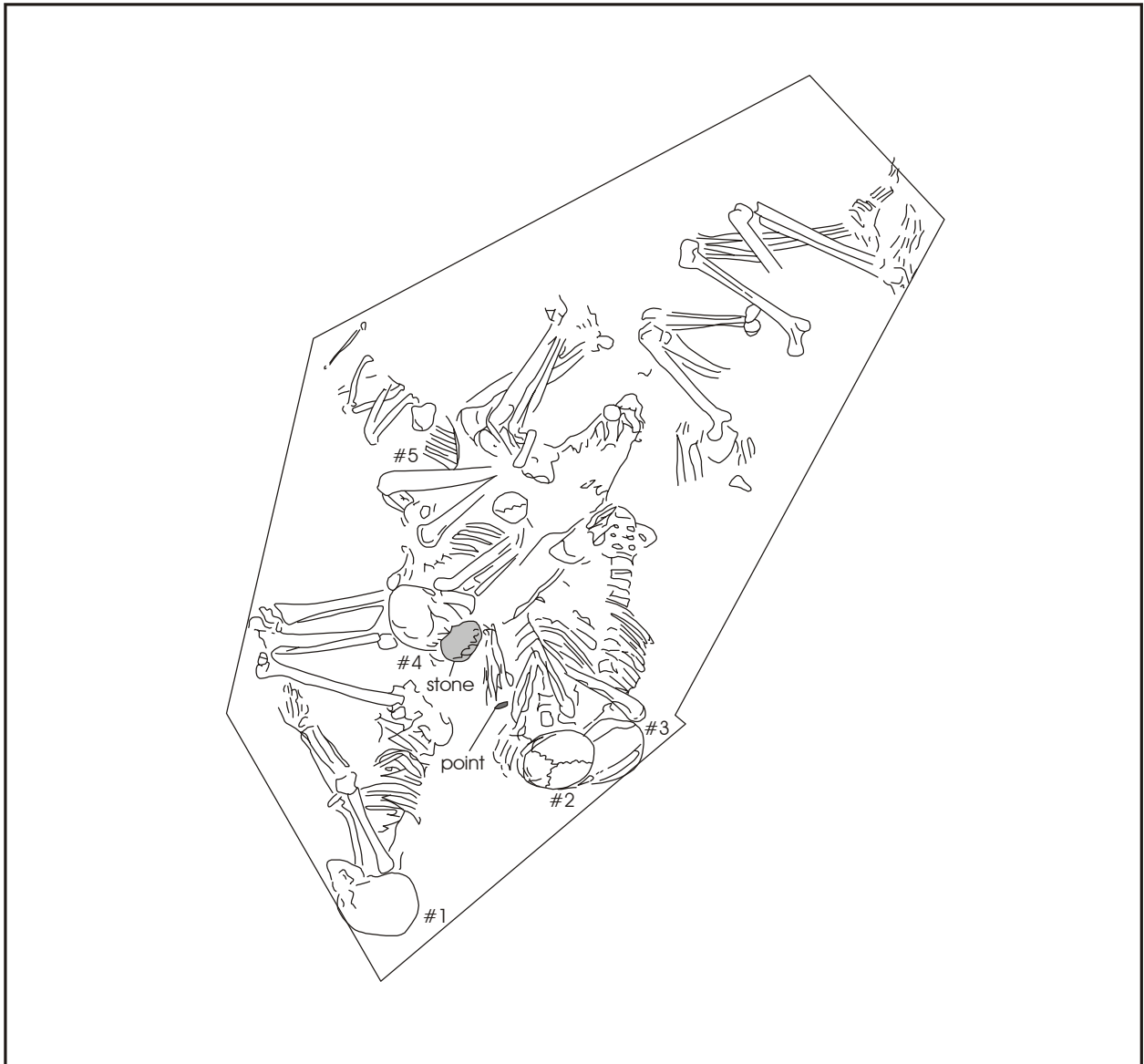


Figure 3-18. Position of skeletons in Burial M-14. Skeleton No. 6 was unearthed about six inches below skeleton No. 1 and is not shown in this figure.

Bearing – Head to southeast.

On left side. Left hand rested over right ear, the arm crossing chin; the right hand on neck between right shoulder and back of skull. Legs flexed, with left knee against lower end of left humerus. Right femur crossed left one at center with right knee 4" west of left knee. Feet with heels 3" and 5" west of pelvis.

A typical burial at this site, except for a variation in the position of the hands.

Skeletal material in fair condition; but skull badly crushed. Teeth in good state of preservation. Length of femur 19".

Length from back of skull to ends of toes, as skeleton lay in grave, was 42"; width from outer edge of pelvis to right patella was 22½".

Just above this sixth skeleton was a badly disintegrated extra skull. It probably came from one of the individuals whose disarticulated bones were mentioned on preceding page [pg. 40].

No offerings with skeleton No. 6

Burial M-15

Depth – 10" to 15".

Bearings:

- No. 1 – 30 degrees E of S.
- No. 2 – 20 degrees E of S.
- No. 3 – SE.
- No. 4 – SE.
- No. 5 – SE.
- No. 6 – SE.

Location – 10 ft. S of Sayles' excavation [Figure 3-2b].

Dimensions of grave: length, SE-NW, 8'5"; width 50".

Group burial consisting of six skeletons [Figure 3-19]. Skeletons Nos. 1 and 2, at southernmost edge of grave, are on left sides, with No. 2 on top of No. 1, skull of upper resting on chin of lower. The lower limbs of each covered by skeletons 3 and 4.

Skeletons Nos. 3 and 4, with skulls 17" and 19" NW of skulls 1 and 2, are badly mixed. No. 3 is on left side; legs flexed; bones in fair state of preservation. Femur, 17".

Skull No. 4 rests on top of No. 3 and has lower jaw missing. Long bones not articulated. Length of femur 18". Portions of skull and teeth in three places.

Skeleton No. 5 has lower limbs articulated; also ribs; but upper part torn and scattered. Lower jaw rests on ribs; top of skull intermixed with skeleton No. 3.

Skeleton No. 6, infant, 14" N of No. 5. Little fellow on left side; legs flexed; hands and arms completely disintegrated. Length from top of skull to feet 16½".

No artifacts with burial.

Burial M-16

Depths – 9" to 14".

Bearings:

- Nos. 1 and 5 – SE.
- Nos. 2, 3, 7 – Uncertain.
- No. 4 – South.
- No. 6 – 30 degrees E of S.

Location – 6 ft. S of Sayles' excavation [Figure 3-2b].

Dimensions of grave: length, SE-NW, 78", width, 51".

Group burial of 7 skeletons [Figure 3-20]. Skeleton No. 1, the southernmost, was on left side facing SW. Hands over mouth, nose and eyes. Legs flexed, with feet doubled back 4" N of pelvis. Toes of right foot touch left shoulder of skeleton No. 6. Skull of No. 1 in fair condition, other bones bad condition, Length of femur was 16¾".

Skeletons 2 and 3, children, on top of No. 1 and in very bad condition. Few milk teeth, and skull in bad condition. Little definite information obtainable due to condition.

Skeleton No. 4 on right side. Skull crushed flat; hands over eyes and mouth. Legs beneath Nos. 2 and 3.

Skeleton No. 5 on left side. Hands clasped left over right, just beneath chin. Legs fully flexed, with knees drawn up 3" above elbow and resting on the three bones of left arm. Legs from knees down extend in a straight line with arm, heels 3" SW of left side of pelvis. This is an unusually compact arrangement of the skeleton, forming a rough rectangle with sides 29" and 32" in length and ends 14" wide. Length of femur, 17". Adult male. Skull badly crushed, but teeth in excellent state. Other bones in fair condition.

Skeleton No. 6, the northernmost of those in the group, was on left side. Neck bent decidedly backward, with back of skull resting on right scapula. This is an unusual arrangement of the head. Left shoulder against toes of No. 1. Left arm fully extended; right bent at elbow, meeting hands some 4" west of pelvis. Legs flexed; femurs extending outward at right angles to body; feet doubled back with heels 1" and 3" N of right hip joint. Length of femur, 16".

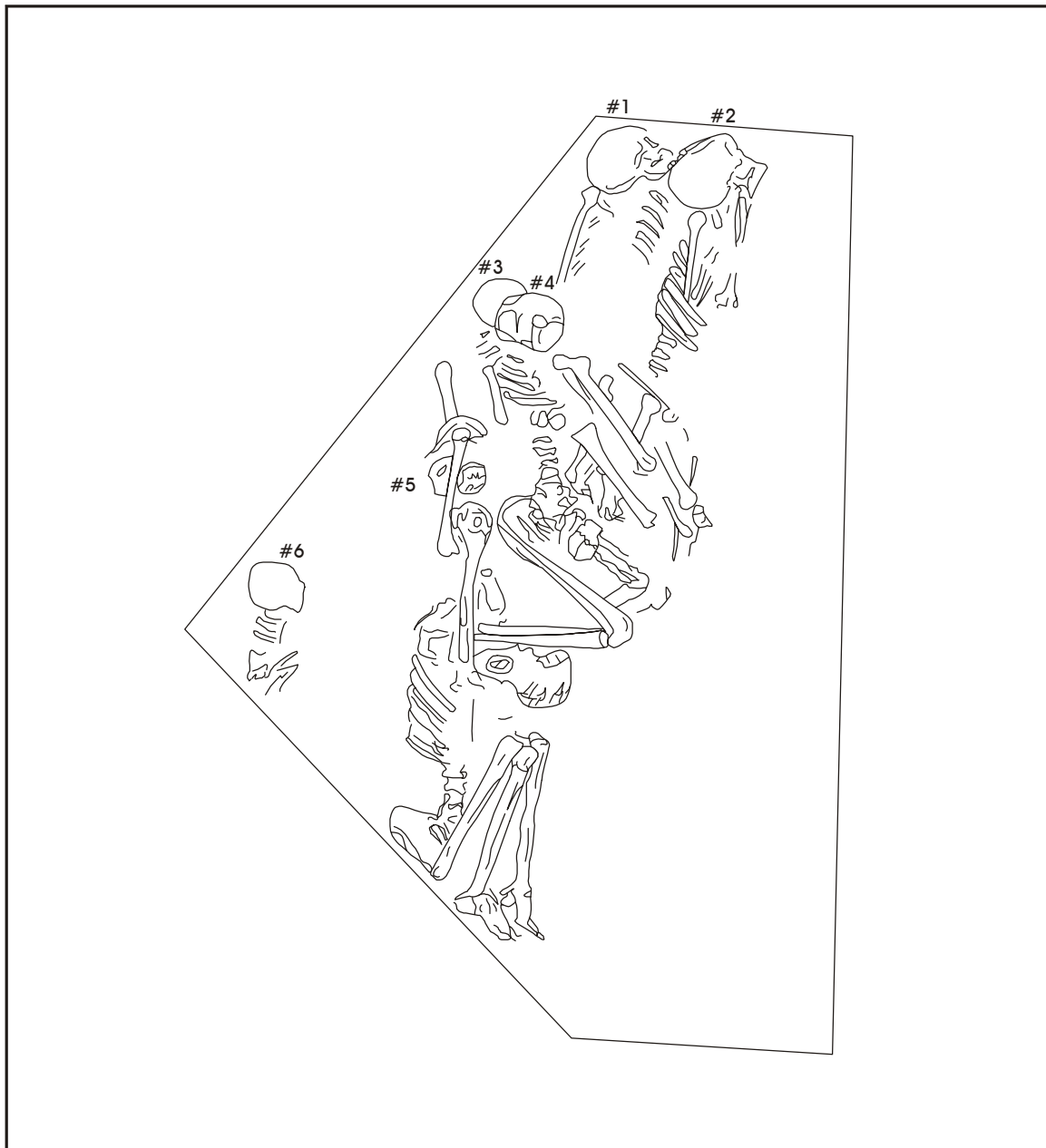


Figure 3-19. Position of skeletons in Burial M-15.

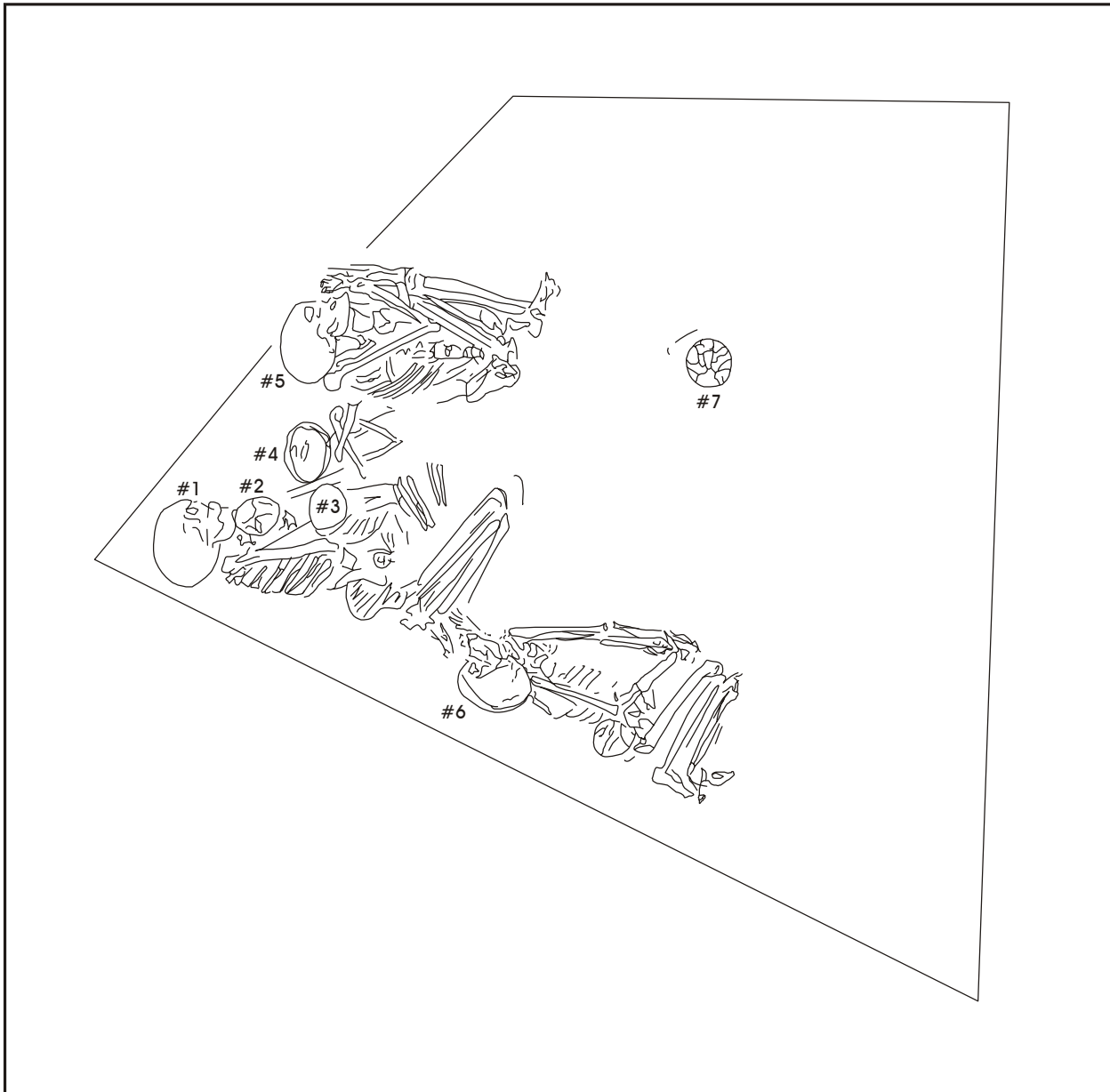


Figure 3-20. Position of seven skeletons in Burial M-16.

Skeleton No. 7, a child, 13" NW of feet of No. 5, almost completely disintegrated. This may have been an independent burial. No definite data obtainable.

The only offerings in this group burial consisted of six fragments of polished clam shell just back of skull No. 6 [Sunray Venus clam, Figure 3-21].



Figure 3-21. Polished clam shell fragment associated with skeleton No. 6 from Burial M-16. A.T. Jackson Collection, TARL, UT-Austin.

Burial M-17

Depth – 9".

Bearings:

No. 1 – SE.

No. 2 – South.

Location – Knees of skeleton No. 1 were 10" southeast of skull No. 1 of M-10 [Figure 3-2b].

Group of two skeletons. No. 1 is minus a skull, but the remainder of the skeleton is present and articulated. Half of lower jaw remains; and loose soil indicates that amateurs had removed the skull. Hands folded in front of position formerly occupied by skull. On back, which is unusual for this site, neck bent so that skull must have rested on left side. Semi-flexed, with heels 10" W of pelvis. Size of bones indicates an adult.

Skeleton No. 2, a child, lay 6" to E of shoulders of No. 1. Skull mashed flat. Skeletal material in very poor condition.

No artifacts with grave. Grave 54" x 32".

Burial M-18

Depths – 4" to 10".

Bearings:

No. 1 – 20 degrees E of S.

No. 2 – 10 degrees N of E.

Location – 10 ft. S of M-10 [Figure 3-2b].

Group burial containing two skeletons and the remains of another disturbed, or a bundle, burial.

Skeleton No. 1, an adult female, lay on left side, facing toward southwest. Hands folded, right over left, beside and over the chin. Legs flexed in the usual manner, with heels 4" and 6" north of pelvis. Skull in fair condition, but other bones badly disintegrated.

Skeleton No. 2, a young child, rested with knees 3" above left toes of skeleton No. 1. Skeleton was only 4" deep. Skull missing; probably exposed by erosion and removed by amateurs. Skeletal material remaining was in an advanced state of decay. The child was buried on its back; but the legs

were flexed in the usual manner. Feet missing, as were most of arm and hand bones.

The extra bones, consisting of the lower limbs of an adult, were located 15" southeast of skull of skeleton No. 1. It is probable that these bones represent the remains of a disturbed skeleton, rather than a bundle or reburial.

Dimensions of grave: length, N-S, was 65"; width, 25".

Burial M-19

Depths – 21" and 25".

Bearing – No. 1 – Due east.

Location – 8½ ft., 20 degrees S of W of Burial M-11 [Figure 3-2b].

A child with skeleton badly disintegrated. On left side; fully flexed with knees near chin. Hands completely decayed so that their original position in grave cannot be determined. Some of milk teeth present.

One of the few cases of a young child buried by itself.

No artifacts with skeleton No. 1.

After removing the child's skeleton, there was encountered, 4" deeper (25"), the skeleton of an old man.

Bearing of skeleton No. 2 was NW.

On right side (unusual here) with head to NW, facing S. Lower jaw drooping, leaving mouth open. Lower jaw rested on left hand; right hand was semi-clasped just south of chin.

Legs flexed; left foot on top of right, with heels against pelvis. Toes in good condition and in an upright position. Length of femur was 18".

Skeletal material in fair condition; but teeth badly worn and in poor state of preservation. Only five upper teeth remained. Two lower teeth were gone.

The only offering with No. 2 was a small conch shell which was located halfway between the knees and elbows. [This artifact could not be relocated for illustration.]

Burial M-20

Depth – 19".

Bearing – 20 degrees E of S.

Location – 3 ft. NE of M-1 [Figure 3-2b].

Length of femur, 17".

On left side, facing SW, mouth open. Fingers of left hand over chin; fingers of right hand 4" W of chin. Legs closely flexed, with heels against pelvis.

Skeletal material in a poor state of preservation. Skull badly crushed; all bones broken. Head bent backwards.

No artifacts.

Length of grave, 30". Width of grave, 20".

Burial M-21

Depth – 25".

Bearing – SE.

Location – 9 ft. W of M-19 [Figure 3-2b].

Skeleton with head missing. Remainder of bones articulated. Being at outer edge of a large hole dug by E.B. Sayles, it is probable that the skull was removed by him. Skeletal material in an advanced state of decay. The parts of arm bones remaining indicate that hands were originally near the chin. Legs flexed, with heels 4" NW of pelvis. Length of femur, 17".

A small shell scraper was found just above the feet [quahog, *Mercenaria* sp., Figure 3-22].

Apparently a female. On left side



Figure 3-22. Small worked shell specimen associated with skeleton in Burial M-21. A.T. Jackson Collection, TARL, UT-Austin.

The unusual feature about this burial was the presence of a deposit of yellow substance over the pelvis. It is some 2" deep, 6" wide and 8" long. A hasty field examination under a small glass seems to suggest that this deposit may be composed largely of decayed bone. If such be the case, it would seem possible that the deposit may be the remains of an unborn babe.

Burial M-22

Depth – 8".

Bearing – Southeast.

Location – 5 ft. SE of M-10 [Figure 3-2b].

An articulated skeleton, minus the skull and arms, lay on left side with legs flexed in the usual manner. Heels 5" and 7" NW of pelvis. Length of femur, 17³/₄".

Piled in the grave parallel with, and some 4" to 14" south of the skeleton, were several long bones, broken ribs, human jaws and teeth, and cassacks.

It is possible that this disturbed condition may have been due to amateur digging.

Seven fragments of clam shell [Sunray Venus clam], a small conch shell and one snail shell were scattered about in the grave [Figure 3-23]. No complete artifacts.

Burial M-23

Depth – 19".

Bearing – 20 degrees E of S.

Location – 5 ft. W of M-21 (measured from center of one grave to center of other [Figure 3-2b]).

Skeleton of an aged female. On back but with torso twisted and neck bent with skull resting on left side facing west. Left arm extended, bent at wrist and with a broken clam shell just inside the curve formed by the wrist and hand. Right humerus rests on ribs; forearm extending outward at right angles and fingers resting across the radius and ulna of left arm some 3" below elbow. Very similar to the arrangement of arms and hands of skeleton No. 6 in burial M-12.

Skeletal material in fair condition. Skull in good condition, but teeth gone. Pelvis not bent but in natural upright position. The femurs deflect from a northwesterly to a westerly course, being parallel and 4¹/₂" apart. Length of femur, 17". The tibia and fibula are bent backward, those of the left leg being beneath the right femur. Toes of right foot are against right side of pelvis; and heel of right foot on top of left foot.

No offerings other than the shell mentioned above.



Figure 3-23. Five worked clam shell fragments associated with the skeleton in Burial M-22. A.T. Jackson Collection, TARL, UT-Austin.

Burial M-24

Depth – 22".

Bearing – Southeast.

Location – 7 ft. W of M-11 [Figure 3-2b].

Infant burial. The tiny bones in poor state of preservation. Skull completely disintegrated. Other bones articulated. Legs flexed—on left side—hands resting against the bent-up knees. Arranged in much the same manner as were some of the adults.

No artifacts in grave.

Burials M-25 and M-26

Depths – M-25, 8"; M-26, 10".

Bearings – Uncertain.

Location – M-25, 6 ft. NW of M-11; M-26, 4 ft. SW of M-25 [Figure 3-2b].

Nothing remained with either M-25 or M-26 except the skulls; and in the case of M-26, a fragment of scapula. Skull M-25 was in very bad condition; skull M-26 in fair condition. An unusual feature of skull M-26 was that it was not full of dirt, as is almost always the case. Skull M-26 was on back, face upward and back of head toward northwest. It is possible that amateur diggers may have dug out other bones of these skeletons, or may have been burials of skulls only.

Burial M-27

Depth – 12".

Bearing – NE.

Location – 4 ft. S of M-10 [Figure 3-2b].

Infant with head to NE. Very badly disintegrated.

No artifacts.

On left side; hands to face. Legs flexed.

Burial M-28

Depth – 22".

Bearing – 10 degrees S of E.

Location – 11 ft. SW of M-12 [Figure 3-2b].

This is first grave at Oso Site the outlines of which could be definitely traced 7" before the depth of the skeleton was reached. The soil surrounding the bottom part of the grave was black; while the dirt in the bottom part of the grave proper was of the white, salty appearance common on the surface.

Burial of an adult male. Skeletal material in a good state of preservation. Skull slightly crushed; lower jaw broken; teeth in good condition. Hands side by side with fingers outstretched; palms down—resting on grave floor; thumb of right hand 1" south of mouth and nose and small finger of left hand 6½" south of mouth. Right radius and ulna cross left humerus at 2" to 4" below left scapula.

Pelvis in upright position; but back twisted and skull resting on left side, facing south.

Legs flexed, with knees 21½" west of left elbow. Length of femur was 18½". The tibia and fibula were bent back almost parallel with femur; and the heels were 3" and 4" west of pelvis. Toes in good condition.

A small amount of yellow substance on and beneath left pelvis.

No offerings accompanied the burial.

Length of grave, 44"; width, 26".

Burial M-29

Depths – 19" to 22".

Bearings – No. 1 and No. 2, SE.

Location – Partly beneath M-12, extending some 18" farther SE and 5" to 8" deeper [Figure 3-2b].

Group of two skeletons. Length over all, 43"; width over all, 38".

Youths. Both on left side. Chin of No. 2 against right scapula of No. 1. Left elbow of No. 2 beneath ribs of No. 1. Left knees of No. 2 flexed, against vertebrae immediately above right pelvis. Fingers of No. 2 rest against left femur, 4" above knee. Toes of left foot against heel of right. Length of femur of No. 2 was 15½". Skull of No. 2 badly crushed; but teeth in good condition. All bones in fair state of preservation.

Skeleton No. 1, immediately to south of No. 2 and slightly shallower, was not in quite so good a state of preservation as No. 2. Skull of No. 1 badly crushed; but teeth in excellent condition. Fingers of left hand beneath chin; those of right hand beneath left elbow. Legs flexed; feet doubled back with heels 1" and 4" NW of pelvis.

Although here reported as a separate burial, these two skeletons may have been interred as a part of the large group in Burial M-12. If these represent a separate burial, then M-12 was intrusive.

A flint chip was found 3" SE of the skull of skeleton No. 2. No other artifacts.

Burial M-30

Depth – 15".

Bearing – Southeast.

Location – 20" N of pelvis of Burial M-28 [Figure 3-2b].

Dimensions of grave were 15" x 7".

Skeleton of an infant [Figure 3-24]. On left side. Hands beneath chin. Legs semi-flexed. Ribs in fair condition. Skull badly crushed.

No artifacts.

Although only 7" SW of Burial M-31 and at same depth, it would seem that M-30 was a separate burial. At any rate, both showed by outlines of graves (as described for M-28) that separate holes were dug for the two skeletons. Hence they are considered as different burials.

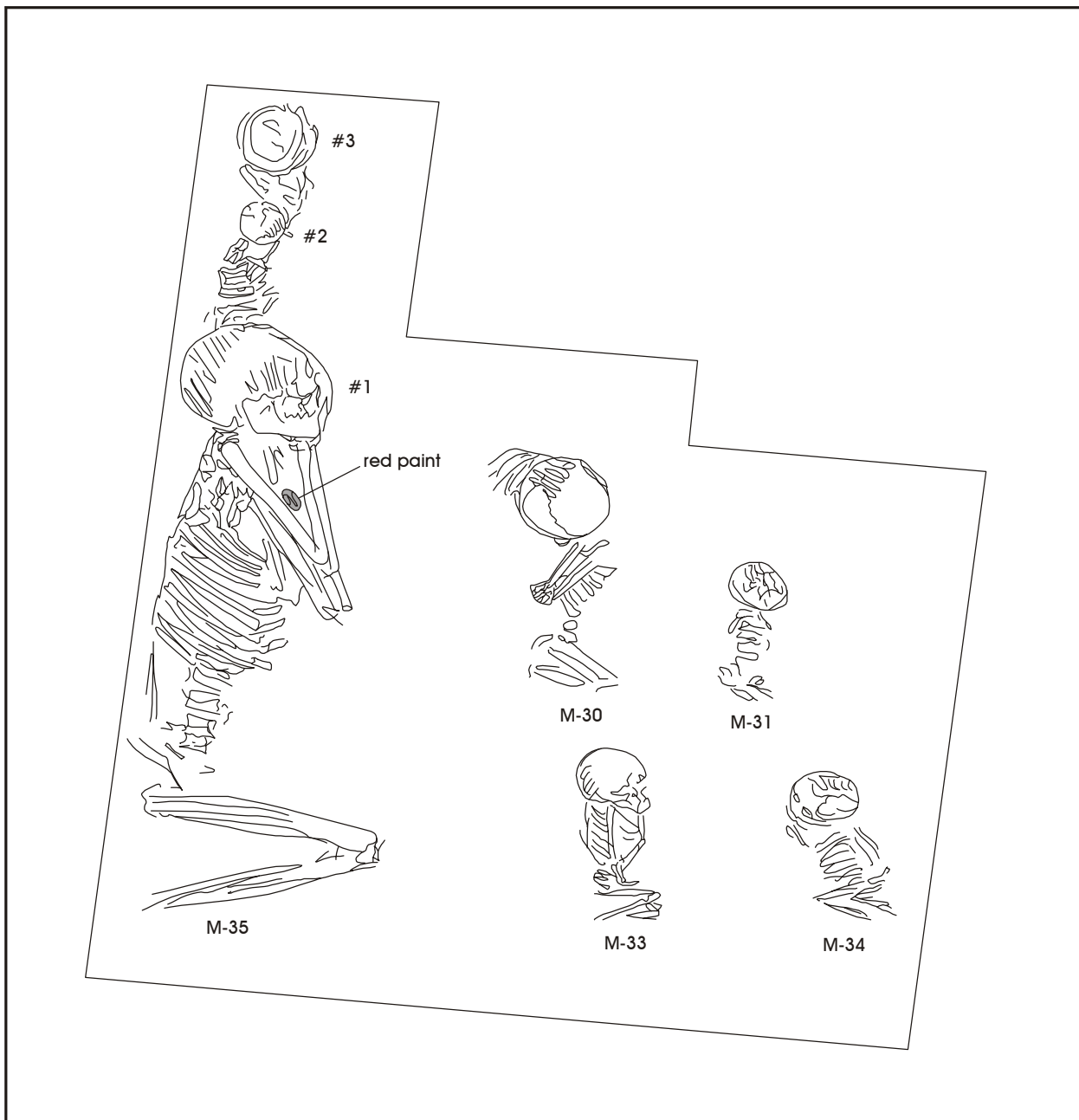


Figure 3-24. Position of skeletal remains recovered in Burials M-30, M-31, M-33, M-34, and M-35.

Burial M-31

Depth – 15".

Bearing – 20 degrees S of E.

Location – Knees 7" NE of ribs of M-30 [Figures 3-2b and 3-24].

Grave of a child. Length of grave, 20"; width, 9". On left side. Right hand beneath chin, fingers of left extended against back of skull. Legs flexed with feet drawn up near pelvis. Skull crushed, but otherwise in fair condition. Long bones badly decayed. Skull seemed unusually large in proportion to size of the other bones. Several milk teeth in place.

No artifacts in grave.

Burial M-32

Depth – 20".

Bearing – Southeast.

Location – 15 ft., 20 degrees E of N of Burial M-28 [Figure 3-2b].

Skeleton of a child. On left side, left arm extended with hand beneath right femur. Right humerus slightly elevated above ribs; arm bent at elbow and fingers of right hand over left elbow. Legs flexed with heels 2" and 3" NW of pelvis. Length of femur, 12".

Skeletal material in fair condition. Teeth well preserved. Skull slightly crushed.

On left pelvis were four fragments of clam shell; and near right knee were three others. No other offerings. [These materials could not be relocated for illustration.]

Length, NW-SE, 29"; width, 19".

Burials M-33 and M-34

Depths – 15" and 17".

Bearing – Southeast.

Locations – 10" and 8" W of M-30 and M-31 [Figures 3-2b and 3-24].

Both were skeletons of infants. M-34 was on left side, and arranged in all essential respects the same as M-30.

No artifacts.

M-33 on right side, legs flexed; hands at chin.

Burial M-35

Depth - 15" to 18"; No. 4 – 25".

Bearing – No. 1 SE.

Location – 15" NE of M-31 [Figures 3-2b and 3-24].

Adult female and two infants. The adult skeleton, No. 1, on left side. Fingers of right hand folded beneath chin and mouth; left hand bent back at wrist and fingers extended downward over ribs—an unusual position for hand. Legs flexed; heels against pelvis. Skeletal material in fair condition. Teeth in good state of preservation. Femur, 17¼".

Beneath chin and between right humerus and right ulna and radius was a deposit of red ocher. No other offerings.

Skeletons No. 2 and 3, infants, were immediately to SE of No. 1 with feet of No. 2 against skull of No. 1. No. 2 partly on top of No. 3, skulls being 4" apart. Skeletal material in too bad a state of mixture and decay to be certain about positions.

No offerings with the infants.

Dimensions, 60" x 21".

Skeleton No. 4

Depth – 25".

Bearing – Southeast.

Location – 7" beneath others in grave [not shown].

A child of 7 or 8 years, on left side. Skeletal material in a very poor state of preservation. Skull badly crushed. Those teeth present were in good condition.

Hands folded with fingers beneath the chin. Parts of the leg bones missing and in such state that original position not certain.

Just east of the skull was a small quantity of red ocher.

No artifacts accompanied this skeleton.

Burial M-36

Depth – 24" to 26".

Bearing – SE.

Location – Left knee 27" NE of skull No. 1 in Burial M-35 [Figure 3-2b].

Small woman or youth. On left side, with skull bent around on left shoulder [Figure 3-25]. Legs semi-flexed. Length of femur 15½". Right tibia and fibula cross left femur about midway of latter. Right toes over left heel. Heels 6" to 9"

NW of pelvis. Fingers of left hand over chin and mouth; fingers of right hand on left elbow and doubled back as if originally clasping something.

Accompanying the burial were several hundred seeds which seem to be of the local Anaqua bush. The larger deposit was on top of the pelvis; with a smaller quantity between the pelvis and the right heel. One wonders if some of these seeds might have been in the intestines at time of burial. No evidence of their being brought in by rodents.

No artifacts.

Dimensions, 42" x 21", over the skeleton as flexed in the grave.

Suspension and Resumption of Work

The last few burials were hastily removed; and, at noon on July 6, 1933, camp was broken on account of a tropical storm that was reported as threatening to inundate the site.

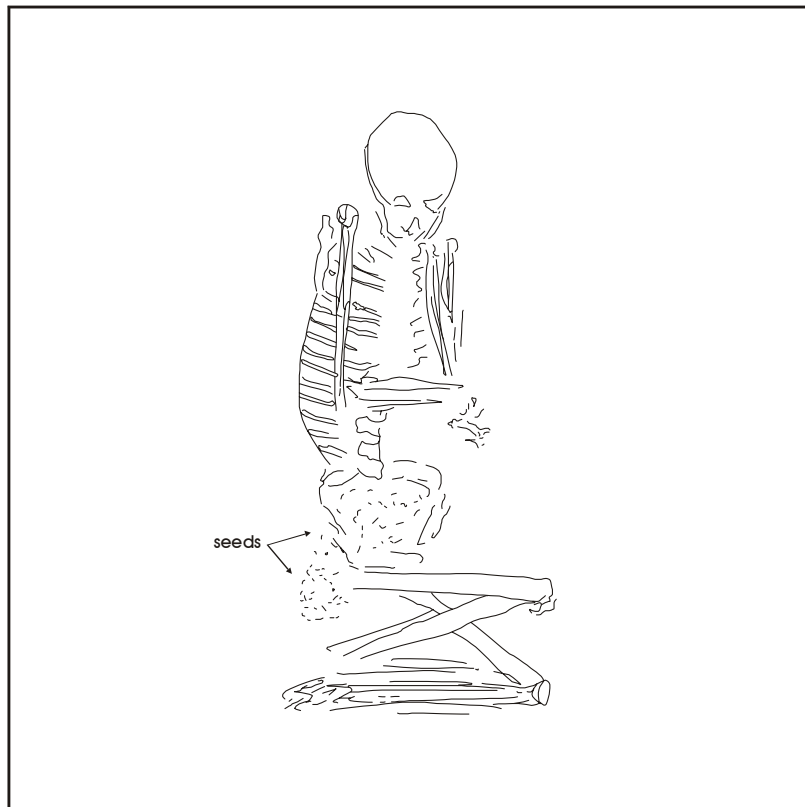


Figure 3-25. Position of skeletal remains in Burial M-36.

On July 7, the storm having passed inland near mouth of the Rio Grande, we returned to the Oso Site and resumed work. Rain interfered somewhat.

Burial M-37

Depth – 20".

Bearing – Southeast.

Location – 3 ft. NW of M-35 [Figure 3-2b].

Burial of a very young infant. Skull extremely small and very thin. On left side. Tiny fingers in front of face. Position of legs uncertain, as bones in bad state of decay.

Slightly to south of the skeleton was a small oyster shell. No other offering.

Not photographed.

At depth of 27", or 7" deeper than skeleton No. 1, was No. 2.

Bearing – 20 degrees S of E.

Adult female. Hands before face, chin to forehead. Legs flexed. Heels beneath and 4" deeper than left knee of M-38.

Good condition, but teeth bad. On left side.

No artifacts.

The Testing of Shell Heaps

A heavy rain fell in the night of July 7-8, with the result that the following morning found several inches of water in our trenches and around a burial that was partly uncovered. The water was bailed out; and, while waiting for the soggy dirt to dry somewhat, the crew was set to trenching through various nearby shell heaps.

The first of these, located approximately 40 yards northeast of the northern edge of the main excavation, was built up chiefly of clam shells, but also contained some small conch shells. The shell heap measured 10 ft. from east to west and

8 ft. from north to south. The deposit of pure shell proved to be not more than 3" deep at any point. The southern fourth of the heap contained about 6" of black midden deposit beneath the shells, with a few shells intermixed. A few fragments of animal bones (deer) in addition to the shells, showed of what their diet consisted. There was evidence of fire, in the form of charcoal, ashes, charred shells and burnt lumps of clay. The latter were small ranging from 1" to 2" in diameter. The core, or columella, of a small conch shell may have been used as a pick for gouging meat out of the shells. It did not, however, show much, if any, evidence of use. One clam shell appeared to have been ground down on the edge. No other artifacts were found. Dug to 18" in depth.

[Handwritten note] The presence of so many small lumps of burned clay intermixed with the shells suggests the possible practice of cooking shellfish encased in clay.

Another shell heap, some 10 ft. in diameter and located 50 yards E of N of the main excavation, contained mostly oyster shells, with some snail and small conch shells included. Excavation showed that the deposit of shells was not more than 2" deep. Beneath the shell there was no evidence of midden deposits. A few flint chips were found intermixed with the shells. No artifacts. Dug to a depth of 15".

A fire pit, located approximately 100 yards north of the main excavation, was about 12 ft. in diameter. A trench 4 ft. wide was run through it to a depth of 18". Evidence of fire extended to a depth of 15". The fire pit was joined on the east and south by deposits of conch, clam, oyster and snail shells. It was thus not surprising that there were numbers of charred shells in the fire place. In addition, there were many small lumps of burned clay. No lump was shaped, nor gave any indications of having been worked. Their presence possibly might be due to having found their way into the fire by being attached to roots of small bushes, grass or weeds burned as fuel. But more likely they resulted from use of clay in cooking shellfish. No artifacts were found in the fire pit.

This matter of small chunks of fired clay is not peculiar to this particular site, as I noticed them at several other campsites in the region. The outstanding site in this respect is located on the R. Y. Thurman farm, better known as the Evans Estate, 10 miles south of Corpus Christi, Nueces County. An extensive campsite there contains hundreds of small lumps of burnt clay intermixed with thousands of snail shells.

Burial M-38

Depth – 24".

Bearing – 30 degrees E of S.

Location – 6 ft. NW of skeleton No. 4 in Burial M-35 [Figure 3-2b].

Length over skeleton – 38½"; width, 23"

Adult male. On left side. Neck bent back with back of skull resting on right shoulder. Right elbow 2" E of right knee; right wrist bent 2" S of chin; and fingers extended pointing toward the knees. It appears that the wrist was forcefully bent back—perhaps broken—in order to attain that position for the fingers. The left arm was extended downward, the humerus passing beneath the radius and ulna of right arm, just south of and against right knee; beneath left femur, tibia and fibula; and with the fingers alongside the right tibia. This is an unusual arrangement for the hands.

Legs flexed, with right tibia and fibula on top of left femur, just below pelvis. Right foot on top of left; heels 3" and 4" west of pelvis. Length of femur, 17".

Skeletal material in a fair state of preservation; but joints and vertebrae seem to have been diseased—at any rate, they had unusual protuberances along the edges. Some of these “lumps” protruded as much as ¼" to ½".

Skull in fair condition, but most of teeth were missing and those remaining were in poor condition.

No artifacts in grave.

Burial M-39

Depth from present surface to bottom of grave, 6".

Bearing – Due east.

Location – 198 ft. N from NE corner of main excavation [Figure 3-2a].

Exceedingly shallow, erosion having taken away the upper soil until top of the skull was scarcely half an inch beneath the present surface.

Adult male. Skeletal material in a good state of preservation and well articulated despite its nearness to surface. Bones were in best condition of any found here. No long bones broken.

On left side, facing toward south [Figure 3-26]. Hands in front of eyes and forehead. Elbow of right arm resting on top of left elbow. Skull slightly crushed but otherwise in good condition. At back of the skull is a sharp-edged protuberance, like that on skull M-11. Teeth well preserved, but somewhat worn and most of upper ones gone. Ribs large and in a good state of preservation. Legs closely flexed with right knee resting against right elbow. Right foot on top of the left, with heels 4" to 6" from socket where right femur joins pelvis. Length of femur, 18".

The burial was in edge of midden deposit, with a few large oyster shells, as well as small conch and snail shells, in the grave.

No artifacts with the burial.

Four to thirteen inches west of pelvis of the complete skeleton was the pelvis of another skeleton that had been exposed by erosion. It cannot now be stated with certainty whether or not this disturbed portion of a skeleton was originally buried as a complete, articulated person or merely as a part of a disarticulated skeleton.

Length of grave, E-W, 43"; width, 21".

Exploratory Trenching

As will be noted from a study of the map of the site [Figures 3-2a and 3-2b], seven trenches were dug back into the uneroded area bounding the cemetery proper on the west. Five of the trenches were 25 ft. long each; two were 8 ft. long. All were 4 ft. wide and 4 ft. deep. No burials were found in these trenches.

The limits of the space dug in the eroded area consist of that portion not too deeply eroded to offer a possibility of still containing burials. Adjacent areas were either too deeply eroded or entirely outside the proved limits of the cemetery.

Considerable digging also was done in the vicinity of burial M-39 [Figure 3-2a]; but without finding additional burials.

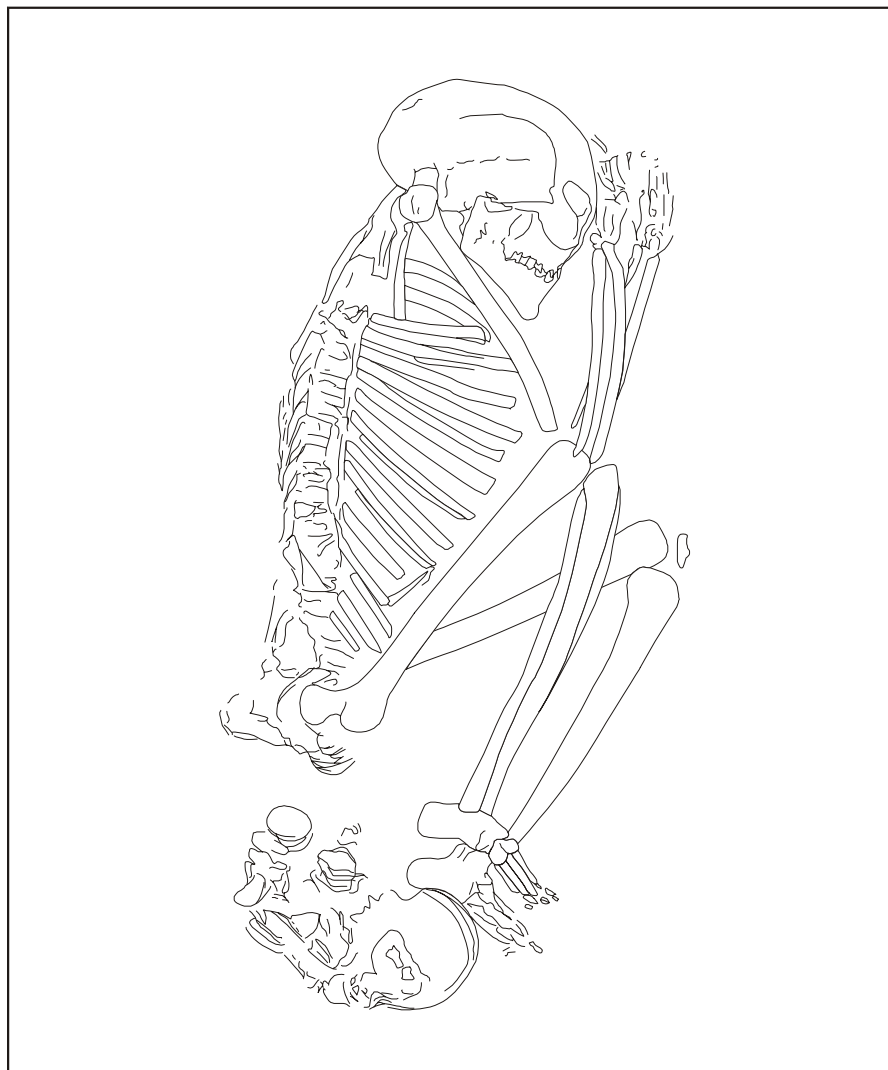


Figure 3-26. Position of skeletal remains in Burial M-39.

Some 20 to 40 ft. south of burial M-39 appeared soil with a cross section as follows:

0" to 27" – Stiff, white, clayey soil – barren of midden material.

27" to 31" – Black midden deposit, containing oyster and conch shells, with an occasional clam shell. Small lumps of charcoal intermixed with the soil.

31" to 36" – Midden deposit, gradually growing less plentiful in shells and charcoal as it extends downward.

37" – Undisturbed whitish soil.

This would seem to indicate that the soil there has built up 27" since the midden deposit in question was laid down by the casting aside of camp refuse by the Indians. The perplexing feature of the situation arises from the fact that midden deposit appears in the upper level at surrounding points and does not present the concentrated midden deposit deeper down.

Deep Deposit

At a point in an eroded ditch, located some 150 yards NE of the main excavation at the Oso Site, was a deep deposit of midden material [Figure 3-27]. A cross section of the bank at that point was as follows:

1" to 30" – Successive layers of wind-blown(?) sand, containing no evidence of human occupation.

30" to 62" – Clay of yellowish-white color, containing no evidence of human habitation.

62" to 68" – Black midden deposit, containing oyster, conch, large saltwater snail and small freshwater snail shells. Some of the conch shells bore holes in the sides (presumably broken for ease in removing the meat), and other shells showed evidence of fire. Small lumps of charcoal and burnt clay also were present in the deep midden deposit. But no flint chips, potsherds or artifacts were found in the deposit.

69" and below – Clay similar to that from 30" to 62", showing no evidence of human habitation.

This deep midden deposit would seem to bespeak considerable age.

Test digging back into the bank for some four feet did not show the limits of the midden deposit.

[Handwritten note] This presence of charcoal and small clay lumps in association with shell seems to be another bit of evidence of the use of clay for encasing shellfish to be baked by covering with a bed of coals. If such be the case, this deep deposit may represent a large “bake-hole.” The clay lumps might be the result from breaking open the hard casing of the baked clay.

The burial data at the Oso Site may be summarized as follows [Table 3-2]:

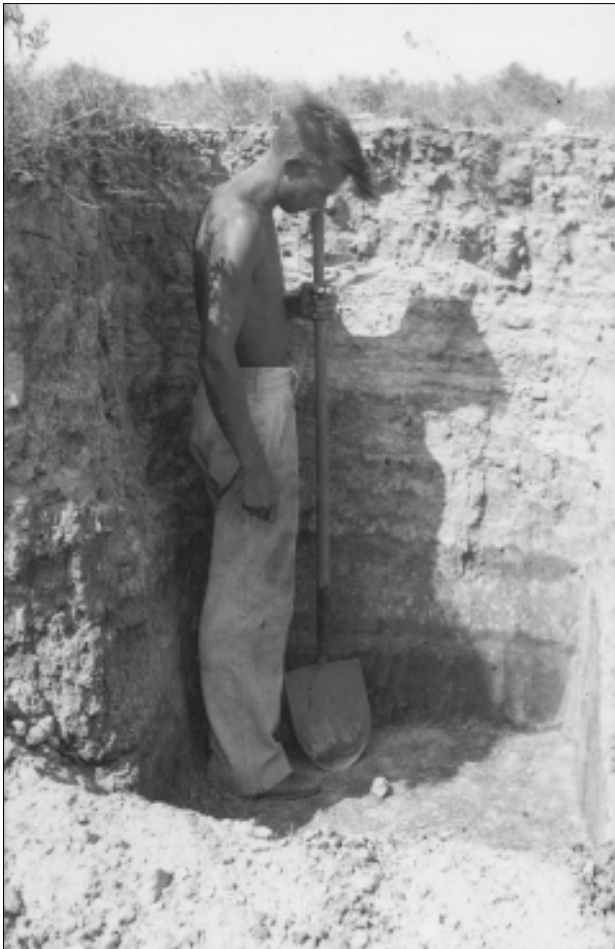


Figure 3-27. Deep midden deposit located approximately 150 yards northeast of main excavation area. The midden material came from a stratum of black deposit at the bottom of the trench at depths of 62–68 inches below surface. Courtesy of TARL, UT-Austin, Cat. #41NU2-71.

Table 3-2. Summary of Burial Data from the Cayo del Oso Site

Burial No.	Depth (inches)	No. of Skeletons	Offerings	Condition of Skeletal Material	Orientation (head towards)
M-1	16-22	1+	8 pendants; 16 beads; 1 flaker	one articulated; parts of others	southeast
M-2	6	1	none	poor; skull missing	uncertain
M-3	8	1	none	bones mixed; some missing	uncertain
M-4	15-19	6	2 scrapers; 1 long bead; 21 pebbles	poor; some mixed	1 due east; 4 uncertain; 1 10° N of E
M-5	12-15	3	none	poor; disturbed by amateurs	1 due east; 1 southeast; 1 uncertain
M-6	15	1	none	badly mixed; some gone	uncertain
M-7	15	2	3 shells	very poor	uncertain
M-8	22	2	anaque seeds	fair	1 northwest; 1 northeast
M-9	22-26	1	bone awl; shell	fair	20° E of S
M-10	9	4	shell fragments	adult-fair; children-bad	2 southeast; 1 20° S of E; 1 30° S of E
M-11	13	1	none	fair	5° W of S
M-12	9-14	14	shell awl; 16 snail shells; 2 shells	fair to very poor	9 southeast; 2 east; 1 south; 1 20° E of S; 1 uncertain
M-13	15-19	6	1 pebble; 4 shells	fair to bad	1 south; 1 northwest; 4 uncertain
M-14	4-13	6	flint knife; hammerstone	fair to bad	3 southeast; 1 30° E of S; 1 10° W of S; 1 uncertain
M-15	10-15	6	none	fair to bad	4 southeast; 1 20° E of S; 1 30° E of S
M-16	9-14	7	polished shell	fair to very bad	2 southeast; 1 south; 3 uncertain; 1 30° E of S
M-17	9	2	none	very poor	1 southeast; 1 south
M-18	4-10	2	none	poor	1 20° E of S; 1 10° N of E
M-19	21-25	2	1 shell	1 poor; 1 fair	1 due east; 1 NW
M-20	19	1	none	poor	20° E of S
M-21	25	1	shell scraper	very bad	southeast
M-22	8	1	shell	disturbed	southeast
M-23	19	1	shell	fair	20° E of S
M-24	22	1	none	poor	southeast
M-25	8	1	none	only skull; bad	uncertain
M-26	10	1	none	only skull; fair	uncertain
M-27	12	1	none	very bad	northeast
M-28	22	1	none	good	10° S of E
M-29	19-22	2	none	fair	2 southeast
M-30	15	1	none	fair	southeast
M-31	15	1	none	poor	20° S of E
M-32	20	1	shell fragments	fair	southeast
M-33	15	1	none	fair	southeast
M-34	17	1	none	fair	southeast
M-35	15-25	4	red ocher	adult-fair; infants-poor	2 southeast; 2 uncertain
M-36	24-26	1	anaque seeds	fair	southeast
M-37	20	2	none	1 poor; 1 good	1 southeast; 1 20° S of E
M-38	24	1	none	fair, but diseased	30° E of S
M-39	1-6	1	none	good	due east

Recapitulation of Orientation Data

Of the 71 burials with positions determined, 52% were with skulls to the southeast; and 73% with heads in a general easterly direction [Tables 3-3 and 3-4].

Table 3-3. Summary of the Head Orientation of Burials from the Cayo del Oso Site

Direction of Head	No. of Skeletons
Southeast	37
Due East	6
Northeast	2
Northwest	3
Due South	4
20° E of S	6
30° E of S	4
10° W of S	1
20° S of E	3
30° S of E	1
10° N of E	2
5° W of S	1
10° S of E	1
Uncertain	22
Total	93

Table 3-4. Summary of the Positions of the Feet and Legs for Burials from the Cayo del Oso Site

Positions of Feet and Legs	No. of Skeletons
Feet folded back near pelvis	58
Position of feet uncertain	35
Total	93
Knees against left humerus	1
Knees near chin	3
Knees over or near elbows	4
Knees against stomach	1
Knees protruding outward at approx. right angles to torso	49
Position of legs uncertain	35
Total	93

Of the 58 skeletons in such condition that positions of hands could be determined, 45 of them, or 77½%, had both hands over or near some part of the face. Five other skeletons had

one hand each at or near the face. Five had one hand on or near a femur. And three had hands on or near the knees [Table 3-5].

Table 3-5. Position of the Hands and Arms for Burials from the Cayo del Oso Site

Positions of Hands and Arms	No. of Skeletons
Hands over mouth	5
Hands over mouth and eyes	6
Hands side by side, palms down, on grave floor, just south of mouth and nose	1
Hands in front of eyes and forehead	14
Hands extended, side by side, completely covering face from chin to forehead	1
Hands beneath chin	13
Hands over chin	3
Right hand beneath chin; left hand against back of skull	1
Right hand beneath chin; left hand extended downward over ribs	1
Left hand beneath or over chin; right hand beneath or over left elbow	2
Right wrist, near chin, bent with fingers pointing downward; left arm extended, with fingers alongside right tibia	1
Left hand over right ear, arm crossing chin; right hand on neck	1
Right hand extended along forehead, with palm up and thumb against skull; left hand near stomach	1
Left hand extended near left femur; right hand crossing left arm near elbow	2
Left arm on top of right from elbow downward and extended fingers near right femur	1
Left hand beneath right femur; right hand over left elbow	1
Hand on or near knees	3
Left arm extended, right bent at elbow; hands clasped near pelvis	1
Positions of hands uncertain	35
Total	93

Table 3-6. Summary of the Positions of Torsos for Burials from the Cayo del Oso Site

Position	No. of Skeletons
Left side	58
Right side	7
Back*	5
Stomach	1
Unceratain	22
Total	93

*Of those on the back, two had the neck twisted and the skull resting on the left side—in the same manner as ones actually buried with the torsos on their left sides. Of the 71 burials with positions determined, 82% of them were on the left side.

Comparisons of Burial Customs at Oso Site, Nueces County, with Ones from Certain Central Texas Sites

Table 3-7. Comparison of Burial Customs at the Cayo del Oso Site with Ones from Certain Central Texas Sites

Burial Customs	Oso Site Nueces Co.		S.C. McClure Cedar Park Williamson Co.		R.T. Willison Bell Co.		Fred Acree Coryell Co.	
	No. of skeletons on which % is based	%	No. of skeletons on which % is based	%	No. of skeletons on which % is based	%	No. of skeletons on which % is based	%
Flexed burials*	66	88	8	100	18	72	14	79
Bundle or reburial	66	12	—	—	18	28	14	7
Cremated burial	—	—	—	—	—	—	14	7
Extended burial†	—	—	—	—	—	—	14	7
Hands over or near face	58	77½	5	100	10	70	12	50
Hands on or near knees	58	5	—	—	10	20	12	33
Body on left side*	71	82	8	38	18	44	14	57
Body on right side	71	10	8	50	18	28	14	29
Head in easterly direction	71	73	8	12½	—	—	—	—
Head in northerly direction	71	4	8	75	20	45	—	—
Head in southerly direction	71	23	—	—	20	50	14	14
Head in westerly direction	—	—	8	12½	20	5	14	71

*As will be noted, the most striking points of comparison are in the percentages showing flexed burials, position of hands over or near the face, and bodies placed on the left side. These comparisons are of particular interest since the sites represented are of three different types. Oso and Acree were burial sites along the edges of streams, on land of slight natural elevation; McClure burials were in a large, artificial burnt-rock mound; Willison burials were in a large rockshelter.

†This extended burial contained a trade bead, showing White contact. No other burials here considered showed White contacts.

From the comparisons just set forth, it seems that there is at least a suggestion of kinship between the Coastal and Central Texas tribes here considered. The Coastal Indians at Oso Site probably were Karankawan; while the ones in Central Texas are thought to have been Tonkawan. This possible relationship is supported by Douglas' suggestion that the Coahuiltecan, Tonkawan and Karankawan linguistic stocks may be closely related. (See *Indian Linguistic Stocks or Families – Powell's Classification and Modern Changes*, by F. H. Douglas, Leaflet 51-52, Jan. 1933, Denver Art Museum, Denver, Colorado).

Data Regarding Coastal Tribes

George C. Martin, formerly of Rockport but now of Terrell Wells, in a conversation 11/5/33 gave the following as his conclusion regarding tribes who inhabited the coast near Corpus Christi:

Karankawas: Had no pottery in early times; later learning pot making from Coahuiltecas; typical artifacts were large arrow heads or javelin heads and large knives of flint.

Coahuiltecas: Entered Texas at a fairly late date; made pottery; typical artifact, the small arrow point or so-called bird point; it is thought they taught the ceramic art to Karankawas.

Lipans: Occupied the region prior to coming of Coahuiltecas; made no pottery; two typical types of arrow points, triangular and leaf-shaped.

Martin thinks the burials at the mouth of the False Oso are of Lipan Indians, with perhaps an occasional Karankawa. His belief is based on some ten years of surface work, combined with a little digging, in that region.

The manner in which he arrived at his conclusions was as follows: He took the report of a writer who visited the missions around San Antonio about 1800, wherein he mentioned mission Indians who ran away and were followed by the mission authorities. The report named the tribes who inhabited the various regions between there and the coast. Locating the sites mentioned in that report, Martin secured artifacts which he arbitrarily classed as the work of the particular tribe mentioned in the old record. It would thus seem that the foundation on which he based his conclusions are subject to two uncertain factors: (1) It is often extremely difficult to definitely locate historic Indian sites; (2) It is even more difficult to be sure that the artifacts found were used by that tribe, and that one only.

Martin concedes that the Karankawa, after coming in contact with the Coahuiltecan and taking up pottery making, also began making and using the small bird points in addition to the large points supposed by him to have formerly been used by them exclusively.

Conclusions

From the facts developed by excavation at this site it would seem that:

1. The Indians had a relatively low material culture.
2. Their diet was chiefly one of sea foods.
3. Scarcity and smallness of flint artifacts due to lack of a supply of flint.
4. Art in shell was poorly developed.
5. Pottery making was not practiced on an extensive scale, there being very few potsherds on the surface of the campsite and none in the cemetery confines.
6. There is lacking evidence at this site to even suggest that the culture of the Mound Builders of the Mississippi Valley came up from Mexico through this Texas coastal region.
7. Burial practices were very uniform, consisting in most cases of a flexed burial, on left side, with hands near face.
8. Custom of placing artifacts in grave as a mortuary offering was practiced to only a limited extent.
9. Burials apparently prehistoric as we found no evidence of European contact. (The report of an amateur—John B. Dunn—to the contrary notwithstanding.)
10. Considerable age seemingly denoted by deep midden deposit found in a ravine near cemetery.
11. Infant mortality seems to have been high. Of 93 skeletons exhumed, 32 were of infants or young children.
12. Certain similarities in burial customs suggest a relationship to finds at McClure Mound, Cedar Park, Williamson Co., and Fred Acree Farm, Coryell Co., Texas.

13. No conclusive proof of cannibalism was found, although the presence of extra bones in graves with fully articulated skeletons might suggest such practice.
14. Some of graves seemed to represent bundle burials or reburials.
15. The finding in a number of graves of broken long bones and scattered fragments of skulls would seem to indicate intrusive burials as having been dug into older ones.
16. A complete single skeleton being several inches beneath a group burial, as was found in several cases, may have meant that the group burial was intrusive. But the circumstances seem to indicate that the bottom skeleton was buried in the identical hole that was dug for the upper skeletons, merely having a few inches of dirt filled in before the others were placed on top and completely covered.
17. Average depth of all burials was 15 inches, but is partly due to erosion.
18. A study of the skeletal material has not been made.
19. The burial custom was fairly uniform; 73% had heads in an easterly direction; 77½% had both hands over or near the face; 82% were on the left side.
20. Burial customs resemble certain ones in Central Texas.

[Handwritten notes] Combine #19 with #7. Combine #20 with #12.

[Signed "A.T. Jackson" at bottom of last page of original manuscript in same handwriting as the various handwritten notes throughout the document.]

Chapter 4: Discussion and Summary

Steve A. Tomka and Richard B. Mahoney

This chapter presents a summary of the information and knowledge available about the Cayo del Oso site (41NU2) focusing particularly on the work of collectors, avocational, and professional archeologists during the first half of the twentieth century. Chapter 2 summarized, in chronological order, the efforts of a number of different collectors and professional archeologists at the site. Chapter 3 consisted of an almost verbatim presentation of A.T. Jackson's manuscript on his extensive work at 41NU2. With the exception of grammatical edits and the omission of photographs of human remains, we chose to leave the body of Jackson's text largely as it was originally written so that it can stand as a historical document of his contribution to the field as well as of the state of archeological research and thinking in the early 1930s. The two instances where human remains are shown, in Chapter 3 (see Figure 3-8) and once in this chapter, they are presented to illustrate significant and relevant aspects of the archeological record discussed in detail in the text.

In the current chapter, we bring together the material already presented with additional details about the site and its cultural materials to derive conclusions about five distinct aspects of the site: (1) the structure and distribution of deposits; (2) the cultural and depositional stratigraphy; (3) the age of the deposits; (4) the implications of extra-regional artifacts; and (5) aspects of the skeletal population.

Because conclusions regarding these aspects of 41NU2 are derived from consulting the existing records on the site rather than primary investigations, the depth and detail of the observations are somewhat limited. Nonetheless, this presentation will at least serve as a compendium of what was known and what new knowledge emerged about the Cayo del Oso site as collectors began impacting the site and archeologists conducted some of the earliest investigations there.

The Structure and Distribution of Deposits

As indicated by two maps produced by and W.A. Price (1933) and J. Stitt (1945) in the 41NU2 site files at TARL, the Cayo del Oso site is one of many archeological sites dotting the banks of Oso Bay and Oso Creek, and was known

to avocational and professional archeologists since the 1900s. Both maps show archeological deposits present only in a north-south line along the western bank of False Oso Bay in the location that was later examined by A.T. Jackson. Nonetheless, in one of the earliest and most complete descriptions of the site, G.C. Martin (1930) clearly describes the site as having an L-shape with cultural materials deposited for a half-mile along both Corpus Christi (Nueces) Bay and False Oso Bay. He remarks that the Corpus Christi portion of the site contained signs of structures ("tepee sites") and campsite refuse. This interpretation comes from the numerous surface concentrations of shells dotting the area. Martin appears to reach this conclusion by interpreting the concentrations as representing either kitchen refuse from residential use or possibly artificial surfaces created from layers of shell. Interestingly, he indicates that the residential refuse continues to the eastern end of the peninsula facing Corpus Christi Bay but notes no human remains on this portion of the site. The principal part of the camp is described as being located along False Oso Bay. Here, evidence of human occupation appears to have reached about 100 meters inland from the shore and the beach was covered with heavy concentrations of shells (oyster, clam, and whelk) and contained skeletal remains and potsherds.

The relationship between the two areas of cultural refuse has never been studied and we simply do not have sufficient information to determine whether they represented parts of the same site or should have rightly been defined as unrelated distributions of cultural debris. In addition, while Martin describes the site as stretching across two distinct dunes, one facing False Oso Bay and the other facing Corpus Christi Bay, respectively, some early maps (i.e., Figure 1-3, 1887 Coast Chart) show two distinct dunes while others (i.e., W.A. Price's 1933 map, on file at TARL) do not. This discrepancy could be the result of geomorphologic factors and specifically the impact of shore erosion during heavy storms.

Currently, the portion of the deposits facing Corpus Christi Bay is likely to be under Ocean Drive and future road improvements along this roadway may provide opportunities to investigate this section of 41NU2. The fact that burials are reported only from the dune portion of the site and the burials are surrounded by extensive campsite debris indicates that the prehistoric utilization of the dune was not restricted to a cemetery, assuming that the residential debris and the

burials are contemporaneous. While high ground may be necessary for a burial locale that is not waterlogged, low-lying areas would not necessarily preclude occupation for residential purposes. Therefore, it is theoretically possible that residential occupation of the landform would have spilled off the dune and onto the shore of Corpus Christi Bay. Given the different salinity of the bodies of water fronting these localities, slight differences may have existed in the resources available in their vicinity favoring their contemporaneous occupation and exploitation.

Some information regarding the horizontal distribution of occupation debris on the dune facing False Oso Bay can be obtained from the previous work at the site. The majority of the available information relates to excavations within the so-called “bone pit” which was the area targeted by Martin, Sayles, and Jackson. A photograph of the vicinity of the bone pit prior to excavation shows “shell piles over the graves” (Figure 4-1). Jackson indicates that the bone pit itself seemed to be relatively free of camp refuse and he describes only one hearth within the excavation block. Martin and Sayles do not mention encountering hearths, although small amounts of residential debris were present within the matrix. The fact that Burial 39 from the Jackson excavations was located 198 feet north of the northeast corner of the main excavation suggests that some isolated burials may be present across the dune. Nonetheless, the fact that other excavation loci exposed by Jackson to the north of the main area did not find clusters of burials suggests that a single area of the site was repeatedly used for burial of the dead. This implies some degree of historical continuity, although the vertical patterning of the burials and their occasional overlaps suggests lack of specific markers.

Jackson’s main excavation block was located approximately in the center of the north-south running dune. He indicates that camp debris was present for a mile in both directions from the cemetery proper. However, this debris was not continuous but localized in the form of shell concentrations ranging from 3–10 feet in diameter and similar to those identified by Martin. The concentrations were not regular but occurred from eight to 25 feet apart. Martin (1930:7) describes these shell concentrations to be particularly common on the portion of the site facing Nueces/Corpus Christi Bay. He interprets the concentrations to be remains of “tepee sites.”

Jackson excavated two of these concentrations, located some 40–50 yards from his main excavation area. Both measured 8–10 feet in diameter and consisted of thin lenses (2–3 inches)

of clam shells mixed with a few whelk and snail shells. Mixed with the shells were animal bones, burned clay lumps, charcoal, ash, and even discarded tools. In some instances, under or associated with these shell concentrations, there appeared to be areas of black midden deposits consisting of shell-free and highly organic soil. It is possible that the concentrations containing a wide range of refuse may represent middens while those associated with shell-free organic areas may be actual maintained living surfaces. However, it is also possible that under certain conditions, living surfaces may be lined with a layer of shell to provide improved drainage (Harry Shafer, personal communication 2004).

The final piece of information regarding differences in the horizontal structure of the dune and site comes from Jackson’s excavations into a deep midden deposit located some 150 yards northeast of the main excavation block. Here, Jackson identified a six-inch-thick midden deposit buried between 62 and 68 inches below surface (see Figure 3-27). In addition, a photograph taken in 1947 by R.L. Stevenson shows a profile that is at least eight feet tall and is identified as “cliff at mouth of Oso” (Figure 4-2). These two sources clearly indicate that some very deep cultural deposits are also present in portions of the Cayo del Oso dune apparently at the northern end of the dune adjacent the mouth of the False Oso.

The Cultural and Depositional Stratigraphy

The various excavations into the dune furnish some information regarding the cultural and natural stratigraphy of the dune. One of the earliest sources of information comes from Martin’s excavations into the bone pit. He indicates that during the excavations in August 1929, the highly disturbed skeletal remains were recovered from 20–30 inches below the former ground surface (Martin 1930:11). He also indicates that the skeletal remains described by Pearce and Dunn had come from the upper 12 inches of soil eroded from the surface of the site prior to his investigations (Martin 1930:11). This note also serves to tie the location of Dunn’s excavations to those of Martin, namely the same bone pit.

During his excavations in the bone pit, Sayles (n.d.) indicated that he began uncovering human remains at 17 inches below the surface of the eroded bank. A six-inch-thick layer of dark soil that likely represents a buried paleosol was noted immediately above the highest remains. Based on a drawing



Figure 4-1. Photo taken by G.C. Martin in 1929 prior to excavation in the "bone pit" at the Cayo del Oso site. Courtesy of the Witte Museum, San Antonio, Texas.



Figure 4-2. Photo of skeletal material in Corpus Christi Bay cliff at mouth of Oso, False Oso Bay dune. Courtesy of TARL, UT-Austin, Cat. #41NU2-85, photograph by R.L. Stevenson.

on file at TARL (Drawing No. 2 in E.B. Sayles Folder), his excavation appears to end at a depth of approximately 36 inches below the eroded bank that is approximately 34 inches below the sod that marks the original ground surface. This reconstruction places the uppermost burials at some 51 inches below the original ground surface of the dune (17 inches below the eroded bank).

Jackson's work provides additional details on the stratigraphy of the dune and cultural remains. The classification of the burials by depth encountered indicates that 13 of the burials (M-2, 3, 10, 12, 14, 15, 16, 17, 18, 22, 25, 26, and 39) were first encountered at 10 inches or shallower below the surface. Eleven burials (M-4, 5, 6, 7, 11, 13, 27, 30, 31, 33, and 35) were first encountered between 12 and 15 inches below the surface. Eight of these eleven burials were first encountered at 15 inches below the surface. Finally, 15 burials (M-1, 8, 9, 19, 20, 21, 23, 24, 28, 29, 32, 34, 36, 37, and 38) were first encountered at least 16 inches below the surface. Ten of these 15 burials were first noted at a depth of at least 20 inches below the surface. It is likely that these depths do not represent the original depth of these burials prior to the intensive erosion that had impacted the dune for three decades following land

clearing. Nonetheless, these patterns may suggest that at least three distinct but broad periods of cemetery use may be present at the Cayo del Oso site.

Jackson's exploratory work away from the bone pit also produced some information on site stratigraphy. At roughly 160 feet north of the main excavation area, exploratory excavations revealed a 37-inch profile consisting of four distinct zones. The upper zone, 0–27 inches below surface, was sterile. The next zone, 27–31 inches below surface, was a black midden deposit with features composed of oyster and whelk shells and a few clam shells. The third zone, 31–36 inches below surface, is described as a midden deposit with fewer shells and decreased charcoal presence compared to the overlying zone. Sterile soil was observed at 37 inches below surface.

Test excavations into the deep deposit located some 150 yards northeast of the bone pit exposed a different profile (see Figure 3-27). Here, the upper two zones (1–30 inches below surface and 30–62 inches below surface) were sterile. The third zone, from 62–68 inches below surface, consisted of a black midden deposit with oyster, conch and snail shells and burned clay lumps and charcoal. A sterile zone was identified at 69 inches below the surface.

The final source of information related to the site's stratigraphy comes from a profile of the University of Texas excavation area as it appeared in a 1947 profile drawn by W.A. Price. The profile (Figure 4-3), which accompanies a plan map of the excavation area (Figure 4-4), was sent to T.N. Campbell and appears to represent the stratigraphy along the southern wall of the excavation area exposed by Jackson. In this profile drawing, Price shows three paleosols with the uppermost buried under a 12-inch-thick sterile layer of sand. This paleosol is described as being rich in conch shells. The deepest paleosol appears to be buried some 26–28 inches below the ground surface and extends to the bottom of the excavation at around 36 inches below surface. At its deepest, this lower paleosol is as deep as three feet below the surface. In the letter accompanying the profile, Price explains that this lower paleosol is actually a compound unit consisting of four zones full of conch shells and flint artifacts forming discontinuous lenses. Figure 4-5 shows a hammer being held to mark the location of the lower paleosol along a heavily eroded portion of the Cayo del Oso dune. These two relatively thick zones sandwich a thin paleosol that appears to be located 18–20 inches below surface. Price indicates that Zone C in Figure 4-3 appears to be the

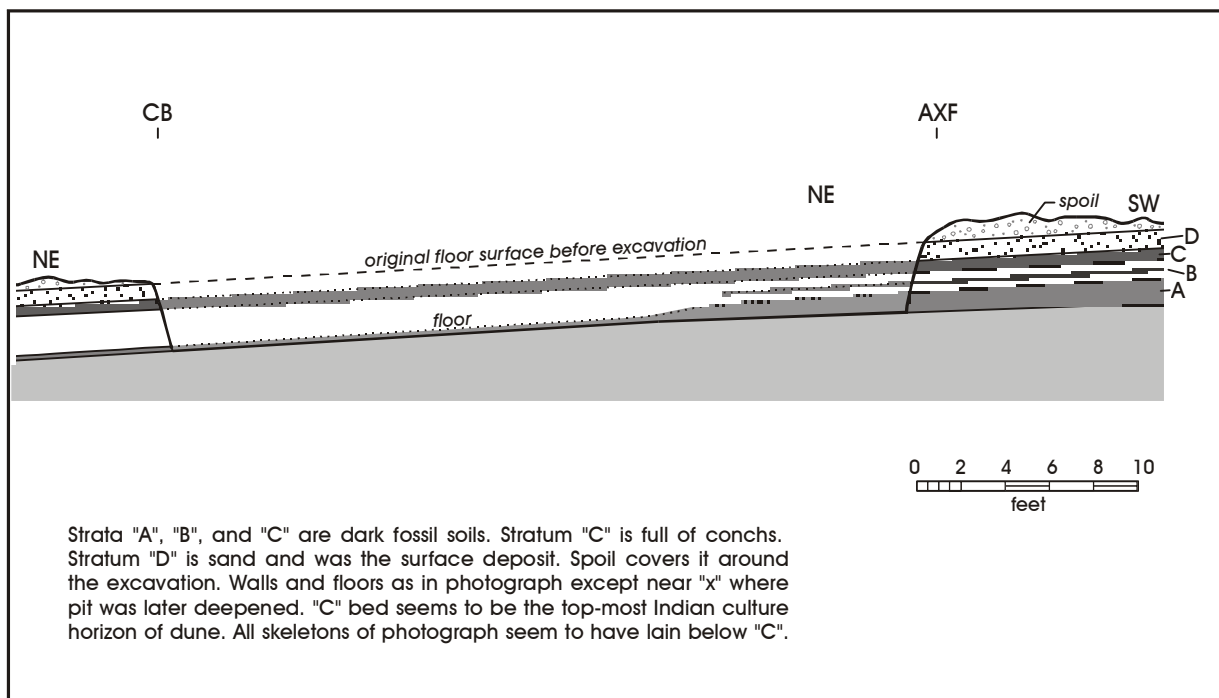


Figure 4-3. Profile of south wall of University of Texas (A.T. Jackson) excavation area in "bone pit." Profile is redrawn from a sketch included with a letter from W.A. Price to T.N. Campbell, dated 7/9/47 (in T.N. Campbell Notes 1946-47 on file at TARL). Profile notes read as in original.

uppermost cultural material-bearing zone. He also indicates that the skeletons exposed by Jackson appear to have been found below Zone C.

Although the depths of these zones do not match the depths of the burials, the fact that there appear to be three paleosols agrees well with the presence of three distinct groupings of skeletons below surface. The disagreement in actual depths below surface may be due to different degrees of surface erosion at different spots across the excavation area and/or post-depositional disturbances of some of the skeletons by relic hunters. Nonetheless, even if this generalized stratigraphy is applicable to the southern margin of Jackson's excavation area, the preceding discussion makes it clear that cultural and natural stratigraphy varies north-south across the dune.

The Age of the Deposits

It is clear that multiple cemetery and dune use episodes are indicated by the vertical distribution of skeletal remains from Jackson's excavations as well as the 1947 W.A. Price profile. Burial-associated artifacts such as the silver sword hilt likely manufactured between 1750 and 1780 and the incense reportedly found by Henry Fulton strengthen the likelihood that the cemetery was used into the historic period. The recovery of several narrow, parallel-sided specimens reminiscent of Guerrero arrow points commonly found in historic mission sites (Turner and Hester 1999:216) strengthens this observation. One such specimen was uncovered by Dunn in association with a burial and is pictured at the center-left of Figure 2-11. To date, no majolica ceramics have been documented as recovered from the site.

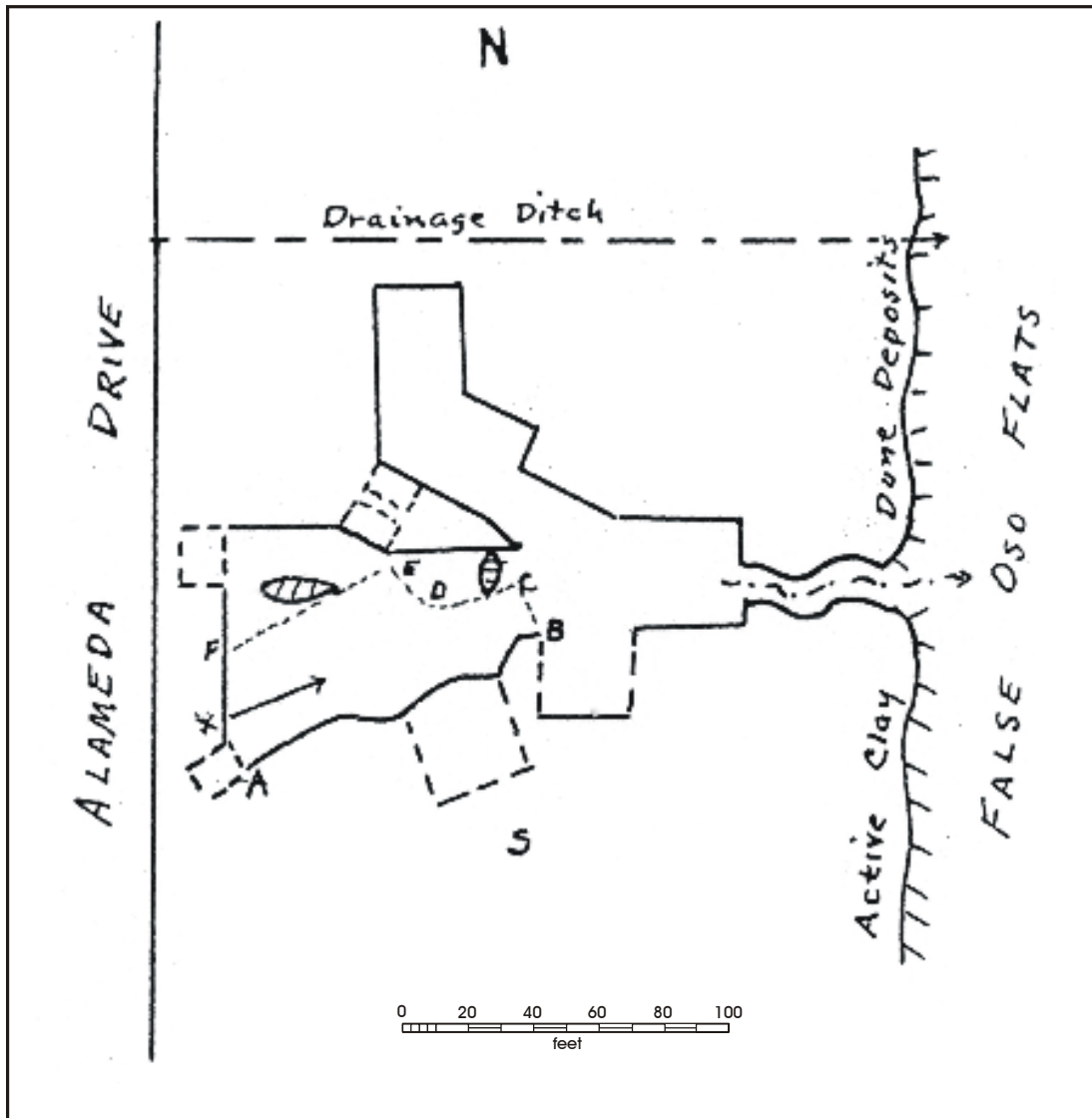


Figure 4-4. Plan map of University of Texas excavation area drawn by W.A. Price in 1947. Reproduced from map in letter from W.A. Price to T.N. Campbell, dated 7/9/47 (T.N. Campbell Notes 1946-47 on file at TARL). A 1940 Blucher's Directory Map of Corpus Christi (M917.1711, La Retama Public Library, Corpus Christi) identifies the section of Alameda Drive shown in this figure as "Alameda" and Ennis Joslin Road, south of it's current intersection with Alameda, as "Del Oso Road."

The relative paucity of definitively historic artifacts, however, does not necessarily mean the absence of a significant historic component. A short but significant historic occupation of the landform may have occurred without resulting in the deposition of a large quantity of historic artifacts. On the other hand, it also is possible that historic artifacts, because they may have been easier to recognize by site visitors, would have been differentially removed over time leaving little evidence of a historic occupation.

The first documented temporally diagnostic prehistoric projectile points from the site were recovered by Dunn in association with a burial containing a large number of associated artifacts (see Figure 2-11). The Starr arrow point shown at the center-right of the figure is clearly Late Prehistoric in age (Turner and Hester 1999:231). A number of small triangular projectile points, possibly Fresno type, have been recovered from the site as well (Figure 4-6). These points resemble Matamoras and/or Catán dart points in shape but are made on thin flake blanks and clearly represent arrow rather than dart points. Some of the more rounded base specimens made on thin flakes may also represent Padre arrow points that also are considered Late Prehistoric (Turner and Hester 1999:226). Finally, several Perdiz points have been recovered from the site (Figures 4-7 and 4-8). Together with the Starr, Padre, and possible Fresno points, they represent a Late Prehistoric presence on the site. Finally, the presence of large numbers of shell-tempered and asphaltum-coated Rockport ceramic sherds (Figures 4-9 and 4-10) is also interpreted as indicative of a Late Prehistoric association, although such ceramics may extend into the historic period.

In addition to the arrow points and ceramic sherds from the site, dart points have also been recovered from the Cayo del Oso dune. The dart points are reminiscent of Refugio (Figure 4-11, two specimens on left in bottom row, and Figure 4-12, left), Catán (Figure 4-13, left) and Bulverde types (Figure 4-12, right) and also include untyped forms (Figure 4-11, bottom row right, and Figure 4-13, right). These forms together are indicative of the presence of both Middle Archaic (Bulverde and Refugio) and Late Archaic (Catán) components.

Although neither arrow points nor dart points are abundant in the Cayo del Oso collections, this can be explained by the extensive artifact hunting that has impacted the assemblage even before the excavations conducted by the staff of the University of Texas. The abundance of ceramic



Figure 4-5. Photograph of the lower horizon or paleosol (marked by location of hammer) along an eroded portion of the Cayo del Oso dune. Courtesy of TARL, UT-Austin.



Figure 4-6. Small, triangular arrow points from the Cayo del Oso site. A.T. Jackson Collection, TARL, UT-Austin.

sherds, numbering in the hundreds in the TARL collection from the site, suggests perhaps that they are more difficult to recognize and, therefore, collectors miss them more often. On the other hand, the fact that these specimens were sherds rather than complete vessels may more readily explain their abandonment by collectors.

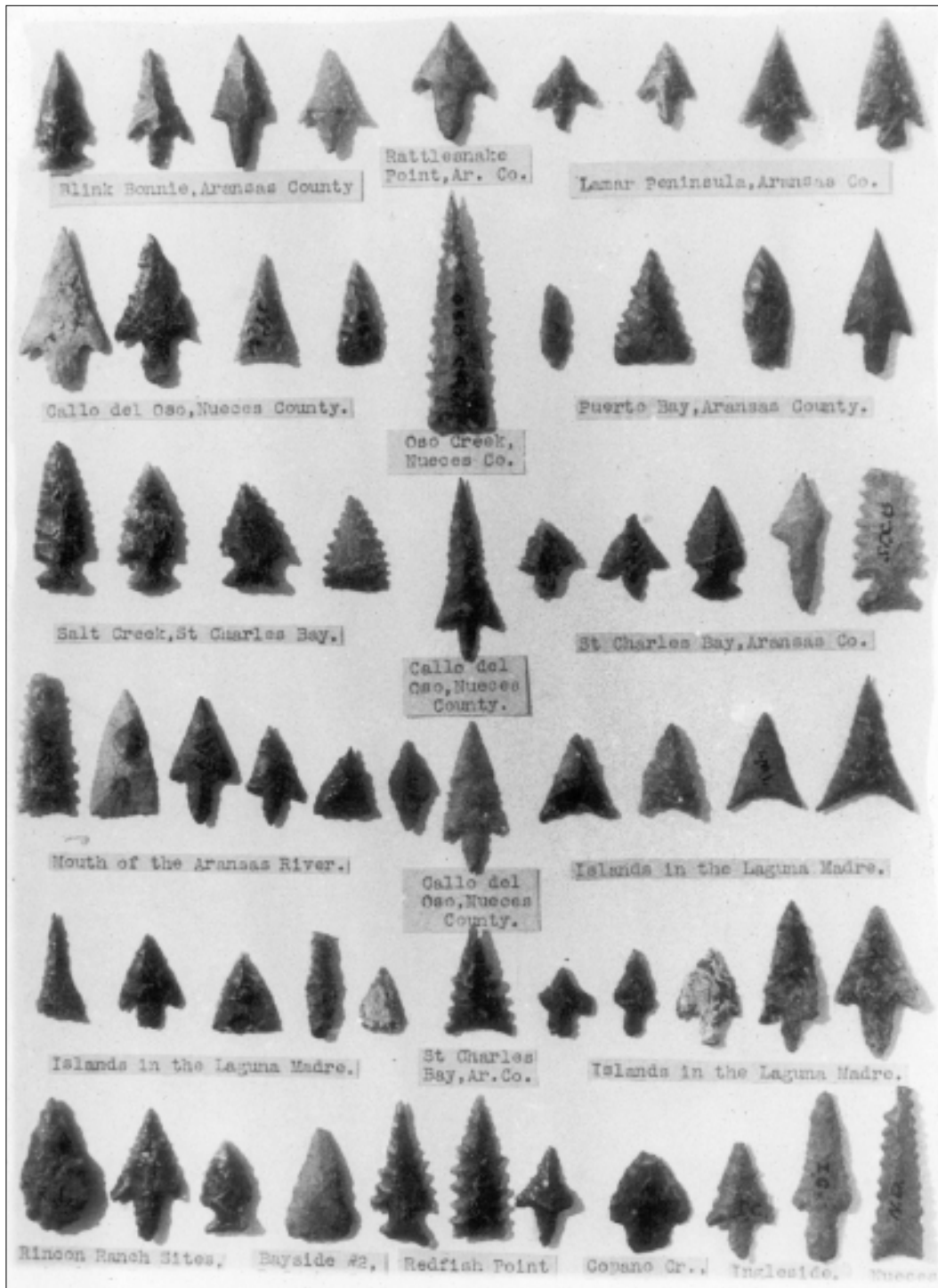


Figure 4-7. *Perdz* and triangular (*Fresno?*) points from the Cayo del Oso Site. *Perdz* points: first two specimens from left on second row and two center specimens from “Callo del Oso”; possible *Fresno* point: third specimen from left on second row. Courtesy of the Witte Museum, San Antonio, Texas.



Figure 4-8. Additional Perdiz (left) and triangular (Fresno?; right) points from the Cayo del Oso site. Courtesy of the Witte Museum (G.C. Martin Collection), San Antonio, Texas.



Figure 4-9. Interior surfaces of Rockport sherds from the Cayo del Oso site. Note asphaltum coating. A.T. Jackson Collection, TARL, UT-Austin.

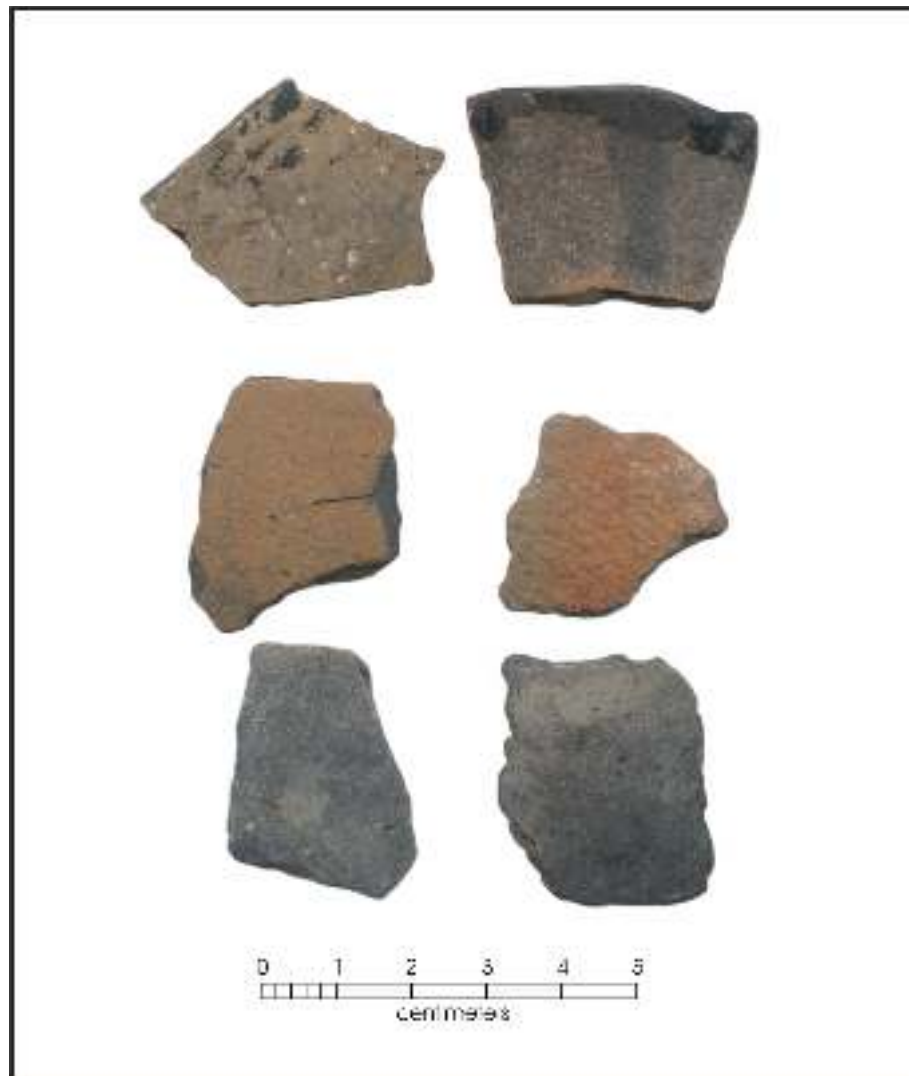


Figure 4-10. Exterior surfaces of Rockport sherds from the Cayo del Oso site. Note decorative applications of asphaltum on top two sherds. A.T. Jackson Collection, TARL, UT-Austin.

In summary, based on the temporally diagnostic artifacts, it is evident that the 41NU2 site was intermittently occupied and/or used as a cemetery during the Middle Archaic, the Late Archaic, the Late Prehistoric, and into historic times. Unfortunately, it cannot be determined how the nature of the occupations changed over time. However, the three principal groupings of burials identified based on their general depth below surface may perhaps represent at least three of the time periods of site use reflected by the temporally diagnostic artifacts.

Extra-Regional Material Culture

The presence of large numbers of worked shell artifacts is common on archeological sites found on the coast and in the Rio Grande Delta. While the presence of the cylindrical “cloud-blower” pipe is interesting, the etched lip design element it shares with numerous rectangular shell pendants suggests a common artistic bond and perhaps ethnic identity. On the other hand, artifacts such as the silver sword hilt clearly represent intrusive, and in this case, historic items.



Figure 4-11. Mix of arrow and dart points recovered from the Cayo del Oso site. Courtesy of TARL (E.B. Sayles Collection), UT-Austin.



Figure 4-12. Refugio (left) and Bulverde (right) points from the Cayo del Oso site. A.T. Jackson Collection, TARL, UT-Austin.



Figure 4-13. Catán point (left) and untyped dart point from the Cayo del Oso site. A.T. Jackson Collection, TARL, UT-Austin.

An equally interesting intrusive item is a bead found by John Dunn in association with a burial removed from 41NU2. Also found in association with the burial were a large number of rectangular and ovate shell pendants, a Starr point, a possible Guerrero arrow point, and two engraved bone ornaments (see Figure 2-11). The bead (see Figure 2-12) is unlike any of the other artifacts from the site but is very similar in style to other incised stones pictured by Martin (1930:Plate 2, Figure 1). Unfortunately, the provenience of the incised stones and of the effigy vessels pictured by Martin (1930:Plate 2) is unclear. Nonetheless, the fact that the bead was associated with a Guerrero point indicates that it probably represents a historic or perhaps mission-related artifact.

Another artifact that also likely represents an intrusive specimen is the pumice elbow pipe reported to have been found by Dunn (see Figure 2-5; T.N. Campbell's notes on file at TARL). Cylindrical, "tubular" cloud-blower forms are relatively common in south Texas (Chandler and Kumpe 1994; Highley et al. 1995), the Lower Pecos (Chandler 1990, 1992) and northern Mexico (Aveleyra et al. 1956:175). At least some ceramic platform pipes found in south and central Texas are traceable to east and northeast Texas (Chandler 1995; Hester 1985). However, the elbow pipe form, and particularly one made of pumice, is not reported in east or south Texas.

These extra-regional artifacts clearly point to a broad interaction sphere. Although the boundaries of this sphere remain undetermined, the association of the bead with Late Prehistoric and historic artifacts suggests that the interactions with outside regions were active during either or both of these periods. Unfortunately, how old the roots of these extra-regional interactions may have been cannot be determined.

Aspects of the Skeletal Population

Richard B. Mahoney and Steve A. Tomka

The skeletal population from the 41NU2 site is one of the largest from any cemetery site in the state. Although no formal osteological analyses have been carried out on these skeletal remains, some aspects of this assemblage are worthy of brief discussion. This section will address general population characteristics reflected by the collection (i.e., age profile, sexual composition, and skeletal elements represented), evidence of intra- or inter-group violence, the presence of worked human bones, and the lack of CaCO₃ crusting on the

skeletons and its implications for studying the horizontal and vertical patterning of burials within the dune.

Appendix A identifies the skeletal assemblage from 41NU2 compiled by TARL. The appendix lists 110 individual skeletons in the collection, with 105 from the 1933 Jackson excavations. Three of the remaining five burials come from the 1947 excavations by W.S. Fitzpatrick (n=2) and the 1947 excavations by Price, Stevenson, and Krieger (n=1). The last two skeletons cannot be accounted for. Only four of the 110 burials were associated with temporal periods, with two assigned to the Late Archaic and two assigned to the Late Prehistoric.

Included in the appendix are various broad observations of the individual skeletons, including burial type, general age, and sex. The burial type category differentiates between composite and single interments. Eighty-three (75%) of the 110 skeletons with identified burial type were single interments and only 27 individuals (25%) were from multiple interments. Nearly two-thirds (n=71) of the skeletal assemblage represents adults, and roughly one-third (n=39) of the collection represents subadults. Of the 71 adult skeletons, 27 (38%) could be identified to sex, with 13 (48%) female and 14 (52%) male; all of which were from single interments. While sex could not be determined for any of the composite burial remains, it is interesting to note that only one subadult, an infant, was associated with a multiple interment.

During the course of inventory compilation, TARL staff determined the age range of each individual skeleton. Age category divisions included Fet (fetus; n=1); Infant (0–1 years in age; n=8); Child (1–10 years in age; n=12); Child2 (6–10 years in age; n=5); Adol (10–19 years in age; n=13); Adult1 (20–50 years in age; n=10); Adult2 (50+ years in age; n=26); and Adult (20+ years in age; n=35). With one notable exception, the individuals amenable to sex identification within the age categories and by burial type appear to have an even distribution. For example, of the 35 individuals within the Adult category (20+ years in age), 11 are female, 13 are male, and 11 are indeterminate. Of particular interest, though, is the high occurrence (n=22; 81%) of Adult2 (50+ years in age) individuals associated with composite burials. While ethnohistorical data concerning the burial practices of the culture affiliated with 41NU2 interments are non-existent, little to no indication of preferential, or "alternative," treatment for this age group has yet been observed in the archeological record.

The final categories of the inventory define the skeletal elements present and their state of preservation. Presence-absence of skeletal element categories were noted for cranial (n=59; 54%), teeth (n=37; 34%), long bones (n=62; 56%), vertebrae (n=36; 33%), innominate (n=16; 15%), and other (n=54; 49%). The last column of the table, "Preservation," notes the condition of the skeletal elements for each of the individual burials. The majority (n=72; 65%) of the assemblage is classified as Fragmentary Eroded (FE). The remainder of the assemblage is comprised of Fragmentary Good (FG; n=32; 29%), Whole Eroded (WE; n=2; 2%), Whole Good (WG; n=2; 2%), and two (2%) unspecified.

While Jackson et al. (1987 [1986]) report on the incidence of endemic treponematoses in the Cayo del Oso population, a comprehensive human osteological analysis of this skeletal assemblage has never been conducted and is not within the scope of this report. Nonetheless, two individual remains are worthy of mention since they may provide some insight into to broader cultural context of site use. One of the specimens is a complete right ulna shown in Figure 4-14

with a number of other elements showing pathological conditions. The interesting aspect about the ulna from Burial M-14 is that a projectile point fragment can be seen embedded within the bone on the dorsal face of the proximal end of the bone (Figure 4-15). The point is also visible on X-rays taken of the specimen on December 2, 1940, in the medical office of Dr. Dalton Richardson in Austin (Figure 4-16). The projectile point fragment appears to be broken across its blade but the thickness of the break (4 mm) suggests that it is a dart point fragment rather than an arrow point. The other interesting aspect of this find is that bone growth has taken place around the impact area following the initial wound. This indicates that the individual survived the wound for at least some time before dying. The excavation records identify a "flint knife" as having been recovered in association with the five skeletons recovered from the M-14 burial group. The outline drawing of the specimen suggests similarities to Refugio dart points, although this cannot be established with certainty without the examination of the actual specimen. The specimen could not be located for examination.



Figure 4-14. Skeletal elements showing pathologies from the Cayo del Oso site. Note ulna with imbedded dart point fragment (at top left of photo). Courtesy of TARL (E.B. Sayles Collection), UT-Austin.



Figure 4-15. Close-up of proximal end of ulna (from Burial M-14) with embedded dart point fragment. A.T. Jackson Collection, TARL, UT-Austin.

The second skeletal element is a skull from Burial M-12. Fourteen individuals were present in the burial group and no temporally diagnostic items were found in association with the remains. A handwritten note on the Jackson manuscript indicates that one of the skulls in this burial group has a partially healed hole measuring $\frac{1}{4}$ -inch in the skull cap. It is unclear what instrument may have caused this wound. Nonetheless, the presence of at least two individuals with blunt trauma wounds suggests that at least some members of the populations visiting the Cayo del Oso site were exposed to some degree of inter- or intra-group conflict. Unfortunately, we cannot pinpoint the temporal affiliation of the affected burials and, therefore, cannot relate these finds to temporal trends in inter-group violence.

Another aspect of the large skeletal population is the presence of worked human bone within the collection. Although Martin (1930:12) was convinced that at least some of the skeletal remains within the portion of the bone pit

excavated by him represented the remains of cannibal feasts, this is not substantiated by the analysis of the materials recovered. Only one human bone specimen (see Figure 3-8) is unequivocally identified as representing clear evidence of working. This specimen was recovered from Burial M-4 in apparent association with skeleton No. 1. Black residue on the specimen suggests that it may have been coated with asphaltum. Typewritten notes in the T.N. Campbell file at TARL identify two additional skeletal elements that may have evidence of working. The description of the first specimen indicates “One ‘lower leg bone’ had three incisions which were evidently made while the bone was fresh. These are shallow and rather wide, and appear as though made with a stone knife used in the manner of a saw.” The second specimen “showed that it has been struck a glancing blow, evidently with a flint hatchet.” No indication of which burial group these two skeletal elements belong with is given in the notes. However, a handwritten page in the TARL 41NU2 files contains a note (#3) stating “Watch for any evidences of cutting or hacking on any long bones (M-1, M-14).” The reference to the two burial groups suggests that the writer of this note had seen possible cut marks on bones from these burial groups. Jackson clearly states seeing no evidence of hacking or cutting on any of the bones from M-1. The M-14 case was mentioned above.

Martin’s (1930:12) interpretation that some of the skeletal remains represented the products cannibal feasts comes from the fact that many of the elements were disarticulated and broken. Martin was not trained in identifying the myriad post-depositional factors that could result in disturbances to, and fragmentation of, skeletal remains (i.e., disarticulated and fractured skeletal materials; excavated, reburied and re-excavated remains) and scratches and marks that may be interpreted as cut marks or purposeful breakage of bones. In fact, the identification of cut marks on faunal remains is not a simple matter even under the best laboratory conditions. Not surprisingly, Campbell’s notes suggest that only two skeletal elements may have purposeful modification. Although we did not inspect the two elements mentioned by Campbell, we would suggest that until a systematic assessment is completed, clear evidence for the working of human bone should be limited to a single element recovered from the site, the medial shaft fragment shown in Figure 3-8. This piece could represent a trophy piece that may have been taken within the context of inter-group violence. The presence of the ulna with the dart point does indicate that such violence may have been part of the life of groups that occupied the site.

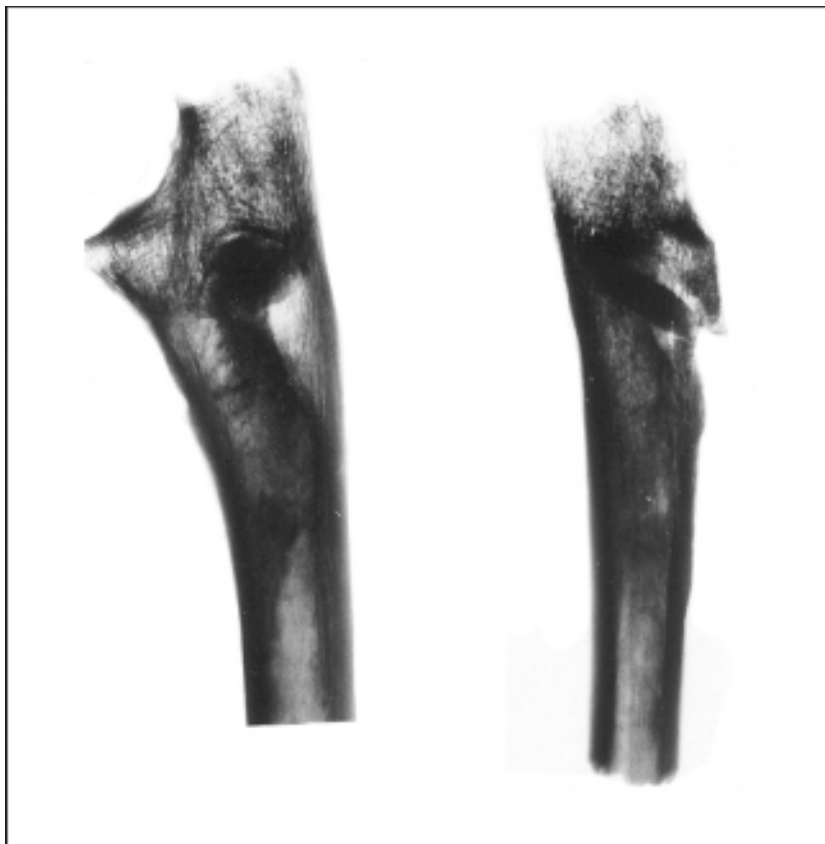


Figure 4-16. X-ray images of different aspects of the proximal end of the ulna with embedded dart point fragment. Courtesy of TARL (E.B. Sayles Collection), UT-Austin.

The final aspect of the skeletal population that needs to be addressed is the inspection of the materials for the presence of CaCO_3 deposits. In a discussion between Steve Tomka (author) and Michael Collins (TARL) regarding the Cayo del Oso project, Collins mentioned that Tiffany Terneny (University of Texas at Austin doctoral candidate) had noted interesting relationships between CaCO_3 encrusted skeletal remains and their stratigraphic position among skeletons from 41CF2, a Cameron County cemetery site. In hopes of defining the depositional (burial) history of the skeletal population with respect to the formation history of the dune, Tomka inspected skeletal elements from 41CF2 to identify the nature of the CaCO_3 layer on the elements. Next, skeletons from 50% of the burial groups from 41NU2 were examined for the presence of similar layers on the elements. Unfortunately, none of the skeletal elements examined retained any evidence of CaCO_3 crusting. It was determined that this avenue of research was not productive for identifying the horizontal and/or vertical positioning of the burials within the dune *vis a vis* the location of buried paleosols.

Summary of Results

The goal of this report was to review all of the documentary evidence associated with the early-nineteenth-century history of the Cayo del Oso site, a cemetery and habitation site located in Nueces County on the tip of a peninsula bounded by Corpus Christi and False Oso bays. In addition to compiling all available historical information on the site, one of the principal objectives was to publish the hitherto unpublished manuscript written by A.T. Jackson detailing the University of Texas at Austin excavations at the site during 1933.

It is concluded that while the site was originally described as having an L-shape fronting both Corpus Christi Bay and False Oso Bay, much of the knowledge about the site refers to the large dune on the western bank of False Oso Bay. Some structural differences may have existed between the two branches of the original site. Horizontal differentiation of cultural materials was evident on the Cayo del Oso dune

in the form of a cemetery cluster and isolated shell middens associated with domestic refuse that may have represented the remains of individual household occupations. The vertical patterning of the deposits suggests that deeply buried deposits existed towards the northern end of the dune and perhaps upslope towards the apex of the dune. Three principal midden zones were present in the area of the bone pit with the deepest one probably consisting of multiple lenses. Conch shells were most abundant in the upper zone, and although they were present in the deepest zone, they were less numerous. As expected, this vertical zonation was not characteristic of the entire dune and Jackson's excavations hint at differentiation across the site.

The inspection of the depths of the burials and the temporally diagnostic artifacts (arrow points, dart points, ceramics, and historic artifacts) from the site indicates that the burials seem to have been clustered into three broad groups in terms of depth below surface: higher than 10 inches; between 11 and 15 inches; and more than 16 inches below surface. The actual depths of these burials below surface would have differed depending on the amount of soil removed by erosion. The analysis of the temporally diagnostic artifacts indicates the presence of Middle Archaic, Late Archaic, Late Prehistoric, and historic materials. It is argued that historic materials were sparse, assuming that the triangular arrow points recovered from the site represent Fresno rather than Guerrero points and the Rockport ceramic sherds are prehistoric rather than historic in age. Although Guerrero points and incense recovered from the site hint at mission-related artifacts and occupation, the fact that majolica ceramics have not hitherto been documented from the site lessens this possibility. At least some of the few intrusive artifacts documented from the site appear to be associated with the Late Prehistoric and historic components and are indicative of a broad, as of yet undetermined, regional interaction sphere.

The large skeletal population has a great deal of analytical potential. A few specimens are indicative of intra- or inter-group violence and the paucity of worked human bone does not support Martin's original contention that some of the skeletal remains from the site represent the remains of cannibal feasting. A single skeletal element has unequivocal evidence of intentional working. It may represent a specimen taken as a trophy, although the ultimate function of this specimen within the culture of the possessor may never be known.

Finally, the goal of this introductory report to the TxDOT-sponsored monitoring work conducted by the Center for Archaeological Research at 41NU2, the Cayo del Oso site,

has been to present the first comprehensive summary of the pre-1970s work at the site by compiling data that has been difficult to access and some of which is no longer available for study. In as much as the report accomplishes this, the report and the data contained within form an important part of the historic context and thus contribute information to the site's significance.

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Appendix A

Summary of Skeletal Remains Recovered from the Cayo del Oso Site

Table A-1. Skeletal Remains Recovered from the Cayo del Oso Site (41NU2)

T1	T2	Project Name	Project Date	Acc1	Acc2	Burial #	Temporal	Cultural Affiliation	Affiliation Confidence	Burial Type	Age	Sex	Cranial	Teeth	Long Bones	Vertebrae	Innominate	Other	Preservation
41	NU	A.T. Jackson, UT	1933	2		M-1	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Female	X						FG
41	NU	A.T. Jackson, UT	1933	3		M-1	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Male	X		X	X	X	X	FG
41	NU	A.T. Jackson, UT	1933	4		M-1	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Indet			X		X	X	FG
41	NU	A.T. Jackson, UT	1933	5		M-1	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2		X		X				FG
41	NU	A.T. Jackson, UT	1933	9		M-1	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2				X				FE
41	NU	A.T. Jackson, UT	1933	10	B	M-1	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Female	X	X					FE
41	NU	A.T. Jackson, UT	1933	10	C	M-1	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Male	X	X					FG
41	NU	A.T. Jackson, UT	1933	16		M-1	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult1	Indet				X			FG
41	NU	A.T. Jackson, UT	1933	18	A	M-2	Unknown Prehistoric	Unaffiliated	Definite	Single	Child2	Female			X	X		X	WG
41	NU	A.T. Jackson, UT	1933	18	B	M-2	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Indet			X	X		X	FE
41	NU	A.T. Jackson, UT	1933	19		M-3	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Female			X	X		X	FE
41	NU	A.T. Jackson, UT	1933	22		M-4	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2		X		X			X	FG
41	NU	A.T. Jackson, UT	1933	26	A	M-4	Unknown Prehistoric	Unaffiliated	Definite	Single	Child2	Indet			X				FE
41	NU	A.T. Jackson, UT	1933	26	B	M-4	Unknown Prehistoric	Unaffiliated	Definite	Single	Infant	Indet			X				FE
41	NU	A.T. Jackson, UT	1933	29		M-5	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Indet	X						FE
41	NU	A.T. Jackson, UT	1933	30		M-5	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2		X		X				FE
41	NU	A.T. Jackson, UT	1933	31	A	M-5	Unknown Prehistoric	Unaffiliated	Definite	Single	Adol	Indet			X				FG
41	NU	A.T. Jackson, UT	1933	32		M-6	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2				X			X	WG
41	NU	A.T. Jackson, UT	1933	33		M-6	Unknown Prehistoric	Unaffiliated	Definite	Single	Child2	Indet			X			X	FG
41	NU	A.T. Jackson, UT	1933	35		M-8	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Male			X	X	X	X	FE
41	NU	A.T. Jackson, UT	1933	36		M-8	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Female			X	X	X	X	FG
41	NU	A.T. Jackson, UT	1933	37	A	M-7	Unknown Prehistoric	Unaffiliated	Definite	Single	Child	Indet	X	X		X			FE
41	NU	A.T. Jackson, UT	1933	37	B	M-7	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2				X				FG
41	NU	A.T. Jackson, UT	1933	38		M-8	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Male	X	X					FE
41	NU	A.T. Jackson, UT	1933	39		M-8	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2		X	X					FE
41	NU	A.T. Jackson, UT	1933	45		M-4	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Indet	X	X					FG
41	NU	A.T. Jackson, UT	1933	46		M-9	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2		X	X	X			X	FE
41	NU	A.T. Jackson, UT	1933	47		M-10	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Female			X	X	X	X	FE
41	NU	A.T. Jackson, UT	1933	48		M-12	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2				X	X		X	WE
41	NU	A.T. Jackson, UT	1933	49		M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult1	Indet				X		X	FE
41	NU	A.T. Jackson, UT	1933	55	A	M-12	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2				X		X	X	FE
41	NU	A.T. Jackson, UT	1933	55	B	M-12	Unknown Prehistoric	Unaffiliated	Definite	Composite	Infant				X				FE
41	NU	A.T. Jackson, UT	1933	56		M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Indet			X	X		X	FE
41	NU	A.T. Jackson, UT	1933	57	A	M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Child	Indet	X	X		X	X		FE
41	NU	A.T. Jackson, UT	1933	57	B	M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Child	Indet	X	X	X				FE
41	NU	A.T. Jackson, UT	1933	57	C	M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Child	Indet	X	X		X			FE
41	NU	A.T. Jackson, UT	1933	57	D	M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Child	Indet	X	X	X	X	X	X	FE

Table A-1. continued...

T1	T2	Project Name	Project Date	Acc1	Acc2	Burial #	Temporal	Cultural Affiliation	Affiliation Confidence	Burial Type	Age	Sex	Cranial	Teeth	Long Bones	Vertebrae	Innominate	Other	Preservation
41	NU	A.T. Jackson, UT	1933	57	E	M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Child	Indet	X						FE
41	NU	A.T. Jackson, UT	1933	57	F	M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Child2	Indet	X	X		X			FE
41	NU	A.T. Jackson, UT	1933	57	G	M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Infant	Indet	X		X			X	FE
41	NU	A.T. Jackson, UT	1933	57	H	M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Infant	Indet			X	X		X	FE
41	NU	A.T. Jackson, UT	1933	57	I	M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Child	Indet	X		X	X		X	FE
41	NU	A.T. Jackson, UT	1933	57	J	M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Child	Indet	X		X	X		X	FE
41	NU	A.T. Jackson, UT	1933	58		M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Male							FE
41	NU	A.T. Jackson, UT	1933	59		M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Child2	Indet	X	X					FE
41	NU	A.T. Jackson, UT	1933	61		M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Indet	X						FG
41	NU	A.T. Jackson, UT	1933	62		M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Male	X						FG
41	NU	A.T. Jackson, UT	1933	63		M-12	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult2	Female	X						FG
41	NU	A.T. Jackson, UT	1933	67	A	M-13	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2		X		X	X		X	FE
41	NU	A.T. Jackson, UT	1933	67	B	M-13	Unknown Prehistoric	Unaffiliated	Definite	Single	Adol	Indet			X				FE
41	NU	A.T. Jackson, UT	1933	68		M-13	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult1	Indet						X	FG
41	NU	A.T. Jackson, UT	1933	69		M-13	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Female			X	X	X	X	FE
41	NU	A.T. Jackson, UT	1933	70		M-13	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2				X				FE
41	NU	A.T. Jackson, UT	1933	73		M-13	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Male	X	X					FE
41	NU	A.T. Jackson, UT	1933	76		M-13	Unknown Prehistoric	Unaffiliated	Definite	Single	Adol	Indet	X						FE
41	NU	A.T. Jackson, UT	1933	78		M-13	Unknown Prehistoric	Unaffiliated	Definite	Single	Child	Indet	X			X		X	FE
41	NU	A.T. Jackson, UT	1933	79	A	M-14	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2		X	X	X			X	FE
41	NU	A.T. Jackson, UT	1933	79	B	M-14	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2				X				FE
41	NU	A.T. Jackson, UT	1933	79	C	M-14	Unknown Prehistoric	Unaffiliated	Definite	Single	Adol	Indet			X				FE
41	NU	A.T. Jackson, UT	1933	79	D	M-14	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Female	X	X					FE
41	NU	A.T. Jackson, UT	1933	80		M-14	Unknown Prehistoric	Unaffiliated	Definite	Single	Adol	Indet	X						FE
41	NU	A.T. Jackson, UT	1933	81		M-14	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Male	X	X					FG
41	NU	A.T. Jackson, UT	1933	83		M-15	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult2	Male	X						FG
41	NU	A.T. Jackson, UT	1933	85		M-15	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2		X		X	X			
41	NU	A.T. Jackson, UT	1933	87	A	M-15	Unknown Prehistoric	Unaffiliated	Definite	Single	Adol	Indet	X						FE
41	NU	A.T. Jackson, UT	1933	87	B	M-15	Unknown Prehistoric	Unaffiliated	Definite	Single	Infant	Indet	X						FE
41	NU	A.T. Jackson, UT	1933	87	C	M-15	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2				X				FE
41	NU	A.T. Jackson, UT	1933	89		M-16	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2		X		X			X	FE
41	NU	A.T. Jackson, UT	1933	90		M-24	Unknown Prehistoric	Unaffiliated	Definite	Single	Fet	Indet			X	X	X		FE
41	NU	A.T. Jackson, UT	1933	91		M-28	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Female	X	X	X	X		X	FG
41	NU	A.T. Jackson, UT	1933	93		M-21	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Indet			X			X	FE
41	NU	A.T. Jackson, UT	1933	94		M-18	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Female	X						FE
41	NU	A.T. Jackson, UT	1933	95		M-19	Unknown Prehistoric	Unaffiliated	Definite	Single	Infant	Indet	X	X		X			FE
41	NU	A.T. Jackson, UT	1933	96		M-20	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult2	Female	X	X	X	X		X	FE

Table A-1. continued...

T1	T2	Project Name	Project Date	Acc1	Acc2	Burial #	Temporal	Cultural Affiliation	Affiliation Confidence	Burial Type	Age	Sex	Cranial	Teeth	Long Bones	Vertebrae	Innominate	Other	Preservation
41	NU	A.T. Jackson, UT	1933	98		M-29	Unknown Prehistoric	Unaffiliated	Definite	Single	Adol	Indet	X	X					FG
41	NU	A.T. Jackson, UT	1933	99		M-29	Unknown Prehistoric	Unaffiliated	Definite	Single	Adol	Indet	X	X					FG
41	NU	A.T. Jackson, UT	1933	100		M-29	Unknown Prehistoric	Unaffiliated	Definite	Single	Adol	Indet	X	X					FE
41	NU	A.T. Jackson, UT	1933	101		M-35	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Indet		X	X	X	X	X	FG
41	NU	A.T. Jackson, UT	1933	102	A	M-39	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Male	X	X	X	X		X	FG
41	NU	A.T. Jackson, UT	1933	102	B	M-39	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Male				X	X	X	FE
41	NU	A.T. Jackson, UT	1933	103		M-19	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult2	Indet	X	X	X	X		X	FG
41	NU	A.T. Jackson, UT	1933	105		M-34	Unknown Prehistoric	Unaffiliated	Definite	Single	Child	Indet	X	X					FE
41	NU	A.T. Jackson, UT	1933	106		M-37	Unknown Prehistoric	Unaffiliated	Definite	Single	Infant	Indet	X		X	X		X	FE
41	NU	A.T. Jackson, UT	1933	107		M-33	Unknown Prehistoric	Unaffiliated	Definite	Single	Infant	Indet	X		X				FE
41	NU	A.T. Jackson, UT	1933	108		M-31	Unknown Prehistoric	Unaffiliated	Definite	Single	Child	Indet	X	X					FE
41	NU	A.T. Jackson, UT	1933	109		M-32	Unknown Prehistoric	Unaffiliated	Definite	Single	Adol	Indet	X	X	X				FE
41	NU	A.T. Jackson, UT	1933	111		M-20	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Male	X	X	X	X		X	FE
41	NU	A.T. Jackson, UT	1933	113		M-37	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Female	X	X	X	X		X	FG
41	NU	A.T. Jackson, UT	1933	114		M-36	Unknown Prehistoric	Unaffiliated	Definite	Single	Child	Indet	X	X					FE
41	NU	A.T. Jackson, UT	1933	116		M-36	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Female			X		X	X	
41	NU	A.T. Jackson, UT	1933	199		No #	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Indet	X	X					FE
41	NU	A.T. Jackson, UT	1933	807		M-13	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult1	Indet						X	FG
41	NU	A.T. Jackson, UT	1933	817		M-14	Late Archaic	Unaffiliated	Definite	Single	Adult1	Indet						X	FE
41	NU	A.T. Jackson, UT	1933	818		M-13	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult1	Indet						X	FG
41	NU	A.T. Jackson, UT	1933	823		M-13	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult1	Indet						X	FG
41	NU	A.T. Jackson, UT	1933	827		M-15	Late Prehistoric	Unaffiliated	Definite	Single	Adult1	Indet						X	FE
41	NU	A.T. Jackson, UT	1933	831		M-15	Late Archaic	Unaffiliated	Definite	Single	Adult1	Indet						X	FE
41	NU	A.T. Jackson, UT	1933	833		M-16	Late Prehistoric	Unaffiliated	Definite	Single	Adult1	Indet						X	FG
41	NU	A.T. Jackson, UT	1933	835		M-16	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2				X			X	FE
41	NU	A.T. Jackson, UT	1933	842		M-17	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Male			X	X	X	X	FE
41	NU	A.T. Jackson, UT	1933	844		M-23	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2				X			X	FG
41	NU	A.T. Jackson, UT	1933	845		M-22	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2				X			X	FG
41	NU	A.T. Jackson, UT	1933	862		M-28	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2				X				WE
41	NU	A.T. Jackson, UT	1933	863	A	M-28	Unknown Prehistoric	Unaffiliated	Definite	Single	Adol	Female			X	X		X	FG
41	NU	A.T. Jackson, UT	1933	863	B	M-28	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Indet			X				FE
41	NU	Kirkpatrick		2499	A	No #	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Male	X	X	X		X	X	FE
41	NU	Kirkpatrick		2499	B	No #	Unknown Prehistoric	Unaffiliated	Definite	Single	Adol	Indet		X	X		X	X	FE
41	NU	Price/Stevenson/Krieger	1947	2355		No #	Unknown Prehistoric	Unaffiliated	Definite	Single	Adult	Indet	X						FE
41	NU	W.S. Fitzpatrick		2167		No #	Unknown Prehistoric	Unaffiliated	Definite	Composite	Adult2			X				X	FE
41	NU	W.S. Fitzpatrick		2168		No #	Unknown Prehistoric	Unaffiliated	Definite	Single	Adol	Indet		X	X			X	FE

Age Codes:

Fet = Fetus

Infant = 0–1 years in age

Child = 1–10 years in age

Child2 = 6–10 years in age

Adol = 10–19 years in age

Adult1 = 20–50 years in age

Adult2 = 50+ years in age

Adult = 20+ years in age

Preservation Codes:

FE = Fragmentary Eroded

FG = Fragmentary Good

WE = Whole Eroded

WG = Whole Good

CR = Cremation

PCR = Partial Cremation

