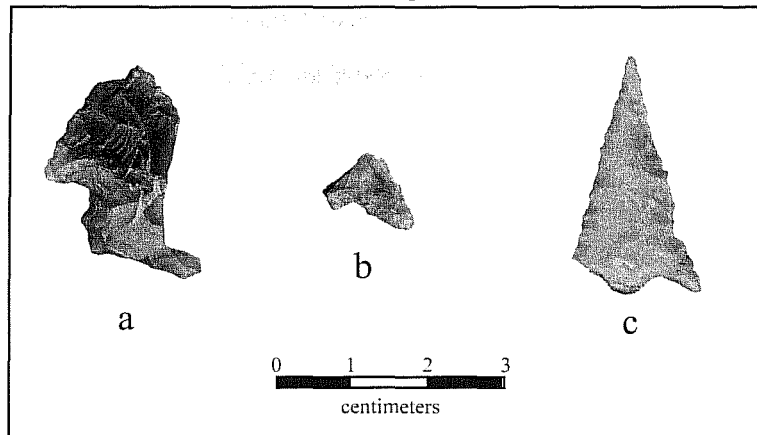


Figure 40. *Projectile Points from Test Units.* a) Point fragment from TU 2, Level 1; b-c) Point fragments from TU 2, Level 2.



(Figure 39h). The opposite end of the scraper was also used as a wedge. It exhibits heavy bidirectional step fracturing, scaling, and is burinated along one edge. The other uniface was also produced on a thick flake blank; however, it consists of a distal fragment with unifacial retouched along two lateral edge margins. This artifact does exhibit metal scratches (Figure 39i).

The four projectile points consist of broken fragments. Two of these are small base fragments (Figure 40a-b) and a midsection that could represent Fairland dart points (e.g., see Turner and Hester 1993:117). That is, they appear to be characterized by an expanding and concave base. The other point is a Perdiz arrow point with a broken base (Figure 40c) (e.g., see Turner and Hester 1993:227). None of the points exhibit any obvious evidence of post-depositional damage. Together these point types represent both Late Archaic and Late Prehistoric occupations.

Ground Stone

One piece of ground stone was recovered during the excavations. It consists of a sandstone basin metate fragment measuring 160 x 82 x 45 mm. It exhibits no evidence of post-depositional mechanical damage.

Lithic Artifact Breakage Patterns

Numerous debitage appear to represent broken fragments, and although some of the retouched tools are also broken, none exhibit recent breaks. The question is, what processes cause the debitage breakage patterns at the site? Researchers have identified several factors that can affect debitage breakage patterns. These include material type, reduction stage, burning, and various post-depositional processes. Each of these factors will be evaluated in respect to the site debitage assemblage.

Material Type

The fracture characteristics of a specific material type can vary greatly depending on the property of the material being knapped. Brittle refers to how easily a material breaks, and elasticity to how well it bends before breaking (Whittaker 1994: 13–14). For example, obsidian breaks more easily than chert, which is less brittle and more elastic (e.g., see McBrearty et al. 1998). Another factor can be the presence of inclusions or flaws in the material. Nonetheless, since all but one piece of debitage is made of chert, difference in raw material type is not a significant factor affecting breakage patterns on the site.

Reduction Stage

Sullivan and Rozen (1985) suggest that there is a difference in flake breakage rates between core reduction vs. biface production activities. More specifically, the thinner the flake the more likely it is to break during removal. This assumption was experimentally tested by several researchers with contrasting results (e.g., Mauldin and Amick 1989; Prentiss and Romanoski 1989; Tomka 1989). Table 16 presents a contingency table of debitage type by flake condition. There is a significant difference in the condition of core vs. biface flakes ($\chi^2=6.3$, $df=1$, $p=0.01$). Adjusted residuals were therefore calculated to determine which of the contingency table cells was contributing to the significant chi-square value. Adjusted residuals greater than 1.96 or -1.96 are significant at the 0.05 level (Haberman 1973). There appears to be relatively more complete core flakes and broken biface flakes represented in the site assemblage; however, the analysis excluded flake fragments, many of which could be midsections or distal portions of biface thinning flakes. Nonetheless, this pattern corresponds to Sullivan and Rozen's suggestion that biface flakes are more likely to break.

Table 16. Contingency Table of Debitage Type by Flake Condition

Flake Type	Flake Condition	
	Whole	Fragment
Core	150 2.5	295 -2.5
Biface	105 -2.5	302 2.5

$\chi^2=6.3$, $df=1$, $p=0.01$

Burning

Lithic artifacts may be burned as a by-product of heat-treatment or as a result of being discarded into a thermal feature. Experiments show that a lithic artifact subjected to rapid heating or cooling can explode (Purdy 1974). However, proper heat treatment of lithic materials may act to reduce flake breakage during tool production (Patterson 1979). A chi-square analysis of the contingency table of burning by flake condition

indicates that there is a significant difference between these categories ($\chi^2=25.6$, $df=1$, $p<0.01$; Table 17). That is, there are relatively more broken burned flakes and whole unburned flakes.

Table 17. Burning by Flake Condition

Top value in cell represents artifact count, and bottom value represents adjusted residuals. Significant ($p<0.05$) positive values are shown in bold.

Burning	Flake Condition	
	Whole	Fragment
Absent	229 5.1	931 -5.1
Present	26 -5.1	305 5.1

$\chi^2=25.6$, $df=1$, $p<0.01$

Post-Depositional Processes

Several archaeological studies have focused their attention on the affects of post-depositional processes on artifact assemblage condition and distribution. These have primarily been concerned with the affects of trampling, soil substrate, and plowing activities on artifact damage (e.g., Flenniken and Haggerty 1979; Gifford-Gonzalez et al. 1985; Mallouf 1981; McBrearty et al. 1998; Nielsen 1991; Pryor 1988; Roper 1976).

The most recent experimental work on the affects of trampling and soil substrate on artifact condition has been conducted by McBrearty et al. 1998. Their experiments involved foot trampling chert and obsidian debitage on sand and loam substrates with high and low artifact densities. They found that more chert flakes exhibited damage on loam (90 percent) than on a sandy substrate (25 percent). This is due to the fact that artifacts tend to be pushed down into the sand, whereas a loam is more compact and resistant, therefore placing greater stress on the artifacts. Overall, there was more edge damage present on flakes in loam vs. sandy soils (30 percent vs. 10 percent), and more broken flakes (17 percent vs. 5 percent). In addition, there are differences in edge damage (83 percent vs. 90 percent) and breakage rates (14 percent vs. 17 percent) for low vs. high artifact density scatters due to

artifacts impacting against each other. In summary, soil substrate and artifact density appear to have a greater affect on artifact damage than material type differences (e.g., obsidian vs. chert). The clayey soils in the southwest corner of San Pedro Park and the high density of artifacts recovered from test units 1 and 2 indicate that both of these factors could have played an important role in artifact damage due to mechanical activities.

Mallouf's (1981) study of plow damage to a prehistoric cache of 173 lithic artifacts is also informative about the effects of mechanical disturbance. He found that 91 percent (n=157) of the artifacts exhibited evidence of damage due to the plowing activities. Most of this consisted of simple nicks (41 percent), with some breakage (25 percent), "retouch" (18 percent), and other damage (16 percent). Malouff suggests that the most important factors affecting artifact damage are: proximity to surface (i.e., 5–17 cm), the large size of the specimens (ca. 7 cm long), soil substrate, and type of plowing. He notes that the clayey soil probably played the greatest role in artifact damage. That is "the hard resistant clayey soils resulted in tremendous stresses being exerted on the specimens before the clay matrix broke under the force of the plow" (Mallouf 1981:55). This corroborates the previous view of McBrearty et al. (1998).

Intrasite Breakage Patterns

Table 18 presents information on test unit by flake condition. Approximately 80–90 percent of the flakes are broken within all the units; however, there is a significant difference in whole vs. flake fragments represented (chi-sq=19.0, df=4, p=<0.01), with relatively more whole flakes in TU 1 and broken flakes in TU 5. An evaluation of old vs. fresh breaks by test unit also reveals some significant differences (Table 19; chi-sq=13.3, df=4, p=<0.01). In this case, it is TU 1 which contains relatively more fresh breaks and TU 2 more old breaks; however, the percentage of fresh breaks varies from 4.6–12.2 percent, with TU 5 exhibiting the highest percentage. Nonetheless, the contingency table cell for TU 5 fresh breaks contains an adjusted residual of 1.7 which is slightly below a significant value of 1.96. This is probably due to the small sample size for the cell (n=16). Lastly, a comparison of

presence/absence of damage by test unit also indicates some significant differences (Table 20; chi-sq=33.0, df=1, p=<0.01). 5–16 percent of the flakes in these units exhibit damage, with TU 1 containing relatively fewer damaged flakes, and TUs 3 and 5 more damaged flakes. All together, it appears that artifacts in TU 5 exhibit the greatest amount of damage from post-occupational activities.

Table 18. TU by Flake Condition

Top value in cell represents artifact count, and bottom value represents adjusted residuals. Significant (p<0.05) positive values are shown in bold.

TU	Flake Condition	
	Whole	Fragment
1	140 3.9	513 -3.9
2	79 -1.3	434 1.3
3	20 -1.3	130 1.3
4	3 -1.1	28 1.1
5	13 -2.7	131 2.7

chi-square=19.0, df=4, p=<0.01

Table 19. TU by Breakage

Top value in cell represents artifact count, and bottom value represents adjusted residuals. Significant (p<0.05) positive values are shown in bold.

TU	Breakage	
	Old	Fresh
1	460 -2.1	53 2.1
2	414 3.5	20 -3.5
3	118 -0.4	12 0.4
4	26 0.2	2 -0.2
5	115 -1.7	16 1.7

chi-square=13.3, df=4, p=<0.01

Table 20. TU by Damage

Top value in cell represents artifact count, and bottom value represents adjusted residuals. Significant ($p < 0.05$) positive values are shown in bold.

TU	Damage	
	Absent	Present
1	623 4.9	30 -4.9
2	464 -0.9	49 0.9
3	127 -3.1	23 3.1
4	27 -0.9	4 0.9
5	121 -3.3	23 3.3

chi-square=33.0, df=1, $p < 0.01$

Table 22. TU 2 and 5 by Breakage

Top value in cell represents artifact count, and bottom value represents adjusted residuals. Significant ($p < 0.05$) positive values are shown in bold.

TU	Breakage	
	Old	Fresh
2	414 3.1	20 -3.1
5	115 -3.1	16 3.1

chi-square=9.7, df=1, $p < 0.01$

Table 23. TU 2 and 5 by Damage

Top value in cell represents artifact count, and bottom value represents adjusted residuals. Significant ($p < 0.05$) positive values are shown in bold.

TU	Damage	
	Absent	Present
2	464 2.2	49 -2.2
5	121 -2.2	23 2.2

chi-square=4.7, df=1, $p = 0.02$

A closer comparison of TU 2 vs. TU 5 also underscores the increased impact to the TU 5 assemblage. Tables 21 to 23 are contingency tables of artifact condition, breakage, and damage by TUs 2 and 5. Although there is no significant difference in artifact condition, TU 5 does contain significantly more fresh breaks and damaged flakes than TU 2. Indeed, the analysis of the contingency table of flake breakage patterns was rejected by only a slight margin, with a p value of 0.051. Otherwise, TU 5 would have also contained significantly more flake fragments.

Besides the variation in disturbance across the site, comparisons can also be made concerning the depth of these impacts. Table 24 presents the information on 10 cm excavation level by flake condition. These levels contain from 77-86 percent flake fragments, but there is no significant difference in flake condition between the five levels (chi-sq=7.8, df=1, $p = 0.09$).

Table 21. TU 2 and 5 by Flake Condition

Top value in cell represents artifact count, and bottom value represents adjusted residuals.

TU	Flake Condition	
	Whole	Fragment
2	79 1.9	434 -1.9
5	13 -1.9	131 1.9

chi-square=3.7, df=1, $p = 0.05$

Table 24. Excavation Level by Flake Condition

Top value in cell represents artifact count, and bottom value represents adjusted residuals. Significant ($p < 0.05$) positive values are shown in bold.

Level	Flake Condition	
	Whole	Fragment
1	25 -1.2	154 1.2
2	99 -0.7	505 0.7
3	46 -0.9	252 0.9
4	66 2.6	229 -2.6
5	19 0.3	84 -0.3

chi-square=7.8, df=1, $p = 0.09$

Summary

In contrast, Table 25 indicates that there are fewer fresh breaks by increasing depth, with Level 1 containing the most (13.6 percent) and Level 5 the least (3.6 percent). A chi-square analysis of the contingency table does indicate a significant difference in old vs. fresh breaks by level (chi-sq=11.5, df=1, p=0.02), with relatively more fresh breaks in Level 1. Artifact damage does not appear to have the same simple vertical distribution as represented by fresh breaks. The percentage of damaged flakes varies from 4.1–13.5 percent. Although there is a significant difference in the distribution of damage by level (Table 26; ch-sq=18.0, df=1, p=<0.01), there are relatively more damaged flakes in Level 3 and fewer in Level 4.

The lithic assemblage from the southwest corner of San Pedro Park contains evidence of both core reduction and biface production activities. Diagnostic projectiles indicate that the site may contain both Late Archaic and Late Prehistoric occupations. The majority of the flakes on the site are broken. There are, however, several factors that can condition the breakage patterns of lithic artifacts. Analyses of the site's lithic assemblage indicates that flake breakage is in part due to biface production, the burning of artifacts, the presence of clayey soils and disturbance. It appears that TU 5 exhibits the greatest degree of post-depositional impact due to the presence of significantly more fresh breaks and surface/edge damage.

Table 25. Excavation Level by Breakage

Top value in cell represents artifact count, and bottom value represents adjusted residuals. Significant (p<0.05) positive values are shown in bold.

Level	Breakage	
	Old	Fresh
1	133 -2.5	21 2.5
2	465 0.5	40 -0.5
3	226 -1.2	26 1.2
4	216 1.7	13 -1.7
5	81 1.7	3 -1.7

chi-square=11.5, df=1, p=0.02

Table 26. Excavation Level by Damage

Top value in cell represents artifact count, and bottom value represents adjusted residuals. Significant (p<0.05) positive values are shown in bold.

Level	Damage	
	Absent	Present
1	165 0.4	14 -0.4
2	552 0	52 0
3	257 -3.6	41 3.6
4	283 3.1	12 -3.1
5	95 0.3	8 -0.3

chi-square=18.0, df=1, p=<0.01

“Leon Plain,” and found in many late-Prehistoric sites in the area (Hester 1995), or examples of the continuation of this ceramic tradition into Colonial times, often called Goliad ware (Fox et al. 1976:67). Unfortunately, no one has yet found a way to differentiate between the late-Prehistoric and Colonial versions of this ceramic (A. A. Fox, personal communication 1998), and they are usually considered one or the other depending on whether or not they have been found in association with Colonial-period artifacts. In San Pedro Park, both prehistoric and historic artifacts have been found in conjunction with these ceramics, making it impossible to gauge just how old they are.

Lead-glazed wares arrived in San Antonio beginning in the Colonial period. Although their popularity was greatest in the eighteenth and early nineteenth centuries, they are still occasionally sold in the area today (Dial 1992:34).

Three lead-glazed sherds were recovered, one from Level 5 of ST 18, and one from Level 1 of TU 5, and the other from Level 2 of TU 5. All three have thick

bodies, and are of a dark glaze type that is probably Colonial (Dial 1992:32-33; Hard et al. 1995:47).

There is a total of 15 refined earthenwares sherds in this collection, 11 of which are undecorated whiteware fragments. One hand-painted rimsherd (Figure 41a) and a sponge-decorated sherd (Figure 41b) are probably from the early to mid-nineteenth century (Hard et al. 1995:47).

Two small sherds of porcelain were recovered, one is a fragment of the bottom of a small cup or bowl.

Glass

As was the case during the 1996 project (Chapter 3), fragments of bottle and jar glass are the most common historic artifacts recovered. Two sherds were a clear lavender color. This color is the result of chemical changes in clear glass containing manganese, as a result of exposure to sunlight. Although the method of making clear glass by adding manganese was known for centuries, it did not become a common practice

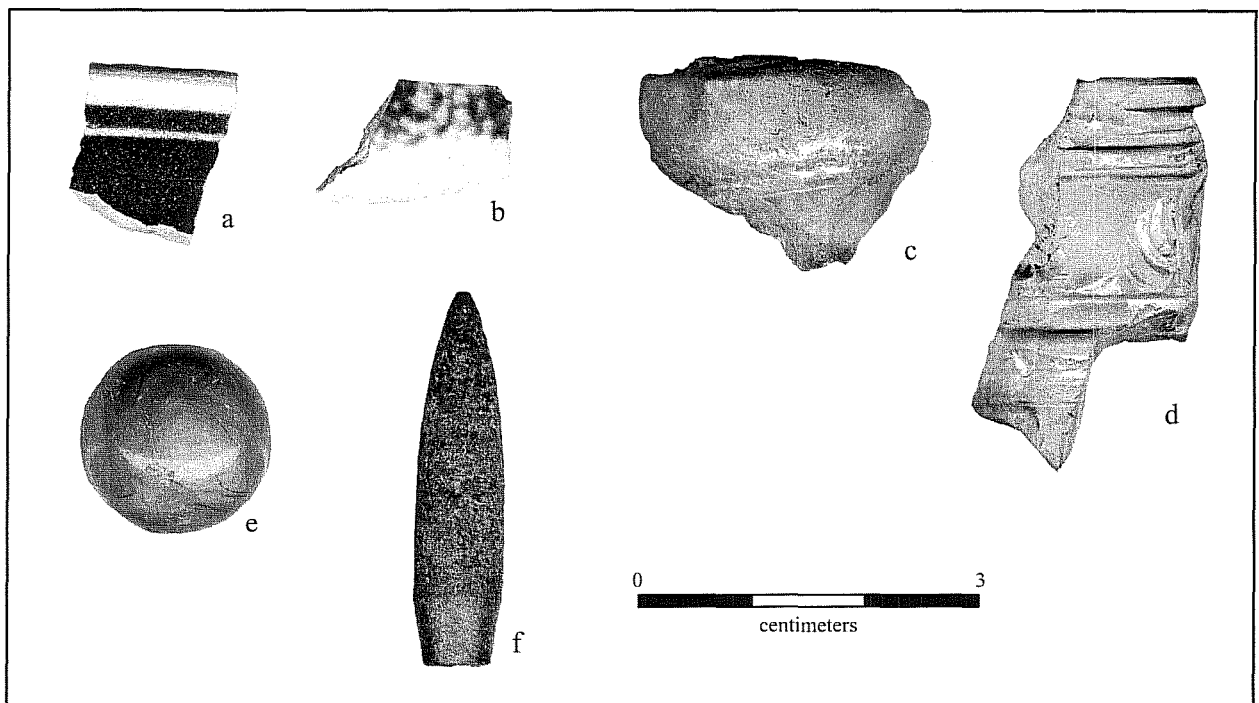


Figure 41. *Selected Historic Artifacts.* a) Handpainted whiteware rimsherd; b) Spongeware sherd; c) Hand-applied bottle lip fragment; d) Machine-made bottle lip fragment; e) Stone marble; and f) an 8 mm Mauser rifle bullet.

until the 1880s (Munsey 1970:55). This practice ended around 1915, because most available manganese was an export of Germany, and other techniques were used to achieve clear glass from that time on. This suggests that the two sherds of clear lavender glass are from the period between about 1880 and 1915.

Only two bottle rims were collected. One (Figure 41c) is a fragment of a hand-applied lip, from TU 3, Level 1. Based on the size of the fragment it is not possible to determine if this bottle was molded or free-blown. The second rim (Figure 41d) was made in a bottle-making machine. The Owens machine was patented in 1903 and soon took over the bottle making industry (Munsey 1970:33). Therefore, this fragment dates to sometime in the twentieth century.

Two bottle fragments had lettering embossed on them. One read "FORBI". The other read "Forbid". Both are probably fragments of the phrase "Federal Law Forbids Resale or Reuse of This Bottle," which was often embossed on liquor bottles after the end of Prohibition in 1933 until 1964 (Munsey 1970:126).

Other Household Items

One utensil handle was recovered. This was a plain spoon or fork handle made of iron. In addition, a bottle opener, of the type that has a can-punch on one end, was recovered.

Toys

One fragment of porcelain appears to be part of the face of a doll. Although porcelain was used to make dolls for wealthy children throughout the nineteenth century, the Industrial Revolution had made them available to middle-class children by about 1860 (Meissner 1997:59). Such dolls were made of plastic after World War II (Meissner 1997:94).

A marble made of stone, commonly called an "agate" or "aggie" in the nineteenth century, was recovered from Test Unit 1, Level 1 (Figure 41e). This marble was probably made in Germany between 1869 and 1915 (Randall 1971). The swirls of color made these marbles popular, but this one is not well-made and may be of a less-expensive variety.

Arms

A total of three items were from the Arms category. One lead bullet, from TU 2, Level 2 is probably made for the commercial model of the German Mauser Rifle (Figure 41f). It is 8 mm in diameter, and has no steel jacket, both characteristics of rounds intended for the hunting rifle made by the Mauser Company after 1905 (Logan 1959:119-120).

A .177-caliber pellet for an air rifle was recovered from TU 4, Level 4. In the same unit/level a buckshot pellet .7 mm in diameter was also found.

Construction

Items from this category were not recovered in any great quantity. As mentioned in Chapter 3, this is not surprising, since very little construction has taken place within the park, and apparently none has occurred in the southwest corner. Construction items are listed in Table 27. The cut nails are probably from the nineteenth century, but all other construction materials appear to be twentieth century in nature.

Miscellaneous

Miscellaneous items include unidentifiable metal scrap and plastic fragments, and such things as bits of aluminum foil. These items are listed in Table 27.

Analysis of Vertebrate Faunal Remains

Barbara A. Meissner

The bone recovered during the course of this project was sparse, which remains consistent with the results of the shovel testing conducted by Meissner (see Chapter 3). The total amount of bone recovered was 832, which weighed 660.43 g. The bone was in a highly fragmented condition, averaging less than a gram each.

Methods

Bones were bagged with other artifacts by unit and level in the field. In the laboratory all bone was washed, dried, and then bagged by unit and level. The bone

was identified to the most specific possible taxon using the comparative collection at CAR, as well as several standard reference texts (Balkwill and Cumbaa 1992; Boessneck 1970, Gilbert 1990; Hildebrand 1955, Hillson 1986; Olsen 1960, 1964, 1968; Schmid 1972). Identifications were conservative, i.e., bone which appeared to be cow-sized was not identified as *Bos taurus* unless it could be differentiated from *Bison* and *Equus* species. An exception to this was bone which exhibited saw-marks, i.e., sawed bone of very large mammal size was assumed to be *Bos taurus*. The reason for this is that bison are known to have been absent from the area after about 1830 (Weniger 1997:23), and it was following this period that Anglo-American butchering practices (specifically sawing of bone) were likely common. Although the presence of sawed horse bone is not inconceivable, it is considered unlikely.

Table 28. Identified Vertebrate Taxa from 1998 Project

Taxon	Common name	Count	Weight
Mammalia	Mammals		
Artiodactyl	Deer, sheep, or goat	13	30.13
<i>Bos taurus</i>	Cattle	8	62.75
Bovinae	Cattle or bison	13	57.00
<i>Canis</i> sp.	Dog, coyote, or wolf	1	0.71
<i>Didelphis virginiana</i>	Opossum	1	0.71
<i>Equus</i> cf. <i>caballos</i>	Horse	1	10.43
<i>Odocoileus virginianus</i>	Whitetail deer	10	32.98
Rodentia	Rodents	1	0.05
Suidae	Pig or javelina (collared peccary)	1	0.06
	Very large mammal (cow/bison/horse size)	21	113.24
	Large mammal (deer/sheep/goat size)	13	28.13
	Small mammal (raccoon/rabbit size)	3	0.31
	Very small mammal (rat/mouse size)	1	0.3
	Mammal-size indeterminate	732	319.16
	Total Mammals	819	655.96
Aves	Birds		
	Large bird	3	1.16
	Medium bird	1	0.10
	Total Birds	4	1.26
Reptilia	Reptiles		
<i>Crotalus atrox</i>	West. Diamondback Rattlesnake	1	0.09
Colubridae	Non-poisonous snakes	2	0.30
Testudines	Turtles	5	2.35
	Total Reptiles	8	2.74
Osteichthyes	Boney Fishes		
	Unidentified fish	1	0.47
	Overall Total	832	660.43

All bone was weighed. Evidence of exposure to heat was noted on all bone. Element, portion of element, side, and evidence of immaturity was noted when possible. The degree of weathering, degree of chemical pitting, and whether or not bones had been gnawed was also noted whenever possible. Presence or absence of fresh breaks was recorded for all bone. A complete provenienced list of all data recovered from the bone is in Appendix E. A list of taxa identified is listed in Table 28, with counts and weights. When bone could be identified only to class (e.g., mammal, bird, etc.) an estimate of the size of the animal was made whenever possible.

Analysis

The specimens identified to at least the order taxonomic level were only 51 (6.1 percent of the total). This sample is too small, and from (at least potentially) too long a time-period to make an estimation of relative abundance of any significance. Whitetail deer was the most abundant species, but this is largely because the metatarsal of the whitetail is distinctive, making identification possible even on very small fragments. Note that only a single bone each was recovered from the four species identified in this collection.

Evidence of exposure to heat can indicate whether bone has been burned as a disposal method, since routine cooking and accidental burning of bone will normally only smoke-stain or char bone. In order to calcine bone, it must be exposed to intense heat for long periods, circumstances unlikely to occur unless bone is being deliberately burned (Lyman 1994:385). In this collection, 20.1 percent (n=167) showed evidence of some heat alteration. Of these, 19.8 percent (33/167) were calcined or partially calcined, indicating the likelihood that at least some of the bone in this collection is the result of trash burning.

Evidence of gnawing by animals was very rare in this collection. Only three bones of the examined collection showed evidence of tooth marks, of which two had marks that could not be identified. One bone, a sawed long bone, probably from a cow, showed evidence of extensive gnawing by rodents.

Most of this bone does not appear to have been exposed to long periods of atmospheric weathering, however, only 22.7 percent (n=189) of the bone was large enough to observe weathering damage. Of these, 68.8 percent (n=130) showed no evidence of weathering damage. Of the remainder (n=56), all but 3 showed only the early stages of weathering, i.e., fine longitudinal cracking and roughing of the surface texture.

Although this collection is too fragmented to allow a useful examination of butchering practices, evidence of butchering and other tool marks were identified. Table 28 lists the type of mark and the number of bones on which the mark was observed.

Table 29. Butcher Marks Observed

Butcher Mark Type	Count
Thin cut mark. Thin superficial cut, most likely from knife.	2
Thick cut mark. Thicker superficial, from heavy knife or small hatchet.	1
Chop mark. Heavy deep cut which may or may not have completely severed bone.	2
Hand saw cut.	11
Machine saw cut.	2
Saw cut--indeterminate. Bone is saw cut, but method used cannot be determined	1
Impact scar.	0
Total	19

In order to estimate the amount of damage to the faunal remains in the project area by the construction-related disturbance, all of the bone from the 1998 project was examined for recent breakage. Recent breaks could be identified by a difference in color on the broken surface of the bone, the rough texture of the break, and a break at a 90° angle with the outer cortical surface (Johnson 1985:176). Fresh breaks do occur as part of the normal damage to artifacts during excavation. This is especially true when shovels are used, when the ground is very wet, or when the bone is in compacted clay matrix. How much of the bone breakage observed in this collection was caused by normal excavation damage cannot not be directly determined. However, in general, bone excavated in a similar manner, and in similar conditions, should have roughly the same percentage of fresh breakage.

Table 30 shows the number of bone, the number exhibiting recent breaks, and the percentage of bone showing recent breaks for all STs and TUs. The small number of bone recovered in the shovel tests makes it difficult to assess the importance of fresh breakage as a source of bone fragmentation.

Table 30. Count and Percentage of Bone Exhibiting Fresh Breaks

Unit	Total Bone	Recent Breaks	% w/ Recent Breaks
ST 6	6	4	66.7%
ST 7	12	6	50.0%
ST 15	10	7	70.0%
ST 32	3	2	66.7%
ST 33	24	5	20.8%
ST 34	23	11	47.8%
ST 35	3	2	66.7%
ST 36	4	2	50.0%
ST 37	11	5	45.5%
ST 38	2	0	0.0%
ST 39	3	2	66.7%
ST 40	20	2	10.0%
TU 1	309	111	35.9%
TU 2	226	43	19.0%
TU 3	130	40	30.8%
TU 4	3	0	0.0%
TU 5	43	32	74.4%
Total	832	274	32.9%

The test units had much higher bone counts. If the construction-related damage to the southwest corner of the park affected the faunal remains, we should expect to see a great deal more bone with fresh breaks in the test units in the more disturbed areas, that is TUs 3-5. Table 31 shows the number of bones with fresh and old breaks Test Unit excavations. The adjusted residuals show that TU1 and TU5 have significantly higher frequencies of bone with fresh breaks, while TU2 had a significant number of bones with old breaks. TU4 only had three bones so the pattern in this unit is not reliable. TU3 had no significant variation in the number of fresh and old breaks. The bone breakage evidence shows that there has been more recent disturbance in TU1 and TU 5, especially in the latter.

Table 31. Number of Bones with Fresh and Old

Unit		Breakage		Total
		Fresh	Old Only	
TU1	Count	111	198	309
	Adjusted residual	201	-2.1	
TU2	Count	43	183	226
	Adjusted residual	-5	5	
TU3	Count	40	90	130
	Adjusted residual	-0.03	0.03	
TU4	Count	0	3	3
	Adjusted residual	-1.2	1.2	
TU5	Count	32	11	43
	Adjusted residual	6.2	-6.2	
Total Count		226	485	711

Nature of Impacts to Cultural Deposits in Project Area

Previous Impacts

Meissner's shovel tests in 1996 indicated that some previous impacts had occurred in the area. In particular, her shovel tests 31, 36 and 38 had evidence of previous construction activities. (see Table 2). These impacts were probably of limited extent. An examination of Figure 27 indicates that Meissner's shovel test 31 is less than 10 m from Test Units 1 and 2. These two test units showed no evidence of disturbance before that caused by Ramex, Incorporated. On the other hand, Test Unit 4 shows evidence of previous disturbance in the form of components of an underground sprinkler system (see Figure 33), while Meissner's BHT C, located just about 5 m east of this test unit, showed no evidence of disturbance below the top 3 cm (see Table 5).

Recent Impacts

This project investigated three types of impact:

- a) Compaction of the existing matrix;
- b) Dumping of foreign fill on the project area; and
- c) Removal of the natural matrix.

The severity of each impact type and its affect on the cultural deposits at the site are evaluated below.

Although no formal compaction studies were conducted by CAR, it is evident from the manual excavation of the shovel tests and test units in the southwest corner that the natural clay loam has been artificially compacted to various degrees. In some areas of the site, the soil now fractures conchoidally. The only area free of compaction within the 1998 CAR shovel test grid was the approximately 200 m² area surrounding a large pecan tree in the north end of the grid and the ca. 75 m² area around the small oak trees at the southwest corner of the grid. This accounts for approximately 13 percent of the grid area. In other words, of the sampled 2,100 m², approximately 1825 m² have been compacted. Furthermore, the degree of

compaction is less intensive at the north end of the shovel test grid (north of the pecan tree). The source of compaction probably is three-fold. First, gravel, sand, and other materials were stockpiled in the area. Second, heavy machinery was parked in the area and used to move the stockpiled materials. Finally, the area was graded after the stockpiles were removed.

Studies have demonstrated that artifacts in a loam matrix are much more likely to be impacted by trampling-type impacts than artifacts in a sandy matrix (McBrearty et al. 1998). Clay soils also put a tremendous amount of stress on artifacts when subjected to similar types of impacts (Mallouf 1981). The analysis of artifacts from the test units indicates that there are more fresh breaks on flakes in TUs 3 and 5 when compared to TU 1. Furthermore, artifacts from TU 5 appear to exhibit the greatest relative frequency of fresh breaks. Bone from TU 5 also shows the highest frequency of fresh breaks. This supports the soil and sediment texture observed during the excavations of the shovel tests and test units, indicating that the greatest amount of compaction is in the area south of the large pecan tree.

The dumping and stockpiling of gravel and sand in the project area not only contributed to the compaction of the natural surface, but the graded remnants of those materials obscure the surface of the underlying clay loam. This made it impossible to compare the original ground surface elevations to the current elevations of the underlying clay loam without excavation. Additionally, it is possible that cultural material included in the foreign fill is now mixed with upper level artifacts originally deposited at the park. Therefore, artifacts from the contact zone between the fill and the underlying clay loam are in poor archaeological context.

The final impact, the possible removal or redistribution of clay loam from the original surface, is the most difficult to assess. Because the original contour map of the park was created using very few elevational points in the southwest corner, it is difficult to determine precisely the difference between the original ground surface and the top of the clay loam as documented by this project. The overlying fill in the majority of the tested area is variable in thickness, and

the exact topography of the buried clay loam is obscured. One line of evidence indicates that no material was removed prior to the introduction of the gravel fill. This is based on the top of the sprinkler assembly in TU 4 coinciding with the top of the clay loam. Unfortunately, because any other sprinklers are now also buried by the construction fill, it is impossible to know if they also coincide with the original ground surface elevation or if they were buried under later sediment accumulations.

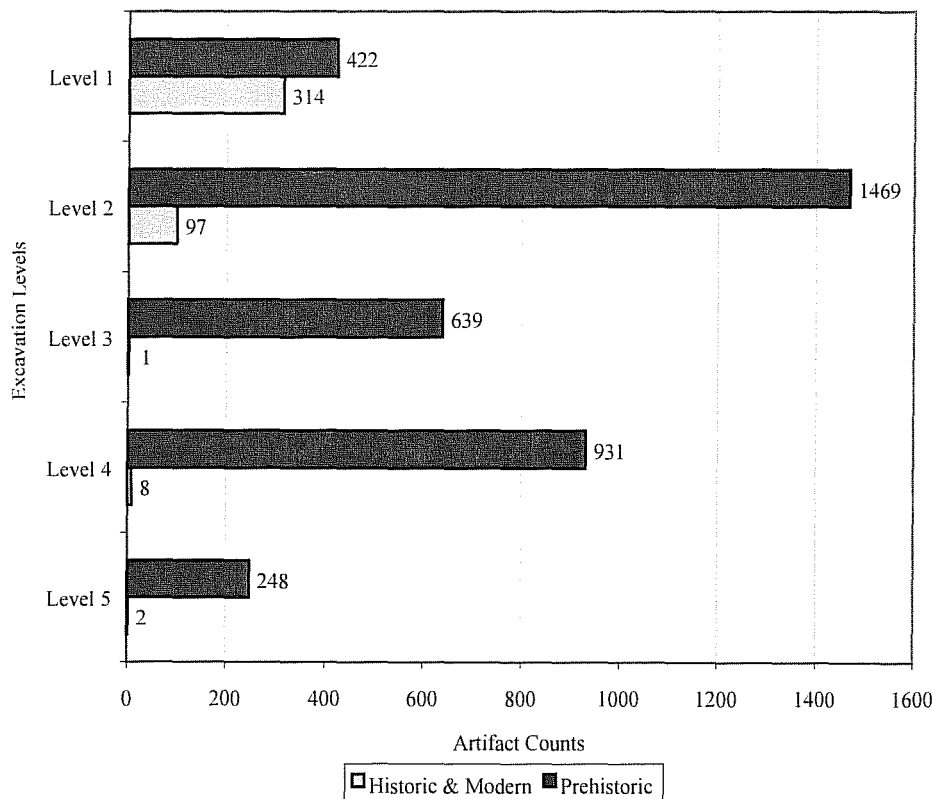
The limited shovel test data, however, suggest that soil was removed from sections of the project area (see Figures 36 and 37). Figure 37 suggests that at least 30 cm of original clay loam was removed in some areas. If this is the case, it is likely that important archaeological deposits were destroyed. The artifact counts in Meissner's STs 29, 30, 32, and 33, and Houk's Test Units 1-3 indicate that the cultural deposits in that area were very dense. In TUs 1-3 artifact counts were especially high at depths of 10 to 20 cm and at 30 to 40 cm (see Figure 42). Assuming that these deposits were spread over a large area, the removal of the upper 20 cm of material would completely destroy the uppermost prehistoric component.

Summary of the 1998 Investigations

The testing project documented intact archaeological deposits in the investigated area. Data from TU 1 indicates that there are prehistoric cultural deposits throughout the upper 50 cm in the north end of the project area. These deposits contain Late Prehistoric and Transitional Archaic diagnostic artifacts. Additionally, they contain significant quantities of lithic debris, burned rock, and faunal remains. The data recovered from TUs 1 and 2 suggest that there are multiple, stratified prehistoric components. Figure 42 illustrates the peaks in artifact quantities in Levels 2 and 4. There is clearly some degree of mixing of components in Levels 1 and 2 of all five units, but the majority of the historic and modern materials were encountered in the upper 10–15 cm of each unit.

The testing project documented significant, stratified prehistoric cultural deposits in the southwest corner of San Pedro Park. These deposits have been impacted by construction-related activities. The primary impact is machine compaction of the upper 20–30 cm of clay loam across most of the tested area. The compaction has damaged the artifacts in these levels. The stockpiling of gravel and sand across the project area probably contributed to the compaction. The grading of this material has obscured the original ground surface and made it difficult to determine the impact to the underlying clay loam. The testing data suggest, however, that one of the impacts to the site was the removal of clay loam from certain areas (see Figures 36 and 37). Therefore, we conclude that the actions of Ramex, Incorporated have impacted significant archaeological deposits.

Figure 42. Graph showing Historic and Prehistoric artifact counts by level in Test Units.



Chapter 5: Recommendations for Management of Cultural Resources at San Pedro Park

Barbara A. Meissner

Introduction

In general, it is best to avoid any disturbance of the ground in the park, because there is a potential for sub-surface cultural deposits over the entire park, except those areas where the sediments have previously been removed down to bedrock. *Therefore, except in those areas, before beginning any activities that will disturb the ground inside the park, park managers should consult with the Texas Historical Commission (THC), and an archaeologist in order to plan and carry out any needed preliminary cultural resource investigations.* The purpose of this chapter is to provide a set of recommendations for the management of the cultural resources of San Pedro Park. These recommendations should be used only as guidelines, as specific procedures must be planned in coordination with THC and an archaeologist. Specific management strategies cannot be made or carried out until the exact nature of the potential impact to cultural resources is known, including the area to be impacted,

the nature of the known cultural deposits in the area, and the degree of damage to cultural resources already documented in the area.

In order to explain the reasons for the recommendations outlined below, it will first be necessary to summarize the nature of potential cultural resources within the park, and the nature of damage to these resources that has already been documented, including a brief summary of the results of the testing projects in the park in 1996 and 1998 described in this volume. This chapter will then define a list of cultural resource management procedures, and an accompanying table further defines which of these procedures is recommended for each area of the park, for each of the several types of impact. Maps of the park are included, indicating where these procedures should be implemented. Finally, we will recommend a program to expand public education by explaining the importance and history of the park, and the role it continues to play in the cultural fabric of San Antonio.

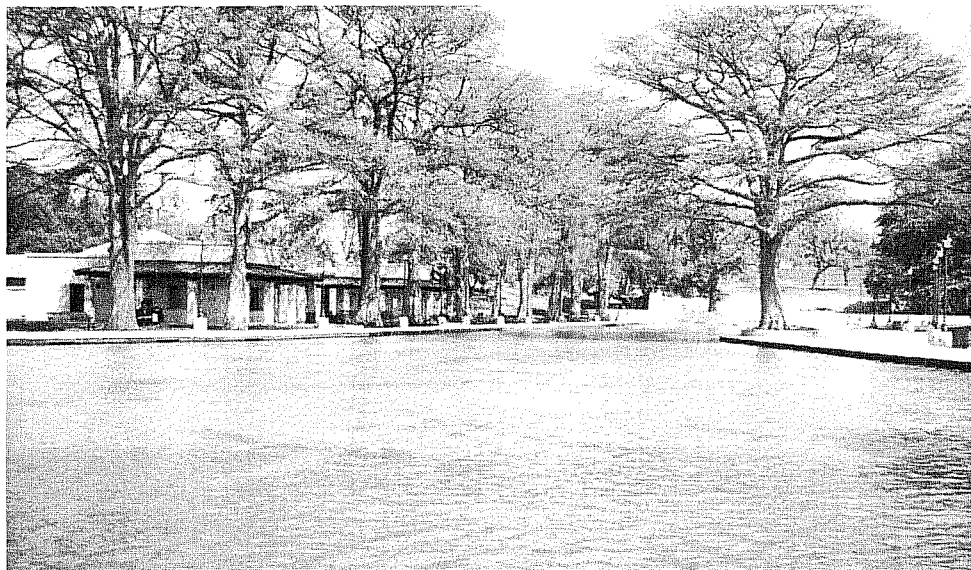


Figure 43. *Photograph of the new pond in San Pedro Park.* Looking northwest. This pond covers roughly the same area as the original natural pool (see Figure 9).

Figure 44. *The southwest corner of the park today.* Looking southwest. Note that the drainage ditches have been filled, and park roads and parking lots removed.



In the past two years the planned renovations of the park, including the building of a pond that more closely resembles the original natural pond (Figure 43), the filling of drainage ditches along the western side of the park, and the removal of a number of parking lots and roadways within the southwestern quadrant of the park (Figure 44) have resulted in a somewhat different park than that shown in the maps in the previous chapters of this volume. The maps in this chapter show the park as it is today.

Summary of Potential Cultural Resources

Although there had been only a single professional excavation in San Pedro Park before 1996 (Fox 1975), there is considerable evidence that the area had been used by Native American groups for many thousands of years. Bexar County, in general, has a number of Paleoindian sites, indicating that the area had been exploited for at least 11,000 years (Black 1989; Collins 1995; Orchard and Campbell 1954). Amateur archaeologist, C. D. Orchard described a site eroding out in the northeastern portion of the park in the early 1930s, which he described as “an oval midden area having a maximum length of about 400 feet”, from which he collected Native American pottery sherds (Orchard and

Campbell 1960:7). The projectile points known to have been found in the park indicate that it was in use for at least 7,000 years (Chapter 3; see also Orchard and Campbell 1960:7; Woolford 1935).

Most of the oldest cultural deposits may be deeply buried in alluvial and colluvial sediments deposited during thousands of years. The test borings described in Figure 7 show that there is more than 9 meters (30 feet) of sediments in the southern two-thirds of the park (see also Figure 6). It is well known that important Early Archaic and Paleoindian (11,000–6,000 year-old) deposits are often found deeply buried in such settings. Any project that will disturb deep sediments within the grounds, especially in the southern portion of the park, must take the possibility of encountering deeply buried cultural deposits into consideration.

In addition to the occupation by Native Americans for possibly as much as 11,000 years, we know that the first permanent Spanish occupation of San Antonio was located within a very short distance of the springs, and the first of San Antonio’s many acequias began within the park (see Chapter 2). Other important historic events include the location of “Camp Crockett” within the park during the war with Mexico in the late 1840s. Nineteenth century park concessions,

including beer gardens, candy stores, and the zoo, are also of interest to the history of the community. Remains of any or all of these occupations may still be present in the park today, however, due to the lack of archaeological investigations very little information about what cultural resources may remain in San Pedro Park was available until the testing described in this volume and in Houk (1999).

Summary of Known Impacts on Cultural Resources

Project Summaries

The 1977 Project (Fox 1978)

In 1977, a small portion of the Alazán acequia running above the main spring was uncovered and reconstructed. The excavation was limited to the small section of the acequia. The acequia was found intact, showing at least two building episodes and a filling episode. No other deposits were uncovered.

The 1996 Project

The purpose of this testing project was to determine the exact location where the remains of the Alazán acequia would be impacted by a planned drainage improvement project under North Flores Street, and to then assess the likelihood that the project would significantly impact buried cultural material (see Chapter 3 of this volume).

The results of the shovel testing in the park indicated that there were previously undisturbed areas along the western edge of the park that were likely to contain intact buried cultural deposits. A thin scatter of historic artifacts was present along the entire western edge of the park, confined for the most part to the upper 20 cm. Analysis of prehistoric artifacts from the shovel tests revealed that a site is present along the entire western edge of the park. The greatest density of prehistoric artifacts occurred from 20 to 40 cm below the surface in that area.

The First 1998 Project

The data from 40 shovel tests and five 1-x-2 m test units excavated in the first project in 1998 (see Chapter 4 of this volume), further documented significant, stratified prehistoric cultural deposits in the southwest corner of San Pedro Park, although these deposits have been impacted by construction-related activities. The primary impact is machine compaction of the upper 20 to 30 cm of clay loam across most of the tested area. The deposits below this level are intact.

The Second 1998 Project (Houk 1999)

CAR personnel conducted an archaeological survey and limited testing of portions of the park for the City of San Antonio, Department of Parks and Recreation in preparation for planned infrastructure repair and improvements. A series of 44 shovel tests in 11 transects were dug, mostly around the pool and bathhouse area and to the south of that area all the way to Myrtle Street (see Houk 1999:12). In addition, 2 backhoe trenches were dug. The testing results showed that although a large part of the project area had been disturbed to at least 50 cm below the modern surface, there were areas where intact deposits of prehistoric and historic cultural materials remained.

Other Known Impacts in the Park

Examination of various historic accounts, as well as maps, indicates areas where major construction episodes have disturbed the park. The northeastern section of the park is known to have been the site of a limestone quarry. This quarrying may have begun as early as the Colonial period (see Chapter 2). After the Civil War, a series of small ponds were constructed west of the natural pond (see Figure 9). These would have impacted previous cultural deposits. During this period there were a number of buildings and garden constructions done in the east-central part of the park, and somewhat later a zoo was located on the west side of the park. The majority of the park, however, has not been tested, and the nature of the impact of various construction episodes is unknown. To a large extent, therefore, we do not know what cultural resources remain in the park, making protection of these resources problematic.

Cultural Resource Management Procedures

Cultural resource management (CRM) procedures recommended in this chapter will depend on the three-dimensional extent of the expected impact, the nature of known deposits in the project area, and the degree of damage known to have already occurred in the area. Commonly-used CRM procedures follow.

Monitoring

An archaeologist closely observes construction activities, recording any encountered features and/or artifacts. This is done so that if significant cultural deposits or features are located during construction, the process of evaluation can begin immediately. The archaeologists will recommend temporarily stopping construction only if necessary in order to properly record an important feature or to make plans to limit damage to important cultural deposits. Monitoring alone should be done only when the likelihood of encountering significant, intact cultural resources is low.

Testing

Testing is utilized to locate cultural resources, as well as to evaluate the significance of such resources and the degree to which they are intact. There are three types of testing normally used:

Shovel Testing

Holes about 30 cm (12") in diameter are dug by shovel to a depth of at least 50 cm (20"). This is a standard testing procedure in areas where cultural resources are unknown. In some cases deeper shovel tests can be useful, however the practical limit on shovel tests is about 70-80 cm (2.3'-2.9'). Deeper testing must be done in 1x1 m units (see below). The number of tests and the distance between them will be decided based on the extent of expected impact, and likelihood that intact cultural deposits may be found. If possibly intact cultural deposits are encountered, "test units" may be necessary in order to determine the significance of these deposits.

Test Units

1x1 meter units are excavated to a depth of at least the impact zone. The number and placement of such units will be decided based on information from shovel tests, backhoe trenches, or other sources of information about cultural deposits. Test units are used to estimate the importance of cultural deposits. Test units are generally excavated when cultural deposits are known to be present, are strongly suspected to be present, or when testing below a depth of 70-80 cm (2.3'-2.9') is needed (see Shovel Tests). If the test units find the cultural deposits to be significant, plans may be changed to avoid further impact to these deposits, or, if this is not possible, the damage to these deposits may be mitigated by further archaeological work.

Backhoe Trenching

Backhoe trenching is necessary whenever a planned impact will be deeper than about 2 meters (6.6'), except in the areas where deposits are known to have been destroyed to bedrock. Backhoe trenches allow detailed study of the geomorphology of the area and can be used to look for the deeply buried cultural deposits that may be present, especially in the southern 2/3 of the park. If such deposits are found in backhoe trenches, test units should be placed to further examine these deposits. If the test units find the cultural deposits to be significant, plans may be changed to avoid further impact to these deposits, or, if this is not possible, the damage to these deposits may be mitigated by further archaeological work.

Mitigation

Mitigation is needed when significant, intact cultural deposits are present, as delineated by testing, and where disturbance of these deposits cannot be avoided. The exact nature and extent of the mitigation must be planned in cooperation with THC, the Parks and Recreation Department, and the archaeological contractor hired to perform this service. In general, the object of mitigation is to record any features that will be impacted and to collect artifacts in a controlled manner so that the nature of the cultural deposits, and what they can tell us about previous inhabitants can be published. This may involve only limited excavation.

However, if extensive impact to important deposits cannot be avoided, major excavations may be needed to mitigate this damage.

Recommended Cultural Resource Management Procedures

Figures 45 through 48 show detailed maps of each of four quadrants of the park. Each map is color-coded to show the nature of previous impacts and knowledge of cultural resources. These color zones are:

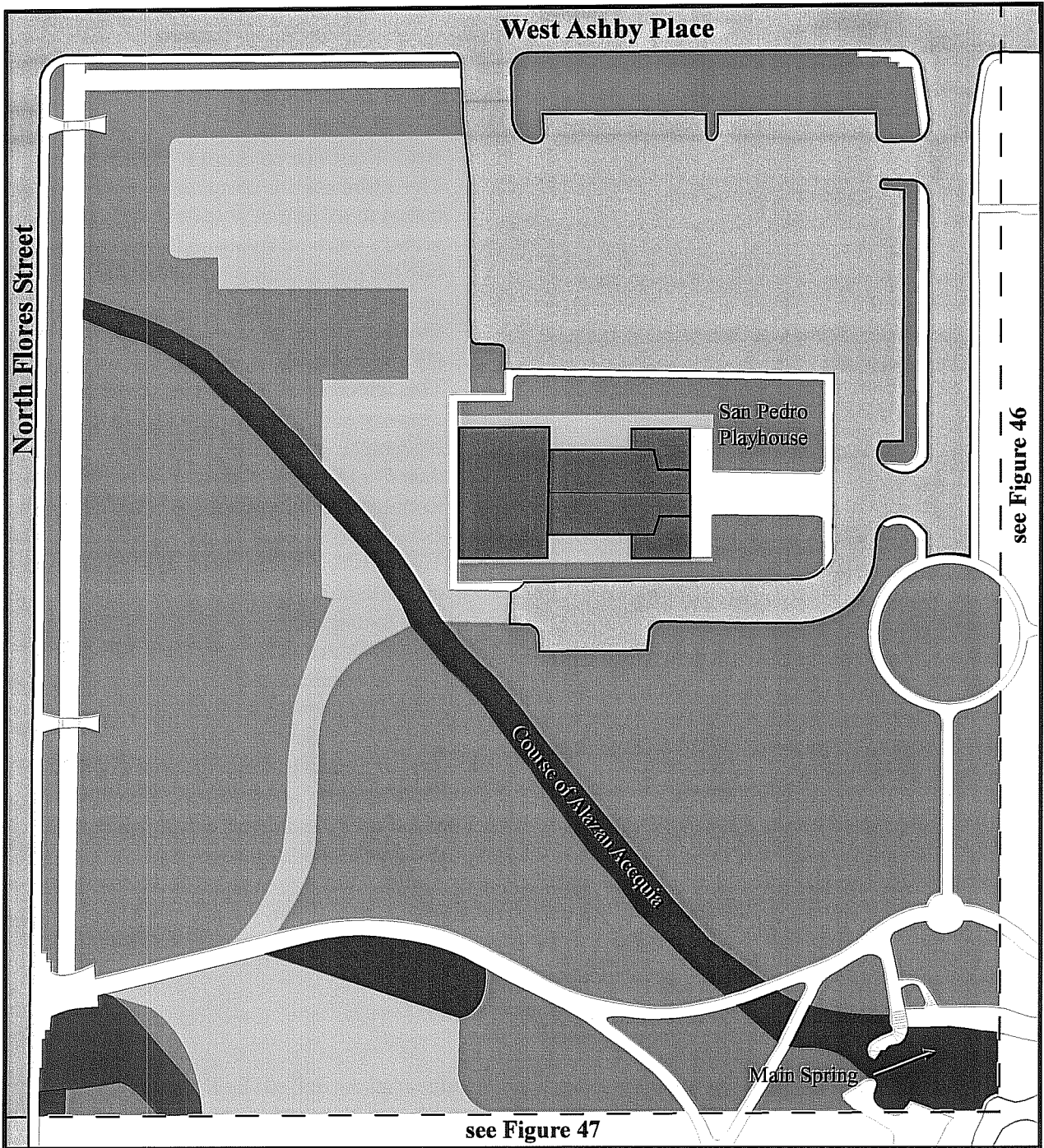
- ◆ **RED**
Areas where cultural deposits or features are known to exist.
- ◆ **GREEN**
Areas where the nature of the cultural deposits is unknown or where known deposits are not deep, limited to the upper 50 cm (20").
- ◆ **LIGHT BLUE**
Areas where sediments are disturbed to at least a depth of 50 cm (20").
- ◆ **DARK BLUE**
Areas where sediments are disturbed to at least a depth of 183 cm (6')

Table 32 is a matrix of recommendations for management of cultural resources in each color zone in Figures 45 to 48, depending on the impact type. The impact types are defined as:

- ◆ **IMPACT LIMITED TO UPPER 6" (15 CM)**
The entire park is assumed to have been disturbed to a depth of at least 6" (15 cm), so any activity (such as laying sod) that does not disturb the ground below this level will not impact intact deposits.
- ◆ **SURFACE AREA OF IMPACT IS LIMITED TO 3' (90 CM) IN DIAMETER OR LESS**
This includes such activities as planting small trees or placing concrete footings for playground equipment. While this impact may be deeper than 6" (15 cm) its area is so small that impact to cultural resources will probably be limited.
- ◆ **IMPACT DEPTH IS 6" TO 20" (15-50 CM)**
This usually includes such activities as sidewalk construction, placement of concrete or stone wall footings, etc.
- ◆ **IMPACT DEPTH IS 20" TO 6' (50-183 CM)**
This will include such activities as some types of building construction, drainage ditches, and probably road construction.
- ◆ **IMPACT DEPTH IS GREATER THAN 6' (>183 CM)**
This category includes such activities as construction of buildings with basements or the construction of major footings.

Table 32. Cultural Resource Management Recommendations defined by Nature of Known Deposits, Previous Impacts, and Type of Planned Impact

Color Zone	Type of Impact				
	Upper 6" (38 cm) Only	Area <3' (90 cm) in diameter	Impact depth 6" to 20" (15-50 cm)	Impact depth 20" to 6' (50-183 cm)	Impact depth > 6' (183 cm)
Yellow	None	None	None	None	None
Green	None	Monitor	Testing	Testing	Testing
Light Blue	None	Monitor	Monitor	Testing	Testing
Dark Blue	None	Monitor	Monitor	Monitor	Testing
Red	None	Avoid	Avoid	Avoid	Avoid



see Figure 46

- | | | |
|-------------------------------|---|--|
| Buildings | Avoid impact. Cultural deposits and/or features known in area. | Testing needed (backhoe) only if impact zone is deeper than 2 meters (6.6') below surface. Deposits known to be disturbed above this level. |
| Sidewalks and other pavements | Testing recommended. Nature of cultural resources unknown or known disturbances are superficial. | No testing required. Deposits known to be destroyed. |
| Roads | Testing recommended only if impact extends below 50 cm (20"). Deposits above this level are known to be disturbed. | |
| Fence line | | |

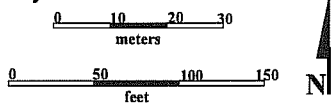


Figure 45. Map of northwest quadrant of San Pedro Park where testing is recommended if impacts are planned.

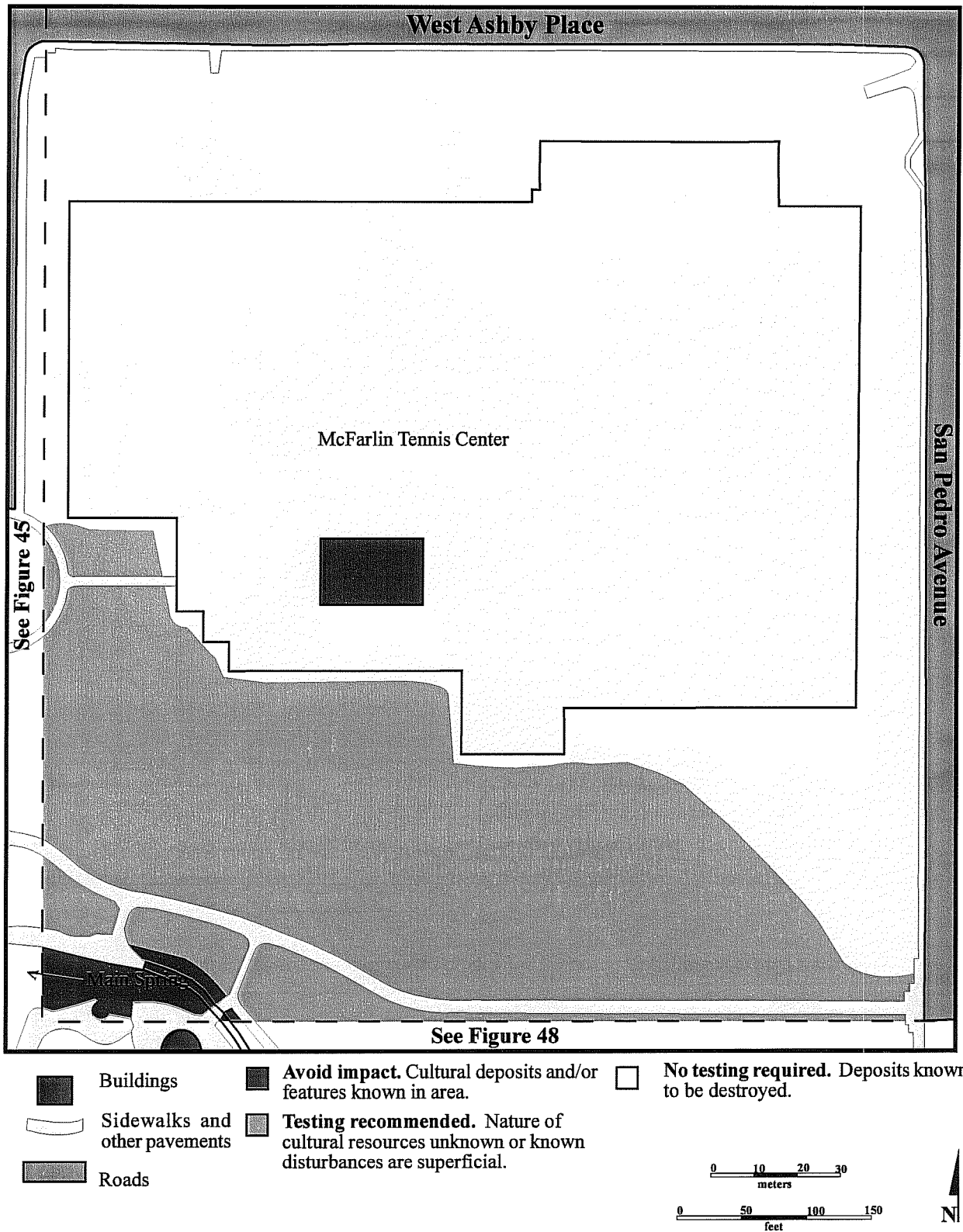


Figure 46. Map of northeast quadrant of San Pedro Park where testing is recommended if impacts are planned.

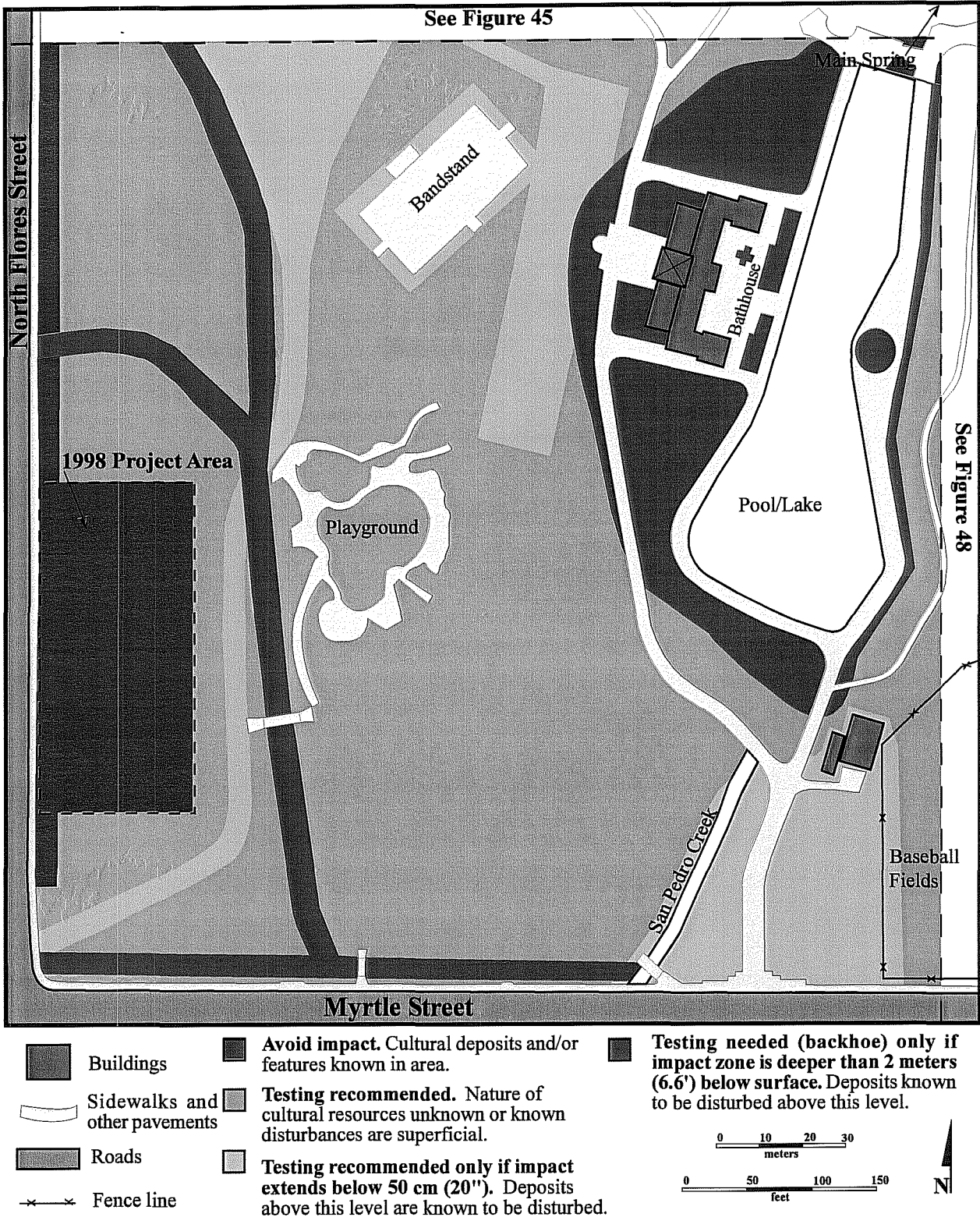
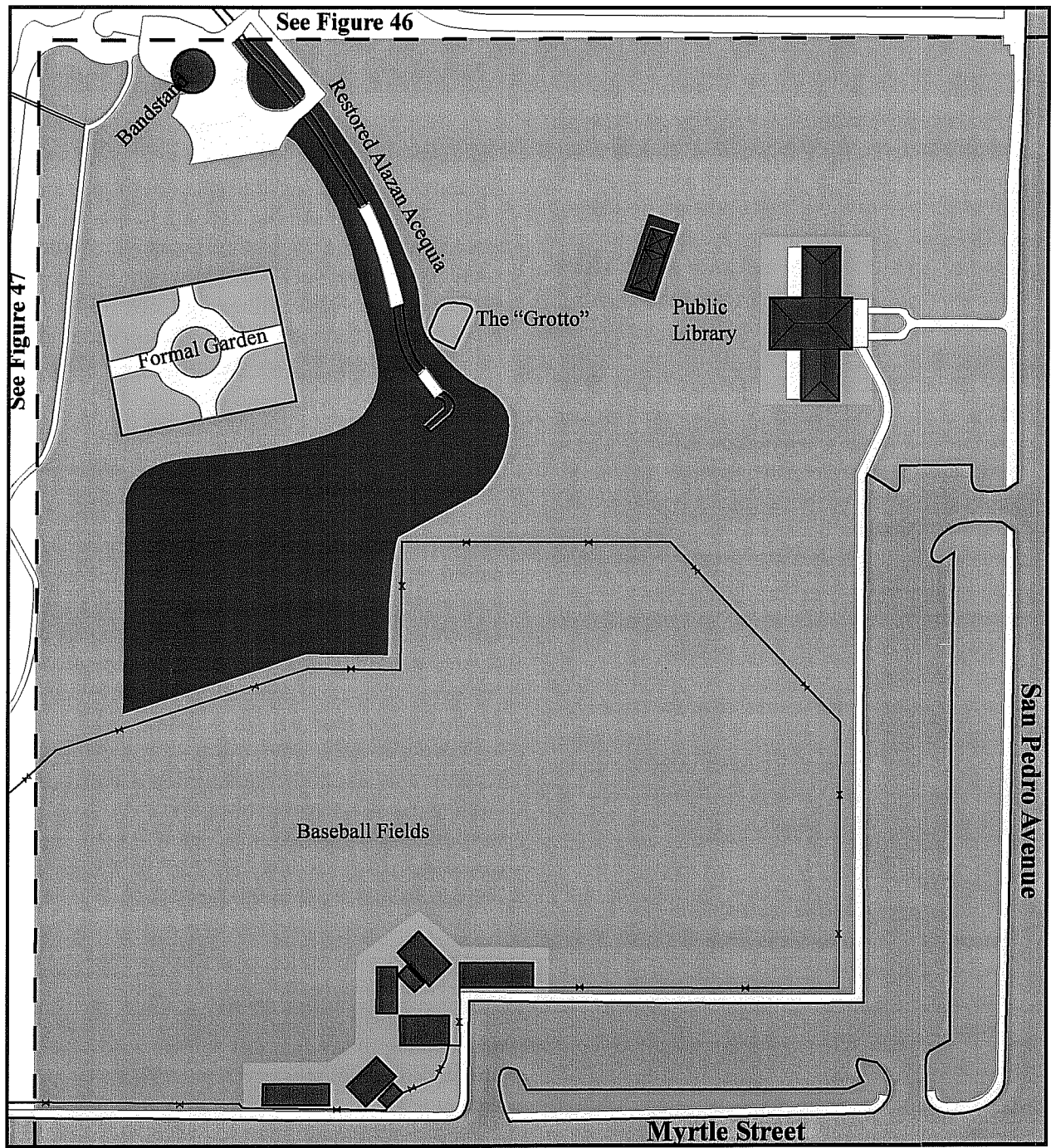









Figure 47. Map of southwest quadrant of San Pedro Park where testing is recommended if impacts are planned.



-  Buildings
-  Sidewalks and other pavements
-  Roads
-  Fence line
-  **Avoid impact.** Cultural deposits and/or features known in area.
-  **Testing recommended.** Nature of cultural resources unknown or known disturbances are superficial.
-  **Testing recommended only if impact extends below 50 cm (20").** Deposits above this level are known to be disturbed.

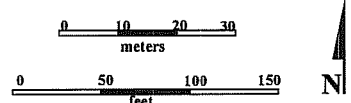


Figure 48. Map of southeast quadrant of San Pedro Park where testing is recommended if impacts are planned.

The cultural resource management recommendations are:

Avoid

These areas contain known cultural deposits and/or features. *Such areas should not be damaged.* If impact in the *Avoid* area cannot be averted, an extensive series of tests, or in some cases, full-scale data recovery, should be conducted, so that features and artifacts within the impact zone can be properly recorded.

Testing

These are areas where the nature of the cultural deposits to be impacted is unknown. This recommendation is made when little is known about potential archaeological deposits or when the depth of the planned impact is deeper than the known disturbances in the area. Testing needs to be conducted only in the unknown part of the area to be impacted. For instance, if construction of a new building will impact sediments to a depth of 4 feet, monitoring will be needed if the planned impact is in the dark blue zone. However, if the area is in the light blue zone, testing of the lower 28" (71 cm) is recommended (see Table 32). In that case, the upper 20" can be mechanically removed (with monitoring by an archaeologist).

Monitor

These are areas where the entire area to be impacted is known to be disturbed or when the impact will be less than 3' (90 cm). It should be noted, however that small areas of intact deposits might still be present. In the unlikely event that potentially intact deposits are encountered, testing should be performed to evaluate them.

No CRM Procedures Needed

These are areas where all deposits are known to have been destroyed down to bedrock.

The Northwest Quadrant

Known Cultural Deposits and/or Features

The majority of the northwest quadrant of the park has not been tested, and the nature of the cultural deposits, if any, is unknown. The most important feature known to be in the northwest quadrant of the park is the buried remains of the Alazán acequia. In addition, there is an area defined by Houk (1999:23) as Zone 2. It contains intact prehistoric deposits, although the upper 20 cm (8") are disturbed (see Chapter 4, this volume).

Known Disturbances

The most obvious previous disturbances which occurred in the northwest quadrant are the San Pedro Playhouse, its associated parking lots, and the drainage ditches along the north and western part of the park. The drainage ditches were deep enough to have destroyed all cultural deposits down to bedrock in the northern part of the park. The building can be assumed to have destroyed any deposits to at least 50 cm (20"). Exactly how much the parking lots have impacted cultural deposits is not known. The 36" pipe encountered in backhoe trench A, as described in Chapter 3 (see Figure 14), probably runs across the park, but there is no evidence of its exact course.

On the southwestern corner of the quadrant a parking lot has been removed and a drainage ditch filled. The removal of the parking lot and the subsequent filling and leveling of the area can be assumed to have impacted deposits to at least 50 cm (20") below current ground level.

Recommended Procedures

We recommend that any future impacts be avoided in the areas in red on Figure 45. These areas are known to contain historic and prehistoric artifacts and/or features. If an impact cannot be avoided, an extensive series of tests, or in some cases, full-scale excavations,

should be conducted, so that features and artifacts within the impacted area can be properly recorded.

Future projects in the area where the drainage ditches have been filled will not need testing, as it is known that these ditches have already destroyed all cultural materials. The exception is the filled ditch in the southwestern corner of the quadrant. Test borings in this area (see Figure 6 and Figure 7) suggest that bedrock is deeper in this area, and the ditch may not have destroyed all cultural materials. Backhoe tests should be used in any project in which the impact will be deeper than 183 cm (6') in this area.

In the future, any project that will impact the area in green on Figure 45 will require at least some shovel testing and possibly some test units in order to understand the impact that such a project may have on cultural resources.

The Northeast Quadrant

Known Cultural Deposits and/or Features

No cultural deposits are known in this quadrant. A small part of the restored Alazán acequia is in the southwestern corner (Figure 46).

Known Disturbances

The majority of the northeast quadrant of the park has been seriously impacted by the quarrying of limestone (see Chapter 2). These operations, as well as the subsequent development of the McFarlin Tennis Center, has destroyed all deposits down to bedrock. This area is shown in yellow on Figure 46. Very little is known about the area between the springs and the tennis courts. It is likely that the sediments in this area are fill, but testing would be required to prove this, should any project be planned for this portion of the park.

Recommended Procedures

Testing will be needed if any future projects will impact the area noted in green on Figure 46. This area, immediately around the springs, should not be disturbed. Although it is mostly bare rock, the Alazán acequia was constructed just above the main springs.

The Southwest Quadrant

Known Cultural Deposits and/or Features

The southwestern quadrant is the most tested area within San Pedro Park, yet what cultural resources might exist in large areas of this quadrant remain unknown (Figure 47). Chapters 3 and 4 of this volume have shown that a large prehistoric site exists along the western side of the park, and that this site has been seriously impacted by a series of construction activities. This appears to be the only area in this quad where undisturbed cultural deposits are known to exist.

Known Disturbances

The southwestern quadrant of the park has been subjected to extensive modification and disturbance over the many years of the park's existence. Beginning in the nineteenth century, the area around the natural pool below the main spring had been often modified (see Chapter 2 and Figure 9). Additionally, large drainage ditches were dug along the western and southern edge of the park. Park roads and parking lots were placed, and then recently removed in this quadrant. The placement of a construction staging area over the dense prehistoric deposits in the southwestern portion of this quad, and the resulting damage to the site has been documented in Chapter 4. These disturbances have significantly impacted cultural deposits in this part of the park, however large areas of the quadrant may have been only superficially disturbed.

Recommended Procedures

The tested portion of the park, known to contain cultural deposits were identified is shown in red in Figure 47. We recommend that any future impacts be avoided in these areas. If an impact cannot be avoided, an extensive series of tests, or in some cases, data recovery, should be conducted, so that features and artifacts within the impact area can be properly recorded. As mentioned above, the area in the immediate vicinity of the springs in the northeastern corner of the quadrant should also be avoided.

The area around the pool is known to have been extensively modified a number of times in the past, and testing by Houk (1999) showed that the entire area is either recent fill or previously disturbed. This area will need testing with a backhoe if future impacts are expected below 183 cm (6'), as there may be deeply buried deposits. Otherwise, only monitoring is necessary in the area. This is also true in the areas where old drainage ditches have been filled.

The area around the bandstand, the area immediately south of the pond, and the area where previous roads and parking lots have been removed will need to be tested if the expected impact will extend below 50 cm (20"). Otherwise, monitoring will be acceptable in these areas.

In the rest of this quadrant testing must be performed before any impact that will go below 15 cm (6"). Much of the previously undisturbed sediments in this quadrant of the park is likely to hold large deposits of prehistoric and possibly historic artifacts and/or features and should be protected.

The Southeast Quadrant

Known Cultural Deposits and/or Features

The majority of the restored portion of the Alazán acequia is located in this quadrant. The area to the south and west of the end of the reconstruction is known to have both prehistoric and historic cultural remains both on the surface and buried (see Chapter 3 and Houk 1999:23). This area is marked in red in Figure 48. The Alazán continued from that point toward the southeast corner of the park, exiting just north of that corner (see Figure 8). The extent to which this portion of the acequia still exists is unknown. Also unknown is where the original acequia, begun in 1718, was located, but there are some indications that it may have been routed through the southeastern part of the park, and there may be remnants still extant underground (I. W. Cox 2000, personal communication).

The small building sometimes called the "Old Fort" or the "Blockhouse" is probably not Spanish Colonial in origin. It is most likely to have been built in the middle of the nineteenth century, or perhaps somewhat earlier (see Chapter 2).

Known Disturbances

The construction of the baseball parks and the construction of the associated parking lots (Figure 48) probably impacted the cultural deposits in the majority of the southern part of the park. This area was a race course during the nineteenth century (Figure 9). The building of the branch of the San Antonio Public Library may have seriously impacted not only some prehistoric deposits, but the remains of the many concessions and other nineteenth century structures and deposits in the area (see Figure 9).

The building and re-modeling of the formal garden has probably impacted the remains of pavilion shown at that location on old maps (see Figure 9), as well as other cultural resources in the area. The "grotto," where water from one of the springs is used to water a tall concrete form planted with ferns, etc. is just east of the formal garden. Its construction probably disturbed the ground to at least 50 cm (20") as well.

The reconstruction of the Alazán acequia also impacted important nineteenth century deposits, but this, fortunately, was recorded by archaeologists (Fox 1979).

Recommended Procedures

The southeastern quadrant includes a large area that should be avoided if possible. The remains of the Alazán acequia and historic and/or prehistoric deposits are known to be in the area. Impact to the structure of the "Blockhouse" should also be avoided.

The formal gardens and the "grotto" will require testing only if the impact will extend below 50 cm (20"). This is also true of the area around the library building and the grandstands and other buildings of the baseball park. In the remainder of the southwest quadrant, testing must be performed before any impact that will be deeper than 15 cm (6").

Other Potential Sources of Damage in the Park

It should be noted that projects planned by the City of San Antonio within the park are not the only source of potential damage to the cultural resources within the park. Natural forces, especially erosion, must be monitored to ensure that cultural resources are protected. Damage caused by public misuse of the park must also be monitored. Prevention of these kinds of damages is an important part of the management of the park. Any projects intended to minimize or repair such damages should be undertaken with the recommendations above in mind.

Recommendations for Increasing Public Awareness

Although San Pedro Park is one of the most important historic locations in San Antonio, very few of the inhabitants or visitors to the city are aware of this fact. There are not many explanatory signs within the bounds of the park. We recommend that more signage be designed for all areas of the park. These signs should explain:

- 1) The area has been inhabited for at least 7-8 thousand years;
- 2) The founding location of Mission San Antonio de Valero (now known as the Alamo) was nearby, probably on the grounds where San Antonio College now stands, northeast of the park. Many of the events of the first 10 years of the Spanish colony took place within or near the park. In addition, the first of the San Antonio acequias began in the park, and the San Pedro and Alazán acequias also ran through the grounds (maps showing the locations of these acequias would probably be of great interest);
- 3) San Pedro Park is the second oldest dedicated public park in the United States;

- 4) The first U.S. Army installation in San Antonio was located in the park, just before and during the war with Mexico in 1846-48;
- 5) San Pedro park was a popular place to spend a Sunday afternoon in the latter part of the nineteenth and early twentieth centuries. There is a considerable number of photographs taken during this period in the collection of the Institute of Texan Cultures (see Figure 10), and at least two old maps of the park that the public would find very interesting; and
- 6) The entire park is an important archaeological site (41BX19) and is protected by city, state, and federal laws.

Improved understanding of the importance of San Pedro Park by the public will not only increase appreciation of the park, but may make up-keep and improvement projects to the park seem more important to the tax-payers of San Antonio.

Conclusion

San Pedro Park represents more than a pleasant public green space within the city (Figure 49). It is an important archaeological site and is protected by law. Whenever a project involving San Pedro Park is planned, the impact of the project on cultural resources within the park must be considered. In this chapter detailed plans for managing the cultural resources of the park were outlined. It is hoped that these strategies will make planning and completion of future projects within the park easier and more efficient for the managers of this important and beautiful resource.

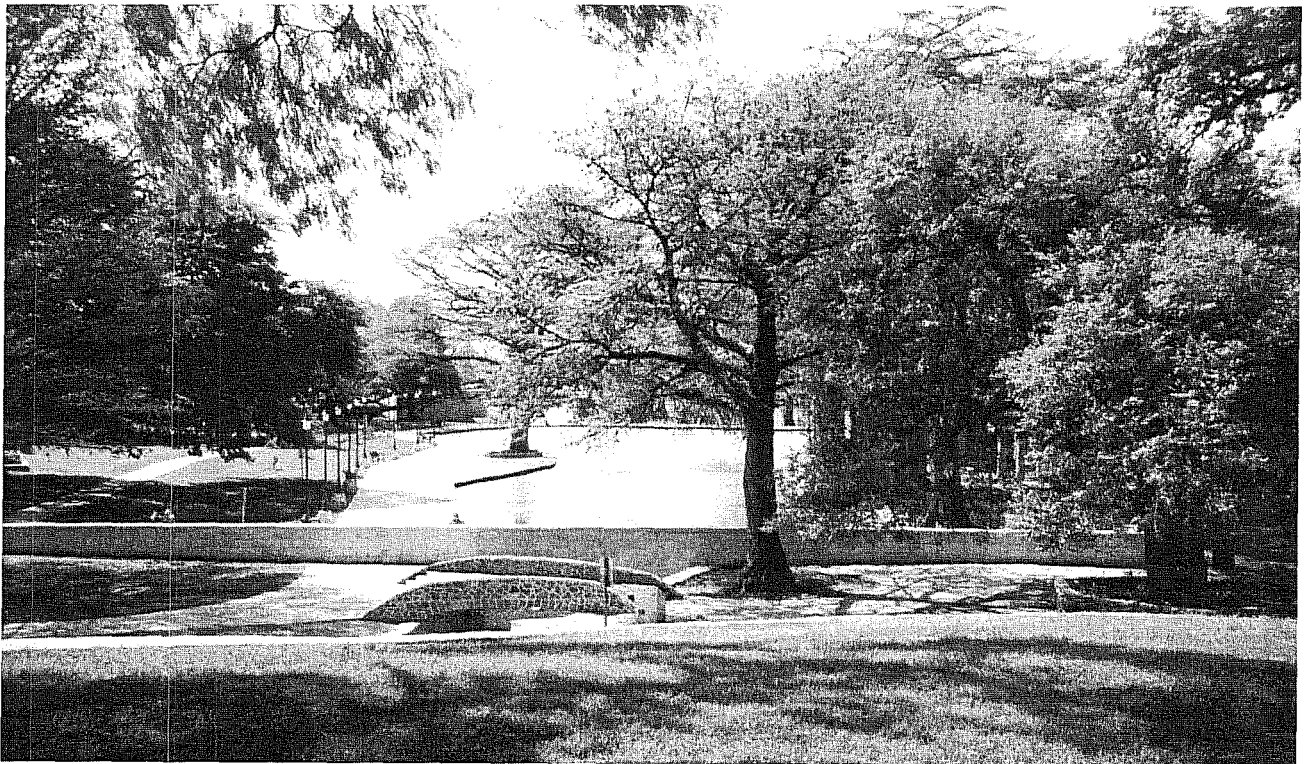


Figure 49. *San Pedro Park today, looking south from above the main spring.*

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Appendix A

Artifact Data from 1996 Testing

Unit	Level	Kitchen/Household										Cloth./Pers.	Arms	Construction						Misc. Historic						Prehistoric						Total Prehistoric	Faunal Remains	Overall Total													
		Unglazed	Lead Glazed	Tin Glazed	Undec. Whiteware	Handpainted	Decal	Undec. Porcelain	Bottle/Jar Glass	Poptops	Crown Caps	Flowerpots	Lightbulb glass	Buttons	Snaps	Combs	Cartridges	Window Glass	Cut Nails	Wire Nails	Nuts	Tacks	Brick	Tile	Plastic	Rubber	Coal	Slag	Nylon Fibers	Chrome tubing	Copper tag				Metal Scrap	Total Historic	Biface	Uniface	Utilized Flake	Cores	Debitage	Ocher	Burned Rock				
ST 11	1						8																									8								0		8					
ST 11	2						1																										1								0		1				
ST 11	3																																								0		2				
ST 11	5																																								1		1				
ST 11	6						1																																		2		3				
ST 11	7																																								1		1				
ST 12	1						6																																		1		7				
ST 12	2						2																																			0		2			
ST 12	5																																									1		1			
ST 13	1						1										2																									1		4			
ST 13	2																		1																							2		3			
ST 13	5																																									1		1			
ST 14	1						6	1																																		0		7			
ST 14	2						6										1																									0		8			
ST 14	3																																									2		2			
ST 15	1																																										1		4		
ST 16	2						2																																				0		2		
ST 17	1																																										1		1		
ST 17	2																																										0		1		
ST 17	4																																										1		1		
ST 18	1						2										1																										0		6		
ST 18	3																																										2		12		
ST 18	4						4																																				5		36		
ST 18	6																																										2		11		
ST 18	7																																										1		2		
ST 19	1						2																																					0		3	
ST 19	2						9																																					0		9	
ST 20	1						12																																					0		22	
ST 20	2						2																																					3		6	
ST 20	3						1																																					1		2	
ST 20	4																																											6		6	
ST 20	7																																											2		2	
ST 21	1						3																																					0		3	
ST 21	2						3																																					0		3	
ST 23	1						3																																					1		5	
ST 23	5																																											6		6	
ST 23	6						3																																					4		16	
ST 23	7																																												1		1

Unit	Level	Kitchen/Household										Cloth./Pers.	Arms	Construction						Misc. Historic						Prehistoric						Total Prehistoric	Faunal Remains	Overall Total							
		Unglazed	Lead Glazed	Tin Glazed	Undec. Whiteware	Handpainted	Decal	Undec. Porcelain	Bottle/Jar Glass	Poptops	Crown Caps	Flowerpots	Lightbulb glass	Buttons	Snaps	Combs	Cartridges	Window Glass	Cut Nails	Wire Nails	Nuts	Tacks	Brick	Tile	Plastic	Rubber	Coal	Slag	Nylon Fibers	Chrome tubing	Copper tag				Metal Scrap	Total Historic	Biface	Uniface	Utilized Flake	Cores	Debitage
ST 24	2						1																									1					5	1	6		7
ST 24	3																															0				4		4		4	
ST 24	4						1																								1			4		4		3	8		
ST 24	5																														0			6		1	7		7		
ST 24	6																														0			14		14		14			
ST 24	7																														0			8		8		8			
ST 25	1						6	1																						7							0	7			
ST 25	2						6																								6							0	6		
ST 25	3						1																								1			3		3		4			
ST 25	5																														0			2		2	1	3			
ST 25	6																													0			1		1	1	2				
ST 25	7																													0			6		6		6				
ST 26	1						2																							2			2		2		4				
ST 26	2						1																							1			3		3		4				
ST 26	3																													0			3		3		3				
ST 26	4																													0			1		1		1				
ST 26	5																													0			1		1		1				
ST 26	6																													0			2		2		2				
ST 27	2						4																							4			4		0		4				
ST 27	3						1																							2						0	2				
ST 28	1						1																							1							0	1			
ST 28	2						1																							1							0	1			
ST 28	3						1																							1							0	1			
ST 29	1						17																							17			3		2	5		22			
ST 29	2						1																							1						0	1				
ST 29	3																													0			4		5	9		9			
ST 29	4																													0			35		35	1	36				
ST 29	5																													0			19		1	20	4	24			
ST 29	6																													0			5		5	1	6				
ST 29	7																													0			7		6		6				
ST 30	1						6																		4	3				4	17					0	1	18			
ST 30	2																													0	1	1	1		14		17	17			
ST 30	3																								1					1				102		2	104	4	109		
ST 30	4																													0			116	6	6	128	2	130			
ST 30	5																													0			8		8	1	9				
ST 32	1						3																							3							0	3			
ST 32	2																													0			3		3		3				
ST 32	3																													0			12		2	14		14			
ST 32	4																													0			1	19		1	21	2	23		

Appendix B

Faunal Data from 1996 Testing

Unit	Lev.	Ct.	Wgt. (g)	Taxon	Element	Side	Portion	Butcher Marks	Burned?	Juv.?	Comments
BHT C	Dk.	1	40.27	<i>Equus caballus</i>	Tooth (Upper permanent 1st molar)	L	Complete				
BHT C	Dk.	1	15.87	<i>Bos taurus</i>	2nd Phalange		Complete			Yes	Proximal epiphysis is unsealed
BHT C	Dk.	1	0.55	<i>Crotalus atrox</i>	Vertebra		Complete				
BHT C	Dk.	1	3.25	<i>Odocoileus virginianus</i>	Tooth (Upper permanent 2nd molar)	L	No buccal surface				
BHT C	Dk.	1	0.50	<i>Odocoileus virginianus</i>	Tooth (Lower deciduous premolar)	L	No root				
BHT C	Dk.	1	1.50	Small Artidactyl	Lumbar vertebra		Fragment				
BHT C	Dk.	2	15.59	Small Artidactyl	Humerus	L	Fragment of the diaphysis				Broken while fresh and while dry
BHT C	Dk.	1	1.13	Small Artidactyl	Vertebra		Fragment of centrum			Yes	Both epiphyses are unsealed
BHT C	Dk.	5	3.13	Mammal							
BHT C	Dk.	1	0.89	<i>Sciurus cf. niger</i>	Cranium		Fragment of occipital				
BHT C	Ll.	1	3.15	<i>Sus scrofa</i>	Tibia	L	Fragment of distal end				Surface is heavily pitted
BHT C	Ll.	1	1.87	<i>Capra/Ovis</i>	Calcaneum	L	Distal epiphysis			Yes	Surface is pitted, epiphysis is unsealed
BHT C	Ll.	5	1.84	Mammalia							
ST #2	5	1	0.28	Mammalia							Surface is pitted
ST #4	2	1	0.34	Mammalia				Saw cut			
ST #9	1	1	0.86	Mammalia							
ST #9	2	1	2.12	Mammalia							Surface is pitted
ST #10	2	1	0.67	Mammalia				2 chops			
ST #18	4	25	15.26	Mammalia					2 Charred		
ST #18	6	3	1.15	Mammalia					2 Charred		
ST #18	7	1	0.09	Mammalia							Surface is pitted
ST #23	6	2	0.19	<i>Sylvilagus sp.</i>	Maxilla	L	Fragment of maxilla w/ cheek tooth				Identified by tooth
ST #23	6	2	1.65	<i>Sus scrofa</i>	Pelvis	R	Chuck	Machine sawed			
ST #24	4	3	0.88	Mammalia							Surface is pitted
ST #25	5	1	0.94	Aves (Turkey-sized)							
ST #25	6	1	0.14								
ST #29	4	1	0.57								
ST #29	5	4	2.14	Mammalia							Surface is pitted
ST #29	6	1	0.30	Mammalia					Smoked		
ST #30	1	1	0.39	Mammalia					Charred		
ST #30	3	1	0.20	Aves							
ST #30	3	3	1.68	Mammalia					Smoked		
ST #30	4	1	0.09	Aves					Charred		
ST #30	4	1	0.17	Mammalia					Charred		
ST #30	5	1	0.97	Mammalia							
ST #32	4	1	0.15	Testudinae					Smoked		
ST #32	4	1	1.05	Mammalia					Charred		
ST #32	5	1	2.70	Mammalia					Charred		
ST #33	2	3	3.63	Mammalia					2 Charred		
ST #33	2	1	0.16	Mammalia					Charred		
ST #33	3	4	2.61	Mammalia					1 Smoked		3 are heavily pitted
ST #33	4	1	1.02	Mammalia					Smoked		
Totals		91	131.94								

Appendix C

Lithic Data from 1996 Testing

Appendix C. 1996 Lithic Data

Shovel Test	Level	Ct.	Size Cat	Type	BTF?	Pottlidded?	Material	Notes
1	2	1	3	Tertiary	Yes	No	Chert	
2	1	1	2	Tertiary	Yes	No	Chert	
3	2	2	2	Secondary	No	No	Chert	
3	2	1	3	Tertiary	No	No	quartzite	
3	3	2	3	Tertiary	No	No	Chert	
3	3	1	5	Secondary	No	No	Chert	
3	4	1	4	Secondary	No	No	Chert	
4	1	1	2	Tertiary	No	No	Chert	
4	2	1	2	Secondary	No	No	Chert	
4	3	2	2	Tertiary	No	No	Chert	
6	6	1	3	Tertiary	No	No	Chert	
7	4	1	4	Tertiary	Yes	No	Chert	Some patination
8	1	1	3	Secondary	No	No	Chert	
8	5	2	2	Tertiary	No	No	Chert	Heavily patinated, mend to 1 other flake in this bag, probably broken during excavation
8	5	1	3	Tertiary	No	No	Chert	Heavily patinated, mends to other 2 flakes in this bag, probably broken during excavation
8	6	1	3	Secondary	No	No	Chert	
9	1	1	2	Secondary	No	No	Chert	
9	4	1	3	Secondary	No	No	Chert	Heavily patinated
9	4	1	4	Tertiary	No	No	Chert	Heavily patinated
10	3	1	3	Secondary	No	No	Chert	
10	4	1	4	Secondary	No	No	Chert	
10	5	1	2	Tertiary	No	No	Chert	
11	5	1	3	Secondary	No	No	Chert	
11	6	1	2	Primary	No	No	Chert	
11	6	1	2	Secondary	Yes	No	Chert	
11	7	1	2	Tertiary	No	No	Chert	
12	1	1	3	Tertiary	Yes	No	Chert	
12	5	1	2	Secondary	No	No	Chert	
13	1	1	3	Tertiary	No	No	Chert	
13	2	1	2	Tertiary	No	No	Chert	
13	2	1	3	Tertiary	No	No	Chert	
13	5	1	3	Secondary	No	No	Chert	
14	3	1	3	Secondary	No	No	Chert	
17	4	1	3	Tertiary	No	No	Chert	
18	4	1	2	Secondary	No	No	Chert	
18	4	2	2	Tertiary	No	No	Chert	
18	4	2	3	Secondary	No	No	Chert	
18	6	1	2	Tertiary	No	No	Chert	
18	6	1	3	Tertiary	No	Yes	Chert	
18	7	1	5	Secondary	No	No	Chert	
20	2	1	2	Tertiary	No	No	Chert	Very heavily patinated
20	2	1	4	Tertiary	No	No	Chert	
20	3	1	5	Secondary	No	No	Chert	
20	4	2	2	Tertiary	No	No	Chert	
20	4	1	2	Tertiary	No	Yes	Chert	
20	4	2	3	Tertiary	No	No	Chert	
20	4	1	5	Tertiary	Yes	No	Chert	
20	7	1	3	Tertiary	No	No	Chert	
20	7	1	4	Tertiary	Yes	No	Chert	
23	1	1	4	Secondary	No	No	Chert	
23	5	3	2	Tertiary	No	No	Chert	
23	5	1	2	Secondary	Yes	No	Chert	
23	5	1	3	Tertiary	No	No	Chert	
23	5	1	4	Tertiary	No	No	Chert	
23	6	1	2	Secondary	No	No	Chert	
23	6	1	2	Tertiary	No	Yes	Chert	
23	6	1	3	Tertiary	No	No	Chert	
23	6	1	4	Tertiary	No	No	Chert	
23	7	1	5	Primary	No	No	Chert	Very burned

Appendix C. 1996 Lithic Data continued...

Shovel Test	Level	Ct.	Size Cat	Type	BTF?	Potlidded?	Material	Notes
24	2	1	2	Secondary	No	No	Chert	
24	2	1	2	Tertiary	No	No	Chert	
24	2	1	3	Secondary	No	No	Chert	
24	2	1	3	Secondary	No	No	quartzite	
24	2	1	5	Tertiary	Yes	No	Chert	
24	3	1	2	Tertiary	No	No	Chert	
24	3	1	2	Tertiary	No	Yes	Chert	
24	3	1	3	Tertiary	No	No	Chert	
24	3	1	5	Tertiary	Yes	No	Chert	
24	4	3	2	Tertiary	No	No	Chert	
24	4	1	3	Secondary	No	No	Chert	
24	5	4	2	Tertiary	No	No	Chert	
24	5	2	3	Tertiary	No	No	Chert	
24	6	1	2	Primary	No	No	Chert	
24	6	2	2	Secondary	No	No	Chert	
24	6	3	2	Tertiary	No	No	Chert	
24	6	1	2	Tertiary	Yes	No	Chert	
24	6	1	3	Secondary	No	No	Chert	
24	6	4	3	Tertiary	No	No	Chert	
24	6	1	3	Tertiary	Yes	No	Chert	
24	6	1	3	Tertiary	No	Yes	Chert	Very potlidded
24	7	5	2	Tertiary	No	No	Chert	
24	7	2	3	Tertiary	No	No	Chert	
24	7	1	4	Tertiary	No	No	Chert	
25	3	1	3	Tertiary	No	No	Chert	
25	3	1	3	Tertiary	Yes	No	Chert	
25	3	1	3	Tertiary	No	Yes	Chert	
25	5	1	2	Tertiary	No	No	Chert	
25	5	1	4	Secondary	No	No	Chert	
25	6	1	2	Tertiary	No	No	Chert	
25	7	1	2	Tertiary	No	No	Chert	
25	7	2	3	Tertiary	No	No	Chert	
25	7	1	4	Tertiary	No	No	Chert	
25	7	1	4	Tertiary	Yes	No	Chert	
25	7	1	6	Secondary	No	No	Chert	
26	1	1	2	Tertiary	No	No	Chert	
26	1	1	3	Tertiary	No	No	Chert	
26	2	1	2	Tertiary	No	No	Chert	
26	2	1	3	Tertiary	No	No	Chert	
26	2	1	4	Tertiary	Yes	No	Chert	
26	3	1	2	Secondary	No	No	Chert	
26	3	1	4	Tertiary	No	Yes	Chert	
26	3	1	5	Secondary	Yes	No	Chert	Heavily patinated
26	4	1	3	Tertiary	No	No	Chert	
26	5	1	5	Primary	No	No	Chert	
26	6	1	3	Secondary	No	No	Chert	
26	6	1	3	Tertiary	Yes	No	Chert	
29	1	1	4	Primary	No	No	Chert	
29	1	1	4	Secondary	No	No	Chert	
29	1	1	4	Tertiary	No	No	Chert	
29	3	2	2	Tertiary	No	No	Chert	
29	3	1	3	Tertiary	Yes	No	Chert	
29	3	1	4	Tertiary	No	No	Chert	
29	4	4	2	Secondary	No	No	Chert	
29	4	15	2	Tertiary	No	No	Chert	
29	4	1	2	Tertiary	Yes	No	Chert	
29	4	1	2	Tertiary	No	Yes	Chert	
29	4	11	3	Tertiary	No	No	Chert	
29	4	1	3	Tertiary	Yes	No	Chert	
29	4	1	3	Tertiary	No	Yes	Chert	
29	4	1	5	Tertiary	Yes	No	Chert	
29	5	3	2	Tertiary	No	No	Chert	

Appendix C. 1996 Lithic Data continued...

Shovel Test	Level	Ct.	Size Cat	Type	BTF?	Potlidded?	Material	Notes
29	5	2	2	Secondary	Yes	No	Chert	
29	5	3	2	Tertiary	Yes	No	Chert	
29	5	1	2	Tertiary	No	Yes	Chert	
29	5	1	3	Secondary	No	No	Chert	
29	5	1	3	Tertiary	No	No	Chert	
29	5	1	3	Tertiary	No	No	Chert	Heavily patinated
29	5	1	4	Secondary	No	No	Chert	
29	5	3	4	Tertiary	No	No	Chert	
29	5	2	4	Tertiary	Yes	No	Chert	
29	5	1	5	Secondary	Yes	No	Chert	
29	6	1	2	Tertiary	No	No	Chert	
29	6	1	3	Tertiary	No	No	Chert	
29	6	1	3	Tertiary	Yes	No	Chert	
29	6	1	3	Tertiary	No	Yes	Chert	
29	6	1	4	Secondary	No	No	Chert	
29	7	1	2	Tertiary	No	No	Chert	
29	7	1	2	Tertiary	Yes	No	Chert	
29	7	1	3	Primary	No	No	Chert	
29	7	2	3	Tertiary	No	No	Chert	
29	7	1	5	Tertiary	No	No	Chert	
30	2	1	2	Primary	No	No	Chert	
30	2	4	2	Secondary	No	No	Chert	
30	2	4	2	Tertiary	No	No	Chert	
30	2	1	2	Tertiary	Yes	No	Chert	
30	2	1	3	Primary	No	No	Chert	
30	2	1	4	Tertiary	Yes	No	Chert	
30	2	1	5	Primary	No	No	Chert	
30	2	1	5	Secondary	Yes	No	Chert	
30	3	1	2	Primary	No	No	Chert	
30	3	1	2	Secondary	No	No	Chert	
30	3	36	2	Tertiary	No	No	Chert	
30	3	1	2	Secondary	Yes	No	Chert	
30	3	11	2	Tertiary	Yes	No	Chert	
30	3	9	2	Tertiary	No	Yes	Chert	
30	3	1	3	Primary	No	No	Chert	
30	3	6	3	Secondary	No	No	Chert	
30	3	1	3	Secondary	No	No	Quartzite	
30	3	14	3	Tertiary	No	No	Chert	
30	3	7	3	Tertiary	Yes	No	Chert	
30	3	5	3	Tertiary	No	Yes	Chert	
30	3	1	3	Tertiary	Yes	Yes	Chert	
30	3	1	4	Primary	No	No	Chert	
30	3	2	4	Tertiary	No	No	Chert	
30	3	1	4	Tertiary	No	Yes	Chert	
30	3	1	4	Tertiary	Yes	Yes	Chert	
30	3	1	5	Tertiary	No	Yes	Chert	Very potlidded
30	3	1	6	Secondary	No	No	Chert	
30	3	1	7	Secondary	No	No	Chert	
30	4	1	2	Primary	No	No	Chert	
30	4	3	2	Secondary	No	No	Chert	
30	4	51	2	Tertiary	No	No	Chert	
30	4	8	2	Tertiary	Yes	No	Chert	
30	4	1	2	Secondary	No	Yes	Chert	
30	4	2	2	Tertiary	No	Yes	Chert	
30	4	1	2	Secondary	Yes	Yes	Chert	
30	4	3	3	Primary	No	No	Chert	
30	4	2	3	Secondary	No	No	Chert	
30	4	22	3	Tertiary	No	No	Chert	
30	4	1	3	Secondary	Yes	No	Chert	
30	4	7	3	Tertiary	Yes	No	Chert	
30	4	1	3	Secondary	No	Yes	Chert	

Appendix C. 1996 Lithic Data continued...

Shovel Test	Level	Ct.	Size Cat	Type	BTF?	Potlidded?	Material	Notes
30	4	1	3	Tertiary	No	Yes	Chert	
30	4	2	3	Tertiary	Yes	Yes	Chert	
30	4	1	4	Secondary	No	No	Chert	
30	4	4	4	Tertiary	No	No	Chert	
30	4	1	4	Secondary	Yes	No	Chert	
30	4	1	4	Tertiary	Yes	No	Chert	
30	4	1	4	Tertiary	No	Yes	Chert	
30	4	1	4	Secondary	Yes	Yes	Chert	
30	4	1	5	Tertiary	Yes	No	Chert	
30	5	5	2	Tertiary	No	No	Chert	
30	5	1	2	Tertiary	No	Yes	Chert	
30	5	2	3	Tertiary	No	No	Chert	
32	2	2	3	Secondary	No	No	Chert	
32	2	1	6	Secondary	No	No	Chert	
32	3	1	2	Tertiary	No	No	Chert	
32	3	1	3	Primary	No	No	Chert	
32	3	1	3	Secondary	No	No	Chert	
32	3	2	3	Tertiary	No	No	Chert	
32	3	1	3	Tertiary	Yes	No	Chert	
32	3	3	4	Secondary	No	No	Chert	
32	3	1	4	Tertiary	No	No	Chert	
32	3	1	5	Secondary	No	No	Chert	
32	3	1	6	Secondary	No	No	Chert	
32	4	1	2	Secondary	No	No	Chert	
32	4	3	2	Tertiary	No	No	Chert	
32	4	1	3	Secondary	No	No	Chert	
32	4	7	3	Tertiary	No	No	Chert	
32	4	1	3	Secondary	Yes	No	Chert	
32	4	1	3	Tertiary	Yes	No	Chert	
32	4	1	4	Secondary	No	No	Chert	
32	4	1	4	Tertiary	No	No	Chert	
32	4	2	4	Tertiary	Yes	No	Chert	
32	4	1	5	Secondary	No	No	Chert	
32	5	4	3	Tertiary	No	No	Chert	
32	5	1	4	Tertiary	No	No	Chert	
32	5	1	5	Tertiary	Yes	No	Chert	
32	6	1	2	Tertiary	No	No	Chert	
32	6	5	3	Tertiary	No	No	Chert	
32	6	1	3	Tertiary	No	Yes	Chert	Heavily patinated
32	6	1	4	Tertiary	No	No	Chert	
33	1	2	2	Tertiary	No	No	Chert	
33	1	1	3	Primary	No	No	Chert	
33	1	1	3	Secondary	No	No	Chert	
33	1	2	3	Tertiary	No	No	Chert	
33	1	1	6	Secondary	No	Yes	Chert	
33	2	1	2	Primary	No	No	Chert	
33	2	4	2	Secondary	No	No	Chert	
33	2	15	2	Tertiary	No	No	Chert	
33	2	1	2	Tertiary	Yes	No	Chert	
33	2	1	2	Secondary	No	Yes	Chert	
33	2	3	2	Tertiary	No	Yes	Chert	
33	2	2	3	Primary	No	No	Chert	
33	2	4	3	Secondary	No	No	Chert	
33	2	9	3	Tertiary	No	No	Chert	
33	2	4	3	Tertiary	Yes	No	Chert	
33	2	2	3	Tertiary	No	Yes	Chert	
33	2	1	4	Primary	No	No	Chert	
33	2	4	4	Secondary	No	No	Chert	
33	2	1	4	Tertiary	No	No	Chert	
33	2	1	4	Tertiary	No	No	Quartzite	
33	2	1	4	Tertiary	No	Yes	Chert	

Appendix C. 1996 Lithic Data continued...

Shovel Test	Level	Ct.	Size Cat	Type	BTF?	Pottlidded?	Material	Notes
33	2	1	5	Tertiary	No	No	Chert	
33	2	1	5	Tertiary	Yes	No	Chert	
33	3	3	2	Secondary	No	No	Chert	
33	3	11	2	Tertiary	No	No	Chert	
33	3	1	2	Tertiary	Yes	No	Chert	
33	3	7	3	Secondary	No	No	Chert	
33	3	6	3	Tertiary	No	No	Chert	
33	3	1	3	Tertiary	Yes	No	Chert	
33	3	1	3	Tertiary	Yes	No	Chert	
33	3	1	3	Secondary	No	Yes	Chert	
33	3	1	3	Tertiary	No	Yes	Chert	
33	3	2	4	Secondary	No	No	Chert	
33	3	1	4	Tertiary	No	No	Quartzite	
33	3	1	4	Secondary	No	Yes	Chert	
33	3	1	6	Secondary	No	No	Chert	
33	4	3	2	Secondary	No	No	Chert	
33	4	9	2	Tertiary	No	No	Chert	
33	4	1	2	Tertiary	Yes	No	Chert	
33	4	4	3	Primary	No	No	Chert	
33	4	3	3	Secondary	No	No	Chert	
33	4	8	3	Tertiary	No	No	Chert	
33	4	2	4	Secondary	No	No	Chert	
33	4	2	4	Tertiary	No	No	Chert	
33	4	1	4	Tertiary	Yes	No	Chert	
33	5	1	2	Tertiary	No	No	Chert	
33	5	2	3	Tertiary	No	No	Chert	
33	5	1	4	Primary	No	No	Chert	
33	6	1	3	Tertiary	No	No	Chert	
33	7	1	2	Tertiary	No	No	Chert	
33	7	1	3	Secondary	No	Yes	Chert	
34	1	1	4	Secondary	No	No	Chert	
34	5	1	3	Tertiary	No	No	Chert	
34	6	3	4	Secondary	No	No	Chert	
37	3	4	2	Tertiary	No	No	Chert	
37	3	1	2	Tertiary	Yes	No	Chert	
37	3	1	3	Primary	No	No	Chert	
37	3	1	3	Secondary	No	No	Chert	
37	3	7	3	Tertiary	No	No	Chert	
37	3	1	3	Tertiary	No	No	Chert	
37	3	1	3	Tertiary	No	No	Quartzite	Very fine-grained quartzite
37	3	4	3	Tertiary	No	No	Chert	
37	3	1	4	Tertiary	No	No	Chert	
37	3	2	4	Tertiary	Yes	No	Chert	
38	1	1	4	Tertiary	No	No	Chert	
Backhoe Trenches								
BHT B 15-35		1	3	Tertiary	Yes	No	Chert	
BHT B 15-35		1	5	Secondary	No	Yes	Chert	
BHT B 15-35		1	4	Primary	No	No	Chert	May be machine-made
BHT B 15-35		1	7	Primary	No	No	Chert	May be machine-made
BHT B 30-50		1	5	Primary	No	No	Chert	May be machine-made
BHT B 30-50		1	5	Tertiary	No	No	Chert	
BHT B 30-50		1	6	Secondary	No	No	Chert	
BHT B 30-50		1	11	Secondary	No	No	Chert	May be machine-made
BHT C Lt. soil		1	2	Secondary	No	No	Chert	
BHT C Dk Soil		1	2	Tertiary	No	No	Chert	
BHT C Dk Soil		1	6	Secondary	No	No	Chert	

Lot #	Unit	Lev.	Depth (cm BID)	Dart	Arrow	Other Bifaces	Chop.	Uni-faces	Edge-Mod.	Cores	Debitage	Metals	FCR	Bone	Mussel	Un-glazed	Lead-glazed	Undec. White ware	Hand-painted	Sponge dec.	Porc.	Glass	Metal Frags	Other Historic Items	Misc.	Total
1.2	ST 01	2	10-20																			1			1	
1.3	ST 01	3	20-30								2											11			13	
2.2	ST 02	2	10-20								1														1	
4.4	ST 04	4	30-40								1														1	
5.1	ST 05	1	0-10								1											1			2	
5.2	ST 05	2	10-20								2														2	
5.3	ST 05	3	20-30								3														3	
5.4	ST 05	4	30-40								9													1	10	
6.1	ST 06	1	0-10								6			4								1			11	
6.2	ST 06	2	10-20								13		1	2											16	
6.3	ST 06	3	20-30								1														1	
6.4	ST 06	4	30-40								1														1	
7.1	ST 07	1	0-10						2		18		3	4								1			28	
7.2	ST 07	2	10-20						1		24		2	7											34	
7.3	ST 07	3	20-30								3														3	
7.4	ST 07	4	30-40								2			1											3	
7.5	ST 07	5	40-50								1														1	
8.2	ST 08	2	10-20																				1		1	
8.5	ST 08	5	40-50								2														2	
9.5	ST 09	5	40-50						1																1	
10.4	ST 10	4	30-40								1														1	
11.3	ST 11	3	20-30								1														1	
11.4	ST 11	4	30-40								2														2	
12.1	ST 12	1	0-10								1														1	
12.2	ST 12	2	10-20								1														1	
12.5	ST 12	5	40-50										3												3	
14.1	ST 14	1	0-10																			2	2	6	10	
14.3	ST 14	3	20-30								5														5	
14.4	ST 14	4	30-40								10		1												11	
14.5	ST 14	5	40-50								11														11	
14.6	ST 14	6	50-60								7		1												8	
15.1	ST 15	1	0-10								7			6									3		16	
15.2	ST 15	2	10-20								13		2	3											18	
15.3	ST 15	3	20-30								9		2												11	
15.4	ST 15	4	30-40								1		2	1											4	
17.3	ST 17	3	20-30										2										2		4	
17.4	ST 17	4	30-40								2		9												11	
17.5	ST 17	5	40-50								2		1												3	
18.5	ST 18	5	40-50															1							1	
19.3	ST 19	3	20-30								1		1												2	
19.5	ST 19	5	40-50								1														1	

Appendix E

Faunal Data from 1998 Testing

Bag #	Unit #	Lv.	Taxon	Count	Wgt (g)	Element	Portion	Juv?	Butcher marks						
									Type	Count	Brks	Burn	Weath	Pit	Gnaw
6.1	ST 06	1	Mammal	2	2.27						3	0	0	0	
6.1	ST 06	1	Mammal	2	0.11							0	N	N	
6.2	ST 06	2	Mammal	2	2.10							0	N	N	
7.1	ST 07	1	Mammal	4	0.41							0	N	N	
7.2	ST 07	2	Mammal	6	0.39							0	N	N	
7.2	ST 07	2	Mammal	1	0.04							0	N	N	
7.4	ST 07	4	Mammal	1	0.08							0	N	N	
15.1	ST 15	1	Aves--large	1	0.34	Long bone	Fragment				1	0	0	0	
15.1	ST 15	1	Mammal	3	1.14							1	N	N	
15.1	ST 15	1	Mammal	2	2.81							0	N	N	
15.2	ST 15	2	Bovinae	2	10.05	Molar	Fragment					0	N	N	
15.2	ST 15	2	Mammal	1	0.32							0	N	N	
15.4	ST 15	4	Mammal	1	1.17							3	N	N	
32.4	ST 32	4	Artiodactyl	1	0.87	3rd phalange	Plantar surface					0	0	0	1
32.5	ST 32	5	Odocoileus vrginianus	1	6.07	1st phalange	Complete				0	1	0	0	3
32.5	ST 32	5	Mammal	1	1.03							0	N	N	
33.2	ST 33	2	Odocoileus vrginianus	2	6.77	Metatarsal	Fragment of diaphysis				3	0	1	1	
33.2	ST 33	2	Colubridae	1	0.17	Vertebra	Fragment					0	N	N	
33.3	ST 33	3	Didelphis virginiana	1	0.71	Cervical vertebra	No spinous process				2	0	0	0	
33.3	ST 33	3	Mammal--very small	1	0.30	Long bone	Fragment					0	N	N	
33.3	ST 33	3	Mammal--very large	1	4.33	Long bone	Fragment				3	0	1	0	
33.3	ST 33	3	Mammal	2	0.47							2	N	N	
33.3	ST 33	3	Mammal	16	6.30							0	N	N	
34.1	ST 34	1	Mammal	4	2.00							0	N	N	
34.2	ST 34	2	Mammal--small	1	0.13							0	0	0	
34.2	ST 34	2	Mammal	10	2.07							0	N	N	
34.2	ST 34	2	Mammal	1	0.43							2	N	N	
34.3	ST 34	3	Mammal	1	0.13							0	N	N	
34.4	ST 34	4	Mammal	1	0.14							0	N	N	
34.4	ST 34	4	Mammal	2	0.25							1	N	N	
34.5	ST 34	5	Mammal	4	0.80							0	N	N	
35.1	ST 35	1	Mammal	1	2.77				Hand saw	1	3	0	0	0	1
35.3	ST 35	3	Mammal--large	2	3.70	Illium	Sirloin cut		Hand saw	2	3	0	0	0	
36.2	ST 36	2	Mammal	2	0.61							0	N	N	
36.3	ST 36	3	Mammal	2	0.83							0	N	N	
37.2	ST 37	2	Mammal	1	0.11							0	N	N	
37.2	ST 37	2	Mammal--very large	1	0.50							0	N	N	

Bag #	Unit #	Lv.	Taxon	Count	Wgt (g)	Element	Portion	Juv?	Butcher marks		Brks	Burn	Weath	Pit	Gnaw
									Type	Count					
37.3	ST 37	3	Mammal	1	0.20							2	N	N	
37.4	ST 37	4	Artiodactyl	2	3.04	Metatarsal	Fragment of proximal end				3	1	1	1	
37.4	ST 37	4	Mammal	4	2.09							1	N	N	
37.4	ST 37	4	Mammal	2	0.65							0	N	N	
38.3	ST 38	3	Odocoileus viginianus	1	1.77	3rd phalange	All but distal tip					2	0	0	
38.3	ST 38	3	Mammal	1	0.13							1	0	0	
39.3	ST 39	2	Mammal	2	0.21							0	N	N	
39.3	ST 39	3	Mammal	1	0.81							3	N	N	
40.1	ST 40	1	Mammal	5	2.08							1	N	N	
40.2	ST 40	2	Mammal	5	0.84							0	N	N	
40.2	ST 40	2	Mammal	2	0.25							1	N	N	
40.2	ST 40	2	Aves--large	1	0.11	Long bone	Fragment					2	N	N	
40.3	ST 40	3	Mammal	3	0.48							0	N	N	
40.3	ST 40	3	Mammal	1	0.05							3	N	N	
40.3	ST 40	3	Mammal	1	0.53							1	N	N	
40.5	ST 40	5	Mammal	2	0.18							1	N	N	
43	TU 01	1	Bos taurus	1	10.76	Rib	Fragment		Mach. Saw	2	1	0	0	0	
43	TU 01	1	Aves--large	1	0.71	Long bone	Fragment				1	0	0	0	
43	TU 01	1	Mammal--large	1	3.31	Long bone	Fragment		Thick cut	1		0	2	1	
43	TU 01	1	Mammal--large	1	2.51	Long bone	Fragment				3	0	2	1	
43	TU 01	1	Mammal	2	1.14							4	N	N	
43	TU 01	1	Mammal	5	2.89							0	N	N	
41	TU 01	1	Equus cf. caballus	1	10.43	Incisor	Almost complete				2	0	0	0	
41	TU 01	1	Canis sp.	1	0.71	Premolar	Almost complete				2	0	0	0	
41	TU 01	1	Odocoileus viginianus	1	3.21	Metatarsal	Fragment of diaphysis				2	0	1	1	
41	TU 01	1	Mammal	1	1.30	Long bone	Fragment		Hand saw	1	3	0	1	1	
41	TU 01	1	Bovinae	1	3.19	Proximal sesmoid	Complete				0	0	0	0	
41	TU 01	1	Mammal--very large	1	5.33	Long bone	Fragment				1	0	0	1	
41	TU 01	1	Mammal--very large	2	5.71	Long bone	Fragment					0	N	N	
41	TU 01	1	Mammal	1	0.64							3	N	N	
41	TU 01	1	Mammal	3	0.58							2	N	N	
41	TU 01	1	Mammal	11	3.29							1	N	N	
41	TU 01	1	Mammal	2	1.72							0	1	0	
41	TU 01	1	Mammal	7	6.55							0	0	0	

Bag #	Unit #	Lv.	Taxon	Count	Wgt (g)	Element	Portion	Juv?	Butcher marks					
									Type	Count	Brks	Burn	Weath	Pit
41	TU 01	1		36	11.34							0	N	N
41	TU 01	1	Aves--medium	1	0.10	Long bone	Fragment					0	N	N
	TU 01	2	Odocoileus vrginianus	2	4.02	Metatarsal	Fragment of diaphysis				3	1	1	2
	TU 01	2	Bovinae	2	9.88	1st phalange	Distal end				2	1	0	0
	TU 01	2	Mammal--very large	2	9.03							0	N	N
	TU 01	2	Mammal--small	2	0.18							0	N	N
	TU 01	2	Osteichthyes	1	0.47							1	N	N
	TU 01	2	Crotalus atrox	1	0.09	Vertebra	No ventral process					0	N	N
	TU 01	2	Colubridae	1	0.13	Vertebra	Fragment					0	N	N
	TU 01	2	Mammal	10	5.70							3	N	N
	TU 01	2	Mammal	10	4.72							2	N	N
	TU 01	2	Mammal	6	2.31							1	N	N
	TU 01	2	Mammal	1	0.93				Mach. Saw	2	3	0	1	0
	TU 01	2	Mammal	1	1.03				Ind. saw	1	3	0	1	0
	TU 01	2	Mammal	7	4.69							0	1	0
	TU 01	2	Mammal	11	9.87							0	0	0
	TU 01	2	Mammal	5	7.30							0	0	2
	TU 01	2	Mammal	10	6.26							0	0	1
	TU 01	2	Mammal	71	10.74							0	N	N
47	TU 01	3	Testudinata	1	0.07	Carapace	Fragment					0	N	N
47	TU 01	3	Mammal	5	1.55							1	N	N
47	TU 01	3	Mammal	6	1.74							0	N	N
48	TU 01	4	Bovinae	1	4.27	Metapodial	Fragment of condyle				2	0	0	1
48	TU 01	4	Mammal--very large	3	8.67						2	0	0	1
48	TU 01	4	Mammal	2	9.32	Long bone	Fragment				3	0	0	2
48	TU 01	4	Mammal	1	4.60						1	0	0	1
48	TU 01	4	Testudinata	2	0.94	Carapace	Fragment					2	N	N
48	TU 01	4	Testudinata	1	1.13	Carapace	Fragment					0	N	N
48	TU 01	4	Mammal	35	10.05							0	N	N
48	TU 01	4	Mammal	7	3.03							1	N	N
48	TU 01	4	Mammal	7	2.90							2	N	N
51	TU 01	5	Mammal	11	6.46							0	1	N
51	TU 01	5	Mammal	2	0.56							1	N	N
51	TU 01	5	Mammal	1	0.27							3	N	N
49	TU 02	1	Artiodactyl	2	6.10	Metacarpal	Fragment of diaphysis		Thin Cut	7	3	1	1	1

Bag #	Unit #	Lv.	Taxon	Count	Wgt (g)	Element	Portion	Juv?	Butcher marks			Weath	Pit	Gnaw
									Type	Count	Brks			
49	TU 02	1	Artiodactyl	4	11.32	Humerus	Fragment of diaphysis			3	0	1	1	
49	TU 02	1	Suidae	1	0.06	Deciduous incisor	Fragment	Yes			0	N	N	
49	TU 02	1	Mammal--large	1	1.77	Vertebra	Centrum	Yes			0	N	N	
49	TU 02	1	Bovinae	1	6.38	Proximal sesmoid	Almost complete			2	1	0	1	
49	TU 02	1	Mammal	4	7.54						0	1	0	
49	TU 02	1	Mammal	1	1.34						0	2	0	
49	TU 02	1	Mammal	1	1.88						0	0	0	
49	TU 02	1	Mammal	3	1.64						0	3	0	
49	TU 02	1	Mammal--very large	1	2.50						2	0	0	
49	TU 02	1	Mammal	1	0.32						3	N	N	
49	TU 02	1	Mammal	31	10.92						0	N	N	
45	TU 02	2	Odocoileus viginianus	1	1.22	4th carpal	Complete			0	0	0	0	
45	TU 02	2	Artiodactyl	1	0.58	Sesmoid	Complete				1	N	N	
45	TU 02	2	Artiodactyl	1	1.07	1st phalange	Fragment			3	0	0	0	
45	TU 02	2	Rodentia	1	0.05	Ulna	Fragment				1	0	0	
45	TU 02	2	Testudinata	1	0.21	Carapace	Fragment				0	N	N	
45	TU 02	2	Artiodactyl	1	1.61	Metapodial	Condyle				0	1	1	
45	TU 02	2	Mammal--large	1	4.72	Long bone	Fragment			1	0	1	0	
45	TU 02	2	Mammal--large	1	2.04	Long bone	Fragment			3	1	0	1	
45	TU 02	2	Mammal--large	1	0.96	Tooth root	Fragment				1	N	N	
45	TU 02	2	Mammal	6	2.37						3	N	N	
45	TU 02	2	Mammal	1	17.00						2	N	N	
45	TU 02	2	Mammal	8	4.15						1	N	N	
45	TU 02	2	Mammal	96	23.59						0	N	N	
49	TU 02	3	Odocoileus viginianus	1	0.31	Deciduous molar	Complete (not root)				0	N	N	
49	TU 02	3	Odocoileus viginianus	1	9.61	Astragalus	Almost complete			2	1	0	2	
49	TU 02	3	Mammal	1	0.09						4	N	N	
49	TU 02	3	Mammal	1	0.35						3	N	N	
49	TU 02	3	Mammal--large	1	3.08	Long bone	Fragment			3	3	0	0	
49	TU 02	3	Mammal--large	1	2.56	Long bone	Fragment			2	1	1	1	
49	TU 02	3	Mammal	4	2.04						2	N	N	
49	TU 02	3	Mammal	12	3.41						1	N	N	
49	TU 02	3	Mammal	29	10.09						0	N	N	
50	TU 02	4	Mammal	1	0.11						0	N	N	
50	TU 02	4	Mammal	1	0.32						1	N	N	
50	TU 02	4	Mammal	1	0.15						2	N	N	

Bag #	Unit #	Lv.	Taxon	Count	Wgt (g)	Element	Portion	Juv?	Butcher marks		Brks	Burn	Weath	Pit	Gnaw
									Type	Count					
50	TU 02	4	Mammal	1	0.08							3	N	N	
46	TU 03	2	Artiodactyl	1	5.54	Mandible	Condyl and part of coronoid process				3	0	1	0	
46	TU 03	2	Mammal--large	3	3.48							0	N	N	
46	TU 03	2	Bos taurus	1	17.82	3rd phalange	Lateral 1/2		Chop	1	1	0	0	0	
46	TU 03	2	Bovinae	1	7.90	1st phalange	Lateral 1/3		Chop	1	1	0	0	0	
46	TU 03	2	Mammal--very large	1	32.02	Tibia	Fragment of diaphysis				1	0	0	0	
46	TU 03	2	Bovinae	1	4.61	Proximal sesmoid	Complete				0	0	0	0	
46	TU 03	2	Bovinae	1	3.89	Proximal sesmoid	Complete				0	0	0	0	
46	TU 03	2	Bovinae	1	2.02	Distal sesmoid	Fragment					0	0	0	
46	TU 03	2	Bos taurus	3	18.00	Ischium	Rump cut 3/4"		Hand saw	2	3	0	0	0	
46	TU 03	2	Bos taurus	3	16.17	Ischium	Rump cut 3/4"		Hand saw	2	3	0	0	0	
46	TU 03	2	Mammal--very large	1	7.02	Rib	Fragment				3	0	0	0	
46	TU 03	2	Bovinae	1	3.13	3rd phalange	Fragment				2	0	0	0	
46	TU 03	2	Bovinae	1	1.68	3rd phalange	Fragment				3	0	0	0	
46	TU 03	2	Mammal--very large	4	14.02	Long bone	Fragment				1	0	0	0	
46	TU 03	2	Mammal	1	1.65				Hand saw	1	3	0	0	0	
46	TU 03	2	Mammal	36	34.00							0	0	0	
46	TU 03	2	Mammal	3	1.97							0	1	0	
46	TU 03	2	Mammal	58	11.29							0	N	N	
46	TU 03	2	Mammal	2	0.40							1	N	N	
46	TU 03	2	Mammal	3	0.98							2	N	N	
46	TU 03	2	Mammal	3	1.17							3	N	N	
46	TU 03	2	Mammal	1	0.35							4	N	N	
54	TU 04	4	Mammal	1	0.08							0	N	N	
60	TU 04	5	Mammal	2	1.32							0	N	N	
53	TU 05	2	Mammal--very large	2	16.07						2	0	1	1	
53	TU 05	2	Mammal--very large	1	4.46						2	0	1	2	
53	TU 05	2	Mammal	2	0.73							2	N	N	
53	TU 05	2	Mammal	2	1.90							1	N	N	
53	TU 05	2	Mammal	1	0.73							0	0	0	
53	TU 05	2	Mammal	2	1.71							0	1	N	
53	TU 05	2	Mammal	3	3.62							0	0	2	
53	TU 05	2	Mammal	25	7.46							0	N	N	
55	TU 05	3	Mammal--very large	1	3.58						2	0	0	2	

Bag #	Unit #	Lv.	Taxon	Count	Wgt (g)	Element	Portion	Juv?	Butcher marks					
									Type	Count	Brks	Burn	Weath	Pit
55	TU 05	3	Mammal	1	0.13							0	N	N
55	TU 05	3	Mammal	1	0.80							2	N	N
56	TU 05	4	Mammal	1	0.30							0	N	N
57	TU 05	5	Mammal	1	0.42							3	N	N
Total				832	660.43									

