

An Cultural Resource Reconnaissance Survey Of the Metrovest Mining And Development Project Area, Tarrant County, Texas

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ABSTRACT

This report presents the results of an archaeological reconnaissance survey conducted within a ca. 1900 acre (ca. 769.5 ha) tract on the northern floodplain of the West Fork of the Trinity River in eastern Tarrant County, Texas. This work was performed in May and June, 1994, by the Archaeology Research Program (ARP) under contract to Metrovest Partners, Ltd., Dallas, Texas.

Current sand and gravel mining operations and planned reclamation and development of the property will result in the destruction of extant wetlands. The creation of additional wetlands elsewhere on the property will mitigate this loss. The present investigations were undertaken in partial fulfillment of the requirements of Section 404 of the Clean Water Act, as amended, and Section 106 of the National Historic Preservation Act, as amended (PL-89-665).

A combination of archival research, informant interviews, and pedestrian reconnaissance was employed to document the extent of subsurface disturbance in the project area which has resulted from previous mining activities. Two prehistoric sites were identified within apparently undisturbed areas as a result of the excavation of test trenches by the current owners of the property. Formal test excavations are recommended for both loci. Recommendations are also made for testing and/or monitoring of other apparently undisturbed portions of the project area.

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The background research for this project was conducted by D. H. Jurney and K. J. Shaunessy. Typesetting and paste-up of the report and analysis of flaked stone artifacts was performed by J. L. Yedlowski, who also served as the Principal Investigator for this project. Computer-assisted drafting of figures was performed by N. L. Yedlowski and J. L. Yedlowski.

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Management Summary

Metrovest Partners, Ltd. is currently conducting open pit sand and gravel mining operations within previously unmined portions of a ca. 1900 acre (ca. 769.5 ha) tract in eastern Tarrant County, Texas. The tract is located on the northern floodplain of the West Fork of the Trinity River. Following the conclusion of mining operations, Metrovest proposes to develop some portions of the project area into a combination business park and theme park with special tourist attractions. Current development plans call for the creation of additional wetlands in the northeastern portion of the project area as a replacement for extant wetlands elsewhere on the property which will be destroyed as a result of combined mining operations and subsequent development. The present investigations were undertaken by the Archaeology Research Program (ARP) on behalf of Metrovest Partners, Ltd. in partial fulfillment of the requirements of Section 404 of the Clean Water Act, as amended, and Section 106 of the National Historic Preservation Act, as amended (PL-89-665).

The aims of the current investigations were threefold: 1) documentation of previously disturbed portions of the project area through both archival research and a pedestrian field reconnaissance; 2) examination of exposed stratigraphic profiles within the project area in order to assess the potential for buried and intact cultural resources; and 3) to provide management recommendations for areas where archaeological sites were identified or where the potential for preserved cultural material is deemed high (see Methods of Investigations). A total of 14 person days were expended on archival research, informant interviews, and field work. Field investigations were performed by K. J. Shaunessy, D. H. Journey, and J. L. Yedlowski. All work was conducted under the general supervision of J. L. Yedlowski, Principal Investigator.

Approximately 1350 acres (ca. 546.75 ha) of the ca. 1900 acre (ca. 769.5 ha) project area have been confirmed as severely disturbed due to previous mining activities, municipal landfill operations, or usage as borrow areas for previous reclamation projects. Several previously recorded prehistoric and historic archaeological sites, including Bird's Fort (41TR128), were located in this disturbed area (see Historic Background and Results). Another ca. 516 acres (ca. 209 ha) have apparently not been disturbed or exhibit only moderate surface disturbance as a result of vegetation clearance. The remaining ca. 34 acres (ca. 13.77 ha) could not be conclusively confirmed as either disturbed or undisturbed based on the data obtained during the present investigations (see Results of Investigations and Recommendations).

Two prehistoric sites were identified in large test trenches excavated in the southwestern portion of the project area by Metrovest in preparation for the expansion of mining activities into that area. Two smaller supplementary backhoe trenches were excavated at the request of U.S. Army Corps of Engineers (COE) personnel. At 41TR142 (field designation: Metrovest Site #1) an apparently undisturbed paleosol at a depth of 1.2 m to 1.6 m (3.94 ft to 5.25 ft) below present ground surface was identified. This may represent a manifestation of the West Fork paleosol reported by Ferring (1986: 93). *In situ* cultural material was recovered from the paleosol. At 41TR141 (field designation: Metrovest Site #2) cultural material was recovered from the present ground surface and wall slump within the main test trench. Two projectile points were among the materials recovered from the present ground surface, a Middle to Late Archaic Palmillas point and an untyped barbed projectile point (see Appendix A). *In situ* unidentified bone fragments were observed at a depth of 1.0 m to 1.35 (3.28 ft to 4.43 ft) below present ground surface, however, no discrete paleosol has yet been identified at this site (see Results of Investigations).

Very few professional investigations have been conducted on sites located along the West Fork of the Upper Trinity River (see Previous Archaeological Investigations). Given this relative paucity of systematic investigations in the general study area as well as the presence of apparently *in situ* cultural material at these sites, formal testing of these two sites via a combination of machine-assisted excavation and controlled hand excavation is recommended. Backhoe testing is also recommended for the indeterminate and undisturbed ca. 550 acres (ca. 222.75 ha) elsewhere on the property if subsequent development will impact any portions of these zones (see Recommendations).

Introduction

The Metrovest project area is located on a ca. 1900 acre (ca. 769.5 ha) tract on the northern floodplain of the West Fork of the Trinity River in eastern Tarrant County, Texas. It is located within the greater Arlington city limits, approximately 1 mile (ca. 1.6 km) south of the town of Euless. The project area is bounded on the south and east by the West Fork of the Trinity River, on the west by FM 157, and on the north by several small land parcels which are immediately to the south of the Chicago & Rock Island Railroad (Figure 1). A ca. 108 acre (ca. 43.74 ha) "boot-shaped" out-tract is located in the approximate center of the Metrovest property. This property includes the crescent-shaped Calloway Lake and is the location of the Silver Lake Gun Club. It is not included in the present investigations.

Metrovest Partners, Ltd. is currently conducting open pit sand and gravel mining operations within the project area. Following the conclusion of mining operations, Metrovest proposes to develop some portions of the project area into a combination of business park and theme park with special tourist attractions. Current development plans call for the creation of additional wetlands in the northeastern portion of the project area as a replacement for extant wetlands which will be destroyed as a result of combined mining operations and subsequent development elsewhere on the property. The Fort Worth District of the U.S. Army Corps of Engineers has jurisdiction over ca. 239 acres (ca. 96.72 ha) of wetlands in the project area (Figure 2 and folio Figure 2). The present investigations were undertaken by the Archaeology Research Program (ARP) on behalf of Metrovest Partners, Ltd. in partial fulfillment of the requirements of Section 404 of the Clean Water Act, as amended, and Section 106 of the National Historic Preservation Act, as amended (PL-89-665).

Environmental Background

The Metrovest project area is located on the north side of the Trinity River floodplain within the Grand Prairie section of the Coastal Plain Province near the intersection of the Coastal Plain and Great Plains physiographic provinces (Raisz 1954). The elevation ranges from ca. 152.5 m (ca. 500 ft) above mean sea level (amsl) in the area to the immediate north of the project area to ca. 128.1 m (ca. 420 ft) amsl in the channel of the West Fork of the Trinity River. The topography of the northern margin of the project area is hilly to rolling, and is deeply dissected by streams. The floodplain is characterized by relatively flat reclaimed areas once mined for sands and gravel and by open borrow pits.

The project area is located within the Upper Trinity River Basin (Yates and Ferring 1986). It is situated directly to the north of the West Fork of the Trinity River. Major tributaries to the West Fork of the Trinity in the general study area include Bear Creek to the east, Village Creek to the southwest, and

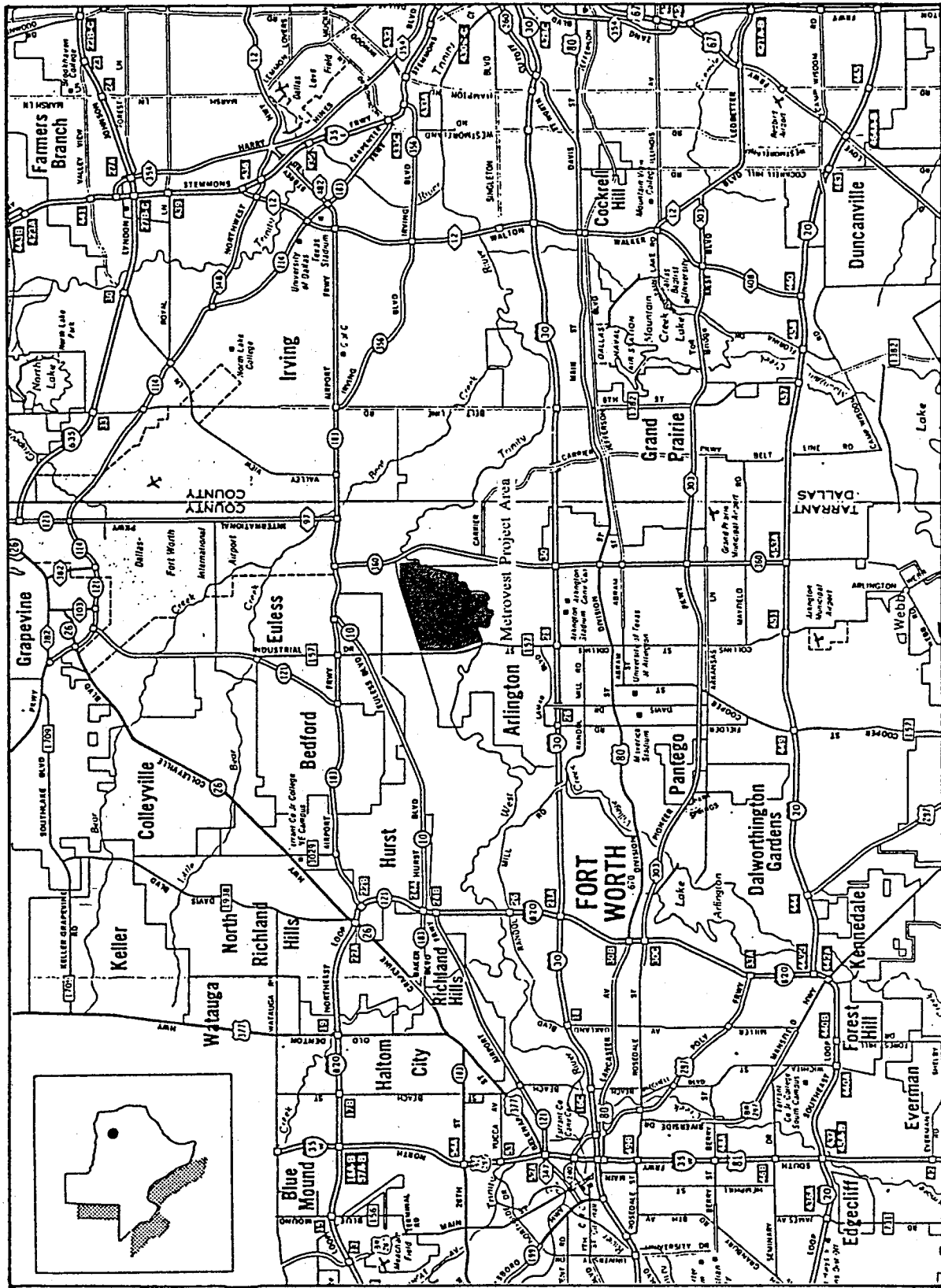


Figure 1. Location of the Metrovest Project Area within the Greater Dallas/Fort Worth Metroplex.

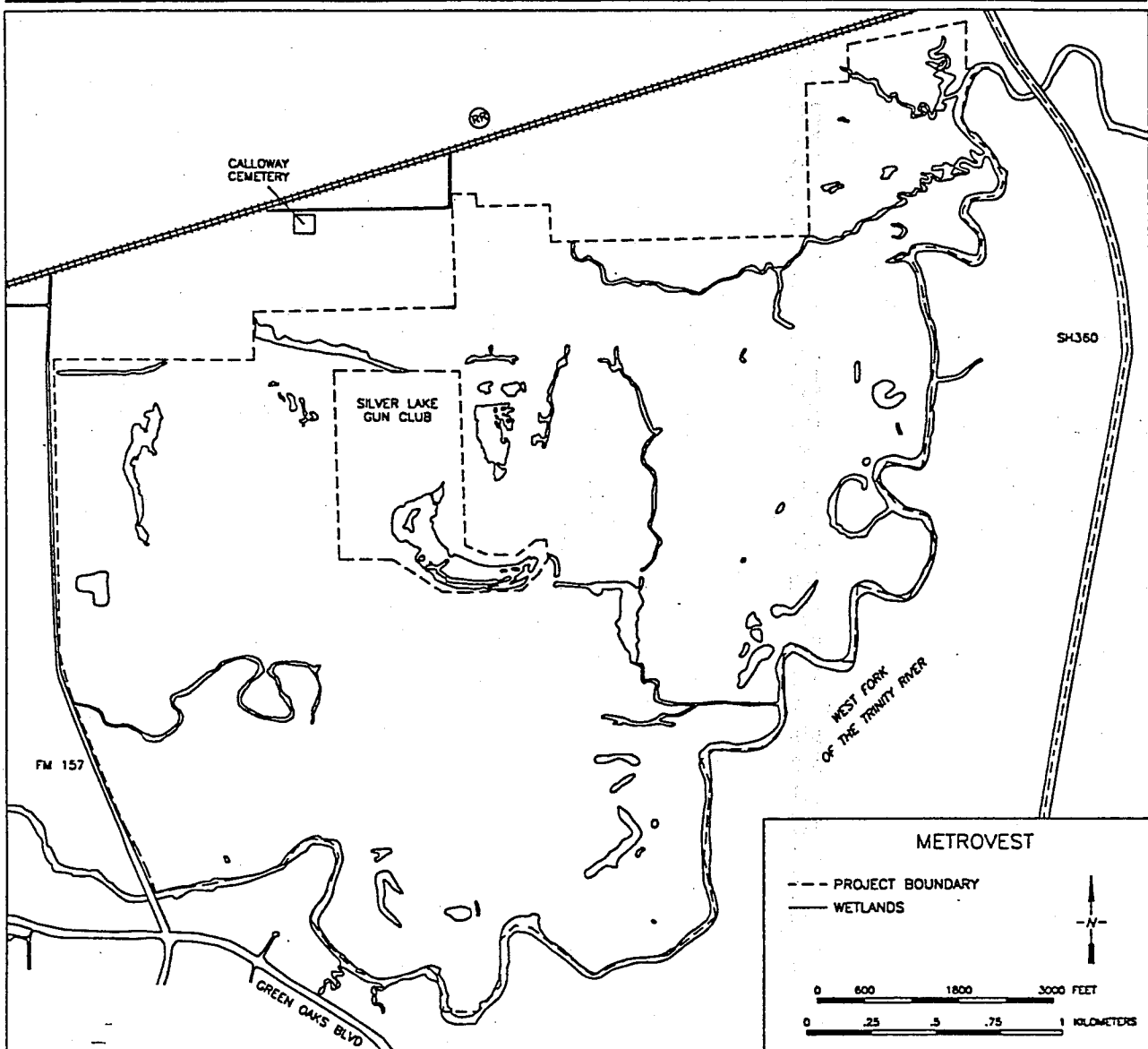


Figure 2. Wetlands within the Metrovest Project Area over which the U.S. Army Corps of Engineers, Fort Worth District, has jurisdiction. See folio Figure 2 for a color presentation of this figure.

Johnson Creek to the southeast. Lesser order drainage patterns within the immediate project area have been extensively altered as a result of both urbanization and mining activities.

Bedrock is comprised of the Woodbine Formation, which consists of sandstone, clays, and shales. These are horizontally bedded marine sediments dating to the Cretaceous (Barnes 1988). Within the general study area, the Woodbine Formation is typically deeply buried under colluvium and alluvium. The Trinity River has incised a broad floodplain through the Woodbine Formation, reaching lowest base level during the last glacial maximum ca. 18,000 years ago (Ferring 1986: 32-112). Since then it has alluviated to its present level as carrying capacity has slowed and floodplain aggradation has increased. Today, the Trinity River flows in an underfit (i.e., undersized) valley ca. 1.6-3.2 km (ca.1-2 mi) wide, which is a

cumulative result of alluviation over more than ten thousand years. The meandering channel has formed a series of ox-bow cutoffs and channel avulsions across this floodplain, which apparently stabilized ca. 2000 years ago (Reid Ferring, personal communication 1994). As a consequence of these geological processes, complex channel and natural levee deposits spanning the entire Holocene and terminal Pleistocene (i.e., the past ca. 20,000 years) are buried within the general study area (Ferring 1986: 43). This alluviation has doubtless sealed many prehistoric occupations once located inside the valley's Holocene limits and it has probably aided in the preservation of important archaeological sites under thick alluvial deposits (Collins, Bousman, and Pertula 1993: 63-64).

In the Trinity River bottom, the Trinity clay is the dominant soil. The Trinity Series are deep heavy clays, rich in lime, on floodplains. The surface layer is more than 50 cm (19.7 in) deep, and it has a greater than 1 m (3.28 ft) thick subsoil. The parent material is calcareous alluvium. Beds of stratified sand and gravel lie beneath the clay soils in many places. A geomorphological investigation, conducted for the U.S. Army Corps of Engineers, described a deep stratigraphic section to the immediate southwest of the Metrovest project area (Yates and Ferring 1986, Ferring 1986). A radiocarbon date of 1510 ± 100 B.P. (Beta 14904) was obtained from a cultural zone buried ca. 1 m (ca. 3.28 ft) below present ground surface, and a date of 8950 B.P. was obtained at 8 m (26.2 ft) below ground surface (Reid Ferring, personal communication 1994). In addition to the Trinity clay, other soil types in the Metrovest project area include Silawa fine sandy loam, Ovan clay, and, notably, Arens (Ressel 1981).

This area marks the intersection of the Eastern Crosstimbers biogeographic province and the Trinity River. It is in close proximity to the Blackland Prairie. Today's vegetation consists of relict riparian forest along the current and abandoned channels of the West Fork Trinity River, and disturbed vegetation consisting of European-introduced and native weeds, grasses, and forbs. The original notes of the General Land Office surveyors provide information on the pre-settlement forest composition, prior to the radical alterations observed today (Jurney 1988: 333-352). In its native state the floodplain forest ecosystem of the general study area consisted of hardwood forests and occasional wetland prairies. Elm (*Ulmus* spp.) and post oak (*Quercus stellata*) were the dominant trees followed by hackberry (*Celtis* spp.), Spanish oak (*Quercus falcata*), and ash (*Fraxinus* spp.). Incidental species included fruit and nut producers such as bur oak (*Quercus macrocarpa*), red haw (*Craetaegus mollis*), walnut (*Juglans* spp.), pecan (*Carya illinoensis*), gum bumelia (*Bumelia lanuginosa*), and mulberry (*Morus rubra*). Other incidental species included sycamore (*Plantanus occidentalis*), mesquite (*Prosopis glandulosa*), cottonwood (*Populus deltoides*), and willow (*Salix nigra*).

Upland settings were dominated by typical Eastern Crosstimbers vegetation. Post oak (*Quercus stellata*) and blackjack oak (*Quercus marilandica*) comprise over 80% of this vegetational type (Jurney 1988: 345-346). Other commensurate species include red oak (*Quercus* spp.), elm (*Ulmus* spp.), locust (*Robinia* spp.), gum bumelia (*Bumelia lanuginosa*), and pecan (*Carya illinoensis*).

The present-day study area is characterized by interdigitated prairie, upland forest, and lowland forest ecosystems and was probably similar in these associated environments throughout the Holocene. Presumably, the most important animals of the tallgrass prairies were bison (*Bison bison*), cottontail (*Sylvilagus floridanus*) and jack rabbit (*Lepus californicus*), and pronghorn antelope (*Antilocapra americana*). Bear (*Ursus* spp.), raccoon (*Procyon lotor*), white-tailed deer (*Odocoileus virginiana*), bald eagle (*Haliaeetus leucocephalus*), and wild turkey (*Meleagris gallopavo*) were found along the wooded fringes of streams and around springs. Lakes and streams contained a variety of turtles, snakes, and fish.

The largest, most abundant animal, at times, was the bison. However, on the basis of faunal data from archaeological sites Dillehay (1974) has suggested two periods when bison were essentially absent from the general study area; 6000-5000 B.C. to 2500 B.C. and A.D. 500 to A.D. 1200-1300. Lynott (1979, 1981a, 1981b) reviewed the extant evidence, which is relatively poor for earlier periods in north-central Texas and concluded that bison were never very numerous in the tallgrass prairies, but after ca. A.D. 1200 their numbers did increase slightly. Despite the potential for bison to provide large quantities of meat, archaeological evidence suggests that white-tailed deer were taken most often.

Historic Background

The general study area which includes the Metrovest project area was the focus of several important events during the years of the Texas Republic. The project area is located within the area granted by the Republic of Texas to a group of Kentucky investors which is commonly referred to as the Peters Colony. The earliest Anglo settlement in present-day Tarrant County, Bird's Fort, was located, in part, on the Metrovest property. Bird's Fort was established as a ranger outpost against Indian attacks by Jonathan Bird in 1841 following a commission by General Edward H. Tarrant of the Texas Militia (Gage 1979). This site represented what was, at that time, the leading edge of the frontier in Texas.

In the autumn of 1841, Major Bird's troops arrived at a crescent-shaped lake slightly north of the West Fork of the Trinity River and west of the military road that reached from Preston's Bend to Austin...Inside the curve of the lake a fort was erected, consisting of a tall blockhouse and several cabins, three of which were enclosed in a stockade. The outer walls of the blockhouse were made of logs set on end, and a deep trench was dug around it. The fort nestled advantageously behind a semi-circular shield of oak woods, about forty feet from a spring which bubbled up at the end of the lake. (Gage 1979, based on an article in the *Clarksville Standard*, 1853)

Bird's Fort was also the site of the first Anglo cemetery in present-day Tarrant County and Gage (1979) has documented that at least eight individuals were interred there as a result of both sickness and Indian attacks. The remains of both the fort and the cemetery were still visible in 1866, according to a letter written in 1926 by a former Tarrant County Surveyor, J. J. Goodfellow.

My first visit to the graves was in 1866, at which time Col. B. Rush Wallace was the owner of the property covering most of Calloway's Lake and the Ground upon which the old blockhouse and the graves are located. The remains of the house were then plainly visible [sic]. They stood on the northeast bank of the lake at a point where a country club later built a swimming pool on the ground and destroyed most of the signs of these trenches. From this blockhouse a path led in a northeasterly direction, probably 250 or 300 yards through timber to the graves (The *Fort Worth Star Telegram* 1934, quoted in Gage 1979).

Bird and his colonists did not remain long at the fort and were forced to abandon it in 1842. Although the colonists had been promised land in return for the establishment of a military post, the settlers' applications for land in the vicinity of the fort were not granted due to a preexisting agreement between the Republic of Texas and Peters Colony (Webb 1952). Most of the colonists resettled in Dallas County or present-day Collin County. Bird returned to Bowie County and later died, around 1850, in Titus County (Gage 1979).

Bird's Fort was also the site of the disbanding of the ill-fated Jacob Snively Expedition in August 1843. Organized to retaliate against Mexico for attacks on San Antonio, the expedition was split by internal strife and was ultimately disarmed by a United States Army force (Gage 1979). During his second term in office, President Sam Houston arrived at the now-abandoned fort to attend a council with representatives of many Texas Indian tribes in an attempt to reestablish peaceful relations between Indians and Texans. The failure of the Comanches to send representatives to the council produced delays in the negotiations and Houston returned to the capitol, leaving the negotiations in the hands of General Edward H. Tarrant and George Terrell. A treaty was subsequently signed on September 29, 1843 and ratified by the Texas Senate on January 31, 1844 (Gage 1979).

The Metrovest study area contains 11 individual original land patents: (1) the Heirs of James R. Newton; (2) William Jenkins; (3) Samuel Kephart; (4) Patrick G. Dalton; (5) Thomas Dalton; (6) Jehu Condra; (7) Thomas D. Newton; (8) J. J. Goodfellow; (9) Jotham Brown; (10) James and D. C. Swann; and (11) Madison Coleman. The file for Coleman was unavailable for examination at the Texas General Land Office. Jotham Brown, William Jenkins, Samuel Kephart, James R. Newton, and Thomas D. Newton were Peters colonists (Connor 1959). Although the land tracts were patented to the above individuals, several were not resident landowners. Jotham Brown lived on White Rock Creek in Dallas County (Connor 1959: 203), and William Jenkins and Samuel Kephart sold their land certificates "unlocated." Based on the General Land Office (GLO) survey information, all but two tracts (i.e., Goodfellow and Swann) were surveyed between 1850-1857. The J. J. Goodfellow tract was surveyed in 1885 and the Swann tract was surveyed in 1894.

All Tarrant County deed records dating prior to 1876 were destroyed when the courthouse burned. However, a partial chain of title was obtained for the portion of the project area containing Bird's Fort (Gage 1979). Both the fort and the adjacent lake are reported to have been in the T. D. Newton Survey. The chain of title begins with Col. B. Rush Wallace, who died intestate. The property was sold by the Tarrant County Tax Collector (J. M. Henderson) to R. E. Maddox for \$26.00 in 1879. John R. Wallace, Col. Wallace's nephew, bought it in 1880 to settle his uncle's affairs, and then sold the greater parcel to Thomas Youngblood for \$56.00. He retained 13 acres containing the blockhouse site which was subsequently leased to Dallas sportsmen. The property was obtained by Sam P. Shaffer, who sold it to D. C. Trigg, Jr. The property was operated by the Calloway Lake Hunting and Fishing Club which was called the Silver Lake Hunting and Fishing Club by 1895. Confusion over the title led to a lawsuit between the Heirs of T. P. Youngblood and Benedict Nessler of the Silver Lake Hunting and Fishing Club. The club obtained full ownership of the lake and adjacent improvements in 1908. In the 1930s, interested historians (who prompted Goodfellow's letter; see above) erected a marker at the edge of the newly-constructed swimming pool, which reportedly had impacted or destroyed the blockhouse site. In 1939, the Armentrout family bought out the other members of the hunting club. Charles Armentrout subsequently came into possession of the property and it was leased to the Arlington Sportsmen's Club from 1963 to 1974 (Brown 1987). The property remains in the possession of Armentrout and is presently used by the Silver Lake Gun Club.

Unfortunately, there is no unequivocal evidence for the location of roads, houses, and other cultural features within the project area until modern aerial surveys were conducted. All historic maps employ different scales, resolutions, and utilize some degree of cartographic license. Each historic map was closely examined and the information transferred to USGS and development maps. Due to the vast modifications to the landscape, there are no completely accurate points of reference with which to calibrate all information.

The earliest map is the 1852 Hedgecoxe Map of Peters Colony (Texas GLO 1852) (Figure 3). This map shows a major road leading from Grapevine Springs across the Grapevine Prairie toward the southwest (i.e., the "Military Road"), generally following the eastern edge of the Crosstimbers, and passing through the center of the present Metrovest project area. A lateral spur is shown to Bird's Fort, located on the western line of Section 1, Township 1S, Range 3W. Since the Peters Colony notes were destroyed in the Hedgecoxe War (Connor 1959: 136-152) and Texas never established township and range meridians, it is impossible to completely calibrate this map to modern maps.

The earliest Texas General Land Office map dates to 1856 (Texas GLO 1856). This map shows both the Township and Range and Texas General Land Office "metes and bounds." This map shows only four surveys in the immediate study area; Thomas D. Newton, Samuel Kephart, William Jenkins, and James R. Newton. There is no reference to Bird's Fort and the remaining land in the study area was unclaimed. Unlike the 1852 Hedgecoxe map of Peters Colony, the 1856 GLO map does not show neat, symmetrically arranged 640-acre parcels in this area. Instead, surveys are comprised of various acreages, apparently arranged according to metes and bounds.

In 1889, the United States Geological Survey (USGS) conducted the first topographic survey of Tarrant County. A map was published in 1894. There appear to be several discrepancies with earlier maps, particularly in the placement of streams. A single road is shown through the project area in the vicinity of present-day FM 157. However, the road that is shown has many sharp turns and curves as it crosses the Trinity River floodplain, apparently indicating road shifts to avoid areas rendered impassable by flooding and traffic (i.e., rutting).

In 1893, Sam Street published (Texas Map Publishing Company 1893) a detailed map of Tarrant County that shows roads, names of landowners, dwellings of tenants, churches, cemeteries, schools, and other cultural features. At least five tenant dwellings are shown within or adjacent to the project area. A "Club House" and "Flowing Well" are shown on the ridge east of Calloway Lake, which is located on "Hurricane Creek." Two roads are shown. One is in the location of present-day FM 157, but it is straight, suggesting a major road construction project since 1889. Another road leads into the Trinity bottom in the vicinity of the 1852 Military Road shown on the Peters Colony map. After this road crosses Hurricane Creek below Calloway Lake, it diverges to the east from the 1852 route and crosses the Trinity River at the eastern edge of the Metrovest project area. This crossing is within the mapped 1885 J. J. Goodfellow and 1899 James and D. C. Swann Surveys.

The U.S. Army Corps of Engineers conducted a field survey in 1918-1919 of most of Tarrant County, including the project area. The map published in 1921 as a result of this survey is a more accurate representation of the area. Both roads shown on the 1893 maps were still present. A newer road passing near the Calloway Cemetery is shown connecting these two roads in the uplands north of the Metrovest study area.

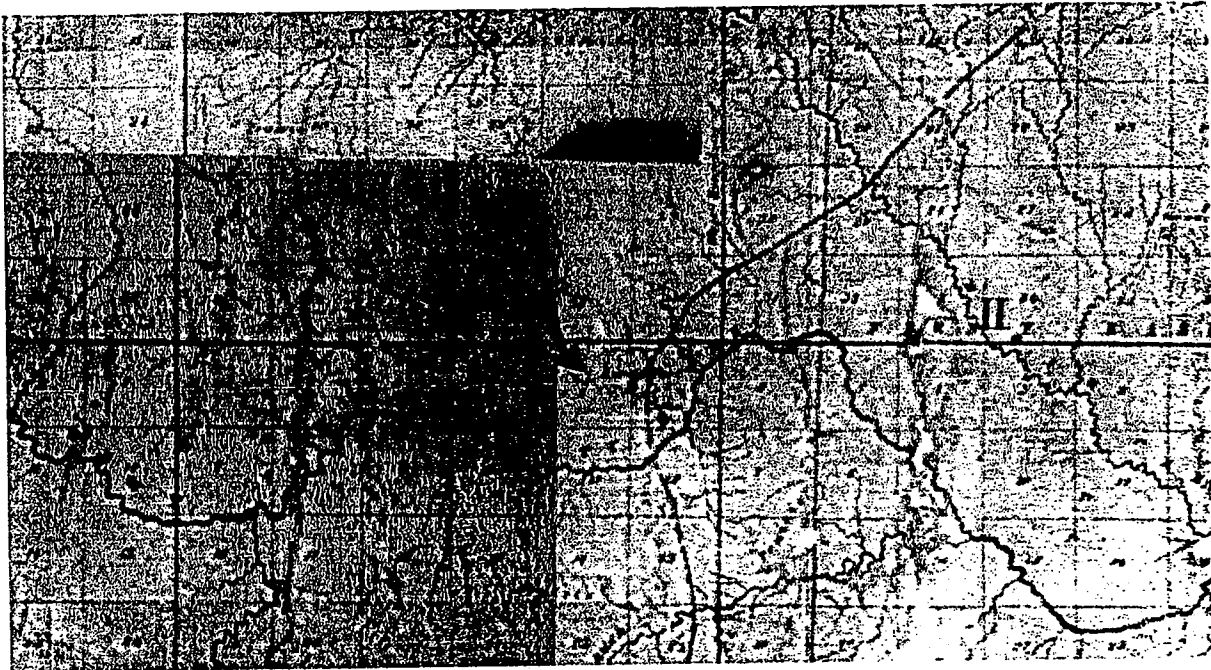


Figure 3. Composite photographic reproduction of the Hedgecoxe Map of Peters Colony (Texas GLO 1852). The West Fork of the Trinity River flows west to east (left to right) through the lower one-half of the figure. The location of Bird's Fort (which is labeled on the map) is indicated by the arrow. The "Military Road" is visible immediately to the east of the fort.

The first soil survey of Tarrant County was published by the U.S. Department of Agriculture in 1924 (USDA 1924). The field map dates to 1920. FM 157 is once again shown with several sharp curves and turns. The eastern road configuration has also changed. A new road is shown at the edge of the floodplain, crossing Hurricane Creek northwest of Calloway Lake. This map shows eight dwellings within the upland portion of the project area, and an additional six buildings on the ridge point where the Silver Lake Gun Club is presently located.

In the twentieth century, sand and gravel mining operations have been extensive in the greater study area, generally, and in the Metrovest project area, specifically. A series of aerial photographs was utilized, in part, to document the evolution of mining operations on the Metrovest property (see Methods of Investigations). The exact date at which mining activities commenced in the project area was not determined in the course of the present study, although they apparently began sometime between 1924 and 1942 (Figure 4). By 1950 Jeffries and Betts Company was mining sand and gravel in the northwestern corner of the property. In the early to middle 1960s Hay-Donaldson Company was conducting mining and production activities on the northeastern side of the property. Between ca. 1970 and 1987 Texas Industries (TXI) owned about 1400 acres (ca. 576 ha) of the property and conducted extensive sand and gravel mining operations. The current owners purchased the present ca. 1900 acre (ca. 769.5 ha) tract in September of 1992 and began mining operations in mid 1993 (S. J. Stovall, personal communication 1994)



Figure 4. Composite aerial photograph taken in 1942 showing ongoing mining activity within the present Metrovest Project Area.

Previous Archaeological Investigations

There have been no systematic archaeological investigations conducted within the immediate Metrovest project area prior to the present study, and relatively few professional investigations along the West Fork of the Trinity River in general. Other areas in the Upper Trinity River Basin further to the east have been described by Prikryl (1990), who has synthesized archaeological investigations in the Lower Elm Fork of the Trinity River, and by Peter and McGregor (1988), who have documented investigations in the Mountain Creek drainage. A regional geoarchaeological overview, conducted for the U.S. Army Corps

of Engineers, does include the study area (Yates and Ferring 1986). A deep stratigraphic section adjacent to the Metrovest project area was described and a radiocarbon date of 1510 ± 100 B.P. (Beta 14904) was obtained from a cultural zone buried ca. 1 m (ca.3.28 ft) below present ground surface (Ferring 1986: 93-97). Ferring informally named this buried soil horizon the West Fork paleosol. A date of 8950 B.P. was later obtained for a charcoal sample collected from ca. 8 m (ca.26.2 ft) below ground surface (Reid Ferring, personal communication 1994).

Archaeological surveys were conducted for the nearby Highway 360 corridor (Lorrain 1973). More recently, archaeological excavations have been conducted along Green Oaks Boulevard where it crosses Village Creek, ca. 3.2 km (ca. 2 mi) southwest of the project area. No cultural materials were identified during this study (Andrews 1988). Excavations have also been conducted at the River Bend Site (41TR68), upstream from the project area (Peter 1987). These excavations recovered a limited quantity of artifacts and faunal material, and identified cultural features within the West Fork paleosol to a depth of 1.45 meters (4.8 ft) below the top of the buried paleosol. An archaeological survey along Johnson Creek, to the southeast of the Metrovest project area, identified a buried paleosol in channel cut banks. However, no cultural materials were recovered (Peter and Cliff 1988).

An inspection of the state-wide registry of historic and prehistoric sites kept by the Texas Archeological Research Laboratory (TARL) in Austin, Texas indicated that avocational archaeologists have recorded four archaeological sites (41TR3, 41TR128, 41TR139, and 41TR140) adjacent to or within the boundaries of the Metrovest property (Figure 5). These sites are briefly described below.

41TR3 is a prehistoric site located on an upland crest at an elevation of ca. 490-500 ft amsl, just south of the Chicago & Rock Island Railroad line. It is outside of the Metrovest property. It was recorded by Jap Schwartz of Eules in 1974 and described as being ca. 40,000 m² (ca. 131,233 ft²) in extent. Paleo-Indian projectile points were reportedly collected, but no other information is available. The site was impacted by road construction and was subsequently destroyed by quarrying.

41TR128 is a multicomponent site. The historic component of this site consists of Bird's Fort and its associated cemetery. The prehistoric component was collected by William L. Young of Corsicana, Texas in 1972, but remained unreported until 1991. The site is located on the ridge that extends south from Calloway Cemetery, along the western boundary of the Jehu Condra and Thomas D. Newton Surveys and the eastern boundary of the Samuel Kephart Survey. This line is apparently the western boundary of Section 1, Township 1S, Range 3W. The site area was defined as ca. 100,000 m² (ca. 328,033 ft²) in extent, based on the distribution of artifacts observed during topsoil removal. Apparently all portions of this site which were located on the present Metrovest property were destroyed by sand and gravel quarrying during the 1970's. Some vestiges of either the historic or prehistoric components may survive intact on the Silver Lake Gun Club property (see Results of Investigations).

Material culture remains that were collected in 1972 include an "unfluted Folsom" point made of Tecovas flint, a Cleburne knife, a back-tanged knife, a thin crescent-shaped biface, a cache of flaked stone blanks made of Edwards chert, Marcos points, untyped arrow points, a drilled marine bivalve shell, and shell and grog-tempered pottery. These material culture remains indicate Late Paleo-Indian, Early, Middle, and Late Archaic, and Late Prehistoric occupations.

Although Mr. Young stated on the TARL site form that no historic materials were collected, a re-examination of his collection from this site yielded a manufactured shell button and a writing slate

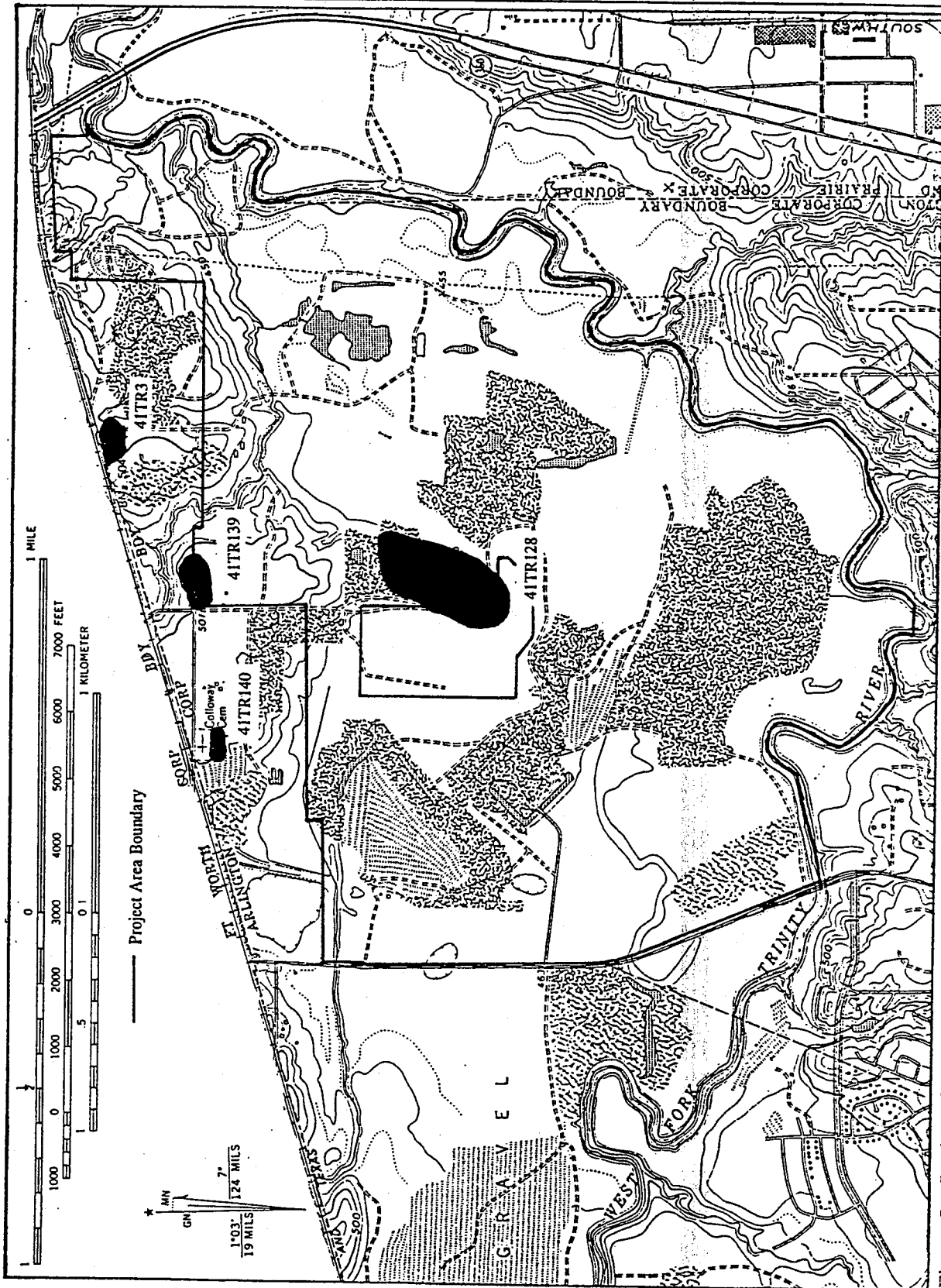


Figure 5. Section of the Euless 7.5 USGS quadrangle showing the boundaries of the project area as well as the Texas Archeological Research Laboratory (TARL) recorded archaeological sites within and immediately adjacent to the Metrovest Project Area.

fragment, both dating to ca. 1830-1870. These two items may indicate that domestic remains from Bird's Fort were scattered over the portion of site 41TR128 that was within the current Metrovest project area. Historic ceramic and glass sherds were present at the site, but these items were not collected (William L. Young, personal communication 1994).

41TR139 is a prehistoric site located on an upland crest on the northern edge of the Metrovest property at an elevation of ca. 490-500 ft amsl. It is just south of the Chicago & Rock Island Railroad line, and east of the Calloway Cemetery Road. It was discovered by William L. Young in 1972, and was recorded as a part of the present study. The site was discovered after topsoil had been removed, and was estimated to have covered ca. 30,000 m² (ca. 98,425 ft²). It has been totally destroyed by previous mining operations.

Material culture remains that were collected from 41TR139 in 1972 include one large Gary base made of quartzite, two square stemmed dart points (tan chert with ooliths and Ogallala quartzite), three flake knives (Ogallala quartzite), a biface fragment, and a quartzite river cobble core. These remains suggest a Late Archaic occupation of the site.

41TR140 is a prehistoric site located on an upland crest at an elevation of ca. 490-500 ft amsl, just south of the Chicago & Rock Island Railroad line, and immediately adjacent to the south side of Calloway Cemetery. The site is located outside of the current Metrovest property. It was discovered by William L. Young in 1972, and was recorded as a part of the present study. The site was discovered after topsoil had been removed, and was estimated to have covered ca. 20,000 m² (ca. 65,617 ft²). It has been totally destroyed by previous mining operations.

Material culture remains that were collected from 41TR140 in 1972 include a stemmed chert dart point, a bifacial tool fragment (possibly a drill base) made of Edwards chert, and a large biface trimming flake of an unidentified oolitic chert. The flake has been unifacially modified along one lateral margin and exhibits use wear. These remains apparently are associated with Early to Late Archaic occupations of the site.

Methods of Investigation

The initial focus of this archaeological reconnaissance survey was the documentation of previously disturbed portions of the Metrovest property. As noted above (see Historic Background), the project area has been the object of sand and gravel mining operations since at least 1942 (see Figure 4). The present investigations commenced with a thorough examination of several data sources consisting of: a series of aerial photographs taken in 1942, 1950, 1957, 1963, 1980, and 1987; a series of USGS topographic maps published in 1894, 1959, 1969, and 1981; Tarrant County Soil Surveys published in 1924 and 1981; a regional geoarchaeological overview of the Upper Trinity River Basin (Yates and Ferring 1986); and a series of historic maps as described earlier (see Historic Background). This information was augmented by informal interviews with Mr. J. Salim of Metrovest Partners, Ltd.; Mr. William L. Young, a Texas Archeological Steward who identified and collected sites in the project area as an avocational archaeologist in the 1970s; Paul and Jan Lorrain, Texas Archeological Stewards who have investigated the Bird's Fort site; and Mr. S. J. Stovall, who is presently a general consultant to Metrovest Partners, Ltd., and who has had "hands on" experience with the project area since 1950. The end result of this background research was a composite map which depicts the portions of the project area which have been severely disturbed

as a result of previous and current mining operations, municipal landfill activities, or quarry reclamation activities (Figure 6, folio Figure 6, and Results of Investigations). Any conflicting or problematical information was field-checked through a combination of "windshield survey" and pedestrian reconnaissance. The original research design had included provisions for the excavation of a limited number of shovel test probes. However, due to the thickness of both natural alluvium and redeposited soils in the project area, this methodological approach was deemed inappropriate. Thus, the remaining effort in the field was redirected toward a closer scrutiny of two previously unrecorded sites which were identified in the Metrovest project area (see below).

The in-field portion of this reconnaissance survey commenced with an on-site meeting on 12 May 1994 between K. J. Shaunessy and D. H. Journey of the ARP and Mr. Robert F. "Skipper" Scott, Archaeologist with the Fort Worth District of the U.S. Army Corps of Engineers. Mr. Scott had previously identified an apparently intact paleosol containing cultural material in a test trench excavated by Metrovest personnel. This site was subsequently recorded as 41TR142 as part of these investigations (see Figure 6, folio Figure 6, and Results of Investigations). During the course of the pedestrian reconnaissance described above, exposed stratigraphic profiles within the project area were examined for the presence of buried A soil horizons and/or *in situ* cultural material. A second previously unrecorded site was identified in another test trench which had been excavated by Metrovest personnel adjacent to an active quarry pit. This site was subsequently recorded as 41TR141 as part of these investigations (see Figure, folio figure 6, and Results of Investigations).

A second on-site meeting was held on 25 May 1994 between representatives of the COE, the ARP, and Metrovest. At that time, Mr. Scott requested that an attempt be made to better define the limits of the two sites mentioned above. Subsequently, an attempt to extend the extant trench at 41TR142 with a trackhoe was aborted as a partial collapse of the desiccated trench wall ensued. At 41TR141, a trackhoe was employed to clear slump from the walls of the main trench in order to better expose the site stratigraphy, and to excavate two smaller trenches perpendicular to the preexisting trench (see Results of Investigations).

The remainder of the field effort was devoted to site photography and to the description of site stratigraphy. Both sites were photographed multidirectionally in 35 mm black-and-white print and color transparency formats. Natural strata were identified in the field on the basis of subjective criteria including texture, apparent composition, friability, degree of compaction, and color. All identified artifacts were collected at both sites and representative samples of ecofactual materials were also collected. The analytical methodology used to describe flaked stone artifacts is described in Appendix A.

Results of Investigations

As noted in the previous section, a primary objective of the present study was the identification of all portions of the project area which have been subject to severe subsurface disturbance. A combination of archival research, informant interviews, and field reconnaissance resulted in the identification of ca. 1350 acres (ca. 546.75 ha) within the ca. 1900 (ca. 769.5 ha) acre Metrovest property which are clearly extensively disturbed and have little potential for the discovery of intact subsurface cultural resources (see Figure 6 and folio Figure 6). This disturbed area encompasses two previously recorded archaeological

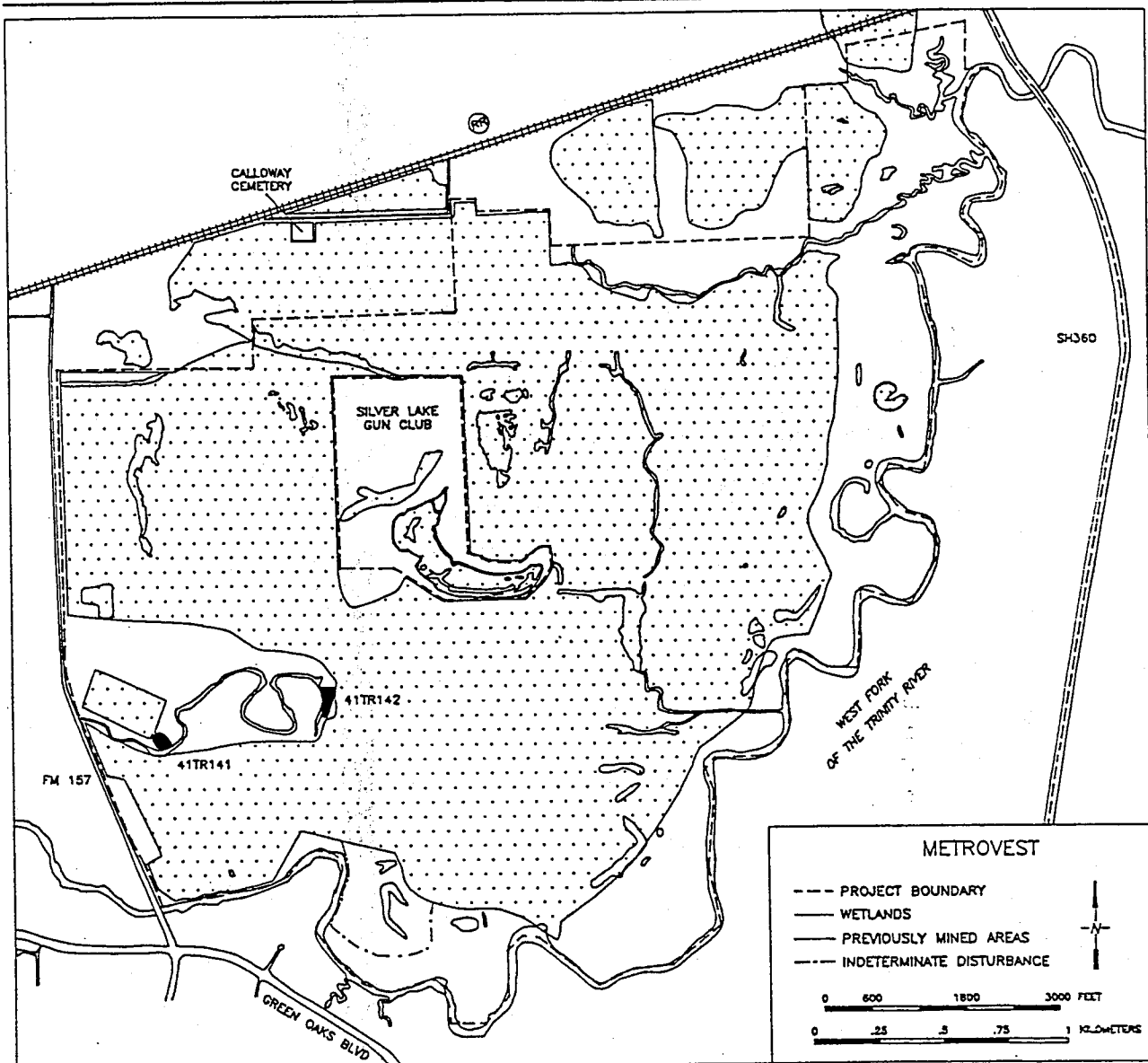


Figure 6. Locations of severely disturbed, indeterminately disturbed, and undisturbed portions of the Metrovest Project Area. Note the locations of 41TR141 and 41TR142, two previously unrecorded archaeological sites within the project area. See folio Figure 6 for a color presentation of this figure.

sites, 41TR139 and 41TR128 (see Figures 5 and 6). Site 41TR139 is clearly no longer extant due to sand and gravel mining activities. The present investigations confirmed that any portion of either the prehistoric or historic component of 41TR128 *within the Metrovest property* has clearly been destroyed by past mining operations, most likely in the 1970s (Figure 7). However, recent test excavations within the tract occupied by the Silver Lake Gun Club indicate that subsurface cultural features associated with at least the historic component of 41TR128 may remain intact on that property (Paul Lorrain, personal communication 1994).



Figure 7. General view of the eastern edge of the Silver Lake Gun Club property, facing the former location of Bird's Fort (i.e., west). Note the radical change in elevation between the foreground and the background. This is the result of previous mining activity within the Metrovest Project Area.

A ca. 29 acre (ca. 11.75 ha) area situated in the south central portion of the project area adjacent to the West Fork of the Trinity River could not be conclusively confirmed as either disturbed or undisturbed by the present study (see Figure 6 and folio Figure 6). Our field reconnaissance did confirm that the land immediately to the north has been extensively altered. There is a V-shaped pond located within this indeterminate zone, but it is unclear from the present level of investigation whether it is the result of past quarrying activities or not. It may well represent an old cut-off meander of either the West Fork of the Trinity River itself or of a lesser order drainage channel within the project area. In the latter case, the processes involved may have been either natural or may have been caused by mining-related disruptions of the natural drainage of the project area. Based primarily on the evidence from aerial photos, we are presently inclined to classify this small area as "undisturbed" (see Recommendations).

The remaining ca. 521 acres (ca. 211 ha) of the project area appear to be undisturbed or to have suffered only moderate surface disturbance as a result of vegetation clearance. This apparently undisturbed acreage may be subdivided into a ca. 96 acre (ca. 38.88 ha) tract in the southwestern quadrant of the project area, a ca. 7 acre (ca. 2.84 ha) tract immediately to the south of the Silver Lake out-tract, a ca. 5 acre (ca. 2.02 ha) tract in the southwest corner of the project area which is immediately to the east of FM 157, and ca. 413 acres (ca. 167.27 ha) in close proximity to the West Fork of the Trinity River along the eastern boundary of the project area (see Figure 6 and folio Figure 6). Our field reconnaissance of this undisturbed acreage concentrated on the southwestern portion of the project area where two previously unrecorded sites were identified (see below), although a portion of the deeply incised stream channel of "Calloway Creek" in the extreme northeastern portion of the project area was walked and exposed stratigraphic profiles were inspected. No buried paleosols were observed in the channel cut banks and no cultural material other than recent historic refuse was identified.

Two previously unrecorded prehistoric sites were identified in apparently undisturbed contexts within the southwestern quadrant of the study area. These were subsequently recorded with TARL and given the state trinomial designations of 41TR141 and 41TR142. Site 41TR142 was initially identified by Mr. R. F. "Skipper" Scott (COE). These sites are briefly described below.

41TR141

This site was identified by ARP personnel during the course of the present investigations. It was discovered at the eastern terminus of a large test trench excavated by Metrovest personnel as an extension of an active quarry pit in the southwestern portion of the property. The trench is situated to the north and west of a meandering remnant stream channel (see Figure 6 and folio Figure 6). The site's precise location is Universal Transverse Mercator (UTM) Zone 14, easting 678380, northing 3629690. The stratigraphic profile (Figure 8) at this site was not as well-defined as the profile at 41TR142 (see below) and no discrete paleosol was identified. However, *in situ* cultural and ecofactual materials were recovered from Stratum III at 41TR141 (see below). Cultural and ecofactual materials were also recovered from the present ground surface to the south of the quarry test trench and from wall slump near the eastern terminus of this trench.

The southern wall of the active quarry trench was examined in its entirety. Freshwater bivalve shells were common in the stratigraphic profile. Two isolated flakes were observed in wall slump at widely separated loci. A rather indistinct buried stratum was observed in the western portion of the profile at a depth of ca. 1.3 m (ca. 4.26 ft) below present ground surface. No cultural material was observed within this stratum, which may represent a weakly developed paleosol. The stratum appears to "pinch out" at some distance to the west of the test trench in which 41TR141 was identified.

The long axis of the quarry test trench is oriented roughly northwest-to southeast. It is ca. 94 m (ca. 308.32 ft) in length and ca. 8 m (ca. 26.24 ft) in width. Following a request by COE personnel to attempt to define the limits of the site, two smaller trenches were excavated with a trackhoe under the supervision of ARP personnel. These were excavated perpendicularly from the preexisting quarry trench at points immediately to the west of where cultural material had been identified and extended ca. 8 m (ca. 26.24 ft) to the north and ca. 15 m (ca. 49.2 ft) to the south. The trackhoe was also used to clear slump from the walls of the quarry test trench to better expose the stratigraphic profile (Figures 9 and 10). An *in situ* secondary trimming flake and fairly abundant unidentified bone fragments were observed in the wall of the southern trench. No cultural material was identified in the northern test trench.

It was not possible from this level of investigation to conclusively define the boundaries of 41TR141. However, the limits of the site are here tentatively (and rather arbitrarily) defined as the quarry test trench to the north, the southern test trench to the west, and the remnant stream channel to the east and south (see Figure 6 and folio Figure 6). The extent of the site is therefore tentatively estimated to be ca. 5000 m² (ca. 53,821.31 ft²). It was also impossible to adequately assess the integrity of the site from this level of investigation (see Recommendations).

As noted above, both material culture and ecofactual remains were identified at 41TR141. This material is discussed in general terms within the context of the site stratigraphy (see below). Two "finished" flaked stone implements, 24 pieces of flaked stone debitage, 10 bone fragments, and three bivalve fragments were recovered from 41TR141. Table 1 presents the distribution of this material at the site. It should be noted here that all material culture remains identified at the site were collected, while only representative specimens of the ecofactual material was collected. One of the "finished" worked

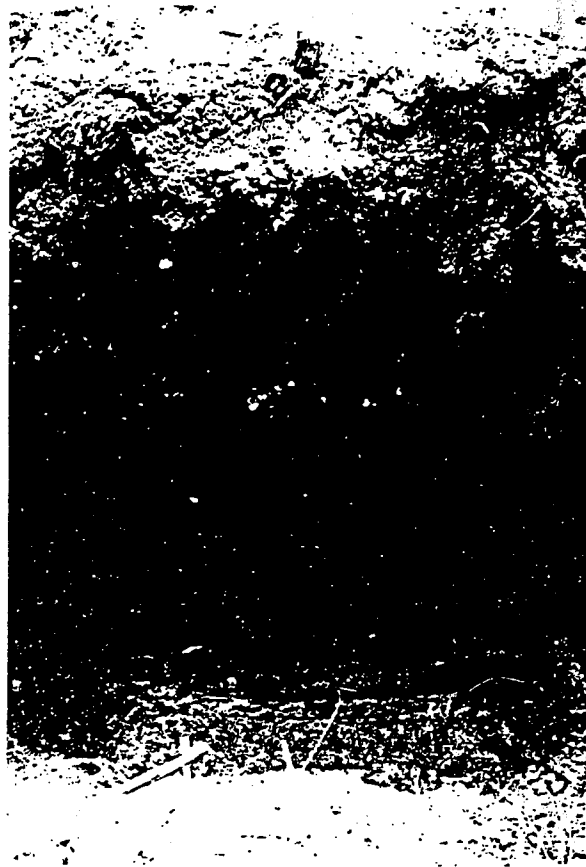


Figure 8. General view of the stratigraphic profile at 41TR141 in the southern backhoe trench excavated during these investigations, facing east. Note the numerous shell concentrations ("white spots") near the base of Stratum IV.

implements is identified as a Palmillas projectile point, while the other is identified as an untyped barbed projectile point. A detailed discussion of the flaked stone assemblage recovered from 41TR141 is presented in Appendix A.

Stratigraphy

Four natural strata were identified during our reconnaissance survey of 41TR141 (Figure 11a). One of these (Stratum III), yielded *in situ* cultural and faunal material. The site stratification is briefly described below from its oldest (lowest) stratum to youngest (uppermost) stratum.

STRATUM I (Field Designation F6)

Extent: The horizontal extent of Stratum I across the site is unknown. It was observed in a single deep backhoe trench. Vertically, the top of the stratum occurs at an observed depth of ca. 2.35 m

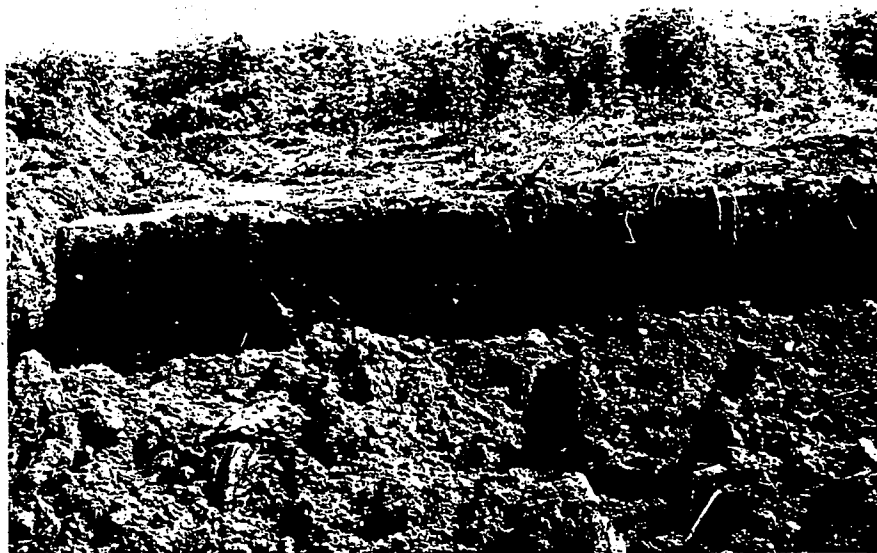


Figure 9. General view of the northern wall of the quarry test trench excavated by Metrovest personnel, prior to these investigations, in which 41TR141 was identified, facing north.



Figure 10. General view of the southern wall of the quarry test trench, excavated by Metrovest personnel prior to these investigations, at 41TR141, facing south.

TABLE 1

Materials Recovered From 41TR141 By General Provenience

General Provenience Material Category	Site Surface	Quarry Trench Wall Slump	Stratum III (F4)	TOTAL
Worked Implements				
Palmillas Projectile Point		1		1
Untyped Barbed Projectile Point	1			1
Flaked Stone Debitage				
Core		1		1
Primary Trimming Flakes	2	1		3
Secondary Trimming Flakes	8	4	1	13
Biface Thinning Flake	1			1
Tertiary Flake	1			1
Chunks & Chips	4	1		5
Ecofacts				
Bone		3	6	9
Shell	1		2	3
Tooth	1			1
TOTAL	19	11	9	39

(ca. 7.71 ft) below present ground surface. The stratum extends to a maximum observed depth of ca. 3.35 m (ca. 11 ft) below present ground surface, and has an apparent minimum thickness of ca. 1.0 m (ca. 3.28 ft).

Description: Stratum I is an homogenous sandy clay. The soil color is dark yellowish brown (10YR4/6) when wet. The interface between Stratum I and overlying Stratum II is somewhat undulatory and gradational, but is easily discernable.

Cultural Associations: None observed.

STRATUM II (Field Designation F5)

Extent: Horizontally, Stratum II is continuous across the excavated portion of the site. Vertically, the top of the stratum occurs at an observed depth of ca. 1.35 m (ca. 4.43 ft) below present ground surface. The stratum has an observed thickness of ca. 1.0 m (ca. 3.28 ft).

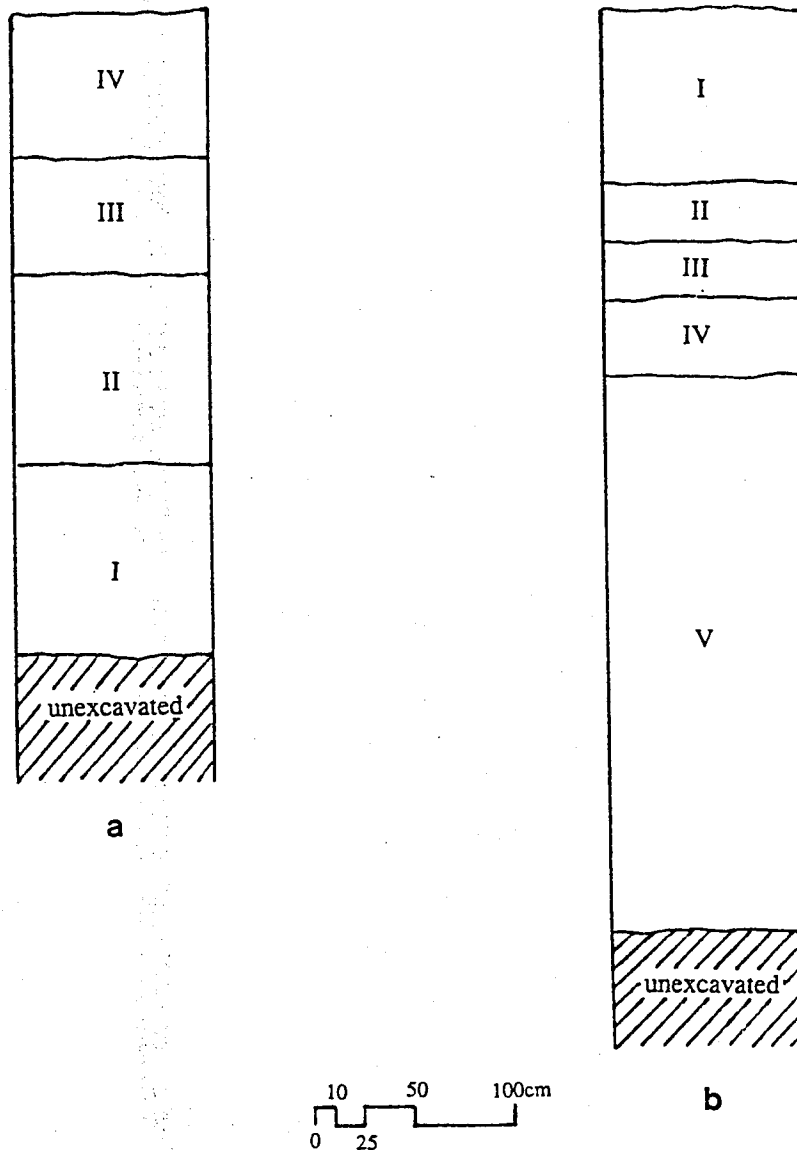


Figure 11. Schematic representation of the stratigraphic sequences at: a, 41TR141; and b, 41TR142.

Description: Stratum II is a dense, somewhat mottled, gleyed silty clay. The soil color is dark gray (10YR4/1) when wet. Stratum II is directly underlain by Stratum I and directly overlain by Stratum III. Both upper and lower interfaces are somewhat undulatory and gradational. The interface with overlying Stratum III is particularly indistinct since Stratum II appears to be only slightly more clayey in texture than Stratum III. Freshwater bivalve shells were observed in this stratum.

Cultural Associations: None observed.

STRATUM III (Field Designation F4)

Extent: Horizontally, Stratum III is continuous across the excavated portion of the site. Vertically, the top of the stratum occurs at an observed depth of ca. 75 cm (ca. 29.53 in) below present ground surface. The stratum has an observed thickness of ca. 60 cm (ca. 23.62 in).

Description: Stratum III is a dense, slightly gleyed, silty clay. The soil color ranges from dark gray (10YR4/1) when dry to very dark gray (10YR3/1) when wet. Stratum III is directly underlain by Stratum II and directly overlain by Stratum IV. Both upper and lower interfaces are somewhat undulatory and gradational. The interface with underlying Stratum II is particularly indistinct. The interface with overlying Stratum IV is somewhat easier to identify. The lowermost ca. 30 cm (ca. 11.81 in) of the stratum contains both freshwater bivalve shells and fairly abundant unidentified bone fragments.

Cultural Associations: One secondary trimming flake.

STRATUM IV (Field Designation F3)

Extent: Stratum IV is the surficial stratum at the site. Horizontally, it is continuous across the excavated portion of the site. Vertically, the stratum originates at present ground surface and continues to an observed depth of ca. 75 cm (ca. 29.52 in).

Description: Stratum IV is a very clayey loam. The soil color is very dark gray (10YR3/1), both wet and dry. Stratum IV is directly underlain by Stratum III and separated from it by a somewhat undulatory and gradational interface. The upper portion of this stratum has clearly suffered some disturbance from recent clearing and burning of vegetation. Fire-reddened soil and rock are common on the present ground surface. Freshwater bivalve shells are common throughout the stratum and appear to be concentrated within the lowermost ca. 30 cm (ca. 11.81 in) of the stratum. It is unclear, based on the present level of investigations, whether or not the entire vertical extent of this stratum has been disturbed.

Cultural Associations: One untyped barbed projectile point, two primary trimming flakes, eight secondary trimming flakes, one biface thinning flake, one tertiary flake, and four "chunks/chips" were recovered from the surface of Stratum IV. It is unclear whether or not Stratum IV constitutes the original provenience of these artifacts.

41TR142

This site was initially identified by Mr. Robert F. "Skipper" Scott (COE) prior to the present investigations. It was discovered in a large test trench excavated by Metrovest personnel in anticipation of the expansion of sand and gravel mining operations into the southwest portion of the property (Figure 12). The trench is situated to the east of a north-south trending meander of a remnant stream channel (see Figure 6 and folio Figure 6). The site's precise location is UTM Zone 14, easting 679020, northing 3629775. A well-defined stratigraphic profile is visible in the walls of the trench (Figure 13) and an intact buried paleosol containing *in situ* cultural and ecofactual materials was identified (see below). Cultural and ecofactual materials were also recovered from the floor of the trench and from wall slump.



Figure 12. General view of the western wall of the test trench excavated by Metrovest personnel, prior to these investigations, in which 41TR142 was identified, facing north.



Figure 13. General view of the stratigraphic profile at 41TR142 in the test trench excavated by Metrovest personnel, prior to these investigations, facing west. The darker soil horizon is Stratum II, the paleosol.

The long axis of the test trench is oriented roughly north-to-south and is slightly crescent-shaped in plan view. It is ca. 100 m (ca. 328 ft) in length and ca. 6 m (ca. 19.68 ft) in width. At its northern terminus, the trench turns ca. 90° to the west and continues for ca. 50 m (ca. 164 ft) until it intersects the remnant stream channel. The central and southern portions of the trench are ca. 35 m (ca. 114.8 ft) and 20 m (ca. 65.6 ft) to the east of the channel, respectively. The well defined-stratigraphic profile in the trench walls is truncated in the eastern and northeastern walls by a deep, in-filled excavation pit (Figure 14). This intrusion may be associated with a former City of Arlington municipal landfill site (J. Salim, personal communication 1994). The southern terminus of the trench also apparently intersects a previous subsurface disturbance, although this is less clearly defined due to the collapse of the trench wall here. Recent historic refuse was observed in the wall slump. These disturbed areas correspond to the margins of the greater previously disturbed portion of the project area as plotted in Figure 6 and folio Figure 6.

The site boundaries were practically defined in the field by disturbed areas to the east, northeast, and south, and by the remnant stream channel to the west. The paleosol is visible in the northern profile, but as no cultural material was identified within the paleosol here, the northern boundary of the site is (somewhat arbitrarily) defined by the east-west extension of the test trench described above. The extent of the site is therefore tentatively estimated to be ca. 3485 m² (ca. 37,513.46 ft²).

As noted above, both material culture and ecofactual remains were identified at 41TR142. This material is discussed in general terms within the context of the site stratigraphy (see below). One "finished" flaked stone implement, 12 pieces of flaked stone debitage, a possible pitted stone, two bone fragments, and three bivalve fragments were recovered from 41TR142. Table 2 presents the distribution of this material at the site. The "finished" worked implement is identified as an untyped, contracted stemmed biface. It should be noted here that all material culture remains identified at the site were collected, while only representative specimens of the ecofactual material was collected. A detailed discussion of the lithic assemblage recovered from 41TR142 is presented in Appendix A.

Stratigraphy

Four natural strata and one recently deposited artificial stratum were identified during our reconnaissance survey of 41TR142 (Figure 11b). One of these (Stratum II) appears to be a paleosol which contains *in situ* cultural material. The site stratification is briefly described below from its oldest (lowest) stratum to youngest (uppermost) stratum.

STRATUM I (Field Designation F7)

Extent: Horizontally, Stratum I is continuous across the excavated portion of the site. Vertically, the top of the stratum occurs at an observed depth of ca. 1.6 m (ca. 5.25 ft) below present ground surface. The stratum extends to a maximum observed depth of ca. 4.5 m (ca. 14.76 ft) below present ground surface, and has an apparent minimum thickness of ca. 2.9 m (ca. 9.51 ft).

Description: Stratum I is a fine sand. The soil color ranges from reddish yellow (7.5YR6/8) when dry to strong brown (7.5YR4/6) when wet. Stones are rare in the upper portion of the stratum, but small well-sorted gravels are present at the bottom of the excavation. The interface between Stratum I and overlying Stratum II is somewhat undulatory and gradational.

achieves
deep heart?



Figure 14. General view of the truncated stratigraphic profile in the eastern wall of the test trench excavated by Metrovest personnel, prior to these investigations, facing northeast. Note the recent historic refuse within this profile. This is from the City of Arlington former landfill. Site 41TR142 was identified in the western wall of this test trench.

Cultural Associations: None observed.

STRATUM II (Field Designation F6)

Extent: Horizontally, Stratum II is discontinuous across the excavated portion of the site. It is truncated in the eastern wall profile (see above). Vertically, the top of the stratum occurs at an observed depth of ca. 1.2 m (ca. 3.95 ft) below present ground surface. The stratum has an observed thickness of ca. 40 cm (ca. 15.75 in).

Description: Stratum II is a silty clay. The soil color ranges from dark gray (10YR4/1) when dry to very dark grayish brown (10YR3/2) when wet. Stratum II is directly underlain by Stratum I and directly overlain by Stratum III. Both upper and lower interfaces are somewhat undulatory and gradational, but are nevertheless easily discernable. Freshwater bivalve shells are common throughout the stratum. Stratum II is apparently an intact buried A soil horizon (i.e., paleosol).

Cultural Associations: Two primary trimming flakes, one tertiary flake, and one biface fragment were recovered from this stratum (see Appendix A). Fire-cracked rock was observed *in situ*, but was not collected. Deer bone fragments were observed in wall slump that appears to have originated from Stratum II, but this provenience is not certain.

TABLE 2

Materials Recovered From 41TR142 By General Provenience

Material Category	General Provenience		TOTAL
	Quarry Trench Wall Slump	Stratum II (F6)	
Worked Implements			
Biface Fragment		1	1
Possible Pitted Stone	1 *		1
Flaked Stone Debitage			
Cores	2		2
Primary Trimming Flakes	3	2	5
Secondary Trimming Flakes			
Biface Thinning Flakes	2		2
Tertiary Flake		1	1
Chunk/Chip	1		1
Ecofacts			
Bone	2 *		2
Shell	3		3
TOTAL	14	4	18

* This specimen/one of these specimens was recovered by Mr. R. F. Scott.

STRATUM III (Field Designation F5)

Extent: Horizontally, Stratum III is discontinuous across the excavated portion of the site. It is truncated in the eastern wall profile (see above). Vertically, the top of the stratum occurs at an observed depth of ca. 90 cm (ca. 35.43 in) below present ground surface. The stratum has an observed thickness of ca. 30 cm (ca. 11.81 in).

Description: Stratum III is a slightly silty clay. The soil color ranges from light yellowish brown (2.5Y6/3) when dry to very light olive brown (2.5Y5/3) when wet. Stratum III is directly underlain by Stratum II and directly overlain by Stratum IV. Both upper and lower interfaces are somewhat undulatory and gradational. The interface with overlying Stratum IV is occasionally indistinct. The interface with underlying Stratum II is typically clear and distinct.

Cultural Associations: None observed.

STRATUM IV (Field Designation F4)

Extent: Horizontally, Stratum IV is discontinuous across the excavated portion of the site. It is truncated in the eastern wall profile (see above). Vertically, the top of the stratum occurs at an observed depth of ca. 60 cm (ca. 23.62 in) below present ground surface. The stratum has an observed thickness of ca. 30 cm (ca. 11.81 in).

Description: Stratum VI is a loamy clay. The soil color ranges from dark gray (2.5Y4/1) when dry to very dark gray (2.5Y3/1) when wet. Stratum VI is directly underlain by Stratum III and directly overlain by Stratum V. The interface with overlying Stratum V is sharp and clear. The interface with underlying Stratum III is more gradational and sometimes indistinct. Freshwater bivalve shells were observed throughout the stratum. Stratum IV is apparently a relatively recently buried A soil horizon.

Cultural Associations: Recent undifferentiated historic refuse was observed in Stratum IV. No prehistoric cultural material was observed.

STRATUM V (Field Designation F3)

Extent: Stratum V is the surficial stratum at the site. Horizontally, it is continuous across the excavated portion of the site. Vertically, the stratum originates at present ground surface and ranges in observed thickness from ca. 17 cm (ca. 6.7 in) to ca. 90 cm (ca. 35.43 in). Stratum V also comprises the fill of the feature which truncates the eastern profile of the trench (see above). The stratum appears to "pinch out" to the south, west, and north.

Description: Stratum V is an obviously redeposited mix of sands, gravels, and, to a much lesser extent, clays. The predominant soil matrix is a fine sand whose color ranges from brownish yellow (10YR6/6) when dry to dark brownish yellow (10YR4/6) when wet. Stratum V is directly underlain by Stratum IV. The interface with underlying Stratum IV is sharp and clear. Stratum V is apparently a relatively recent deposit which essentially "caps" the former ground surface. Presumably, it is associated with previous landfill and/or mining activities to the south, east, and north of the site boundaries. Some internal stratification appears to exist, but no attempt was made to record the "microstratigraphy" of this overburden.

Cultural Associations: Recent undifferentiated historic refuse was observed throughout Stratum V. This material appears to be most dense to the east and northeast.

Summary And Recommendations

An archaeological reconnaissance survey of the ca. 1900 acre (ca. 769.5 ha) Metrovest project area was conducted by the ARP in May and June 1994. As noted above, the objectives of these investigations were threefold: 1) documentation of previously disturbed portions of the project area; 2) examination of exposed stratigraphic profiles in order to assess the potential for buried and intact cultural resources; and, 3) to provide management recommendations for areas where archaeological sites were identified or where the potential for preserved cultural resources is deemed high. A combination of archival research,

informant interviews, and pedestrian field reconnaissance was employed to achieve these objectives. These techniques were augmented by the excavation of two backhoe trenches at one identified archaeological site (41TR141) following a request by COE personnel to attempt to define the limits of the site. Methods and results of these investigations were described in previous sections and recommendations are presented below.

Approximately 1350 acres (ca. 546.75 ha) were classified as severely disturbed as a result of mining operations, landfill activities, or quarry reclamation projects (see Figure 6 and folio Figure 6). Any portion of the Bird's Fort Site (41TR128) within the boundaries of the present Metrovest property has been destroyed by previous mining activities. We believe that there is no potential for the discovery of intact subsurface cultural resources anywhere within this area and recommend that no further work be conducted.

Approximately 550 acres (ca. 222.75 ha) were classified as undisturbed. This total represents discrete areas of differing potentials for the identification of buried cultural resources with different management needs. Each subdivision of the undisturbed acreage is treated separately below and depicted graphically in Figure 6 and folio Figure 6.

Approximately five acres (ca. 2.1 ha) in the extreme southwest portion of the project area immediately to the east of FM 157 were classified as undisturbed as a result of the present investigations. We believe that this represents an area of low potential for the location of buried cultural resources within the overall project area. We recommend that no further work be conducted in this area.

Approximately seven acres (ca. 2.84 ha) immediately to the south of the "boot-shaped" Silver Lake out-tract were classified as undisturbed as a result of the present investigations. We believe that this represents an area of medium potential for the location of buried cultural resources within the overall project area. We recommend that limited machine-assisted (i.e., backhoe) testing be conducted here in advance of any ground-disturbing activities.

Approximately 413 acres (ca. 167.27 ha) along the eastern boundary of the project area immediately adjacent to the West Fork of the Trinity River and along the northeastern boundary of the project area immediately adjacent to "Calloway Creek" were classified as undisturbed as a result of the present investigations. We believe that this represents an area of generally high potential for the location of buried cultural resources within the overall project area. We recommend that a geoarchaeological sampling plan be devised for the area. This should minimally include the excavation of a series of backhoe trenches under the supervision of a qualified archaeologist in advance of any ground-disturbing activities.

Approximately 96 acres (ca. 38.88 ha) within the southwestern portion of the project area adjacent to a remnant meandering stream channel were classified as undisturbed as a result of the present investigations. We believe that this represents an area of generally high potential for the location of buried cultural resources within the overall project area. Given that two sites (41TR141 and 41TR142) were identified within this area (see Results of Investigations), we recommend that a formal machine-assisted (i.e., backhoe) testing program be devised and implemented in advance of any further ground-disturbing activities in the area surrounding the remnant stream channel.

Two previously unrecorded prehistoric sites (41TR141 and 41TR142) were identified as a result of the present investigations. Only extremely preliminary assessments regarding site size, integrity of deposits, or cultural/temporal ascription could be made from the present level of investigations. We

recommend that formal testing of these two sites be conducted via a combination of controlled hand excavation and judicious use of machine-assisted (i.e., backhoe) excavation under the supervision of a qualified archaeologist.

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Appendix A: Lithic Remains

Flaked Stone

Introduction

As indicated above (see Results of Investigations), a total of three worked implements and 35 pieces of flaked stone debitage, representing all stages of the flaked stone reduction sequence, were recovered from two sites (41TR141 and 41TR142) during the course of the Archaeology Research Program's archaeological investigations of the Metrovest project area. The following is a detailed discussion of the analytical methodology employed in the flaked stone analysis as well as a detailed description of the worked implements recovered. The discussion of the flaked stone debitage is, here, limited to the definitions employed in identifying the specimens. Counts and provenience data for the flaked stone debitage assembly can be found in Tables 1 and 2.

Definitions

Worked implements include not only "finished" pieces but also blanks, preforms, and rejuvenated specimens. Specimens within this broad category were manufactured from cores or flakes. All specimens were initially modified to a desired configuration by various lithic manufacturing techniques used alone or in combination, including hard-hammer and soft-hammer percussion as well as pressure flaking. On the basis of configuration and manufacturing technique, this assemblage was classified into more or less traditional categories, notably projectile points and bifaces.

Analysis of the flaked stone debitage (i.e., cores and the flakes removed from cores) assemblage recovered from the Metrovest sites divided the specimens into six general technomorphological categories, each of which is defined below:

CORE AND CORE FRAGMENTS

This category includes objective pieces of raw material (chert, quartzite, chert/sandstone conglomerate, etc.) that can range from totally unmodified specimens (nuclei) through those with one or more flake scars (i.e., opportunistic flake cores) to flaked stone tool blanks and preforms (i.e., biface cores). Cortex may or may not be present.

PRIMARY TRIMMING FLAKES

These flakes result from the initial reduction of a larger nucleus or core via any of a variety of techniques (e.g., direct hard hammer percussion, direct soft hammer percussion, indirect percussion, etc.). Such specimens are distinguished by their overall size and thickness, the lack of a dorsal ridge, the presence of cortex on the dorsal surface, the presence of a platform, and the general absence of platform preparation.

SECONDARY TRIMMING FLAKES

These flakes result from the thinning, shaping, and/or sharpening of nuclei or larger flakes via any of the above mentioned reduction techniques. Such specimens are distinguished by their overall size and configuration (generally smaller and thinner than primary trimming flakes), the presence of one or more dorsal ridges, the absence of cortex on the dorsal surface, and the presence of a platform, either natural or prepared.

BIFACE THINNING FLAKES

These flakes result specifically from the thinning of a bifacial core (i.e., worked implement). They are distinguished by their overall configuration (generally crescent-shaped in profile); the presence of bifacial flaking along their proximal margin; and the presence of multiple dorsal ridges and one or more ventral ridges which terminate abruptly at a lip paralleling the bifacially worked proximal margin.

TERTIARY FLAKES

These flakes result from the final thinning and/or sharpening of an implement. Included here also are flakes resulting from resharpening, retouching, or rejuvenation of worked implements. Such specimens are distinguished by their overall configuration (i.e., much smaller and thinner than all other flake types); the absence of cortex; and the presence of platform preparation as well as minute cones and salient bulbs of applied force. These flakes are almost exclusively produced by pressure flaking.

CHUNKS AND CHIPS

These specimens are of an unstandardized, amorphous configuration and are characterized by the absence of a distinct platform or proximal "end." Included here are the totally unstandardized by-products of the flaking operation that "fly off" during reduction as well as fragments of primary and secondary trimming flakes, biface thinning flakes, and tertiary flakes.

Analytical Methodology

All flaked stone specimens recovered were analyzed. Preliminary sorting was first conducted to separate complete and fragmentary worked implements from all other products of the flaked stone reduction process. Subsequently, these artifacts were subdivided into categories based primarily upon select technomorphological attributes discussed by Crabtree (1972).

Functional types have been intentionally avoided in the worked implement analysis. These flaked stone artifacts have been classified according to morphological attributes. Wherever possible, artifacts have been classified according to named types to facilitate comparison with previously published data. Descriptions of artifact type, manufacturing sequence represented, and form of retouch are noted, following standard archaeological terminology defined by Cambron and Hulse (1964) and Crabtree (1972).

In addition to the standard analytical terminology employed in descriptions of the worked implements, several subjective and somewhat arbitrarily defined terms also are employed. For instance, a specimen is defined as incomplete if it represents greater than 50% of the original implement and fragmentary if it represents less than 50% of the original implement. The width of an implement is defined

in terms of its length. Thus, an implement is described as broad if its width is greater than 60% of its length, medium if its width is 40 to 60% of its length, and narrow if its width is less than 40% of its length. Pressure retouch is defined in terms of its continuity. Thus, pressure retouch is defined as irregular if it is sporadic and laterally discontinuous, and regular if it is laterally continuous.

Generalized measurements of all worked implements included maximum length, maximum width, and maximum thickness. Specialized attribute measurements taken on worked implements consist of the length and width of the stem and barb. Stem length is measured from the most proximal point of the base to the shoulder. Stem width is measured at the intersection of the stem and the body. Barb length is measured parallel to the longitudinal axis of the projectile point, from the apex of the barb to the distal apex of the notch (corner or basal). Barb width was not measured. All measurements were taken to the nearest 0.01 mm using a digital caliper.

The raw material used for all worked implements was identified by macroscopic (i.e., "naked eye") examination. Raw material color determinations were made employing a standard Rock-Color Chart (1980) unless otherwise indicated, in which case Munsell Soil Color charts (1975) were utilized. Both the tripartite Munsell designations and the corresponding rock (or soil) color name are provided.

Worked Implement Descriptions

PALMILLAS PROJECTILE POINT

No. of specimens: 1, complete (Figure A.1a).

Description: This specimen is triangular in plan, medium in width, and biconvex in both longitudinal and transverse cross section. Blade edges are bifacially thinned and asymmetrical; one is slightly excurvate and the other is slightly recurvate; converging to produce an acute distal end. The specimen has rounded shoulders, the result of retouch of the blade margins after side notching. The side notches have been produced by bifacial thinning and grinding. Both exhibit extensive grounding. The stem is long in relation to blade length and broad in relation to blade width. The base is excurvate, bifacially thinned, and ground. Nearly all evidence of percussion flaking has been removed by pressure retouch. The few percussion flake scars which remain extant are in the area of the side notches and on the reverse surface of the base. The left blade margin of the obverse surface exhibits regular chevron-like pressure retouch, while the right blade margin of this surface exhibits irregular, unpatterned pressure retouch. The blade margins of the reverse surface exhibit regular, chevron-like pressure retouch; however, pressure retouch of the right blade margin is more regularized and patterned. The pressure retouch of the reverse surface has nearly resulted the creation of a median ridge. The stem and base exhibit irregular, unpatterned pressure retouch. The overall asymmetry of the specimen results from the distal end being offset from the longitudinal axis. This asymmetry and the less regularized pressure retouch of one blade margin appears to be the result of breakage of the specimen and subsequent reworking of the truncated margin.

Material: Ogallala quartzite.

Thermal Alteration: Possible.

Color: Brown/dark brown (10YR4/3; Munsell Soil color).

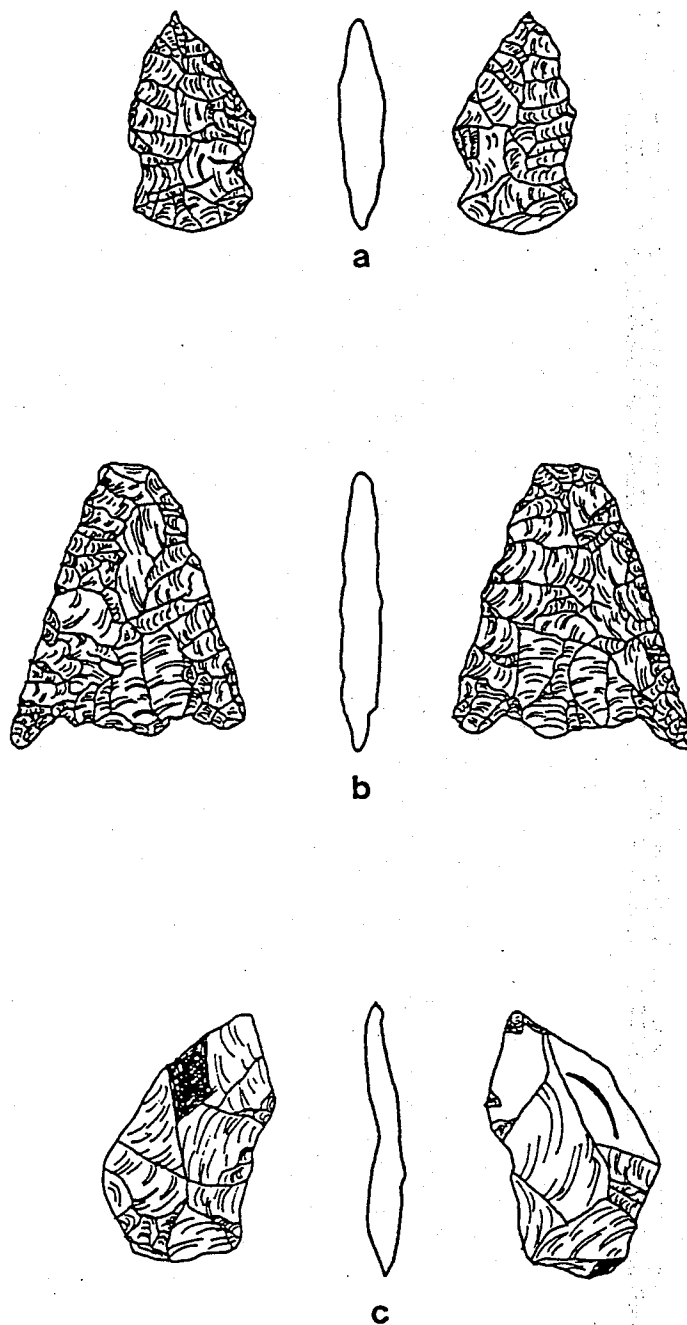


Figure A.1. Flaked stone worked implements recovered from 41TR142: a, Palmillas Projectile Point; b, Untyped Barbed Projectile Point; and 41TR141: c, Untyped Contracted Stemmed Biface.

Provenience: 41TR141, quarry trench wall slump.

<i>Measurements:</i> Maximum length:	29.14 mm.
Maximum blade width:	15.76 mm.
Shoulder width:	15.76 mm.
Basal width:	15.03 mm.
Maximum thickness:	6.57 mm.
Range in blade length:	16.87-17.29 mm.
Mean blade length:	17.08 mm.
Range in stem length:	11.85-12.27 mm.
Mean stem length:	12.06 mm.
Range in notch length:	7.88-8.49 mm.
Mean notch length:	8.19 mm.
Range in notch depth:	1.72-2.35 mm.
Mean notch depth:	2.04 mm.

Cultural Affiliation: Middle to Late Archaic, 2500 B.C. to 300 B.C. (Turner and Hester 1985)

UNTYPED BARBED PROJECTILE POINT

No. of specimens: 1, incomplete (Figure A.1b).

Description: This specimen is triangular in plan, broad in width, flattened in longitudinal cross section, and rhomboidal in transverse cross section. Blade edges are bifacially thinned and ground. The distal end has been truncated. The specimen has simple barbed shoulders only one of which remains intact, the other is incomplete. The stem has been transversely truncated near the distal apex of the barbs/notches. The base is straight, bifacially thinned, and ground. The blade margins of the obverse surface exhibit regular, chevron-like pressure retouch. The blade margins of the reverse surface exhibit irregular, unpatterned pressure retouch. The base exhibits irregular, unpatterned pressure retouch.

Material: Edwards Plateau chert.

Thermal Alteration: None.

Color: Medium gray (N5).

Provenience: 41TR141, ground surface.

<i>Measurements:</i> Maximum length:	38.42 mm.
Maximum width:	29.73 mm.
Shoulder width:	28.31 mm.
Stem width:	15.91 mm.
Basal width:	10.69 mm.
Maximum thickness:	5.48 mm.
Blade length:	N.A.
Range in stem length:	1.14-3.56 mm.

Mean stem length:	2.35 mm.
Range in barb length:	N.A.-4.42 mm.
Mean barb length:	N.A.

Cultural Affiliation: Unknown.

UNTYPED CONTRACTED STEMMED BIFACE

No. of specimens: 1, fragmentary (Figure A.1c).

Description: This specimen represents a basal fragment of a contracted stemmed biface. It is transversely truncated from a point near the intersection of the stem with the medial extent of one shoulder to a point along the lateral blade margin 12.25 mm distal of the distal extent of the opposite shoulder. The specimen exhibits an irregular longitudinal cross section and a flattened transverse cross section. The extant blade margin is straight, bifacially thinned, and ground. The specimen has only one extant shoulder. It is tapered. The stem is broad in relation to stem length and projected shoulder width. The lateral margins of the stem are straight, contracting, bifacially thinned, and ground. The base is recurvate and partially thinned bifacially. That portion of the base which remains unthinned exhibits the presence of cortex. A small area of cortex is also present along the apparent longitudinal axis of the obverse surface of the blade. Numerous percussion flake scars are visible on both surfaces of the specimen. The extant blade margin of the obverse surface exhibits irregular, unpatterned pressure retouch. The extant blade margin of the reverse surface exhibits irregular, unpatterned pressure retouch. The lateral margin of the obverse surface of the stem exhibits minimal regular, random patterned pressure retouch. The lateral margins of the reverse surface of the stem exhibits irregular, unpatterned pressure retouch. The base exhibits no pressure retouch.

Material: Possibly Comanche chert.

Thermal Alteration: Possible.

Color: Mottled moderate reddish orange (10R6/6), light reddish brown (2.5YR6/4; Munsell soil color), and medium gray (N5).

Provenience: 41TR142, Stratum II (F6).

<i>Measurements:</i> Maximum extant length:	30.53 mm.
Maximum width:	N.A.
Shoulder width:	N.A.
Stem width:	19.16 mm.
Basal width:	12.67 mm.
Maximum extant thickness:	6.29 mm.
Blade length:	N.A.
Range in stem length:	11.60-16.21 mm.
Mean stem length:	11.91 mm.

Cultural Affiliation: Unknown.

Ground Stone

Introduction

As indicated above (see Results of Investigations), a possible ground stone item was recovered from the Metrovest project area (41TR142). This item was recovered by Mr. Robert F. "Skipper" Scott. During the course of the Archaeology Research Program's archaeological investigations Mr. Scott visited the project area to direct the ARP staff to the location from which this item was recovered. He also made available to the ARP this item as well as a fragmentary scapula (possibly deer; *Odocoileus virginianus*) for analysis and inclusion into this report. The following is a brief description of this item.

Description

POSSIBLE PITTED STONE

No. Of Specimens: 1, complete.

Description: This specimen is ovoid in plan, plano-convex in both longitudinal and transverse cross section, and has a weakly developed pit on the obverse surface (i.e., plano). This pit measures ca. 28 mm in diameter and is located slightly off center of the transverse axis but along the longitudinal axis. The interior surface of the pit is irregular and differentially eroded as if pecked rather than ground. The specimen exhibits "battering" along its entire perimeter but lacks any definitive evidence of having been intentionally shaped by human activity.

Material: Sandstone.

Thermal Alteration: None.

Provenience: 41TR142, quarry trench wall slump.

<i>Measurements:</i> Length:	148.24 mm.
Width:	109.04 mm.
Thickness:	50.49 mm.
Pit length:	27.49 mm.
Pit width:	30.71 mm.
Maximum pit depth:	3.41 mm.
Minimum pit depth:	2.09 mm.
Mean pit depth:	2.75 mm.

Cultural Affiliation: Unknown.

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