

IV. RESULTS

URS completed a Phase I survey and excavations at Smith's Bridge (Bridge 9) in New Castle County, Delaware in October 2001. A total of 12 shovel tests and one test unit were excavated in two areas within the project's area of potential effect (APE). Area A is located adjacent to the southeast corner of Smith's Bridge, just north of a section of previously identified historic mill ruins (N-1358), while Area B is situated adjacent to the northwest corner of the bridge (Figure 9). The testing results from each area are discussed individually below.

AREA A

Area A is roughly in the shape of a rectangle measuring approximately 17 x 20 meters. Smith's Bridge Road and Creek Road mark its northern and western boundaries (respectively), and Brandywine Creek marks the western boundary. The southern boundary is located approximately 17 meters south of Smith's Bridge Road along the temporary construction easement (TCE). What appears to be a section of the Smith/Talley Mill's foundation is visible 2.5 meters from the area's southern boundary (see Figure 9, Plate 4). An 1895 photograph of the mill, taken from the west bank of Brandywine Creek, shows the stone building that housed the gristmill (Plate 5). Visible in the bottom right hand corner of the structure is a stone arch that probably provided a means of discharging water from the mill. Attached to the south wall of the gristmill is a wooden structure supported by wooden beams resting on a stone foundation (see Plate 5). By the shape and construction of the structure, it is highly likely that it served as the sawmill for the complex.

Seven shovel test pits were excavated in 10-meter intervals along three staggered transect lines that measured 5 meters apart (see Figure 9). The investigations conducted here uncovered the presence of very disturbed soils. It was later learned, in an interview with Mr. Richard Bennett (a groundskeeper and occupant of Smith's Mill House), that significant flooding occurs in the area approximately every two years, during which Smith's Bridge Road can become inundated. In addition, Mr. Bennett said that he was responsible for several episodes of in filling north of the extant mill remains to repair damage done by frequent flooding and subsequent ground subsidence. Shovel tests in this area all contained large pieces of gravel and rock, making excavation difficult. Only one shovel test (STP 7) reached what appeared to be natural, culturally sterile subsoil (Figure 10). In STPs 2, 4, and 5, excavations terminated on top of large, impenetrable rocks that spanned the diameter of the shovel test. STPs 1 and 3 were excavated as deep as possible with a shovel, approximately 70 cm (see Figure 10). Neither one of these shovel tests reached culturally sterile subsoil; in fact, in STP 1, a deposit of light gray, very loose sandy silt with architectural debris (n=12) was encountered 50 cm below the surface (see Figure 10, Appendix A). This level is likely associated with the Tally-Smith Mill that once stood at this corner (see Plate 5).

Similarly, culturally sterile subsoil was never reached in STP 6, located at the crest of the artificial berm adjacent to the mill remains (see Figure 10). The berm runs parallel to Creek Road and is at a much higher elevation than the area in which the gristmill once stood and



Plate 4 Present-Day View of Area A, Looking East Across Brandywine Creek. Note mill ruins in the center of photograph.



Plate 5 Talley's Grist and Sawmill 1895, View Looking East. Smith's Bridge stands to the left (Courtesy of Hagley Museum and Library).

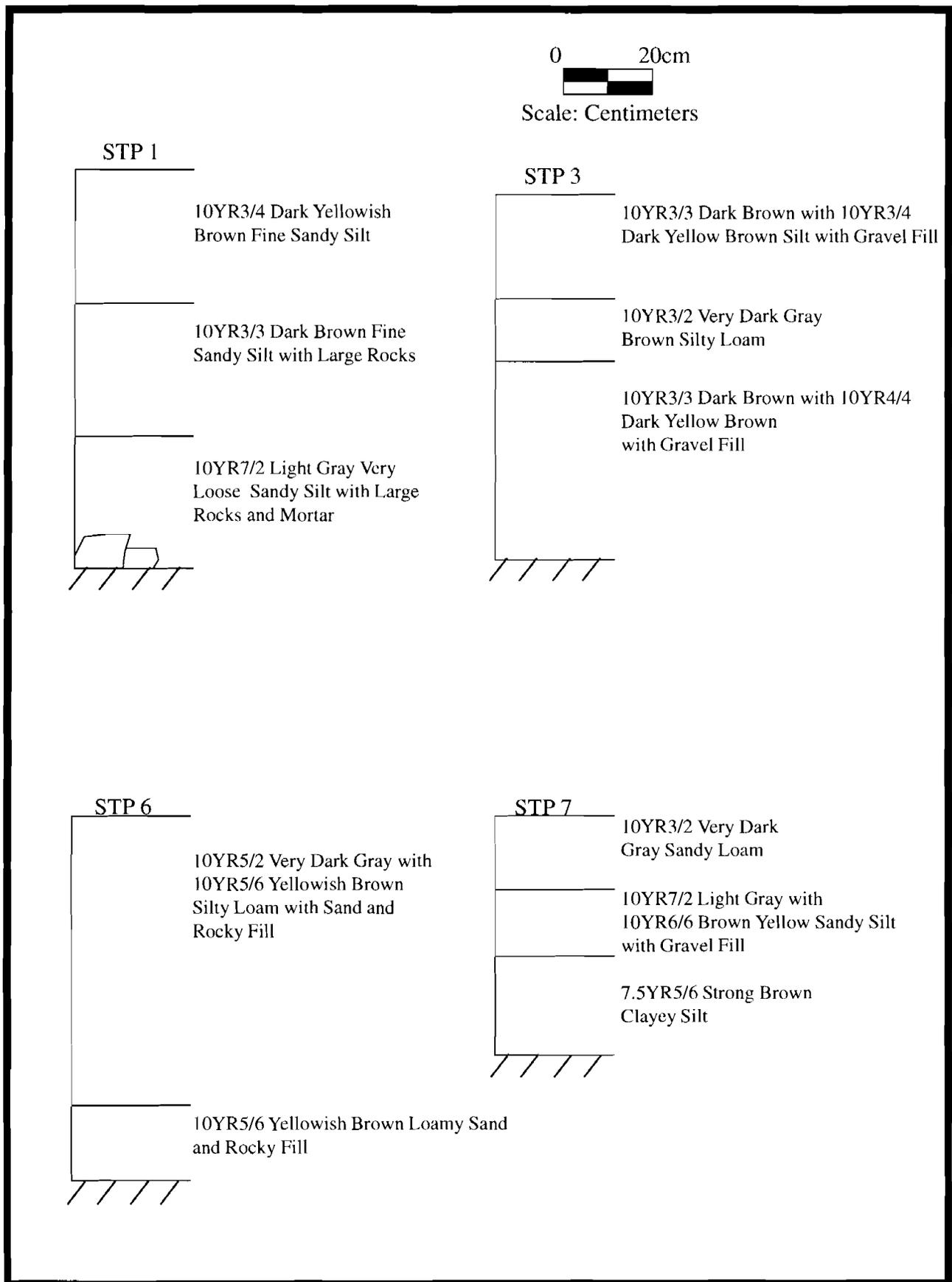


Figure 10 Area A Representative Shovel Test Profiles.

the visible mill ruins remain (see Plate 1). Mr. Bennett made it clear that he personally never added any fill to this berm, and that to the best of his knowledge the only alteration made since he has been living there was low lying groundcover plantings. Therefore, berm probably served as a component of the raceway for the mill complex.

In addition to the shovel tests, a 1-x-1-meter test unit was placed at the proposed location of a temporary utility pole that will be used to carry telephone and electric lines across Brandywine Creek during the replacement of Bridge 9 (see Figure 9). This test unit (TU 1) was located near the base of the berm and excavated to 1.10 meters below datum, 10 cm into what appears to be culturally sterile subsoil. A total of 110 artifacts were recovered from TU 1, including approximately 20 poorly preserved cut nails and spikes (see Appendix A). A bottleneck with a lipping tool finish was found in Stratum IV, approximately 90 cm below datum (this piece dates to the mid-nineteenth century). Other artifacts recovered from the test unit include redware and white granite sherds, as well as some architectural debris such as foundation stone, brick, and mortar. The diagnostic artifacts range in date from the mid-to-late nineteenth century. Stratum I seems to be top soil that was brought in for the plantings, while Strata II through IV are associated with the demolition/destruction of the mill. Stratum V was a culturally sterile deposit. Profiles of the south and east walls of TU 1 were recorded (Figure 11, Plates 6 and 7).

AREA B

Area B is a roughly triangular piece of land extending from the northwest wing wall of the bridge along the limit of construction in somewhat of an arc to Smith's Bridge Road, approximately 12 meters west of a horse trail entrance (see Figure 9). A total of five shovel test pits were judgmentally placed according to a walkover survey conducted by URS to determine the areas with the highest potential for cultural remains (Figure 12). The shovel tests were excavated primarily to the outer portion of the APE, as this area was less disturbed than the area closer to the road, where grading and berm development for the existing bridge and roadway were present. Thick flood deposits were evident in STPs 1, 2, and 3 (Figure 12). The typical shovel test profiles had thick silt loams described as 10YR3/3 – 3/4 dark brown to dark yellowish brown underlain by 10YR4/4 dark yellowish brown silt. In STP 2 the 10YR4/4 graded into a 10YR5/4 yellowish brown silty clay. Shovel test pits closest to the bridge and road (STPs 4 and 5) showed disturbed soils that are attributed to bridge development (see Figure 9). Horse trails, a wire fence, and redirection of a small drainage are among other disturbances in this area. The only cultural material recovered from Area B consisted of a plastic fragment (STP 1) and a fragment of clear bottle glass (STP 3), both dating to the twentieth century (see Appendix A).

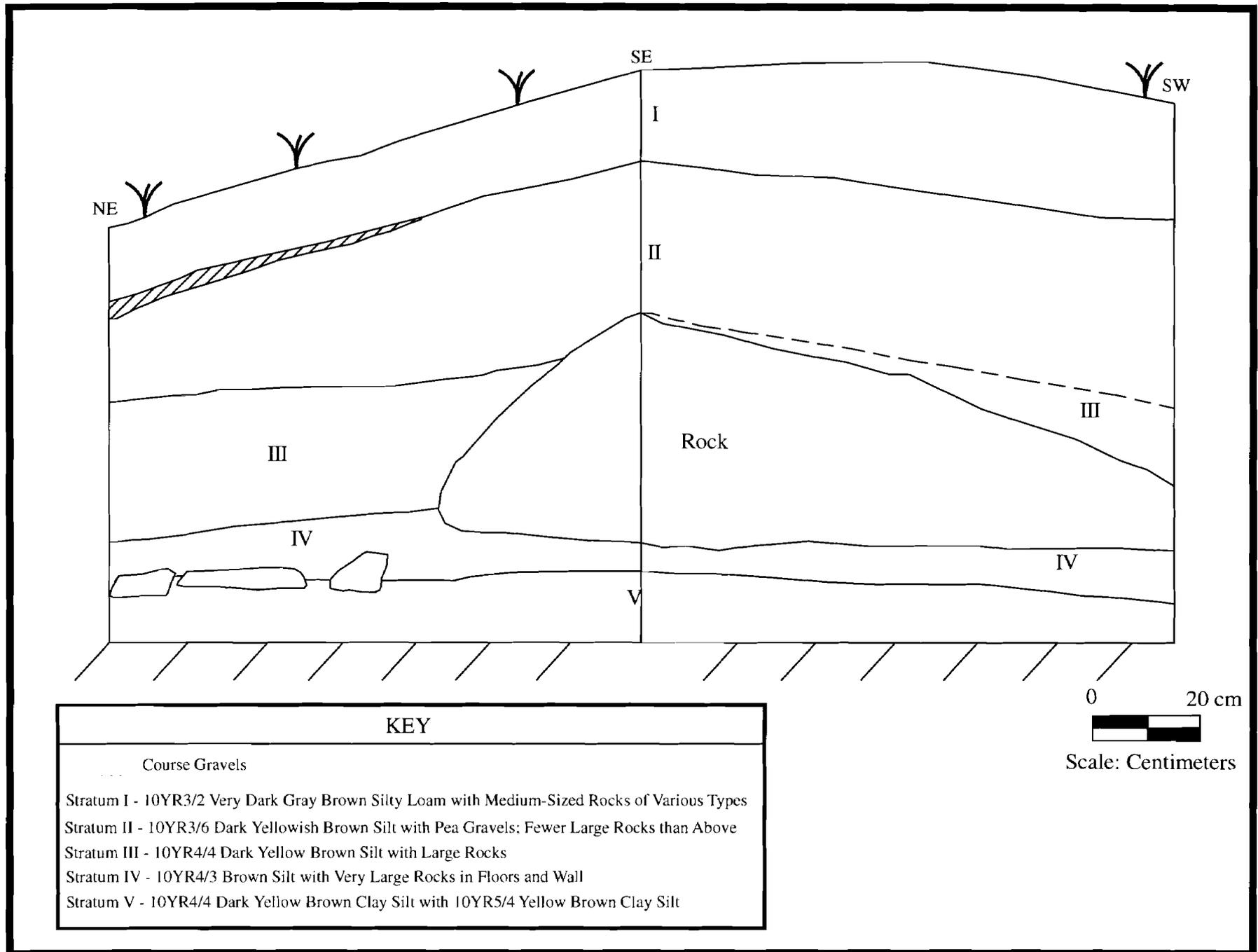


Figure 11 Area A, Test Unit 1, East and South Wall Profiles.

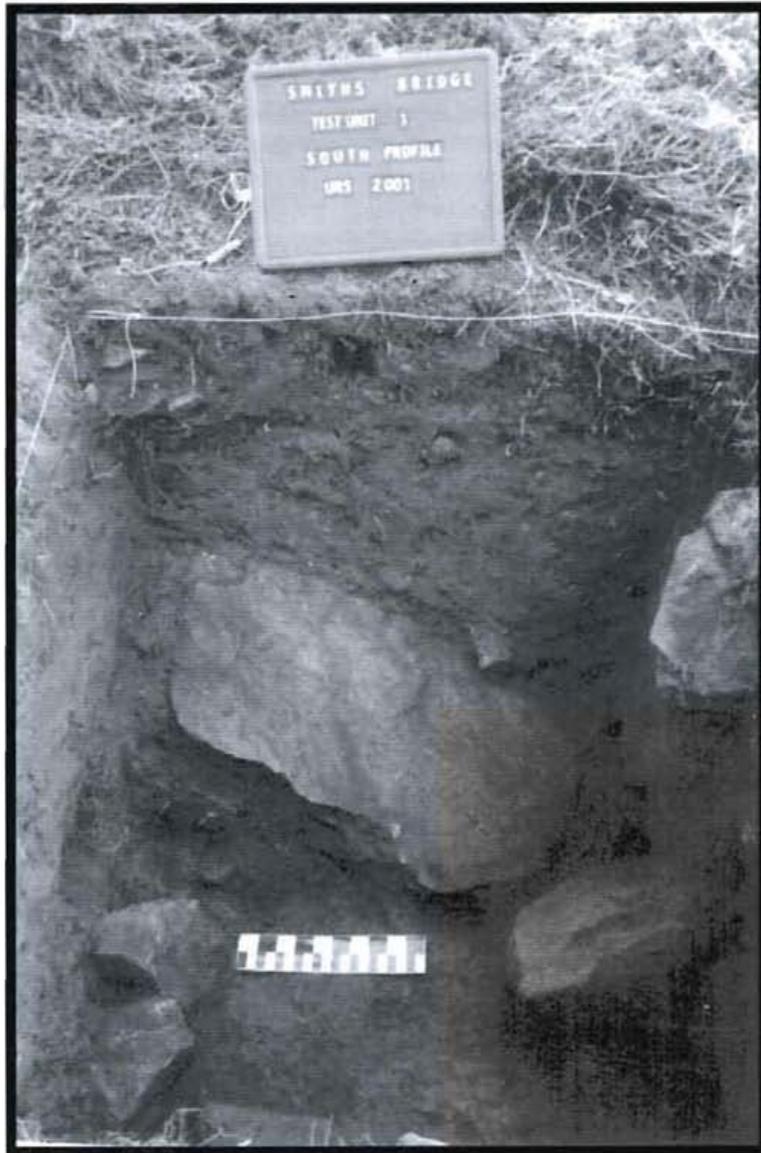


Plate 6 Area A, Test Unit 1, South Wall Profile.

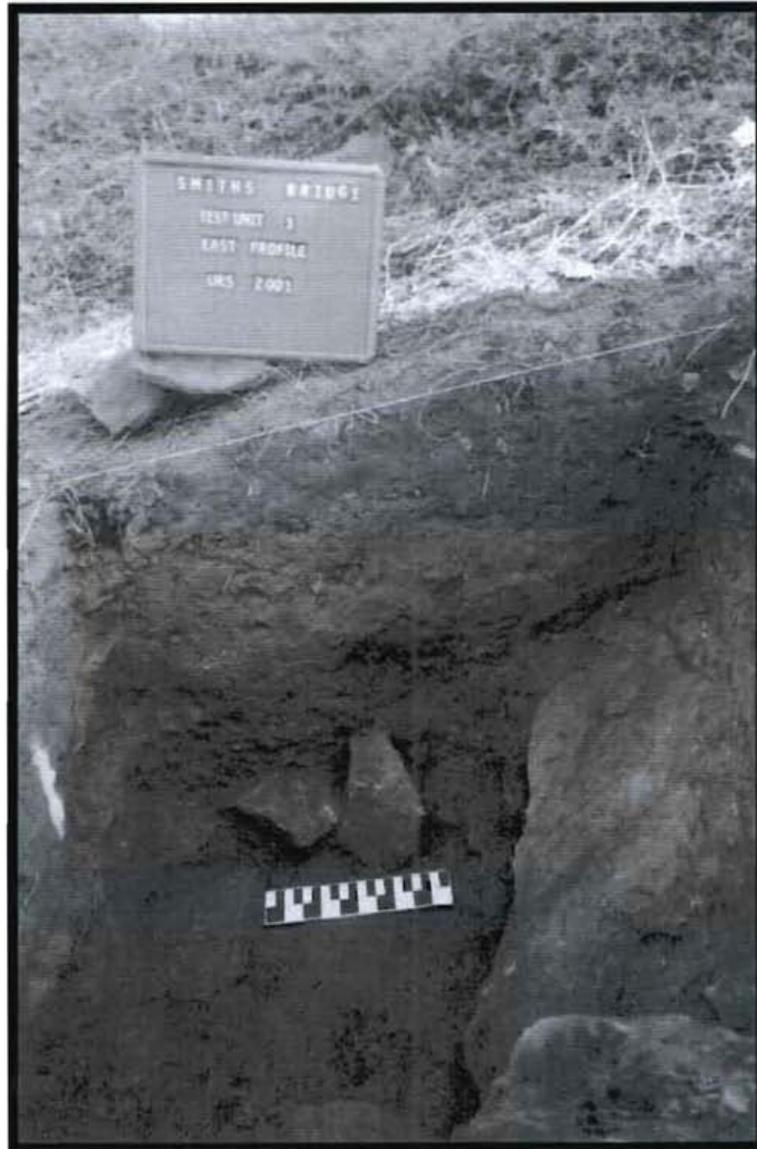


Plate 7 Area A, Test Unit 1, East Wall Profile.

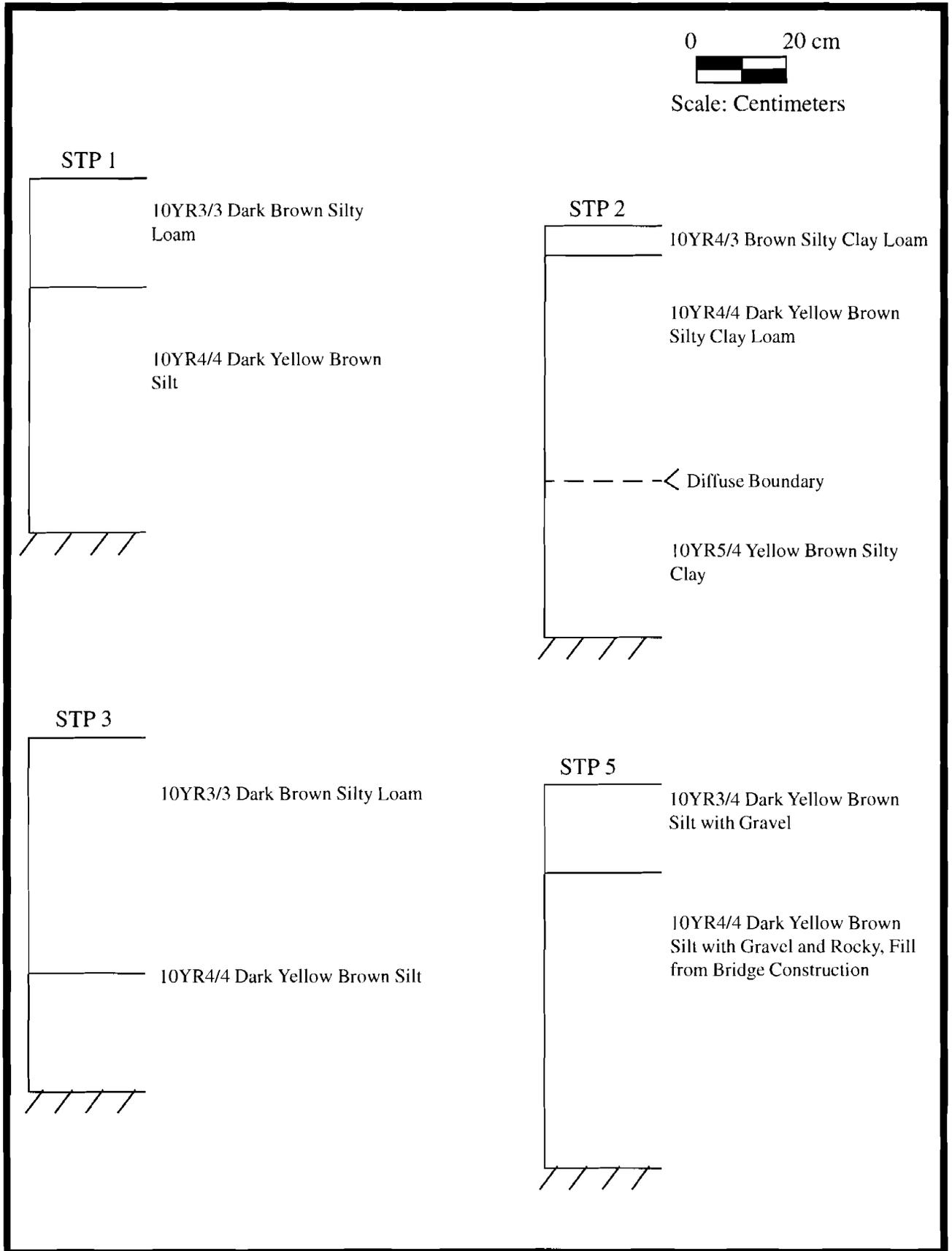


Figure 12 Area B Representative Shovel Test Profiles.