

Sitename: 77 SES-1 W-Number: 66498
Location: T 80 N R 24 W section 31 NW ¼ SE ¼ SE ¼
Landscape:
Parent material: loess
Soil Series:
Vegetation:
Slope: %
Elevation: 853 ft.
Quadrangle: Des Moines NW
Date Drilled:
Described by: E.A. Bettis III
Landowner: IGS
Remarks:
GPS:

NOTES:

Description of Saylorville Emergency Spillway Sections 1A and 1B.

This section is located on the right bank (southwest side) of the channel cut in the Emergency Spillway for Saylorville Lake (Fig. 2-1). The top of the section is a surface stripped as the original emergency spillway channel floor.

The section consists of two units: 1) a thick, extensive, fine-grained alluvial fill which, on the south end of the excavation, is unconformably overlain by; 2) Late Wisconsinan Des Moines Lobe basal till and associated glaciofluvial deposits (see Fig. 2-12). The two units are described in more detail below.

Late Wisconsinan Des Moines Lobe basal till. This unit is dominated by a massive, matrix-dominated loam diamicton (Dmm). The particle-size distribution of this diamicton differs from that of 'modal' Des Moines Lobe basal till in two respects: 1) it contains a higher percentage of medium to very large pebble-sized clasts (probably from incorporating relatively "local" bedrock); and 2) it has a noticeably reduced sand content, most likely from incorporating and assimilating substantial amounts of the Wisconsinan loess which constitutes the Des Moines Lobe bed material over much of the Polk, Story, and Boone Counties area. This diamicton is dark gray (N 4.5/0), unoxidized and unleached (UU). The upper 30 to 50 cm of the diamicton contains abundant oxidized sub-horizontal joints. There are no deformation features associated with these joints, and thus they may represent modern stress-relief fractures (from previous overburden stripping) rather than subglacial glaciectonic shear planes. At the northwest end of the diamicton exposure is a small channel fill of sand, gravel (coarse sand to medium pebbles) and log fragments that occur between the basal till and the underlying alluvial fill sequence. At the southwest end of the exposure, the basal till is also separated by associated glaciofluvial deposits from the underlying alluvial fill sequence. The glaciofluvial deposits are poorly exposed but appear to thicken and coarsen (from coarse sand to coarse pebbles) towards the southeast. Where the basal till rests directly on the underlying fine-grained alluvial fill sequence, the contact is marked by occasional large pebbled-sized clasts, and there appears to be no disturbed bedding in the alluvial fill sediments.

Wisconsinan Alluvial Fill. This unit consists of laminated to thinly-bedded fine-grained (dominantly silt loam) alluvium with thin (up to 1 cm thick), discontinuous (lenticular), wavy lenses of fine to medium sand; these sands do not delineate any incised channel forms. The unit contains abundant mollusk shells and abundant wood (twigs and branches). On fresh exposure, the alluvium is unoxidized and unleached (UU); the fine-grained sediments are dark gray (N 4/0) while the sandy sediments are gray (N 5/0). On a weathered face, the fine-grained sediments appear olive brown, reduced and unleached (RU), while the sands appear oxidized, yellowish brown, and unleached (OU).