

Foundation Materials – Bridge 36

Approximately 4 to 7 feet of alluvial gravel overlies saprolite, weathered rock and hard rock at this site. Subsurface conditions beneath the alluvium vary considerably from one boring to another, due chiefly to the fact that the weathering profile is developed on a sequence of steeply dipping beds with contrasting compositions.

End Bent One

A boring on the Left Side of this bent (EB1-A) found 6.0 feet of alluvial sand and gravel (A-1-b) overlying 6.1 feet of loose to medium dense, micaceous, sandy saprolite (A-2-5). Weathered rock was encountered at a depth of 12.1 feet. Core drilling was begun in hard rock (mica schist) at 14.6 feet. Coring from 14.6 feet to 20.3 feet resulted in only 28 percent recovery. Further coring to a depth of 28.3 feet resulted in virtually no recovery. SPT drilling was resumed at 28.3 feet in medium dense to hard, sandy saprolite (A-2-4) and was carried to SPT refusal at 39.6 feet.

A boring on the Right Side (EB1-B) penetrated 6 feet of alluvial gravel overlying 2.4 feet of sandy saprolite (A-2-5). Weathered rock was encountered at 8.4 feet. Core drilling was begun in hard rock (mica schist) at 9.1 feet. Recovery deteriorated from 72 percent in the interval 9.1 – 14.1 feet to only 43 percent in the interval 14.1 – 23.6 feet and 0 percent from there to termination at 28.6 feet in what was interpreted as saprolite.

End Bent Two

A boring on the Left Side (EB1-A) found 4.2 feet of alluvial gravel (A-1-b) overlying 7.9 feet of medium dense to dense, sandy saprolite (A-2-4). The bit passed into weathered rock at a depth of 12.1 feet, and encountered hard rock at 15.9 feet. Coring from 15.9 feet to 28.2 feet penetrated alternating layers of hard rock (amphibolite) and weathered rock.

A boring on the right side found 6.7 feet of alluvial gravel overlying approximately 16 feet of very loose to loose, micaceous, sandy saprolite (A-2-4, A-2-5). The sandy saprolite became abruptly dense to very dense at a depth of 22.5 feet and continued so until weathered rock was encountered at 33.0 feet. The boring was terminated in weathered rock at 38.8 feet.

Retaining Walls

Bridge 35 Wall-1

A retaining wall has been proposed for the Left Side approach to Bridge 35, beginning approximately at Station 22+70, 18' LT and ending at the EB1 wing wall, approximate Station 23+20, 18 LT.

A boring at 22+70, 16' LT found 6 feet of bouldery embankment and 3 feet of bouldery alluvium overlying dense sandy saprolite (A-2-4) at a depth of 9.0 feet. The boring passed into very thin weathered rock at 11.5 feet and into hard rock at 12.1 feet. Hard rock consisting of fair quality amphibolite was cored to a depth of 22.5 feet.

A boring near the bridge end bent at 23+25, 9' LT (EB1-A) found 10.1 feet of bouldery embankment and alluvium directly overlying hard rock. The rock was cored to a depth of 22.9 feet and was found to consist of very poor to good quality amphibolite.

Bridge 35 Wall-2

A retaining wall has been proposed for the Right Side approach to Bridge 35, beginning at the EB2 wing wall, approximate Station 24+00, 18' RT, and ending at about Station 24+20, 18' RT.

A boring near the bridge end bent at 23+96, 8' RT (same as EB2-B above) penetrated 4.0 feet of bouldery embankment and 8.4 feet of bouldery alluvium overlying hard rock at a depth of 12.4 feet. Coring to a depth of 20.7 feet penetrated very poor quality amphibolite with seams of weathered rock.

A boring at 24+20, 17' RT found 4.0 feet of bouldery embankment and 6.1 feet of bouldery alluvium overlying rock. Rock coring resulted in only 30 percent recovery, indicating a composition chiefly of weathered rock with hard rock seams.

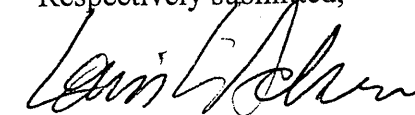
Bridge 36 Wall-3

A retaining wall has been proposed for the Left Side approach to Bridge 36, beginning at the EB2 wing wall, at approximate Station 33+25, 18' LT, and ending about Station 33+35, 18' LT.

A boring at 33+20, 8' LT (same as EB2-A above) found 4.2 feet of alluvial gravel (A-1-b) overlying 7.9 feet of medium dense to dense, sandy saprolite (A-2-4). The bit passed into weathered rock at a depth of 12.1 feet, and encountered hard rock at 15.9 feet. Coring from 15.9 feet to 28.2 feet penetrated alternating layers of hard rock (amphibolite) and weathered rock.

Please let us know if we can be of further assistance.

Respectively submitted,



Louis L. Acker, LG
Project Geologist