

Penetration Tests (SPT) were conducted at 1.52 meter intervals in soil and weathered rock. Quality samples were taken for each soil type encountered, and 30 rock core samples were submitted for testing.

Soil and Rock Properties

Embankment fill, saprolite, weathered rock and hard rock were encountered at this site. Relatively deep weathering (7 meters or more) was encountered at bents located on high ground, whereas very shallow soils overlie hard rock at Interior Bents 2 and 3.

A thin layer of roadway embankment fill was found in borings beside SR-1558, and similar fill material occupies the narrow valley floor between SR-1558 and the base of the slope on the south side. It is composed of brown and gray, stiff sandy silt with abundant rock fragments.

Saprolite was found at ground surface on both end bents and Interior Bents 1 and 4. Saprolite also occurs at depth on these bents as seams, pods, or layers up to 3 meters thick within weathered rock, or alternating with weathered rock. The saprolite is composed of red, brown, tan or gray, hard, sandy silt or very dense, silty sand. It commonly contains thin crusty layers of weathered rock.

Weathered rock comprises a red, brown, or tan to gray or greenish gray, silty material with platy or tabular foliation.

Hard rock was encountered on all bents except End Bent 2. It was composed chiefly of metasiltstone and phyllite, with only minor occurrences of metaquartzite.

The metasiltstone is a medium to dark gray, fine-grained rock with a mica content of at least 50 percent, commonly much higher. The remainder is composed of quartz and feldspar and minor amounts of calcite and pyrite. It contains remnant sedimentary bedding a few millimeters to a few centimeters thick. Bedding dip varies widely due to folding.

The phyllite is similar to metasiltstone except that it is strongly foliated. Remnant bedding in the phyllite has been disturbed by offsets on the foliation planes, to the extent that bedding has been sheared into small lensoid segments.

Foliation is the preferred plane of breakage in all the rocks encountered, but it is most strongly developed in phyllite. The foliation dips 40 to 55 degrees to the east.

The metasiltstone and phyllite are only moderately hard even as fresh rock. Drilling rates are usually 5 to 9 minutes per 1.52 meter run.