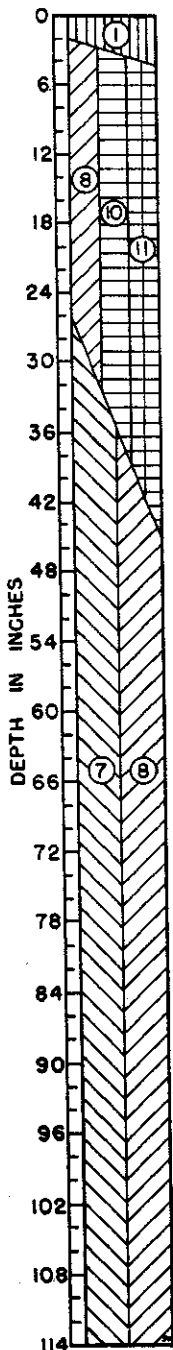


MIAMI

Area: Wisconsin Drift

Slope Class: 16-4 Percent



General. The Miami are brown soils occurring on the more rolling topography of the morainic areas and on the valley-sides of well-developed streams. Associated with the Miami are the Crosby, Brookston, and Clyde soils.

Location. These soils are found throughout the northern half of Indiana, Ohio, and Michigan wherever till that represents the average properties of the Wisconsin drift is found. Because of their early identification, the Miami may include a greater variation in texture than the more recently identified soils. When older maps are used, the Recorrelation Table should be consulted to determine those that would not now be mapped as Miami.

Description. The Miami soils are found on slopes ranging from 16 to 4 percent. Rolling phases have also been mapped on slopes greater than 16 percent. In general, parent material is encountered at approximately 36 inches below the surface. A division has been made in the parent material, on the profile, to include both Nos. 7 and 8 soils. This, in addition to the three-way split in the B horizon that includes the Nos. 8, 10, and 11 soils (Chart II), is an indication of the extent of Miami that have been mapped. This subdivision is designed to include all the Indiana soils mapped as Miami. The use of the Recorrelation Table will eliminate the wide variation expressed in this profile. The topsoil of the Miami is shallow and unimportant with respect to engineering problems. Because of its position and general texture, the Miami is considered medium-well drained. The average texture of the B horizon is probably represented by the No. 10 soil. When slight mottling is observed in the B horizon, it is an indication of a heavier type of parent material.

Problems. Problems, including drainage, some frost action, and some pumping on heavily traveled roads, have been found in relation to cuts in the Miami profile. In addition, there is some evidence that the intersection of the grade line with the B horizon of this profile, at the entrance and exit of cuts, presents a point of weakness resulting in failures in the pavement (Figs. 53 and 83). In Miami morainic areas, detailed profiling is necessary.

Corrections. On the more heavily traveled highways, the use in cuts of an insulation course of well-drained granular material is sufficient to overcome the performance weaknesses that are characteristic of these soils. Test sections on the highway system indicate that this type of correction is satisfactory. In deep, wet cuts properly designed drainage installations are generally desirable.

SHARKEY

Area: Illinoian Drift and Loess Slope Class: Depressions

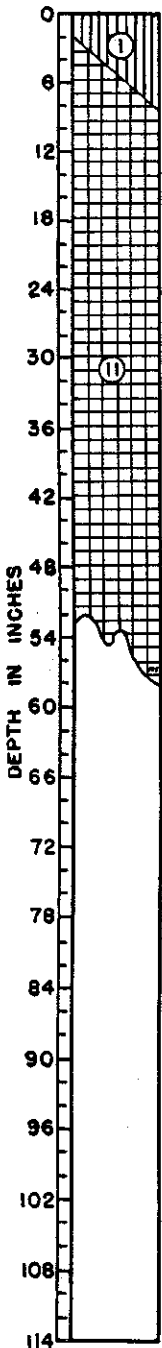
General. Sharkey soils are very dark silty clays developed in very slight depressions on low terraces that are subject to overflow.

Location. In Indiana these soils are found in the lower flood plains of the Wabash River in Gibson and Knox Counties, as well as in Illinois. They are mapped extensively in association with large streams in Iowa and with the Mississippi River in Mississippi, Tennessee, Kentucky, and Arkansas.

Description. These soils occur on very flat areas of low terraces of the larger streams. In Indiana they have been found to represent the No. 11 soil to depths of 54 inches. Greater depths have not been explored, inasmuch as cuts are not required and the presence of granular material in the subsoil is extremely limited. The results of tests on these soils do not bring out the characteristics of the colloid fraction; however, the unusual nature of the soil is easily recognized by inspection.

Problems. The problems associated with these soils are applicable to both highways and airports, inasmuch as the extent and topographic situation make them desirable for both on preliminary inspection. However, the poor drainage, the possibility of overflow, and the plastic nature of the soil make their unmodified use questionable:

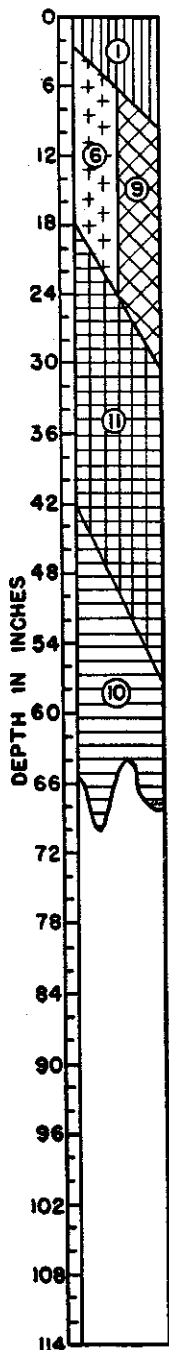
Corrections. In highways, fills of a height that will insure protection against average floods are necessary. Common practice in the use of protective blanket courses should be followed if runways are to be constructed in these locations. Existing levees usually protect these soils from average high water.



VIGO

Area: Illinoian Drift
(Western Indiana)

Slope Class: 4-0 Percent



General. These are included in the gray soils occupying the slightly undulating uplands (2-to-1-percent slopes) of the Illinoian drift area of southwestern Indiana. In general, they are found in association with the Gibson soils that occupy the steeper slopes of valleys in the same areas and are similar in profile and topographic location to the Clermont soils of eastern Indiana and Ohio.

Location. They are found extensively in the southwestern counties of Indiana, such as Clay, Greene, Owen, southern Putnam, southern Parke, Vigo, Sullivan, Knox, and Daviess.

Description. These soils are deeply weathered silts that cover the coal measures. The Vigo soils dominate in this area. Their great depth of weathering (ten or more feet) has created a number of horizons. In plowed fields the soils are easily recognized by the light-gray to brownish-gray color and the large extent of the relatively level areas.

Problems. The topographic position of these soils (relatively flat uplands) precludes their use except as subgrade. Internal drainage of these soils is very slow, and the use of tile has not always been satisfactory. The principal problems are those of obtaining drainage and sufficient support for highway and runway surfaces. Wet-weather grading is impossible.

Corrections. The use of a slight fill to raise the grade above the ground line is desirable. Granular or stabilized bases are desirable to improve the supporting power of the No. 9 soil. Sandstone is available in some localities in mine stripping.