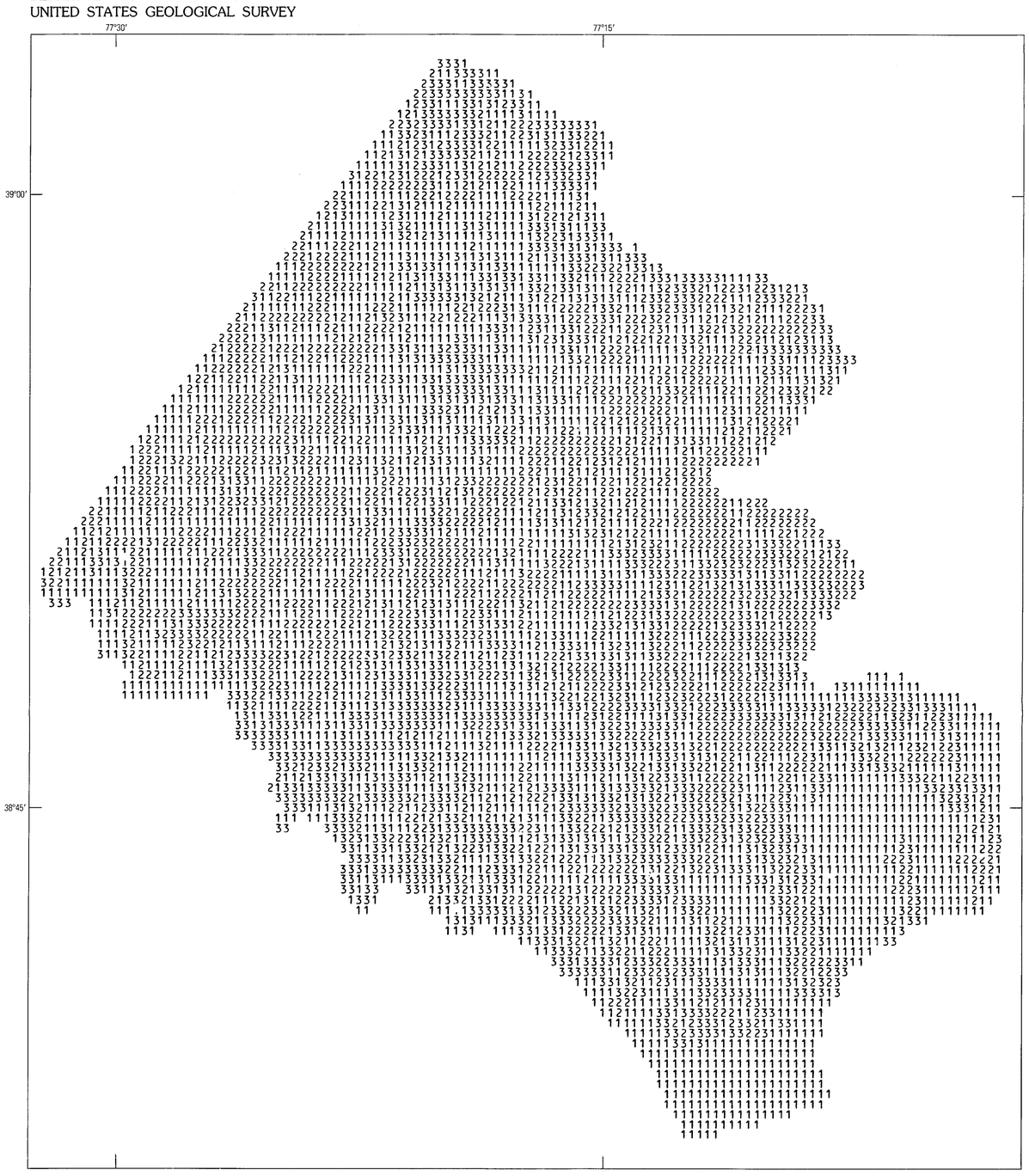
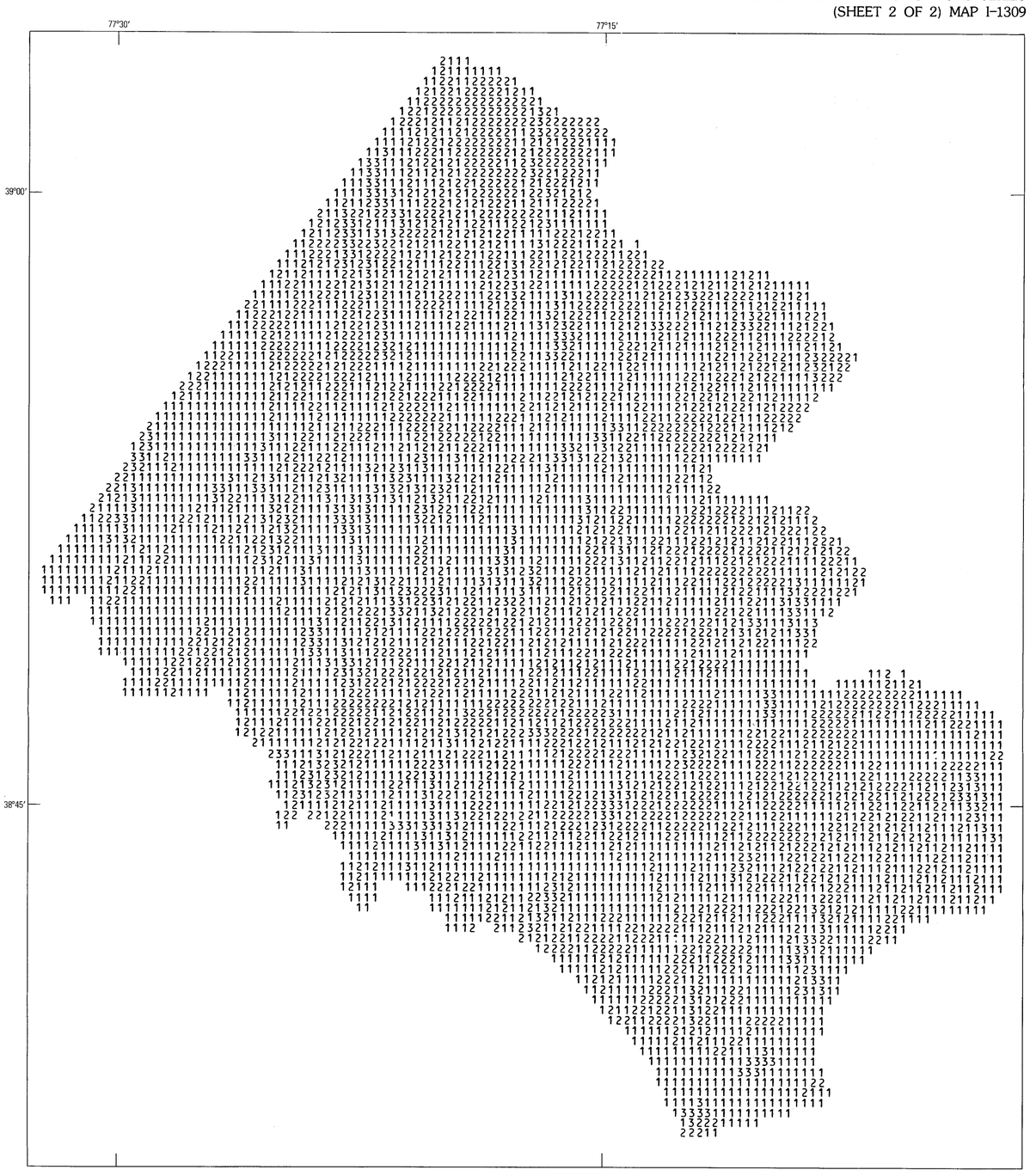
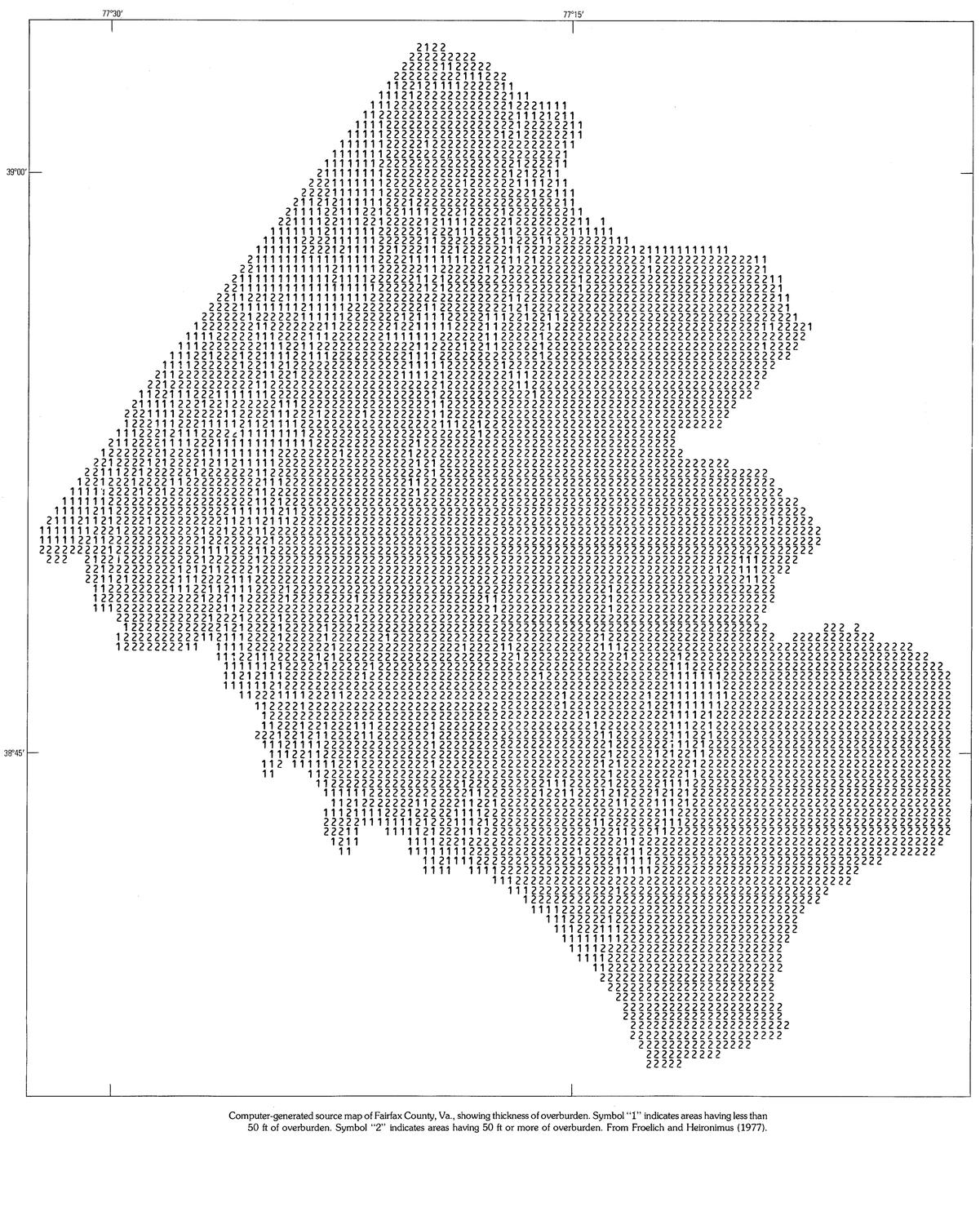


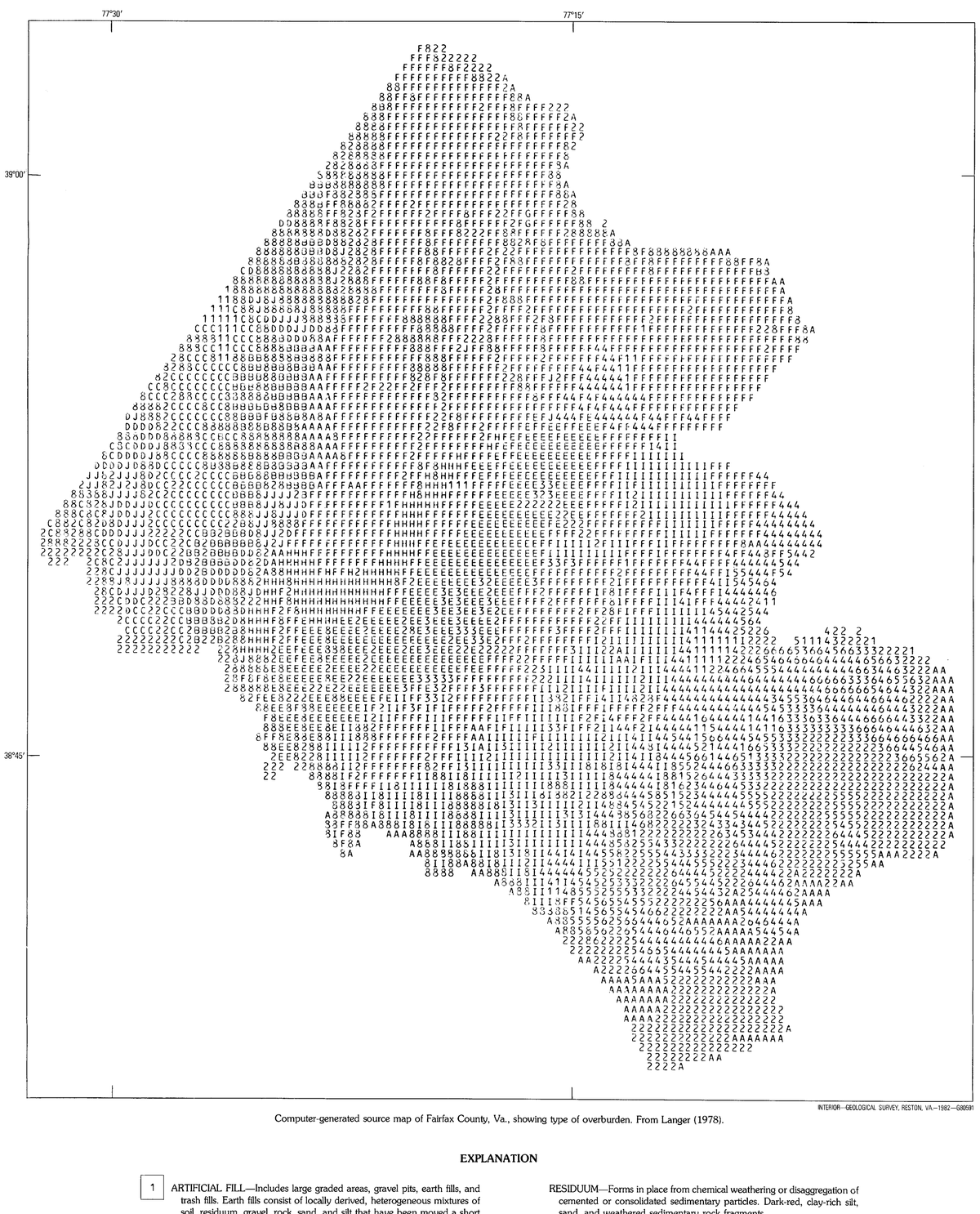
Computer-generated source map of Fairfax County, Va., showing topographic setting. Symbol "1" indicates valley bottoms—nearly level floodplains and gently sloping lowland plains in major stream valleys. Symbol "2" indicates uplands—nearly level to rolling upland areas. Symbol "3" indicates valley walls—transitional areas between valley bottoms and uplands. From Rogers (1977).



Computer-generated source map of Fairfax County, Va., showing inferred bedrock fractures. Symbol "1" indicates areas having no linear features. Symbol "2" indicates areas having depressed linear features. Symbol "3" indicates areas having positive linear features. From Iwahashi and Heironimus (1978).



Computer-generated source map of Fairfax County, Va., showing thickness of overburden. Symbol "1" indicates areas having less than 50 ft of overburden. Symbol "2" indicates areas having 50 ft or more of overburden. From Froelich and Heironimus (1977).



Computer-generated source map of Fairfax County, Va., showing type of overburden. From Langer (1978).

INTERIOR—GEOLOGICAL SURVEY, RESTON, VA.—1982—G80591

EXPLANATION

1 ARTIFICIAL FILL—Includes large graded areas, gravel pits, earth fills, and trash fills. Earth fills consist of locally derived, heterogeneous mixtures of soil, residuum, gravel, rock, sand, and silt that have been moved a short distance from artificial cuts and borrow pits during construction. Trash fills include such things as household refuse, demolition material, and tree stumps mixed with earth materials

2 ALLUVIUM—Sand, silt, clay, gravel, and boulders that have been transported by streams or river and deposited on valley bottoms or lowlands

3 COLLUVIUM AND LAG GRAVEL—Colluvium consists of a loose, heterogeneous mass of soil, saprolite, and rock fragments that accumulates generally on hill sides or at the base of hill slopes as a result of mass wasting. Lag gravel consists of materials similar to colluvium, but it is a residual accumulation of coarse fragments remaining near the surface after the finer material has been removed by erosion or chemical weathering

4 UPLAND GRAVEL—Chiefly rounded to subrounded pebbles and cobbles of quartz, quartzite, and chert; interstitial sand, silt, and clay

COASTAL PLAIN SEDIMENTS—Unconsolidated and partly consolidated Cretaceous sediments (Potomac Group). Deposits consist of interbedded coarse gravel, fine to coarse sand, silt, and clay in beds a few inches to tens of feet thick

5 Predominately sand—Commonly medium- to fine-grained sand or pebbly sand; may contain gravel lenses

6 Predominately silt and clay—Commonly silty or sandy clay, minor massive clay; silt and sand beds may make up as much as 30 percent of unit

8 BEDROCK—Fresh, consolidated rock exposed at the land surface or covered with less than 10 ft of residuum or saprolite

RESIDUUM—Forms in place from chemical weathering or disaggregation of cemented or consolidated sedimentary particles. Dark-red, clay-rich silt, sand, and weathered sedimentary rock fragments

A Formed on conglomerate—Gravelly, sandy, silty residuum

B Formed on sandstone—Sandy, silty residuum

C Formed on siltstone and shale—Clay-rich residuum

SAPROLITE—Forms in place from chemical weathering of igneous and metamorphic rocks. Retains structure and volume of original rock; density commonly half that of parent rock. Micaceous, clayey silt, sandy silt, and weathered igneous and metamorphic rock fragments

D Formed on hornfels—Very thin gravelly saprolite; 0–10 ft thick; averages 3 ft thick

E Formed on phyllite—Thin, gravelly saprolite; 0–100 ft thick; averages 30 ft thick

F Formed on schist, gneiss, and metagraywacke—Thick, silty, sandy saprolite, commonly very micaceous; 0–160 ft thick; averages 50 ft thick

G Formed on ultramafic rocks—Very thin saprolite; highly plastic clays in upper few feet; 0–8 ft thick; averages 3 ft thick

H Formed on mafic rocks—Thin, clay-rich saprolite; highly plastic clays in upper 10 ft; 0–75 ft thick; averages 20 ft thick

I Formed on granitoid rocks—Thick, sandy saprolite; 0–100 ft thick; averages 40 ft thick

J Formed on diabase—Thin, clay-rich saprolite, sandy at depth; highly plastic clays in upper 10 ft; 0–30 ft thick; averages 10 ft thick

MAP SHOWING PHYSICAL CHARACTERISTICS RELATED TO SANITARY LANDFILL SITING IN FAIRFAX COUNTY, VIRGINIA

By
J. Nicholas Van Driel

1982