TOPOGRAPHIC AND GEOLOGIC SURVEY
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

SAND AND GRAVEL OCCURRENCES IN THE GREATER PITTSBURGH REGION

by

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1974

INDEX TO QUADRANGLES

COUNTY KEY

A. ALLEGHENY
B. ARMSTRONG
C. BEAVER
D. BUTLER
E. WASHINGTON
F. WESTMORELAND

QUADRANGLES MAY BE OBTAINED FROM THE TOPOGRAPHIC DIVISION, U. S. GEOLOGICAL SURVEY, 1109 NORTH HIGHLAND ST., ARLINGTON, VIRGINIA 22210, OR THE MAP INFORMATION OFFICE, U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C. 20242

EXPLANATION

Low-level glacial terraces and outwash (Qgl) [Wisconsinan]
Alluvium (Qal) in channels of Allegheny, Beaver and Ohio Rivers covering important glacial outwash deposits of sand and gravel.

Description: *Glacial sand and gravel consisting of well-rounded, unweathered pebbles, averaging between 1 and 3 inches, and sharp, angular sand. Small amount of silt and clay. Occasionally boulders up to 18 inches. Gravel consists of igneous, metamorphic and sedimentary rocks which were transported by glacial ice from Canada and New York as well as sedimentary rocks of local derivation. Percentage of gravel ranges from 20 to 75 percent. Deposits range in thickness from 10 to 150 feet.*

Preliminary evaluation: *Excellent sources of high-quality sand and gravel. Extensive dredging and quarrying in past has exhausted a significant portion of reserves. Loss of acreage due to land-use conflicts exceeds 75 percent.*

Kames, kame terraces and esker (Qgk)
Glacial outwash (Qgo) of undetermined age } *[Illinoian or Wisconsinan]*

Description: *Glacial sand and gravel with varying amounts of interbedded silt and clay. Gravel consists of igneous, metamorphic and sedimentary rocks which were transported by glacial ice from Canada and New York, as well as sedimentary rocks of local derivation. Maximum gravel content reported to be 85 percent. Weathering of pebbles should be insignificant in deposits of Wisconsinan age but moderate to severe in deposits of Illinoian age. Deposits commonly from 20 to 80 feet thick.*

Preliminary evaluation: *Substantial quantities of sand and gravel represented by these deposits. Quality of sand is good to excellent. Quality of gravel currently being quarried is not top grade, but unweathered gravel in deposits of Wisconsinan age should be good. Loss of acreage due to land-use conflicts is about 4 percent in case of Qgk, and about 21 percent in case of Qgo.*

High-level glacial terraces [Illinoian]

Description: *Glacial sand and gravel mixed with varying amounts of fines, and an occasional boulder. Gravel consists of igneous, metamorphic and sedimentary rocks which were transported by glacial ice from Canada and New York, as well as sedimentary rocks of local derivation. Gravel in an advanced state of weathering. Percentage of gravel in deposits variable. Deposits from 2 to 90 feet thick.*

Preliminary evaluation: *Good targets for high-quality sand, but gravel is not top grade due to the advanced state of weathering. About 72 percent of acreage in group lost through land-use conflicts.*

Alluvium (Qal) Note: does not include alluvium along Allegheny, Beaver and Ohio Rivers.

Description: *Alluvium deposits consisting of loam, silt, sand, gravel and clay in varying proportions. Pebbles are predominantly sandstone of local derivation except in and adjacent to glaciated areas in northwestern part of region where they include some igneous, metamorphic and sedimentary rocks which were transported by glacial ice from Canada and New York. Deposits are known to reach 70 feet in thickness.*

Preliminary evaluation: *Sand and gravel deposits of undetermined quality are undoubtedly present in some places, especially along the larger streams draining areas of glaciation and/or areas underlain principally by sandstone.*

Carmichaels Formation

Description: *Non-glacial deposits consisting of interstratified sand and gravel, boulders, silt and clay. Angular to rounded pebbles and boulders are predominantly sandstone and weathered. Sand deposits up to 22 feet reported. Little information is available on percentage of gravel in deposits.*

Preliminary evaluation: *Exploration for sand offers some promise, but the prospects of locating an economic source of high-quality gravel are not encouraging.*

Low-level terraces

Description: *Non-glacial deposits consisting of gravel, sand, silt, clay. Weathering of materials should be relatively slight. Available data indicate thicknesses of deposits rarely exceed 15 feet.*

Preliminary evaluation: *Evaluation difficult due to lack of sufficient data. As a group they are few in number, somewhat localized and apparently not very thick. They are therefore considered to be only fair exploration targets.*

(17) Active sand and gravel operation (1971–72); number is keyed to Table 1.

Drift border (limit of glacial ice advance); dashed when approximately located

Area of land-use conflict; mainly land used for residential, industrial and/or commercial purposes.

UTM GRID AND 1972 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:125 000
1 inch equals approximately 2 miles
1 centimeter equals 1.25 kilometers

CONTOUR INTERVAL 100 FEET
DATUM IS MEAN SEA LEVEL

LOCATION DIAGRAM

Mapped, edited, and published by the U. S. Geological Survey
Control by USGS, USC&GS, USCE, the city of Pittsburgh, and Pennsylvania Geodetic Survey
Compiled in 1971 from USGS quadrangles dated 1953–1969
Lambert Conformal Conic projection. 1927 North American datum
50,000-foot grids based on Pennsylvania coordinate system, south and north zones
10,000-meter Universal Transverse Mercator grid ticks, zone 17

Prepared by the Pennsylvania Geological Survey in cooperation with The United States Department of the Interior, Geological Survey under Grant No. 14-08-0001-G-70