DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

Prepared in cooperation with the
Appalachian Regional Commission

MISCELLANEOUS FIELD STUDIES
MAP MF 641-B

Sheet 2 of 2

Figure 4 — Theoretical ground-water circulation system of the shallow hydrogeologic regime, McLaughlin Run and Painters Run basins, Allegheny County, Pennsylvania.

Painters Run and McLaughlin Run basins

Composite from Quadrangle Maps

Pittsburgh West, Pa.
7-1/2 minute quadrangle

Bridgeport, Pa.
7-1/2 minute quadrangle

EXPLANATION

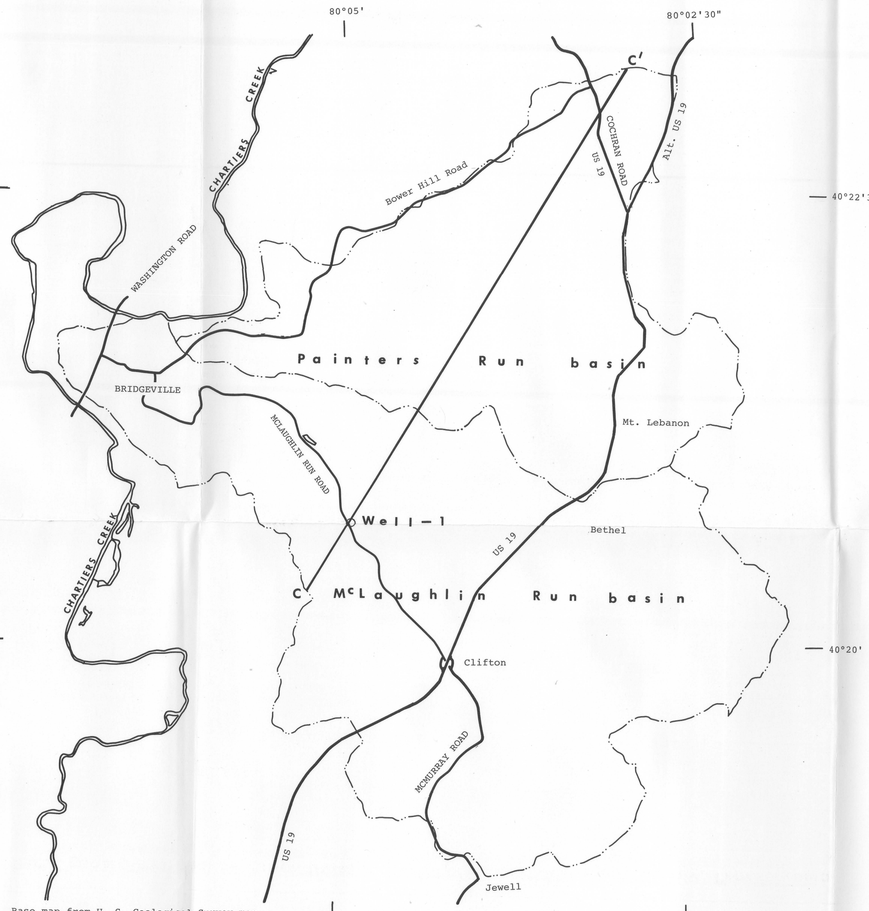
Location Map of Section

C′

C

Line of Section

Drainage basin boudary

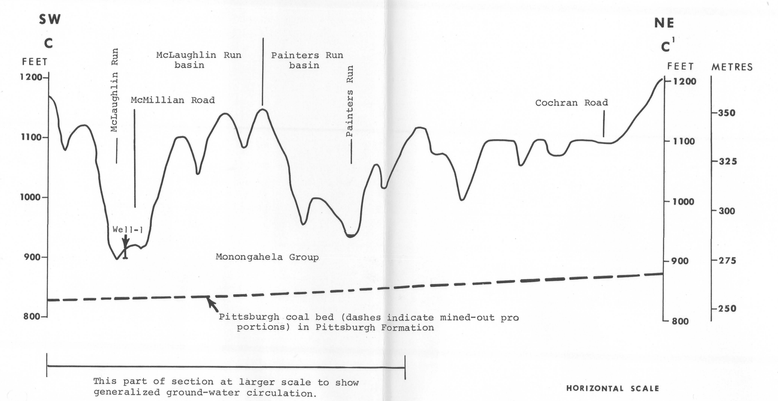


0 ½ 1 MILES
0 .5 1 1.5 KILOMETRES

1.0 MILE = 1.6 KILOMETRES

Base map from U. S. Geological Survey map, Bridgeville 7-1/2 minute quadrangle, 1960, photo revised 1969 and Pittsburgh West 7-1/2 minute quadrangle, 1960, photo revised 1969.

Section C-C′ Generalized section of hydrogeologic framework in McLaughin Run - Painters Run basins



This part of section at larger scale to show generalized ground-water circulation.

HORIZONTAL SCALE

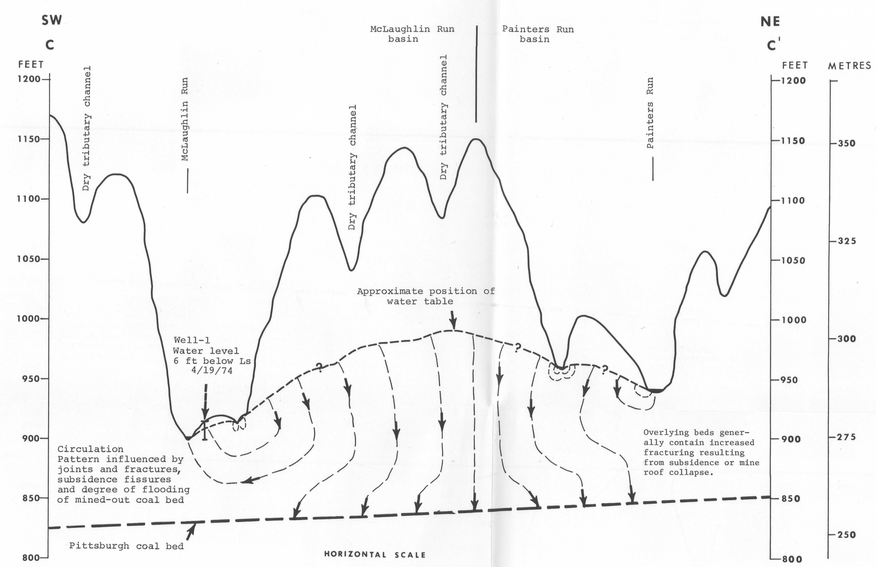
0 ½ 1 MILES
0 1 ½ KILOMETRES

1.0 MILE = 1.6 KILOMETRE
100 FEET = 30 METRES

Datum is mean sea level; vertical exaggeration 20X

Monongahela Group - Shale, sandstone, and thick limestone with Pittsburgh coal at base and other workable coals. Limestones yield as much as 25 gal/min (1.6 l/s) from bedding planes and joints just below drainage level; sandstones are locally less erratic but have lower permeability than limestones. (Adapted from Piper, 1933)

Part of Section C-C′ showing generalized diagrammatic ground-water circulation



HORIZONTAL SCALE

0 ¼ ½ MILES
0 ½ 1 KILOMETRES

1.0 MILE = 1.6 KILOMETRES
100 FEET = 30 METRES

Datum is mean sea level; vertical exaggeration 20X

EXPLANATION

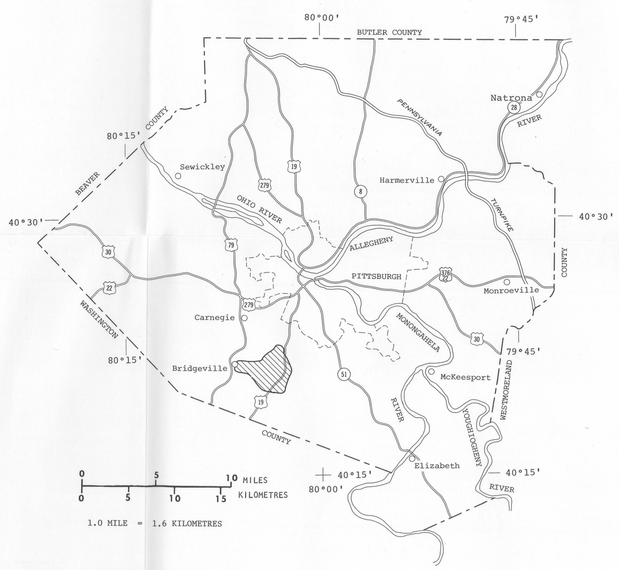
Generalized path of ground-water circulation, direction influenced by distribution fractures of interbedded limestone, sandstone, and shale.

PENNSYLVANIA

Location Map

EXPLANATION

McLaughlin Run and Painters Run basins



0 5 10 MILES
0 5 10 15 KILOMETRES

1.0 MILE = 1.6 KILOMETRES

Base map adapted from Wagner, W. R. and others, 1970, Geology of the Pittsburgh area: Pennsylvania Geol. Survey, 4th Ser. General Geology Rept. G59, 145 p.

Hydrogeologic framework and generalized shallow ground-water circulation system, Allegheny County, Pennsylvania

by Seymour Subitzky 1975

Interior—Geological Survey, Reston, Va.—1976—L26068