

INTRODUCTION AND WATERSHED DESCRIPTION

On May 16, 1967, Pennsylvania voters approved a \$500 million environmental bond issue. A major portion of this program is to be expended for the elimination of stream pollution from abandoned coal operations, air pollution from burning coal refuse banks, alleviation of subsidence from abandoned mining operations and elimination of underground mine fires. At present the program is administered by the Department of Environmental Resources under the "Land and Water Conservation and Reclamation Act" (Act No. 443).

Chalfant Run (formerly known as Johnston's Run, as per plat book Eastern Vicinity of Pittsburgh, 1915 edition) is situated in the eastern part of Allegheny County. It is contiguous and east of the Borough of Wilkinsburg and includes portions of Penn Hills Township, Churchill Borough, Wilkinsburg Borough and Wilkins Township. The watershed has its headwaters bounded on the north by Frankstown Road at Graham Boulevard and runs directly southeasterly through Penn Hills Township, Churchill Borough and Wilkins Township for approximately 19,000 ft. to its intersection with Thompson Run at the former Village of Linhart.

The subdivisions through the watershed have their own separate storm and sanitary sewers and are not combined sewers similar to the old cities such as Pittsburgh, Philadelphia, etc. Portions of the tributaries in the upper reaches have been enclosed with pipe, principally in the narrow corridors where commercial establishments exist.

This area is primarily residential except for a portion along Parkway East, William Penn Highway and Rodi Road, which is bounded by steep hillsides and the Churchill Country Club, in the northwest portion of the Chalfant Run watershed. The tributaries of Chalfant Run are in valleys which vary from gentle terrain to extremely steep terrain. All the valleys are built up with the exception that further development can take place in the Duff Run Area. (Rodi Road) and also the Lougeay Road Area, which is approximately 2500 ft. easterly and parallel to Rodi Road. Wilkinsburg Borough, Churchill Borough and Wilkins Township, for all practical purposes, are built up with the exception of some marginal land which will undoubtedly be developed to a limited extent in the future.

All the streams in the entire watershed are used only for drainage purposes; that is, runoff from streets and hillsides, spring drainage, mine water runoff, discharge of

treated effluent from the Long Road Sewage Plant and emergency overflow from existing sewage lift stations in the watershed. There is no known use of water from this watershed for drinking purposes, industrial water use, swimming or any other known recreational use. The stream is not known to support aquatic or fish life due to the character of mine drainage in the area.

Intermittent pollution is known to occur as a result of emergency overflows from the sewage lift stations and from discharge of septic tanks into bore holes connected to abandoned mines which eventually discharge at points of adjacent outcropping. The Long Road Sewage Plant was issued a permit to provide complete treatment producing 85% removal of pollutional B.O.D. This admixture, in combination with the acid mine drainage, results in a chemical composition which forms deposits below the confluence of Long Run (the tributary which receives the effluent from the Long Road Sewage Plant) and Chalfant Run. The Merrie Woode Drive section below this point of juncture is presently unsewered. This study, however, did not check out the nature of sewage discharges from the homes in the area.

It has been observed through the years that new mine seepage can appear perhaps one to five years after homes

have been constructed; the cause being underground water sources which have been rerouted due to basement construction of homes, utility construction and grading. The Department of Environmental Resources of the Commonwealth of Pennsylvania has been active the last several years in piping mine water in the rear yard areas, although this has been on a very limited basis. The properties that were remedied consisted of extremely saturated back yards and hillsides which were unusable to the owners of the property since the mine water was extremely acid in quality.

Complaints registered with the Borough of Churchill, Township of Penn Hills and the Township of Wilkins were responsible for bringing the Department of Mines and Mineral Industries into the picture. During 1969 extensive criticism resulted because of unsatisfactory conditions in the Chalfant Run watershed. Much of this occurred as a result of the flow of Chalfant Run through the Merrie Woode Drive area. At that time the Department of Health and the Department of Mines had various representatives meet with the municipal officials and civic organizations in an attempt to determine the nature of complaints and how they were to be alleviated.

On November 21, 1969, Alex Hutchinson & Son submitted a proposal for a watershed study of Chalfant Run and its

tributaries, to its junction with Thompson Run at Linhart. This proposal was resubmitted as of January 20th, 1970 and a contract to undertake the study was issued by the Department of Mines and Mineral Industries on May 29th, 1970. (The direction, review and finalization of the study has been made in conjunction with Mr. Carl Gaus, P.E., partner of The Gateway Engineers and Mr. John Yenchko, P.E. of Kappe Associates, Inc.)

PURPOSE

The purpose of this study was to:

- (a) Determine the extent and severity of acid mine drainage in Chalfant Run and its tributaries.
- (b) Locate pollution sources.
- (c) Evaluate types of corrective measures and estimate associated construction costs.

An outline was furnished by the Department of Environmental Resources to facilitate the collection of available data for geology of the watershed; a review of the information available by Departments or Agencies is as follows:

- (1) Department of Environmental Resources (formerly Department of Mines, Commonwealth of Pennsylvania)

Contact was made with the district office, located

at McMurray, Pennsylvania, in the southwestern portion of Allegheny County, to secure all available maps and data on recent or former coal operations. Available information indicated there is no active mining in the Chalfant Run watershed and the only maps of record are the old WPA drawings prepared in the late 1930's, (Pittsburgh Sheets Nos. 2 and 3 showing the Pittsburgh Coal Seam). The maps indicate by terminology, drift openings, slope openings, shafts, etc.; however, these particular prints are very meager as to any former mine openings.

(2) Department of Environmental Resources

(formerly Pennsylvania Department of Health) Our contact with the Regional Engineer in the Pittsburgh Area revealed they had no information concerning mining in this area. Information was available from them concerning sanitary sewer systems, sewage plants and pump stations.

(3) Other Agencies - F.W.P.C.A., U. S. Bureau of Mines, U. S. G. S. and State Geologic Survey, Coal Industry, Department of Agriculture and others.

The above were contacted and had nothing to offer in relation to the mine drainage problems in the area.

Information is extremely scarce, if not non-existent, except for the W. P. A. maps. Some use will be made of the 1915 Plat Book, Eastern Vicinity, since it shows original mine openings, railroad tracks and trestles in the Chalfant Run area, used by the mining industry as shown on-Plate No. 500.

Reference will be made to a limited extent to the General Geology Report, G-59, "Geology of Pittsburgh Area, Pennsylvania Geological Survey, Fourth Series, Harrisburg 1970" which is an excellent reference for the geology in our area.

Plate No. 501 was studied relative to active and inactive gas and oil wells. This information furnished by Peoples Natural Gas Company.