

SURFICIAL GEOLOGIC MAP OF THE CORRY AREA, ERIE COUNTY, PENNSYLVANIA

BY
RACHEL O'BRIEN
RESEARCH UNLIMITED

AND
ERIC STRAFFIN
EDINBORO UNIVERSITY
OF PENNSYLVANIA

2023

EXPLANATION

SYS- TEM	GEOLOGIC DESCRIPTION	UNIT
QUATERNARY ¹	Sand and gravel. On the surficial map, these are deposits along some of the active stream channels. In the subsurface, these represent older deposits formed from the glacial meltwater streams that formed beneath, adjacent to and/or in front of ice sheets.	SAND AND GRAVEL Qsg
	Fine-grained (clay and silt sized) sediments, some with significant amounts of organic material (peat). These deposits are typically formed in lake bottoms and closed depressions.	SILT, CLAY, AND/OR PEAT Qsc
	Stratified to unstratified mixtures of gravel, sand, and silt. This unit was mapped only on the surface and consists of deposits formed from colluvial (hillslope) processes and alluvial fans.	SILT, SAND, AND GRAVEL Qss

SYS- TEM	GEOLOGIC DESCRIPTION	UNIT
QUATERNARY ¹	Unsorted, dense mix of all particle sizes (clay, silt, sand, and gravel). On the surface, these are found in predominantly upland settings and are interpreted as ground moraine deposits that formed beneath ice sheets. All subsurface deposits containing some mixture of fine and coarse grained materials were mapped as this unit.	CLAY, SILT, SAND, AND GRAVEL Qcs
	Well sorted to poorly sorted mix of all particle sizes (clay, silt, sand, and gravel) with an abundance of gravel-sized material. Less dense than Qcs. Can be mapped only on the surface.	GRAVEL, SAND, SILT, AND CLAY Qgs
DEVONIAN	Siliclastic rocks (shales, siltstones, some sandstone).	BEDROCK Dbr

¹ The vertical sequence of Quaternary units is not intended to imply relative age relationships.

MAP PURPOSE

The purpose of this map is to provide a description of unconsolidated materials present at the land surface and in the subsurface, with the intent of providing a better understanding of the distribution of geologic units that might serve as water-supply sources (aquifers). Three primary datasets were used: (1) observations of surficial samples and landforms, (2) U.S. Department of Agriculture soils maps, and (3) subsurface lithologic descriptions taken from records of drilled wells and/or test borings. In order to provide consistency between surface and subsurface datasets, the authors described the deposits by their sediment textures, size, and sorting rather than by their landforms. The map is intended for use by geoscientists, but also for city planners, water-well drillers, or those working in natural-resource-conservation or environmental professions.

SYMBOLS

Geologic contact
Location approximate

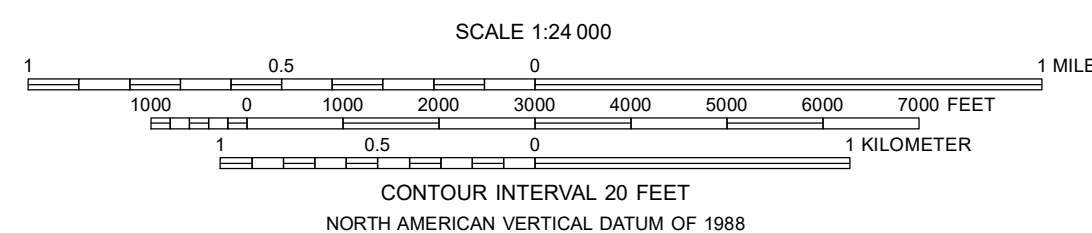
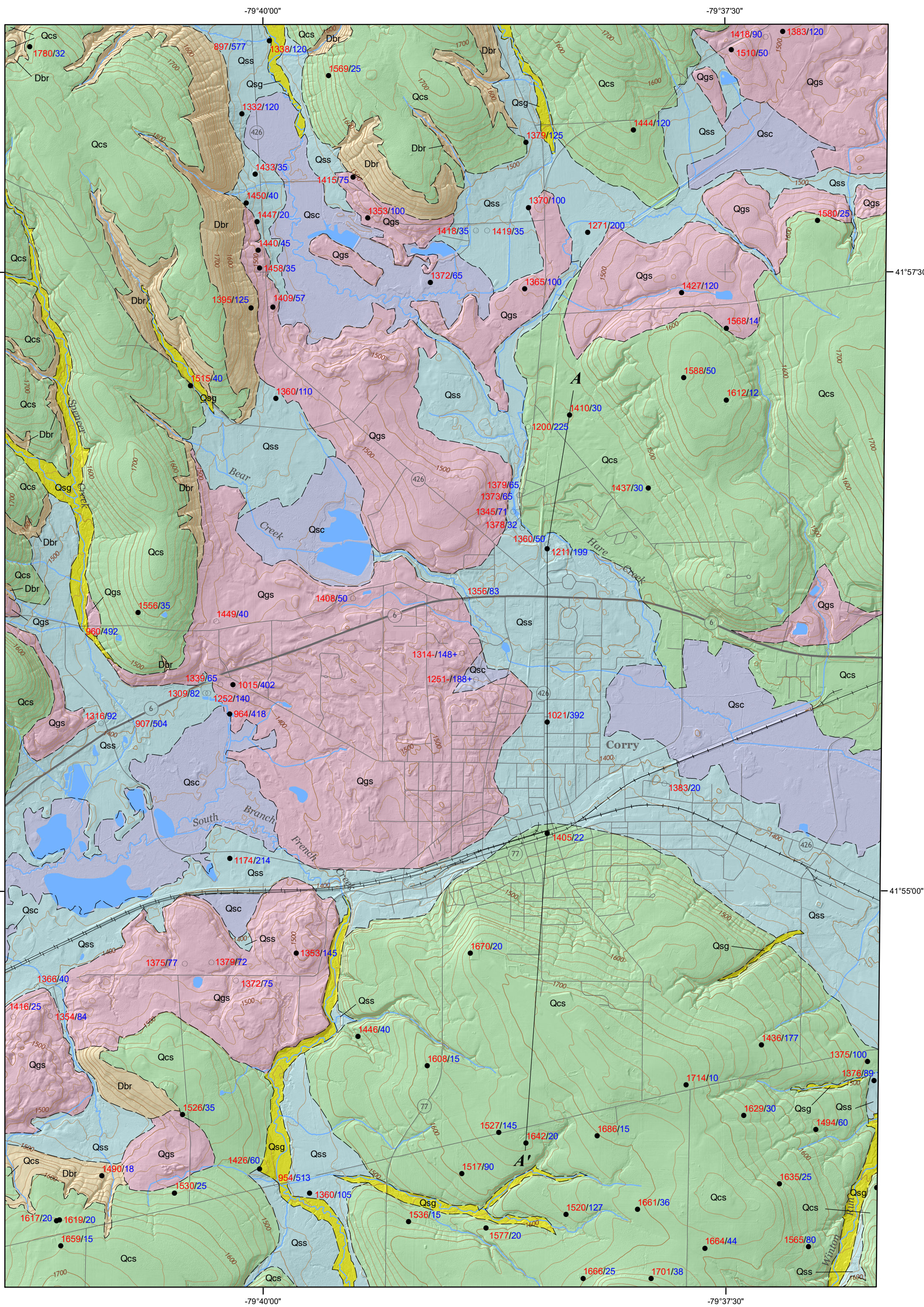
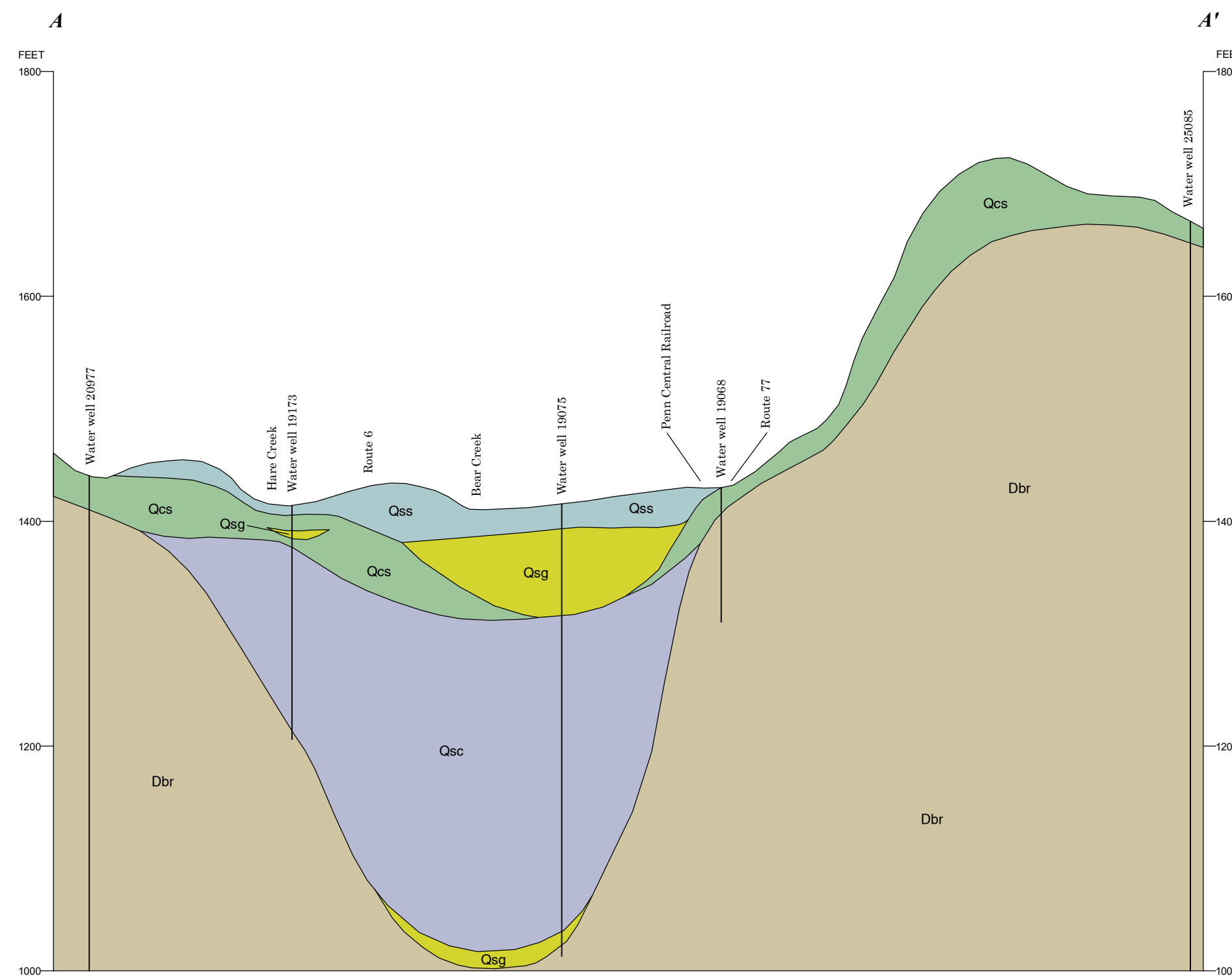
A-----A'
Line of geologic cross section

●
Bedrock well
Location of water well that intersects bedrock. Red number to left of slash is the elevation at the top of bedrock, and blue number to right of slash is the drift thickness, both in feet.

○
Drift well
Location of water well that did not completely penetrate the drift sediments. Red number to left of slash is the elevation at the bottom of the well, and blue number to right of slash is the depth of the well, both in feet.

CROSS SECTION

(Subsurface conceptual model. Horizontal scale approximately the same as map scale; 18x vertical exaggeration)



Watbsburg	Olymer	North Olymer
Union City	Corry	Columbus
Lake Canadota	Spartansburg	Spring Creek

7.5-MINUTE QUADRANGLES



Hillshade created from DEMs derived from lidar elevation data published by the Pennsylvania Geological Survey PAMAP program in 2007 and distributed through the Pennsylvania Spatial Data Access (PASDA) website.

Most base map data modified from the U.S. Geological Survey combined vector files for the Corry and Columbus 7.5-minute quadrangles, which were published September 20, 2019, and are available online from The National Map.

Geologic mapping by Eric Straffin, Edinboro University of Pennsylvania; cross section by Rachel O'Brien, Research Unlimited.

Digital map production by Craig M. Ebersole, Pennsylvania Geological Survey, 2023.

This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program under STATEMAP award number G20AC00272, 2020.