

# Longwall mining in Western Pennsylvania

## Active and closed mines



■ Active □ Closed

RAG:  
 • Cumberland Mine  
 • Emerald Mine

Consol  
 • Bailey Mine  
 • Blacksville No. 1  
 • Dilworth  
 • Eighty-Four Mine  
 • Enlow Fork Mine  
 • Humphrey No. 7  
 • Vesta:  
 Originally J&L Steel,  
 then A.T. Massey Coal.  
 • Westland

Maple Creek Mining, Inc.  
 • High Quality Mine

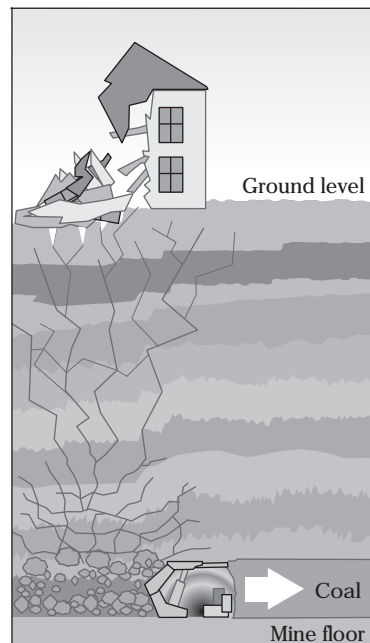
Consol (WV)  
 • Blacksville #2  
 • Shoemaker

Duquesne Light Co.  
 • Warwick No. 3

Gateway Coal Co.  
 • Gateway

## Subsidence ▶

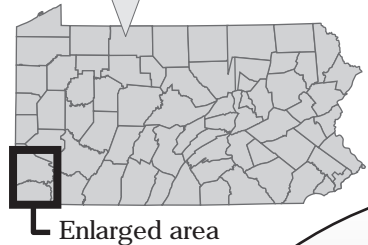
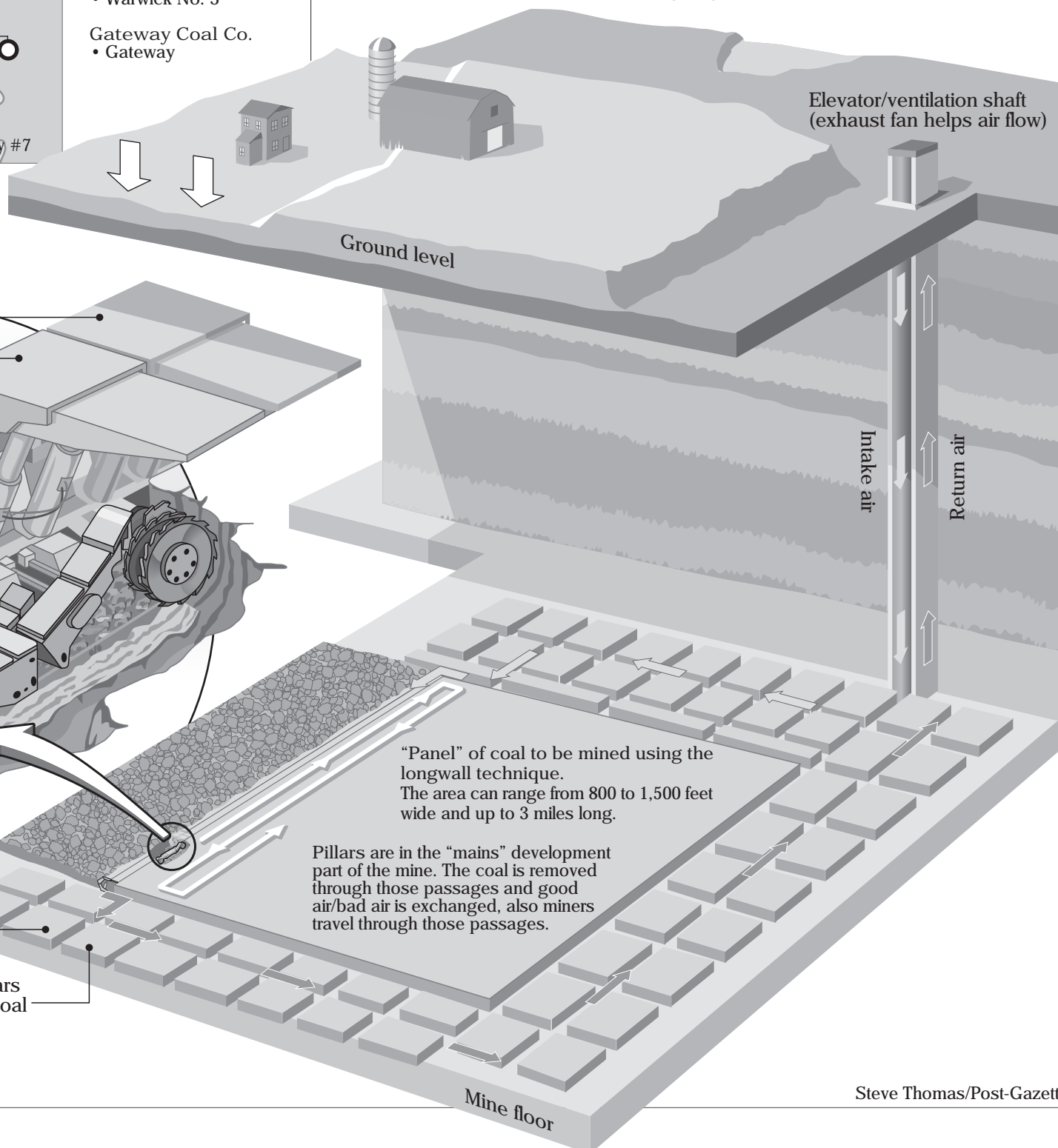
Subsidence in which the overlying rock and other material falls into the void where coal has been removed results from longwall mining. As the longwall system advances, the mine roof caves in behind the steel shields.



## An 'under' view ▼

In longwall mining, a very large block or "panel" of coal is isolated by the development of entries and crosscuts. Special mining and roof support equipment is then set up along the working face. This working face can be anywhere from 800 to 1,500 feet wide.

The coal is mined by a longwall mining machine that moves across the face. Mined coal is then hauled by a chain conveyor along the length of the face. The roof is supported by special hydraulic supports called chocks and shields that are advanced as the mining progresses.



Enlarged area

Steel shields to protect the miners from the loose rocks above and behind.

Machine operator

Shearer

Conveyor belt

Raw coal

Pillars of coal

"Panel" of coal to be mined using the longwall technique. The area can range from 800 to 1,500 feet wide and up to 3 miles long.

Pillars are in the "mains" development part of the mine. The coal is removed through those passages and good air/bad air is exchanged, also miners travel through those passages.