

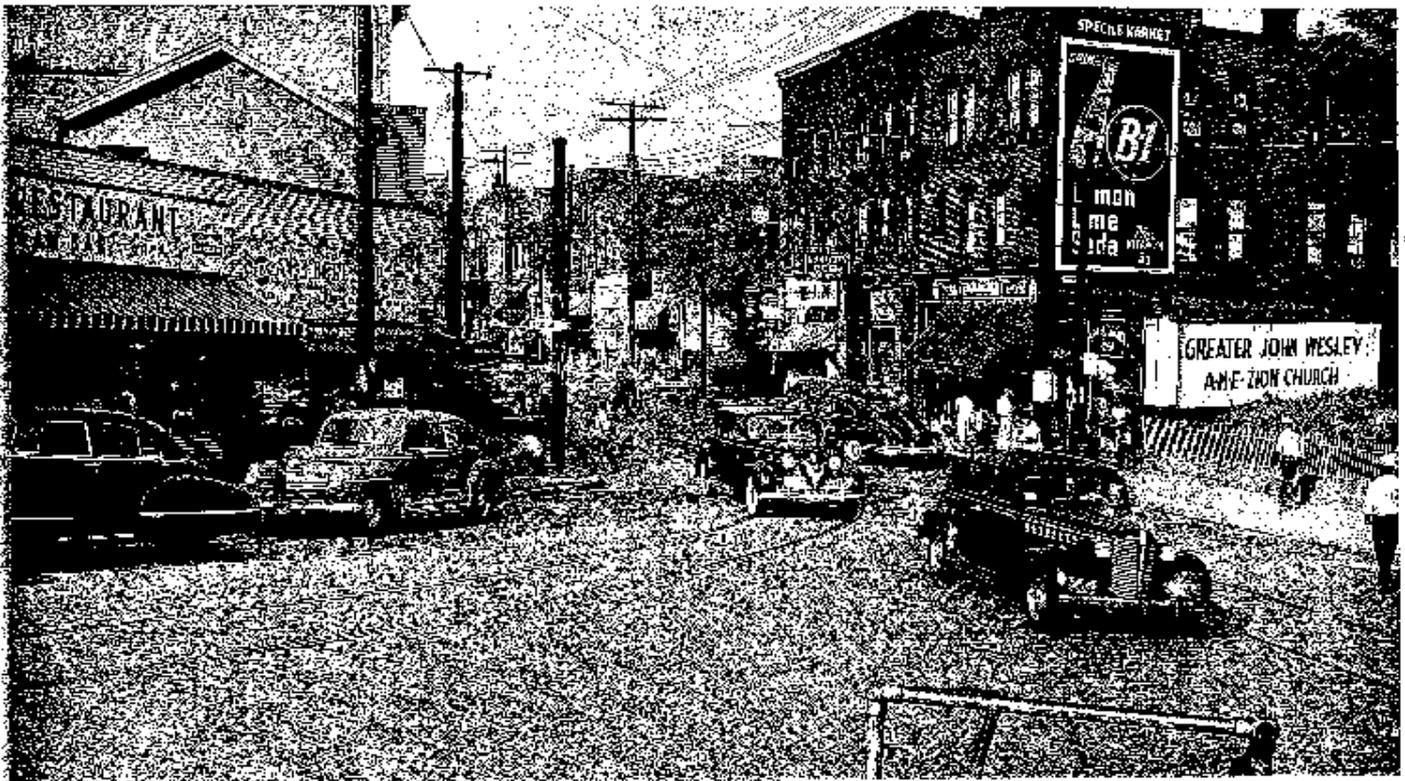
**John Wesley A.M.E. Zion
Church
AMD Geothermal Project**

Presented by:

Darwin Burtner/ Western PA Geothermal

Holly Cairns/ PA DEP

Pastor Calvin Cash/ Herron Avenue Corridor Coalition

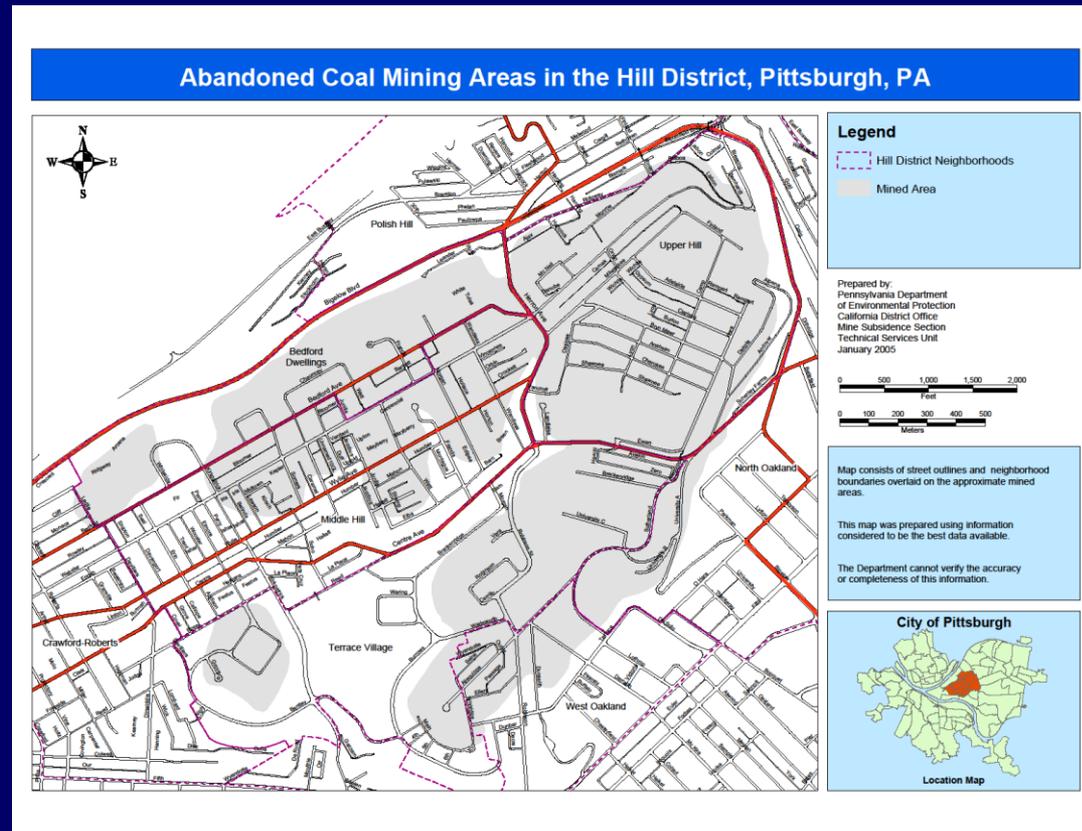


Pittsburgh's Herron Avenue in the Hill District in the 1960's.

Underground coal mining in the Hill District began in the early to mid 1800's and was some of the earliest coal mining in Western Pennsylvania.

The Pittsburgh Seam is about 8 feet thick, so the mine nearly 8 feet high. It is nearly flat, lying at an approximate elevation of 1055 ft.

The average depth to the coal mine is about 50 feet in the Hill District.



John Wesley A.M.E. Zion Church

- June 21, 2002, DEP's Environmental Clean-Up Program (ECUP) organized a summit with DEP representatives, local advocates and CMU where several mining-related sites in the Hill District were toured.

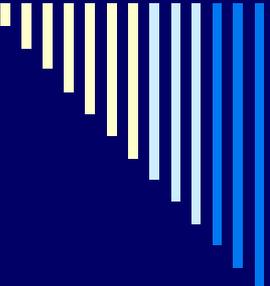


Abandoned Mine Drainage (AMD) at Lamp Post at Church Site



AMD in Church Basement





DEP's Bureau of Abandoned Mine Reclamation (BAMR) takes on the AMD

- ❑ Fall of 2004, BAMR drained the mine pool in excess of 50 million gallons. The mine was flooded such that approx. 12 feet of water was pooled in the hillside behind the church.
 - ❑ The mine pool was reduced through drilling, and then drained away. A permanent drainpipe was installed on the mine floor in order to prevent the water from building up again.
 - ❑ There are four monitoring wells behind the church to monitor water movement through the mine. The mine currently safely drains at a rate of about 75 gallons per minute into the storm-water and sanitary sewer drainage system beneath the street.
 - ❑ Project cost: \$106,000 funded through the Office of Surface Mining.
-

The Initial Drainage Project by DEPs BAMR in 2004

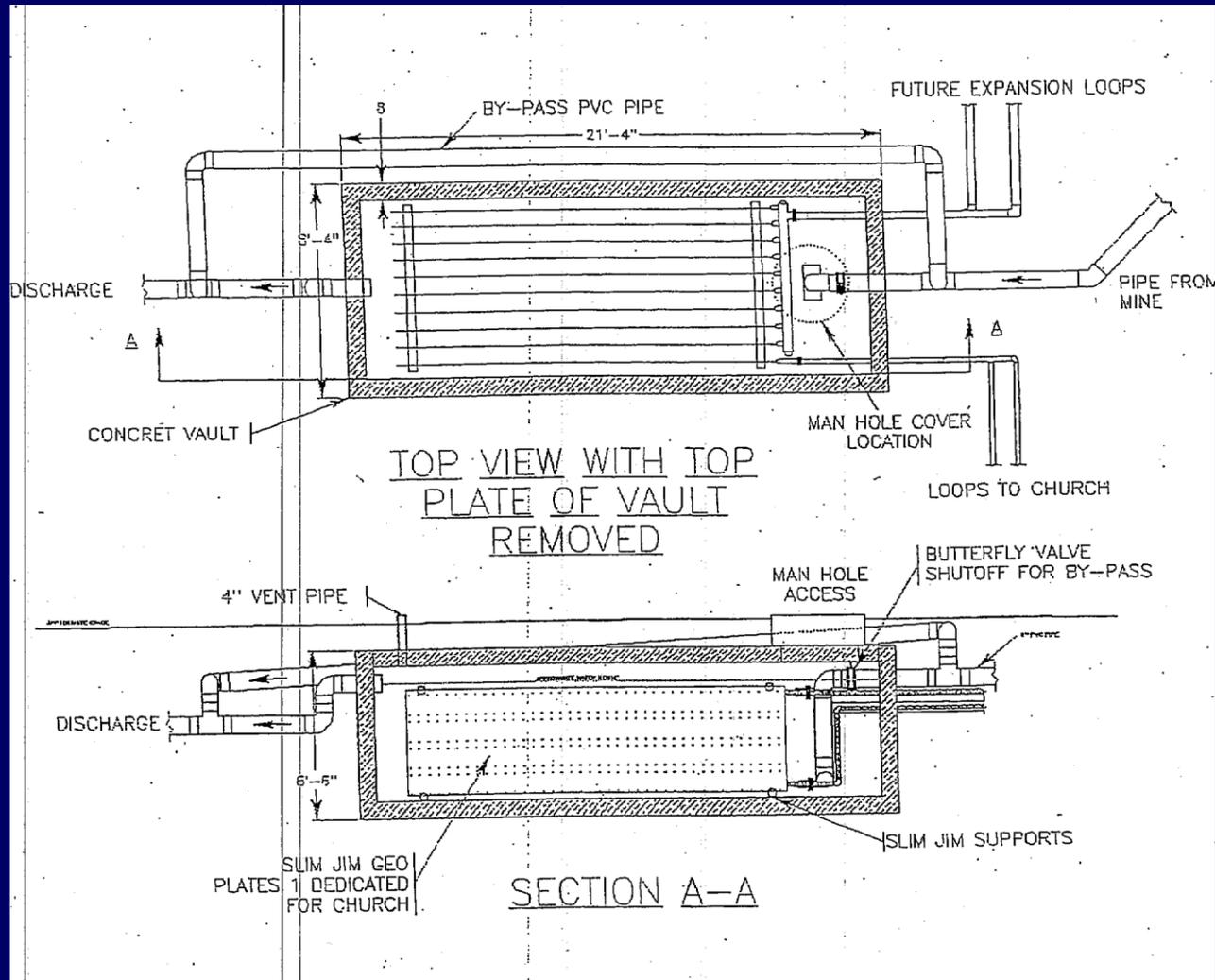


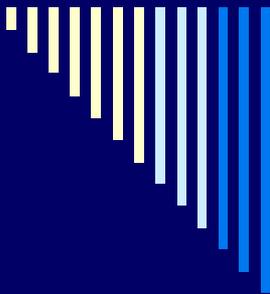


Energy Harvest Grant

- In 2007, the Herron Avenue Corridor Coalition applied for a grant in the amount of \$80,891 entitled “Beneficial Use of Mine Water for Heating and Cooling.”
 - This project is taking an environmental detriment and turning it into beneficial use.
 - This project would use the constant temperature of the mine water, 56.6 degrees F.
 - Savings of 75-80% in heating and 50% in cooling.
 - The vault could handle a newly constructed building adjacent to the church at about 40,000 sq ft in size.
 - This project is 3rd in the world and 1st in the United States.
-

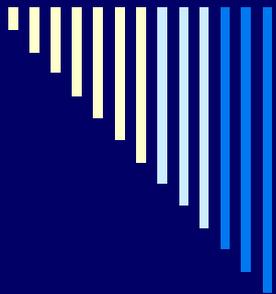
AMD Geothermal Project





AMD Geothermal Project





Thank you

- Darwin Burtner—Western PA Geothermal, 725 Saxonburg, PA 16056, 724-352-3113, darwin@wpghci.com
- Holly Cairns—PA DEP, 400 Waterfront Drive, Pittsburgh, PA 15222, 412-442-4000, hcairns@state.pa.us
- Pastor Calvin Cash—Herron Avenue Corridor Coalition, 594 Herron Avenue, Pittsburgh, PA 15219, 412-621-7930, weschar@pghmail.com