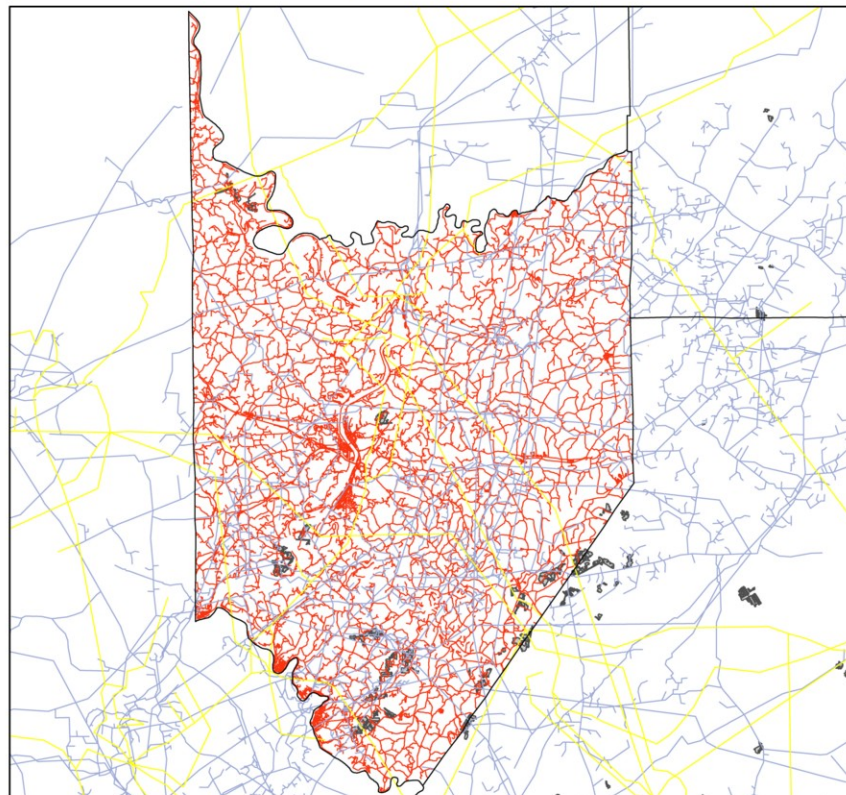


Armstrong County: Infrastructure

Section X

Plate 1



Legend

- Retreat
- Room-and-Pillar
- Electric Transmission Lines
- Gas Pipelines
- Roads

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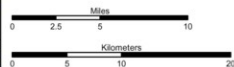
Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

Prepared By:
California University
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B. L. Franek
R. S. Ulevich

N
2



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
PennWell Corporation

August 2004

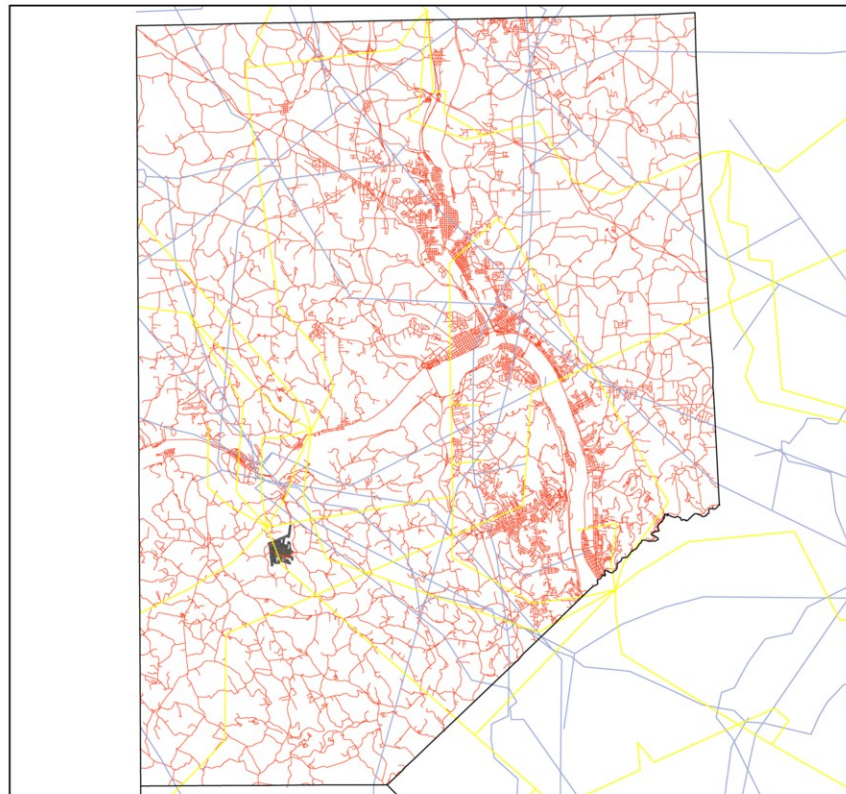


Study Area Counties

Beaver County: Infrastructure

Section X

Plate 2



Legend

- Room-and-Pillar
- Electric Transmission Lines
- Gas Pipelines
- Roads

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Kathleen A. McGinty, Secretary

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of Pennsylvania



B. L. Franek
R. S. Ulevich

N
2

Miles
0 1.5 3 6

Kilometers
0 2.5 5 10

Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
PennWell Corporation

August 2004

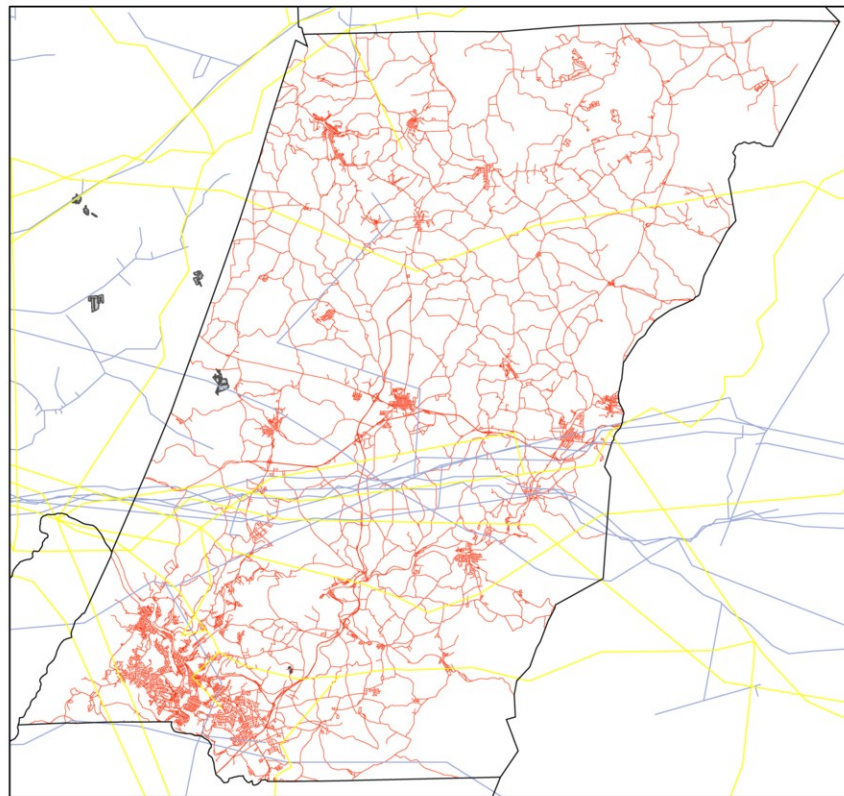


Study Area Counties





Cambria County: Infrastructure

Section X

Plate 3



Legend

-  Room-and-Pillar
-  Electric Transmission Lines
-  Gas Pipelines
-  Roads

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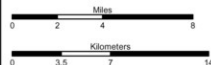
Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

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B. L. Franek
R. S. Ulevich

N
2



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
PennWell Corporation

August 2004

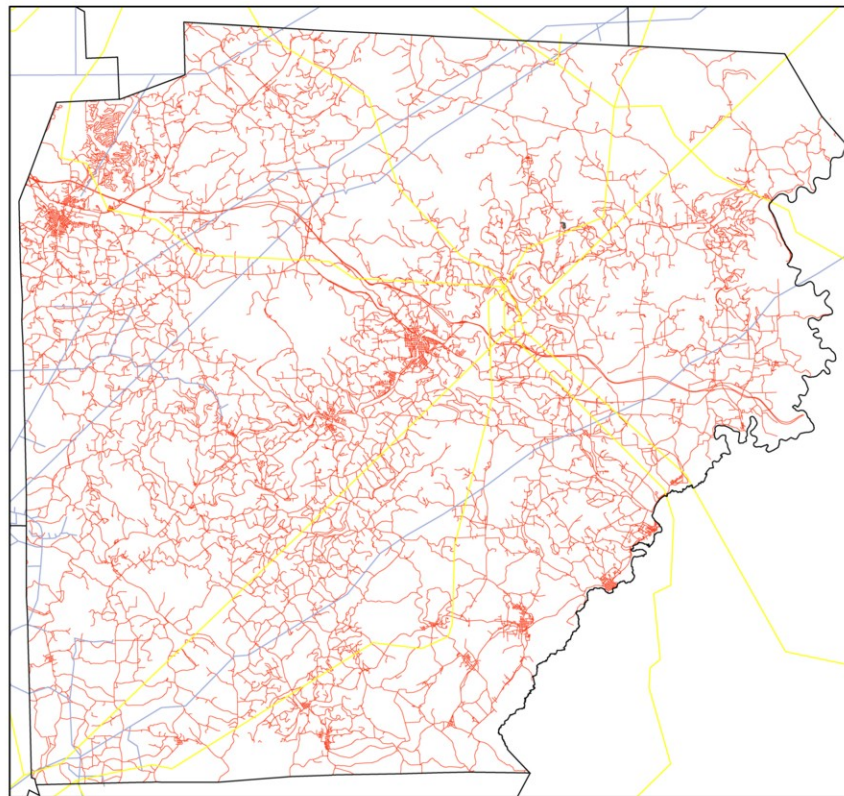


Study Area Counties

Clearfield County: Infrastructure

Section X

Plate 4



Legend

- Room-and-Pillar
- Electric Transmission Lines
- Gas Pipelines
- Roads

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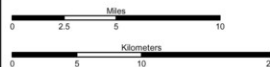
Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

Prepared By:
California University
of Pennsylvania



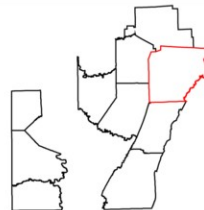
B. L. Franek
R. S. Ulevich

N
2



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
PennWell Corporation

August 2004

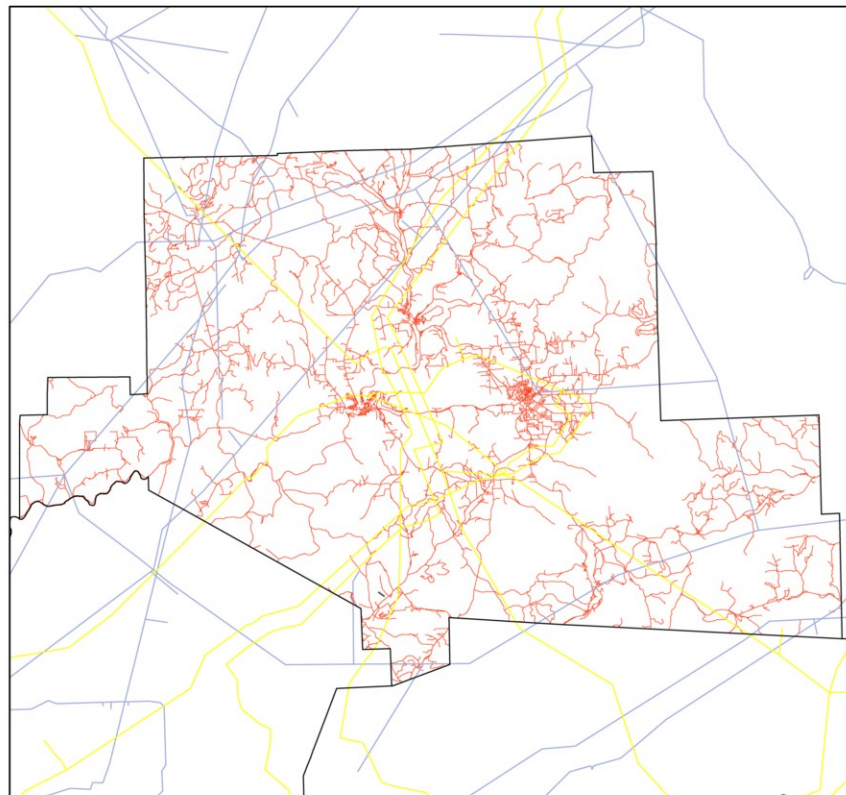


Study Area Counties





Elk County: Infrastructure

Section X

Plate 5



Legend

-  Room-and-Pillar
-  Electric Transmission Lines
-  Gas Pipelines
-  Roads

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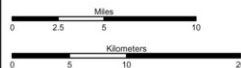
Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

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B. L. Franek
R. S. Ulevich

N
2



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
PennWell Corporation

August 2004

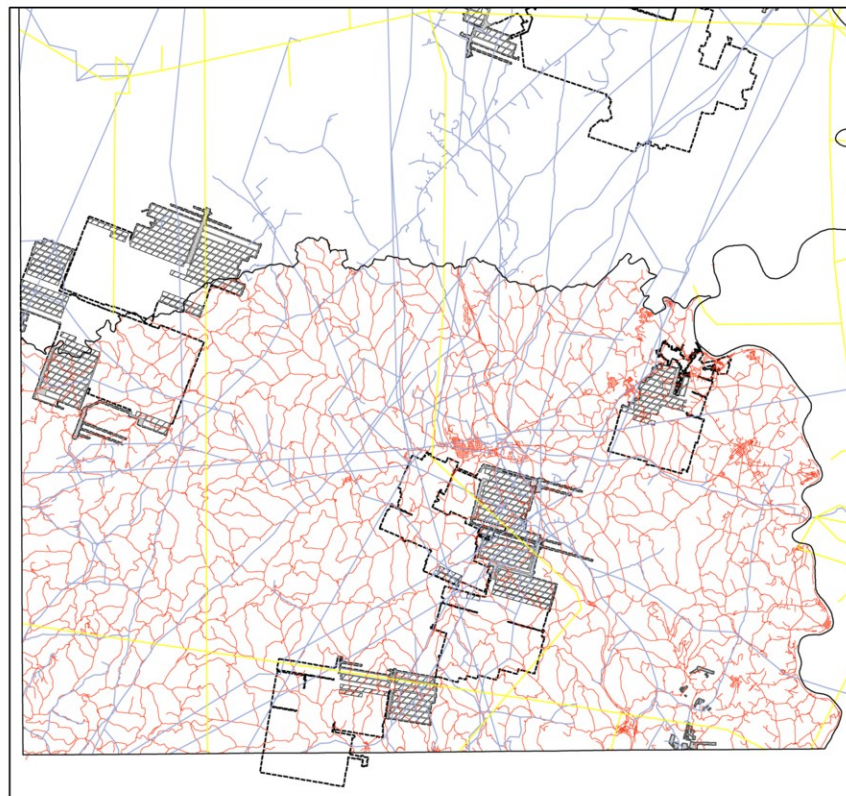


Study Area Counties

Greene County: Infrastructure

Section X

Plate 6



Legend

- Longwall Panels
- Retreat
- Room-and-Pillar
- Mining Extent
- Electric Transmission Lines
- Gas Pipelines
- Roads

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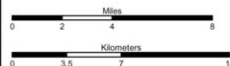
Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

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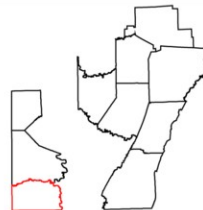
B. L. Franek
R. S. Ulevich

N
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Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
PennWell Corporation

August 2004

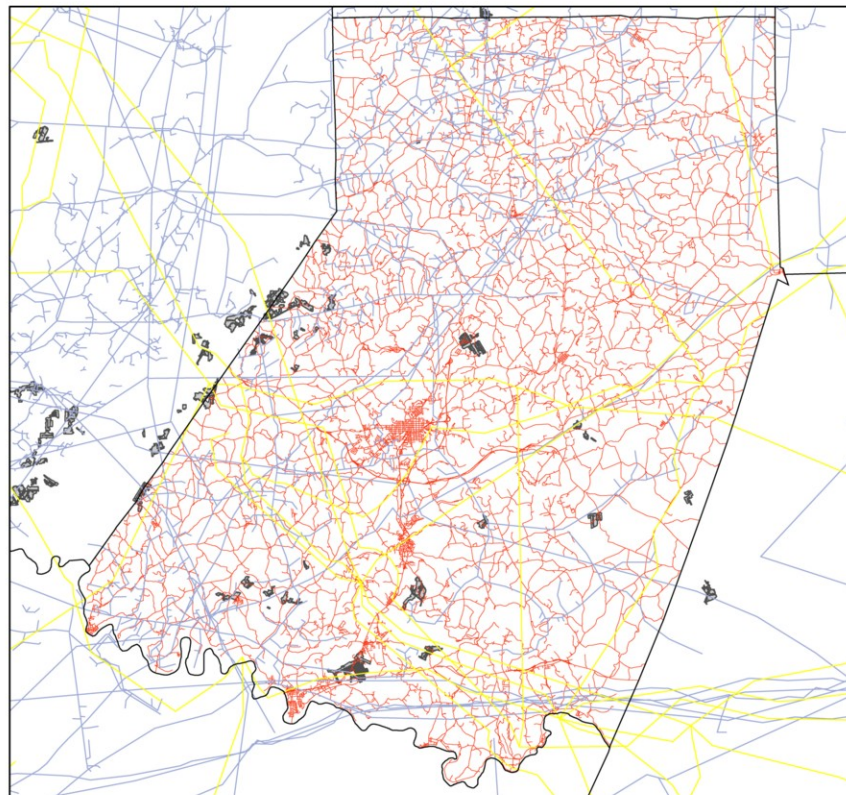


Study Area Counties

Indiana County: Infrastructure

Section X

Plate 7



Legend



Electric Transmission Lines

Gas Pipelines

Roads

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Department of Environmental Protection



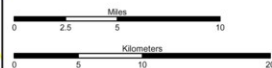
Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

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B. L. Franek
R. S. Ulevich

N
2



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
PennWell Corporation

August 2004

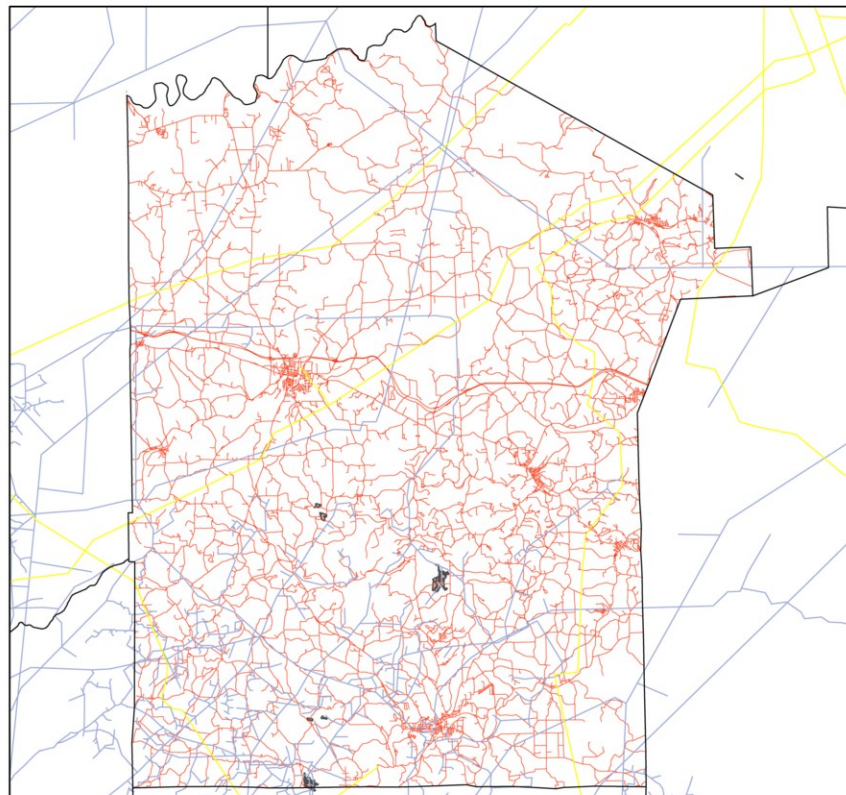


Study Area Counties

Jefferson County: Infrastructure

Section X

Plate 8



Legend

- Room-and-Pillar
- Electric Transmission Lines
- Gas Pipelines
- Roads

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Kathleen A. McGinty, Secretary

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R. S. Ulevich

N
2

Miles
0 1.5 3 6

Kilometers
0 2.5 5 10

Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
PennWell Corporation

August 2004

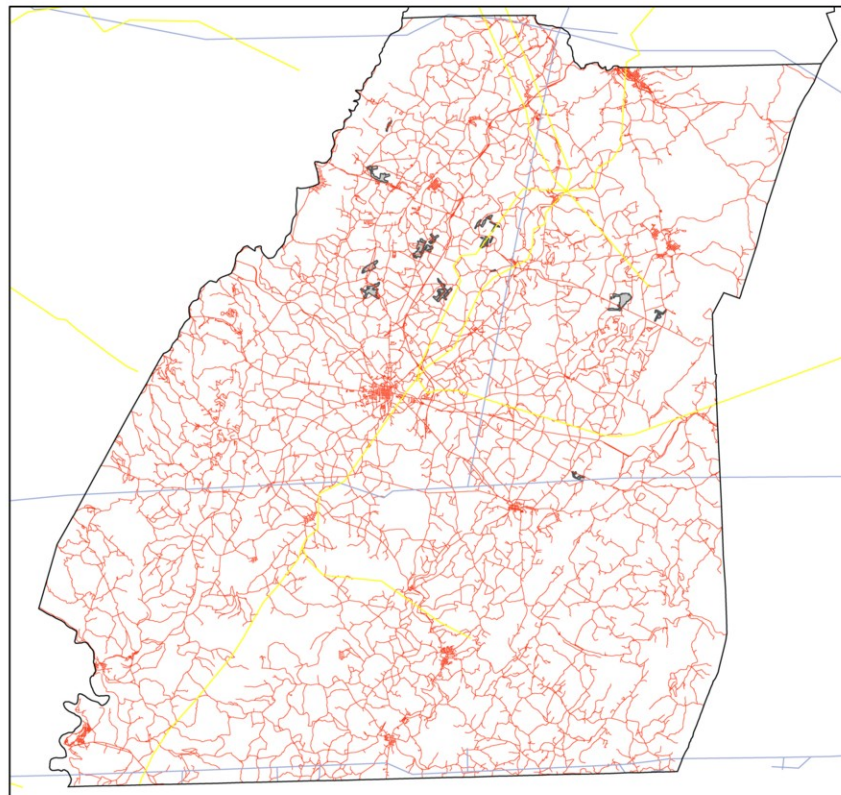


Study Area Counties

Somerset County: Infrastructure

Section X

Plate 9



Legend

- Room-and-Pillar
- Retreat
- Electric Transmission Lines
- Gas Pipelines
- Roads

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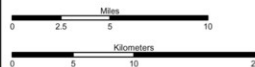
Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

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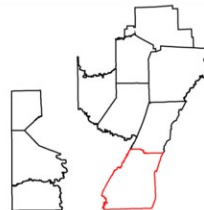
B. L. Franek
R. S. Ulevich

N
2



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
PennWell Corporation

August 2004

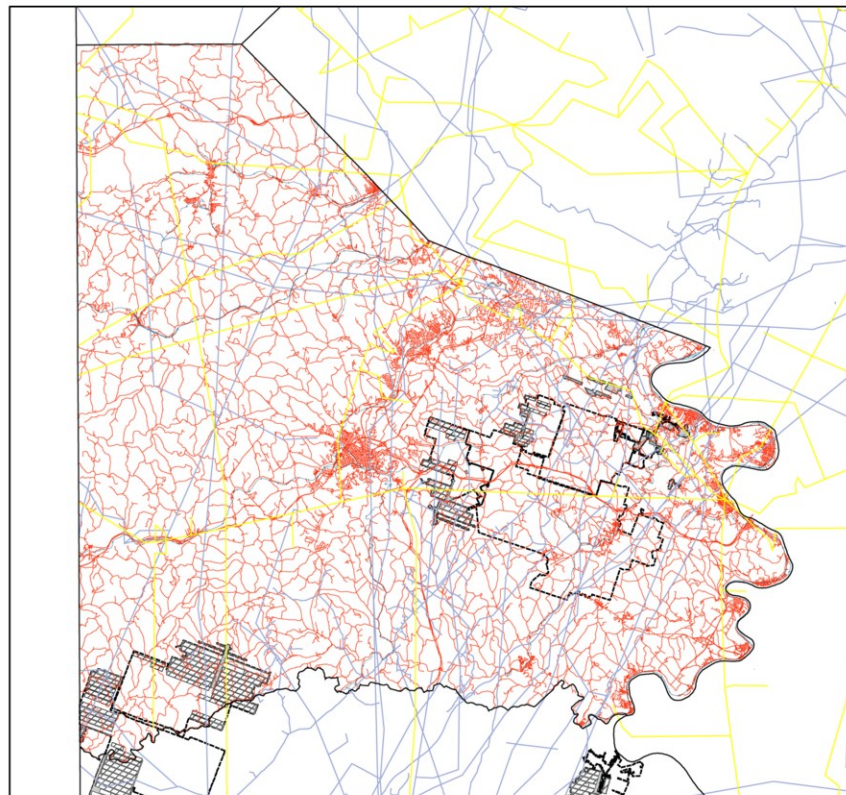


Study Area Counties

Washington County: Infrastructure

Section X

Plate 10



Legend

- Longwall Panels
- Retreat
- Room-and-Pillar
- Mining Extent
- Electric Transmission Lines
- Gas Pipelines
- Roads
- Railroads

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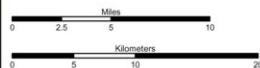
Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

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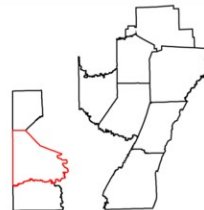
B. L. Franek
R. S. Ulevich

N
2



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
PennWell Corporation

August 2004

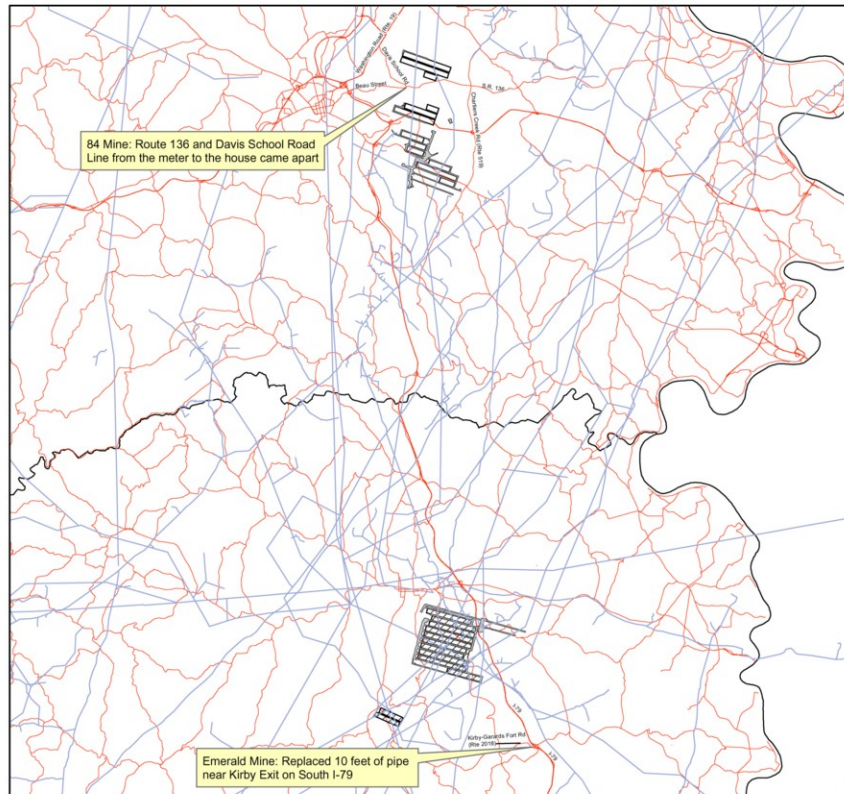


Study Area Counties

Gas Pipelines with Reported Impacts

Section X

Plate 11



Legend

- Longwall Panels
- Room-and-Pillar
- Gas Pipelines
- Roads

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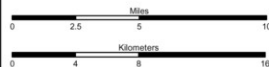
Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

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California University
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B. L. Franek
R. S. Ulevich

N
2



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
Pennsylvania Department of Transportation
PennWell Corporation

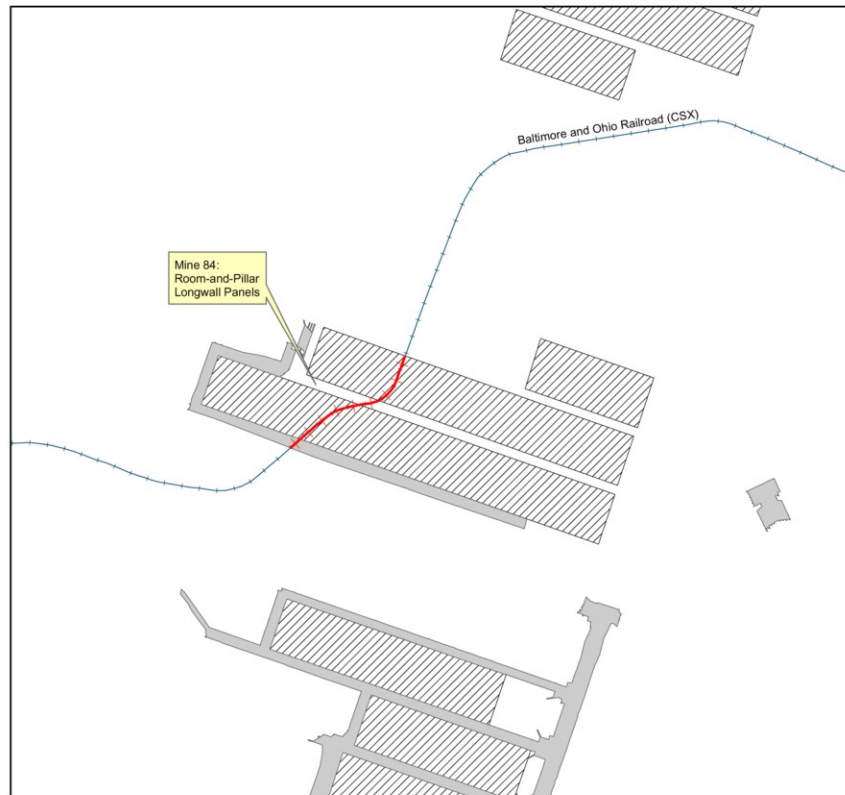
August 2004



Railroads with Reported Impacts

Section X

Plate 12



Legend

- Longwall Panels
- Room-and-Pillar
- Railroads
- Impacted Section

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B. L. Franek
R. S. Ulevich

N
2

Miles
0 0.25 0.5 1

Kilometers
0 0.25 0.5 1

Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
West Virginia GIS Center

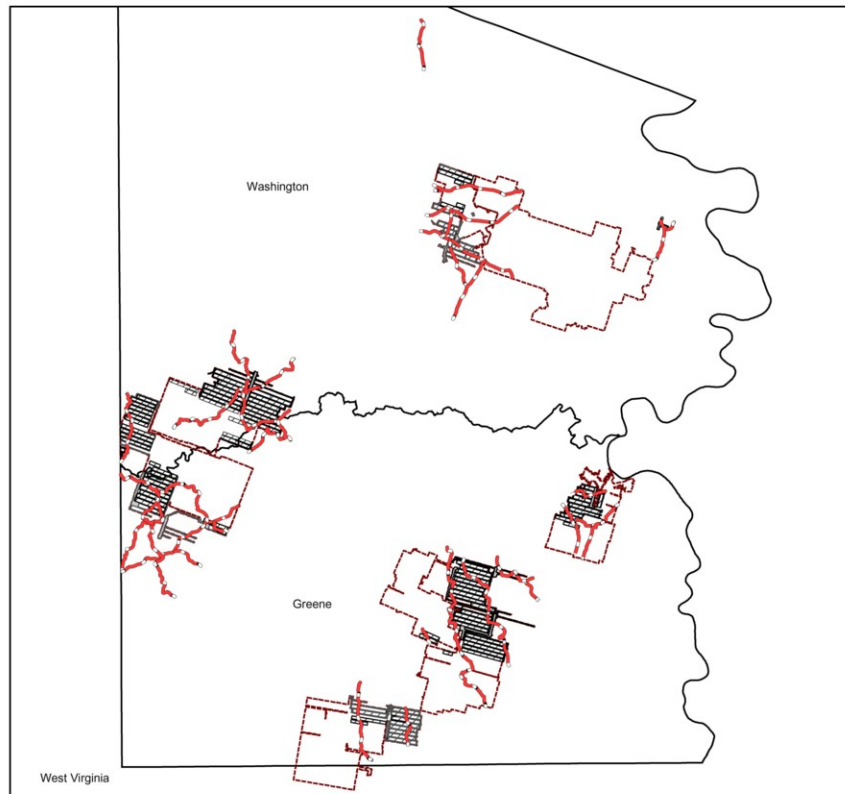
August 2004



Undermined State Roads with Reported Impacts

Section X

Plate 13



Legend

Longwall Panels

Room-and-Pillar

Mining Extent

Impacted Roads
(34)

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Kathleen A. McGinty, Secretary

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R. S. Ulewicz

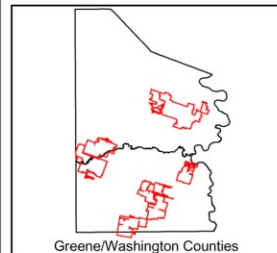


Miles
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Kilometers
0 3.75 7.5 15

Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection

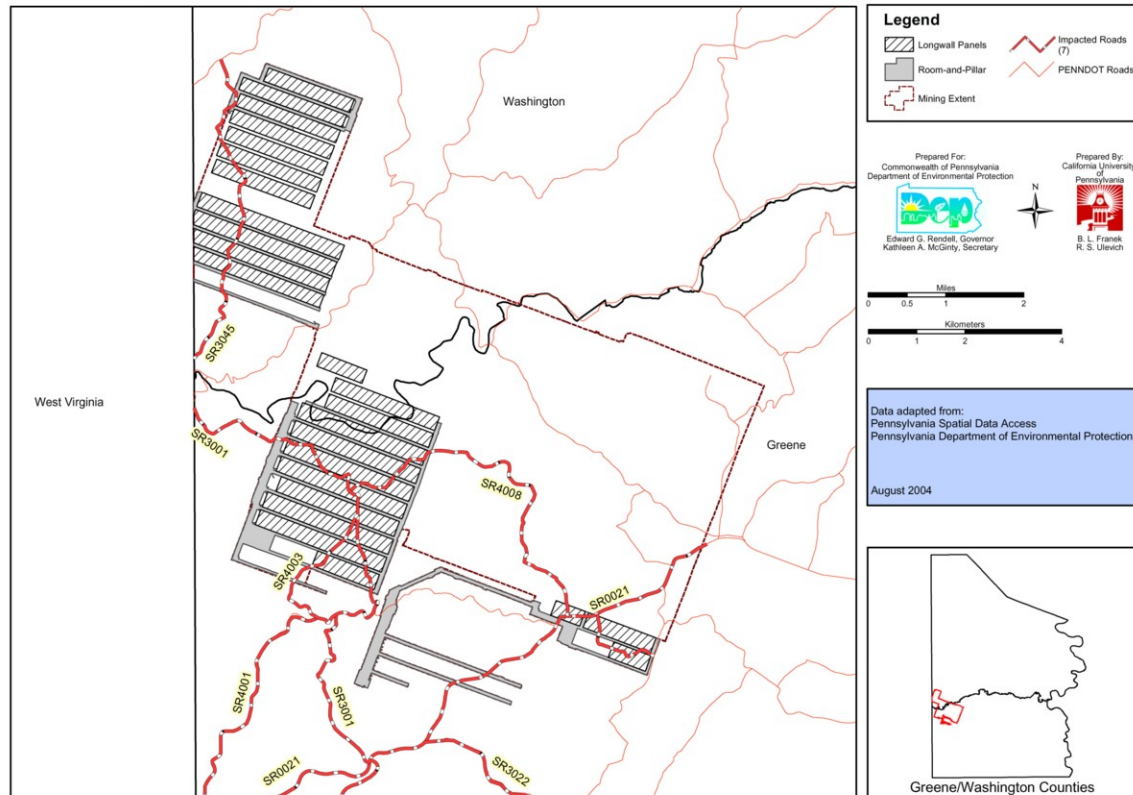
August 2004



Bailey: Impacted State Roads

Section X

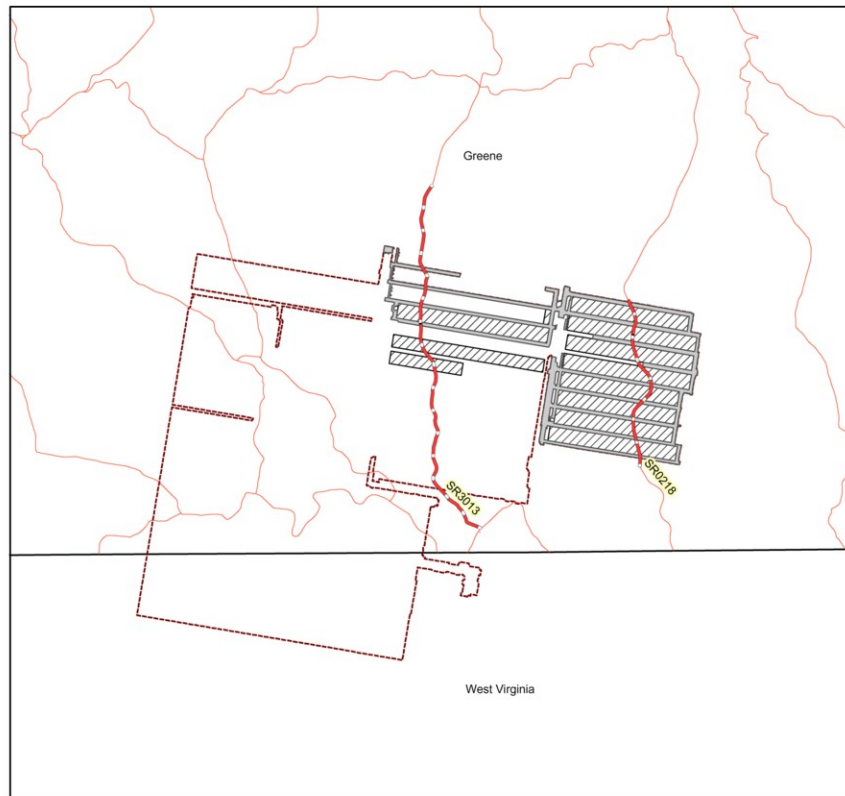
Plate 14



Blacksville 2: Impacted State Roads

Section X

Plate 15



Legend

- Longwall Panels
- Room-and-Pillar
- Mining Extent
- Impacted Roads (2)
- PENNDOT Roads

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Department of Environmental Protection

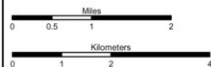


Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

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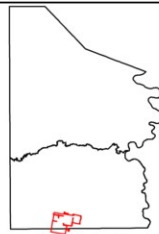


B. L. Franek
R. S. Ulewicz



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection

August 2004

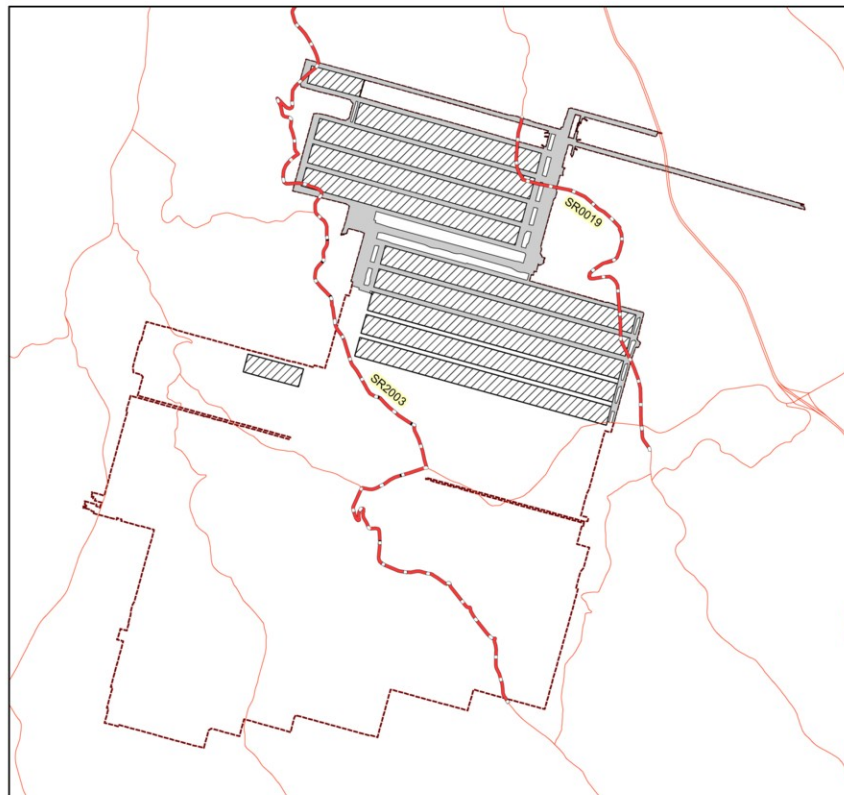


Greene/Washington Counties

Cumberland: Impacted State Roads

Section X

Plate 16



Legend

- Longwall Panels
- Room-and-Pillar
- Mining Extent
- Impacted Roads (2)
- PENNDOT Roads

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Department of Environmental Protection

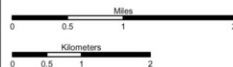


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Kathleen A. McGinty, Secretary

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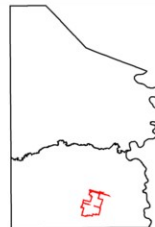


B. L. Franek
R. S. Ulewicz



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection

August 2004

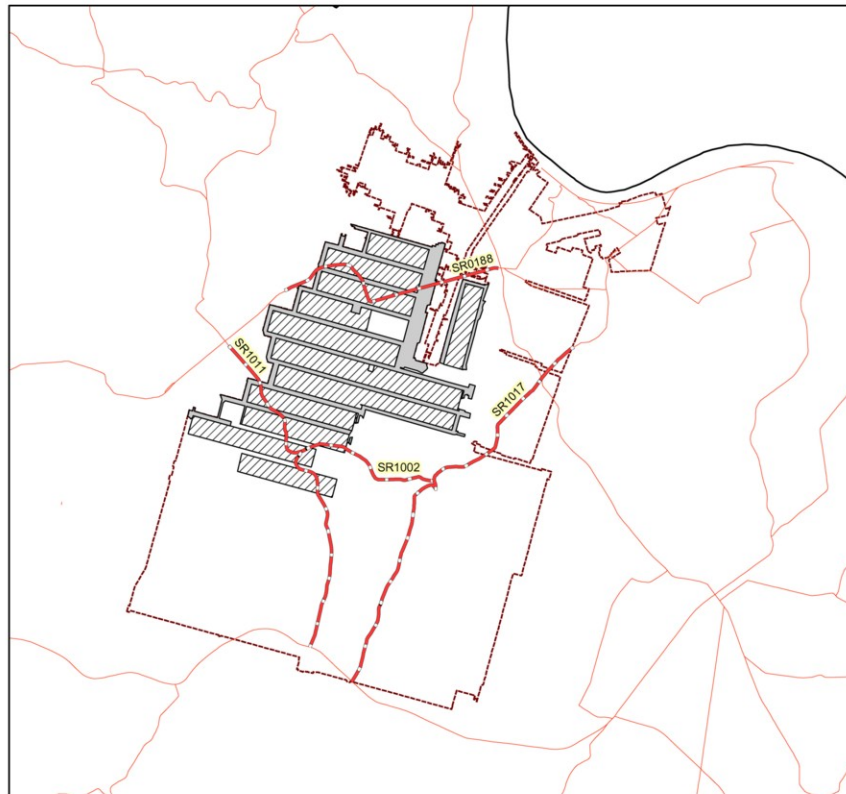


Greene/Washington Counties

Dilworth: Impacted State Roads

Section X

Plate 17



Legend

- Longwall Panels
- Room-and-Pillar
- Mining Extent
- Impacted Roads (4)
- PENNDOT Roads

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Department of Environmental Protection

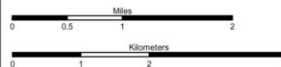


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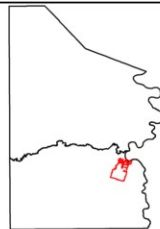


B. L. Franek
R. S. Ulewicz



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection

August 2004

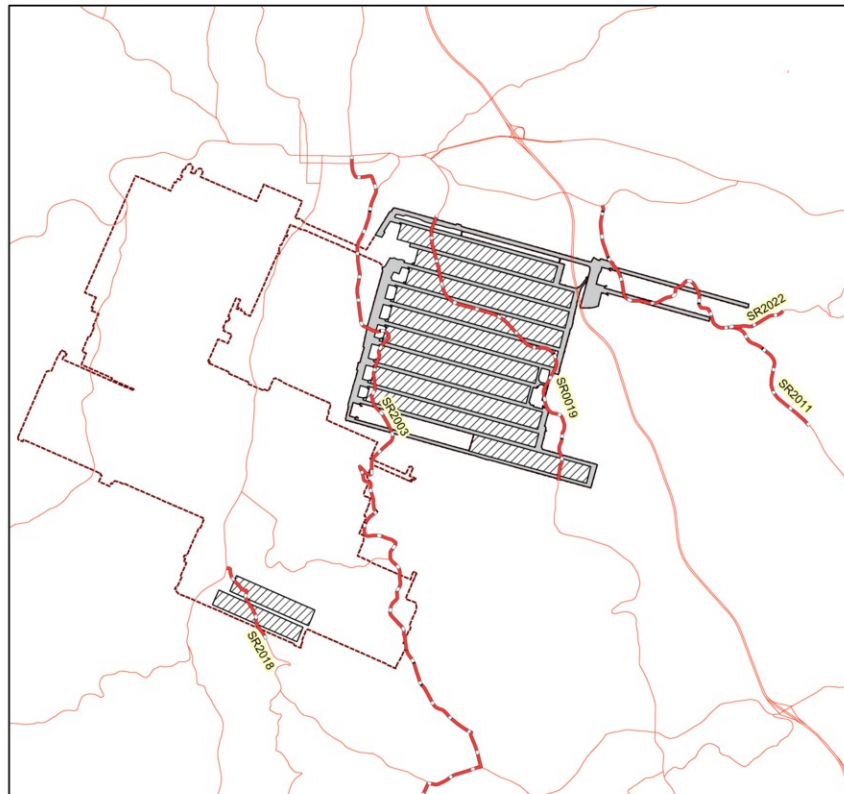


Greene/Washington Counties

Emerald: Impacted State Roads

Section X

Plate 18



Legend

Longwall Panels

Room-and-Pillar

Mining Extent

Impacted Roads (5)

PENNDOT Roads

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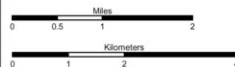


Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

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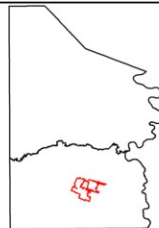


B. L. Franek
R. S. Ulewicz



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection

August 2004

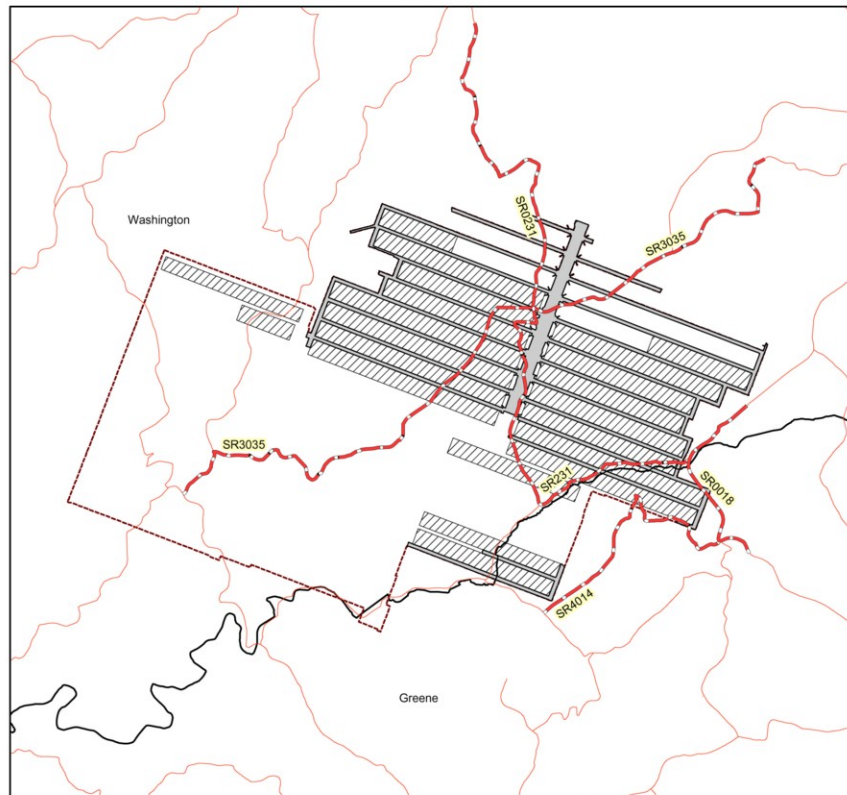


Greene/Washington Counties

Enlow Fork: Impacted State Roads

Section X

Plate 19



Legend

- Longwall Panels
- Room-and-Pillar
- Mining Extent
- Impacted Roads (4)
- PENNDOT Roads

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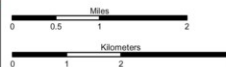


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Kathleen A. McGinty, Secretary

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R. S. Ulewicz



Data adapted from:
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Pennsylvania Department of Environmental Protection

August 2004

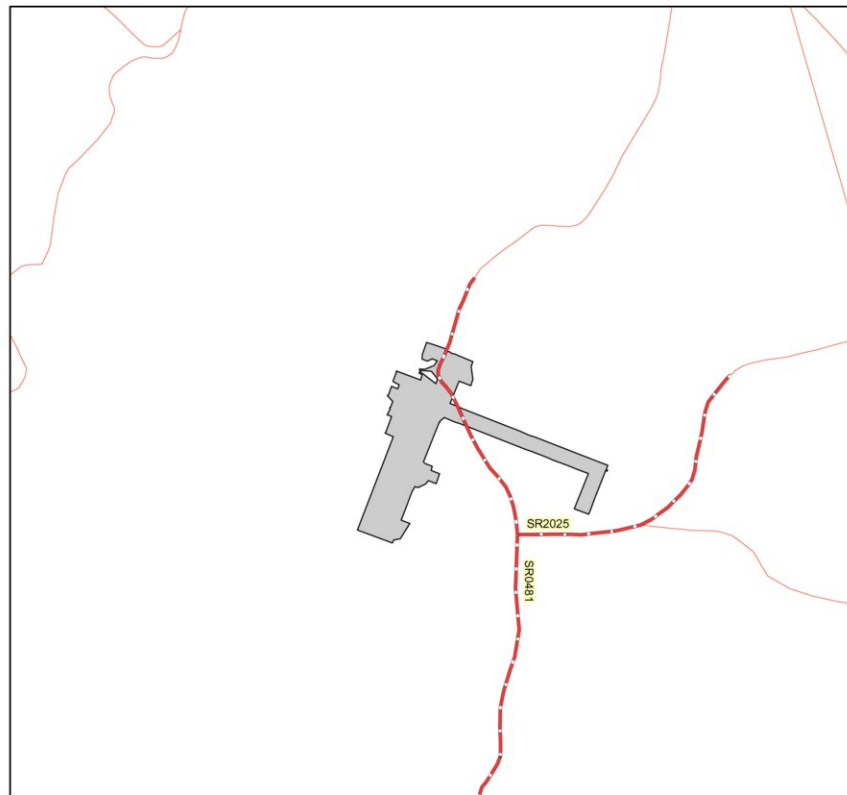


Greene/Washington Counties

High Quality: Impacted State Roads

Section X

Plate 20



Legend

- Longwall Panels
- Room-and-Pillar
- Mining Extent
- Impacted Roads (2)
- PENNDOT Roads

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Kathleen A. McGinty, Secretary

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B. L. Franek
R. S. Ulewicz



Miles
0 0.125 0.25 0.5

Kilometers
0 0.125 0.25 0.5

Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection

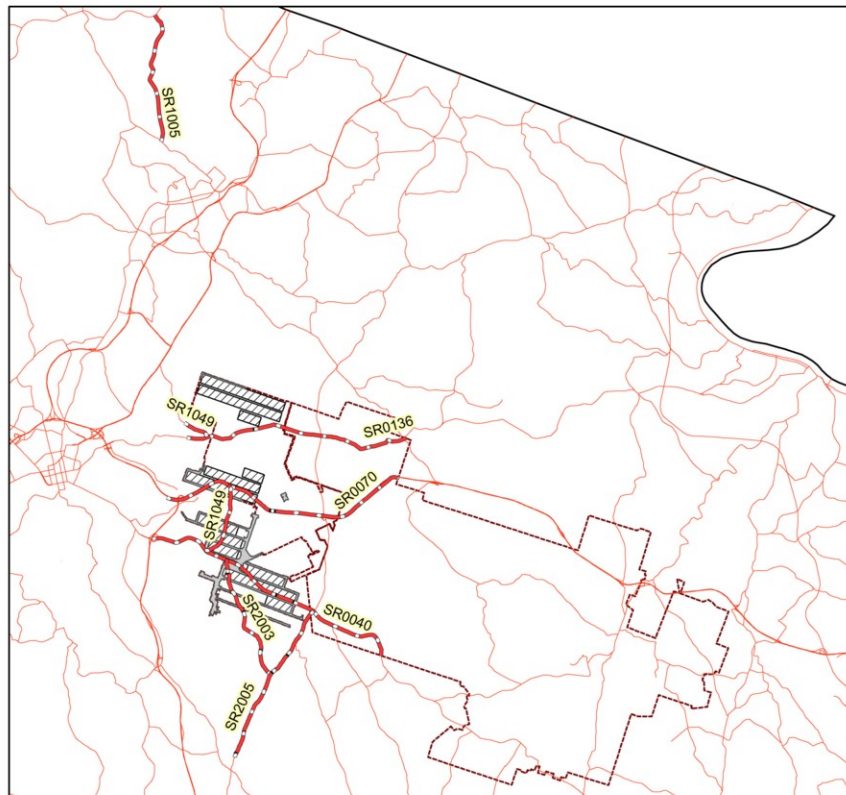
August 2004



Mine 84: Impacted State Roads

Section X

Plate 21



Legend

- Longwall Panels
- Room-and-Pillar
- Mining Extent
- Impacted Roads (7)
- PENNDOT Roads

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R. S. Ulewicz

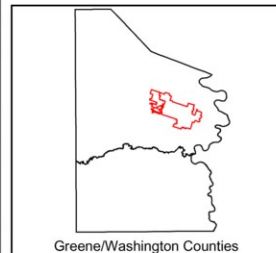


Miles
0 1.25 2.5 5

Kilometers
0 1.25 2.5 5

Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection

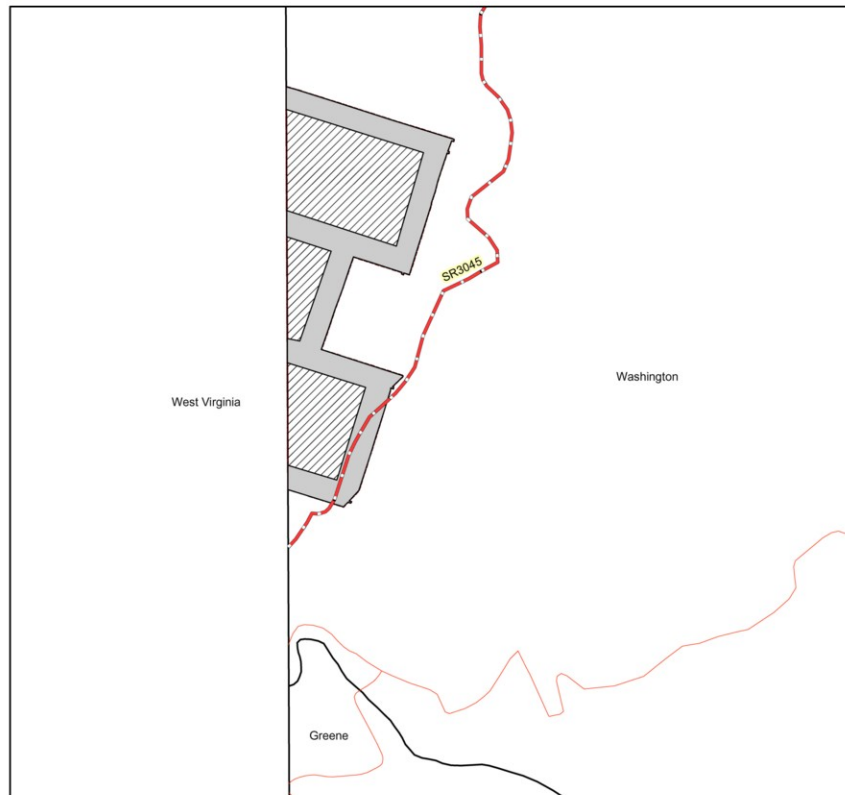
August 2004



Shoemaker: Impacted State Roads

Section X

Plate 22



Legend

- Longwall Panels
- Room-and-Pillar
- Mining Extent
- Impacted Roads (1)
- PENNDOT Roads

Prepared For:
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Department of Environmental Protection

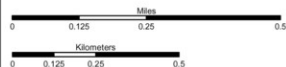


Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

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R. S. Ulewicz



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection

August 2004

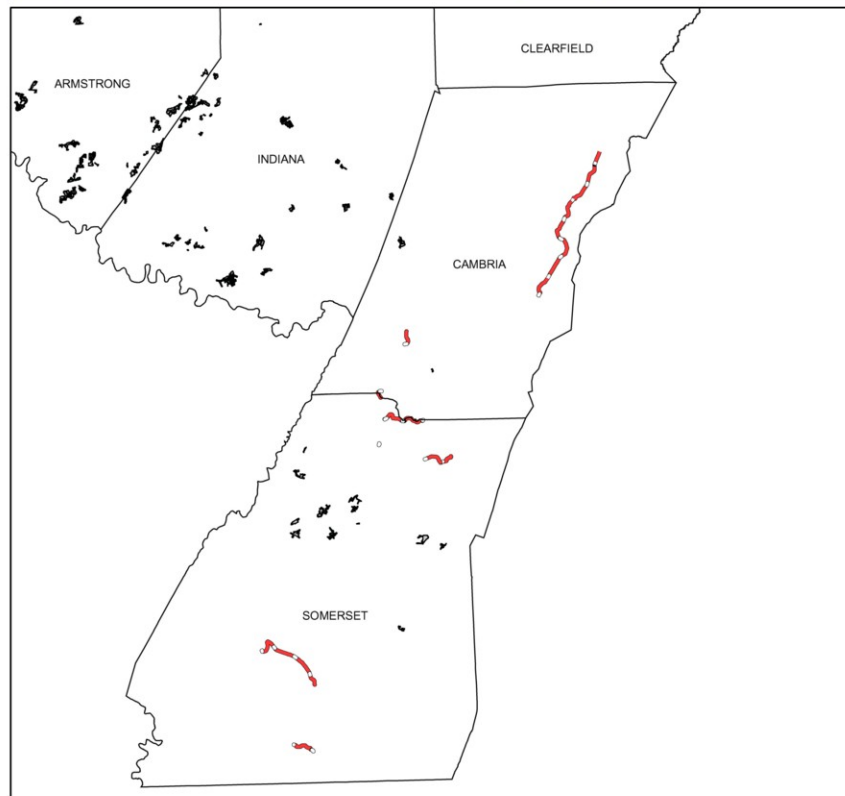


Greene/Washington Counties

Reported Road Impacts Attributed to Mining during Assessment Period

Section X

Plate 23



Legend

 Impacted Roads (10)

 Room-and-Pillar

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Kathleen A. McGinty, Secretary

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B. L. Franek
R. S. Ulewicz

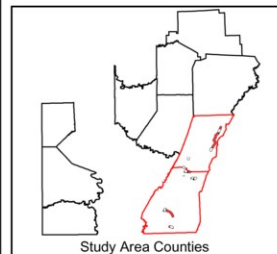


Miles
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Kilometers
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Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection

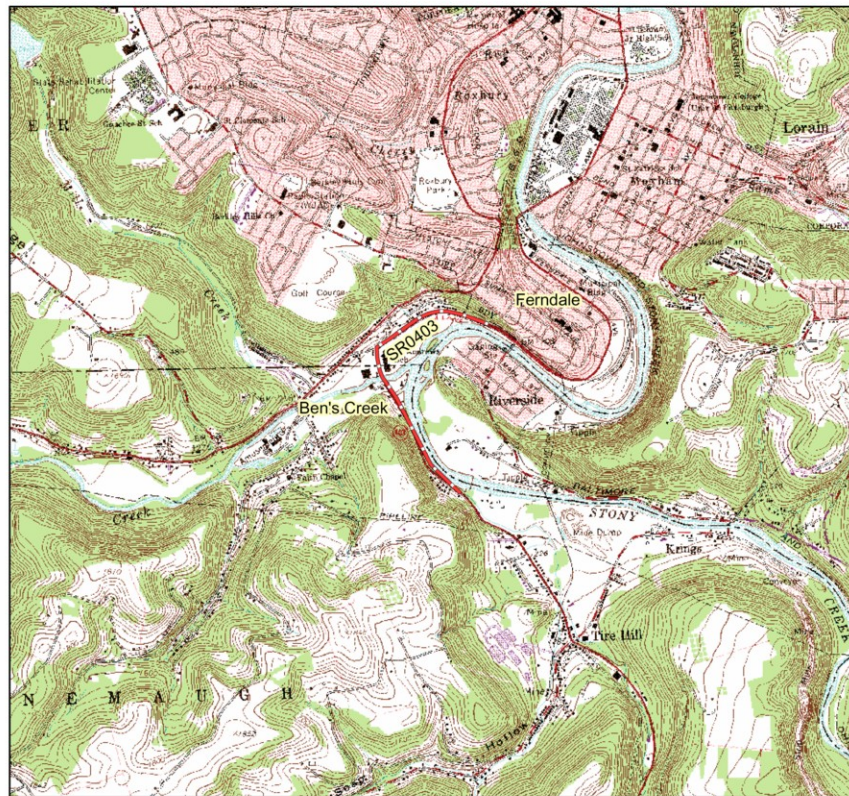
August 2004



Road Impact Attributed to Mining during Assessment Period

Section X

Plate 24



Legend

 Impacted Roads (1)

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Kathleen A. McGinty, Secretary

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of Pennsylvania



B. L. Franek
R. S. Ulewicz



Miles
0 0.125 0.25 0.5

Kilometers
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Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
USGS Johnstown, Pennsylvania
7.5 minute Quadrangle

August 2004

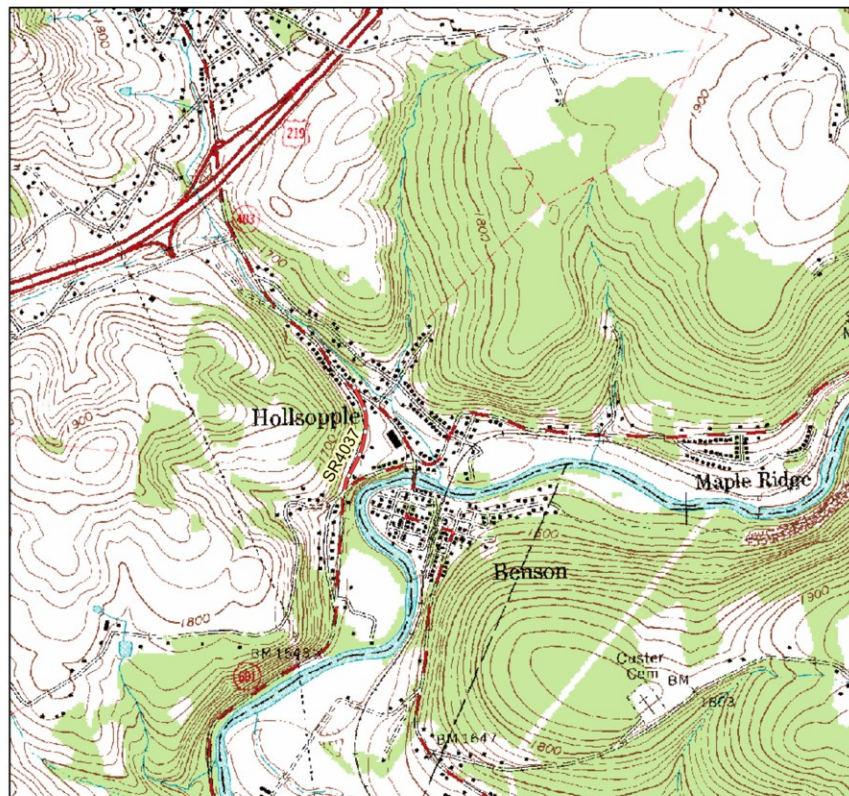


Cambria/Somerset Counties

Road Impact Attributed to Mining during Assessment Period

Section X

Plate 25



Legend

 Impacted Roads (1)

Prepared For:
Commonwealth of Pennsylvania
Department of Environmental Protection



Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

Prepared By:
California University
of Pennsylvania



B. L. Franek
R. S. Ulewicz



Miles
0 0.125 0.25 0.5

Kilometers
0 0.25 0.5 1

Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
USGS Hooversville, Pennsylvania
7.5 minute Quadrangle

August 2004

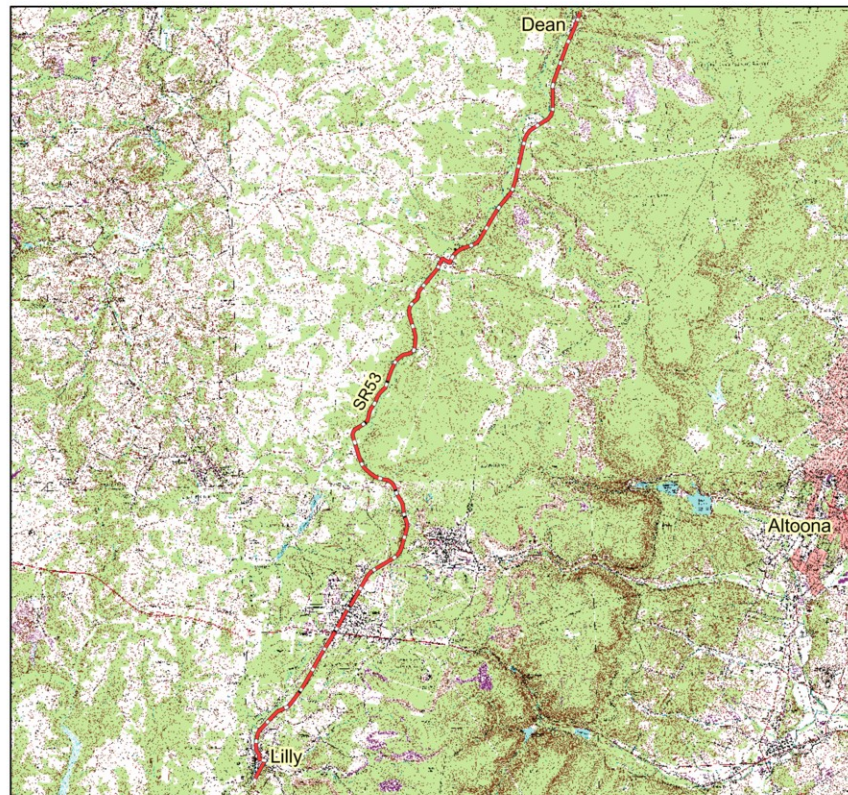


Cambria/Somerset Counties

Road Impact Attributed to Mining during Assessment Period

Section X

Plate 26



Legend

 Impacted Roads (1)

Prepared For:
Commonwealth of Pennsylvania
Department of Environmental Protection

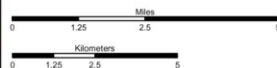


Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

Prepared By:
California University
of Pennsylvania

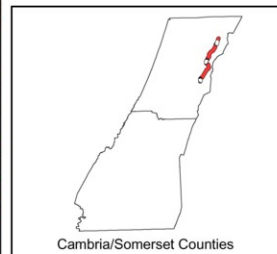


B. L. Franek
R. S. Ulewicz



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
USGS Altoona, Ashville, Blandburg, Carrolltown,
Coalport, Cresson, Ebensburg, Hastings,
Holidaysburg, Pennsylvania 7.5 minute Quadrangles

August 2004

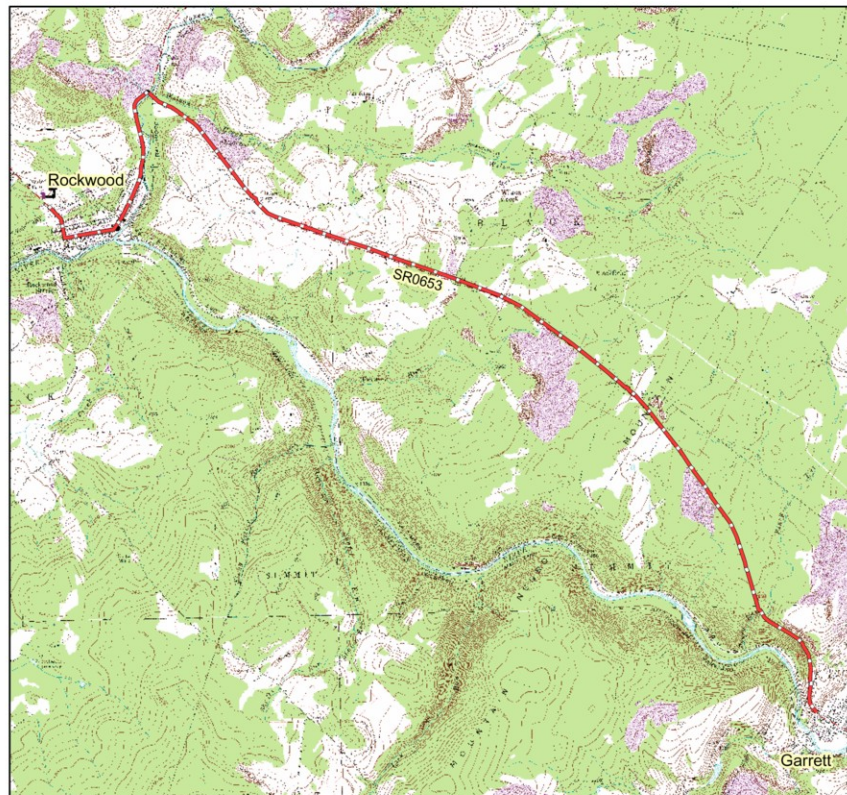


Cambria/Somerset Counties

Road Impact Attributed to Mining during Assessment Period

Section X

Plate 27



Legend

 Impacted Roads (1)

Prepared For:
Commonwealth of Pennsylvania
Department of Environmental Protection

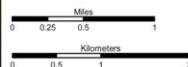


Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

Prepared By:
California University
of Pennsylvania

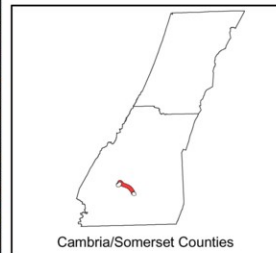


B. L. Franek
R. S. Ulewicz



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
USGS Markleton, Meyersdale, Murdock, Rockwood,
Pennsylvania 7.5 minute Quadrangles

August 2004

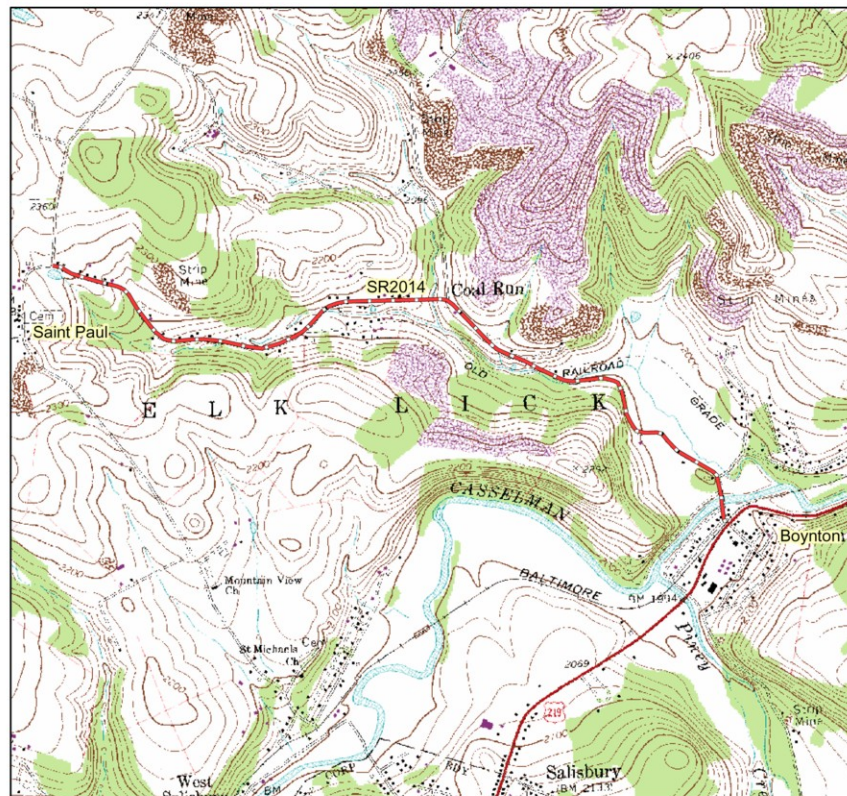


Cambria/Somerset Counties

Road Impact Attributed to Mining during Assessment Period

Section X

Plate 28



Legend

 Impacted Roads (1)

Prepared For:
Commonwealth of Pennsylvania
Department of Environmental Protection



Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

Prepared By:
California University of
Pennsylvania



B. L. Franek
R. S. Ulewicz

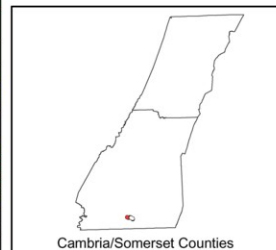


Miles
0 0.125 0.25 0.5

Kilometers
0 0.25 0.5 1

Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
USGS Meyersdale, Pennsylvania
7.5 minute Quadrangle

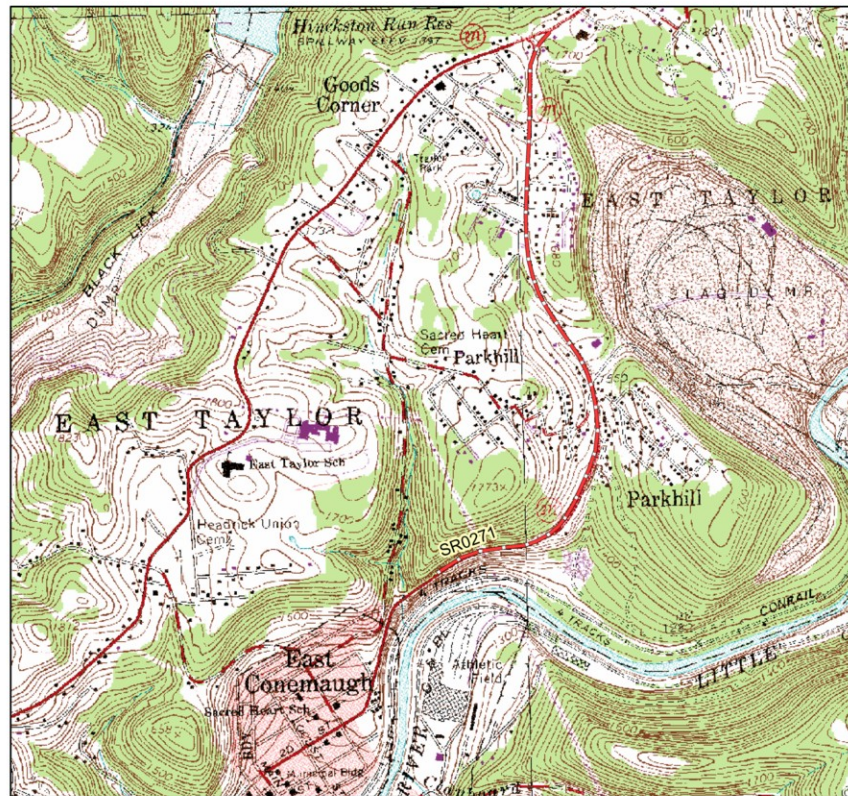
August 2004



Road Impact Attributed to Mining during Assessment Period

Section X

Plate 29



Legend

 Impacted Roads (1)

Prepared For:
Commonwealth of Pennsylvania
Department of Environmental Protection

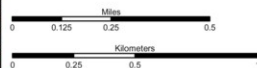


Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

Prepared By:
California University
of Pennsylvania

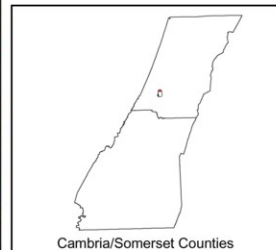


B. L. Franek
R. S. Ulewicz



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
USGS Geotown, Johnstown, Pennsylvania
7.5 minute Quadrangles

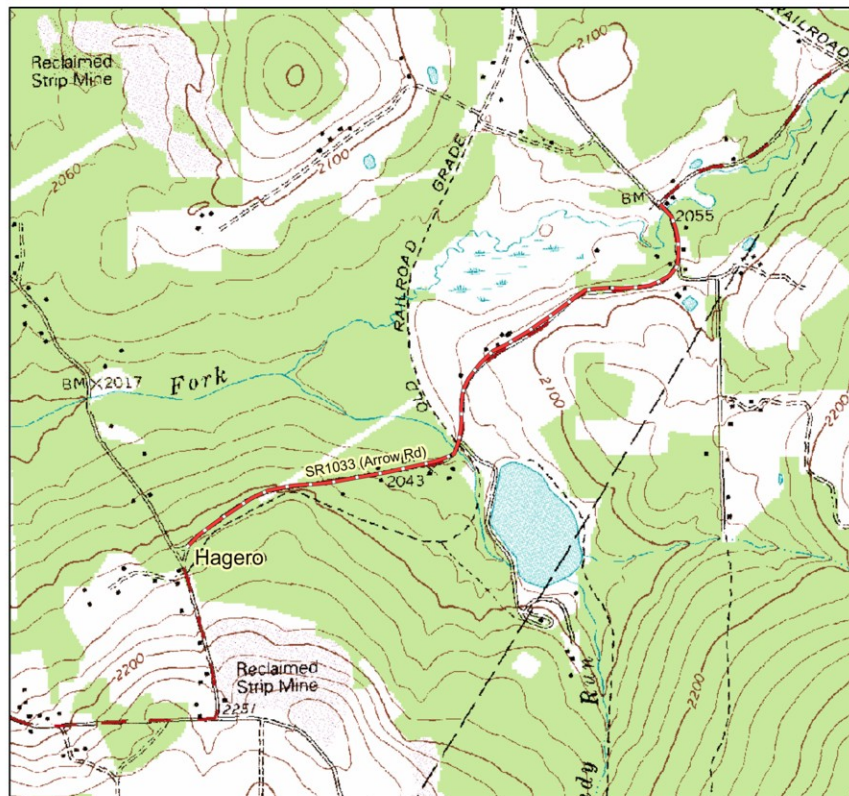
August 2004



Road Impact Attributed to Mining during Assessment Period

Section X

Plate 30



Legend

 Impacted Roads (1)

Prepared For:
Commonwealth of Pennsylvania
Department of Environmental Protection

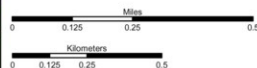


Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

Prepared By:
California University
of Pennsylvania



B. L. Franek
R. S. Ulewicz



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
USGS Windber, Pennsylvania
7.5 minute Quadrangle

August 2004



Cambria/Somerset Counties

Road Impact Attributed to Mining during Assessment Period

Section X

Plate 31



Legend

Impacted Roads (1)

Prepared For:
Commonwealth of Pennsylvania
Department of Environmental Protection

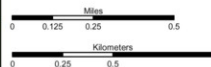


Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

Prepared By:
California University
of Pennsylvania

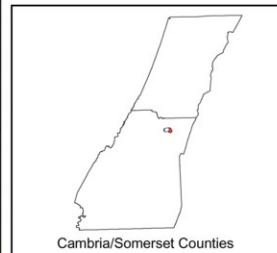


B. L. Franek
R. S. Ulewicz



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
USGS Windber, Pennsylvania
7.5 minute Quadrangle

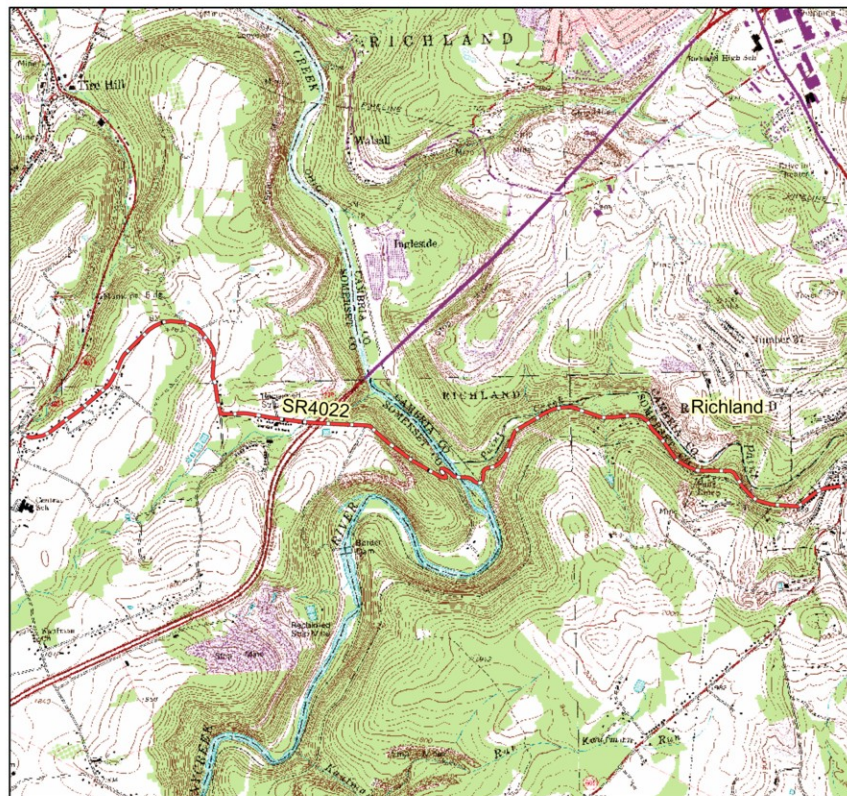
August 2004



Road Impact Attributed to Mining during Assessment Period

Section X

Plate 32



Legend

 Impacted Roads (1)

Prepared For:
Commonwealth of Pennsylvania
Department of Environmental Protection

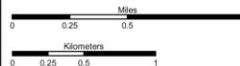


Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

Prepared By:
California University
of Pennsylvania

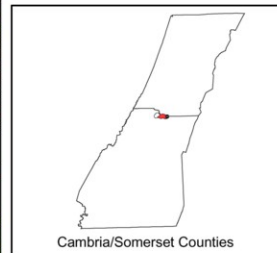


B. L. Franek
R. S. Ulewicz



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
USGS Geotown, Hooversville, Johnstown,
Windber, Pennsylvania 7.5 minute Quadrangles

August 2004

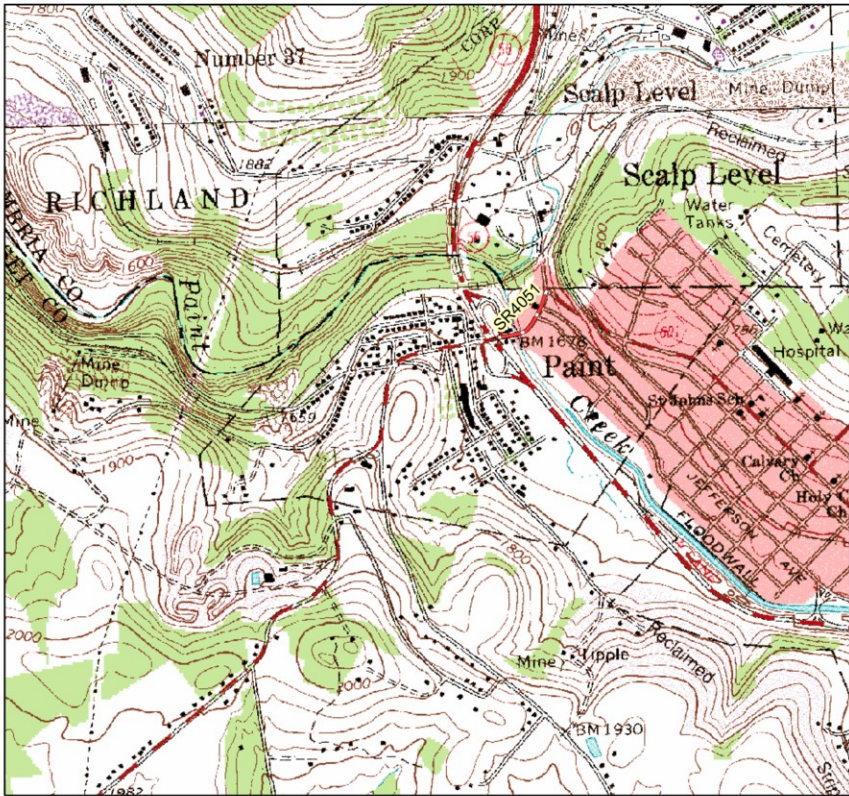


Cambria/Somerset Counties

Road Impact Attributed to Mining during Assessment Period Section X Plate 33

Section X

Plate 33



Legend

 Impacted Roads (1)

Prepared For:
Commonwealth of Pennsylvania
Department of Environmental Protection



Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary



Prepared By:
California University
of
Riverside

B. L. Franek
R. S. Ulevich

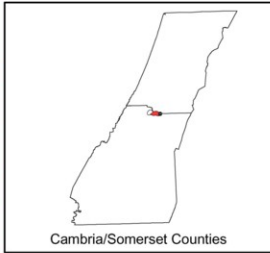
A horizontal number line is shown with a thick black line. It has four tick marks labeled 0, 0.125, 0.25, and 0. The word "Miles" is written above the line between 0.125 and 0.25. A white rectangular bar is placed on the line, starting at the 0.125 tick mark and ending at the 0.25 tick mark.

Kilometers

0 0.125 0.25 0.5

Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
USGS Geotown, Windber, Pennsylvania
7.5 minute Quadrangles

August 2004

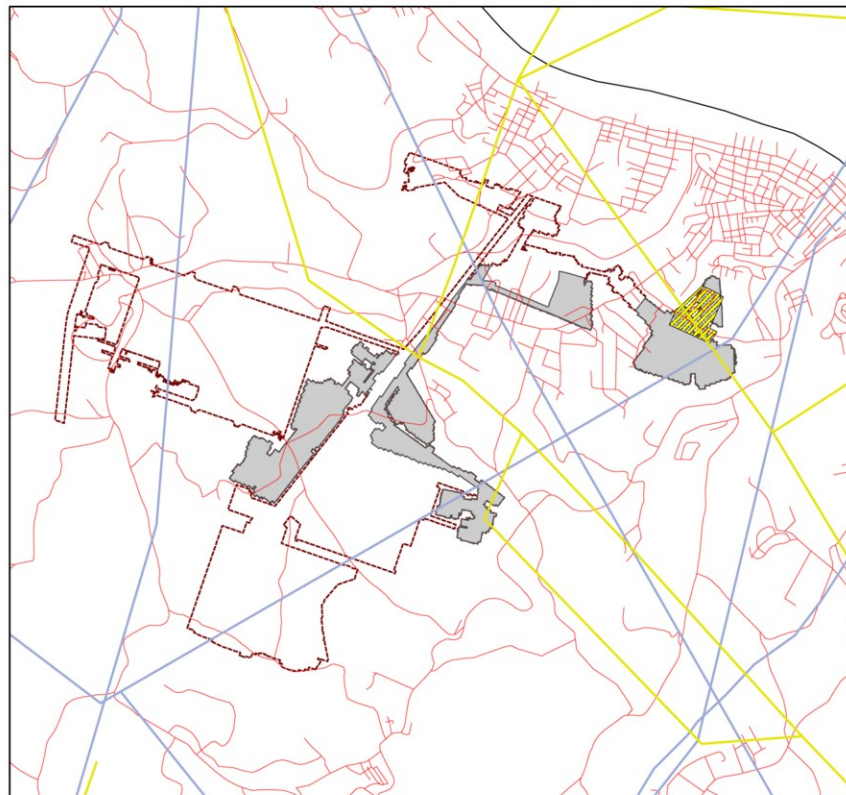


Cambria/Somerset Counties

Sewer Line with Reported Impacts: Maple Creek Mine

Section X

Plate 34



Legend

- Long Wall Panels
- Room and Pillar
- Mining Extent
- Sewer Line Problem Area
- Electric Transmission Lines
- Gas Pipelines
- Roads

Prepared For:
Commonwealth of Pennsylvania
Department of Environmental Protection

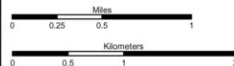


Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

Prepared By:
California University
of Pennsylvania



B. L. Franek
R. S. Ulevich



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
PennWell Corporation

August 2004

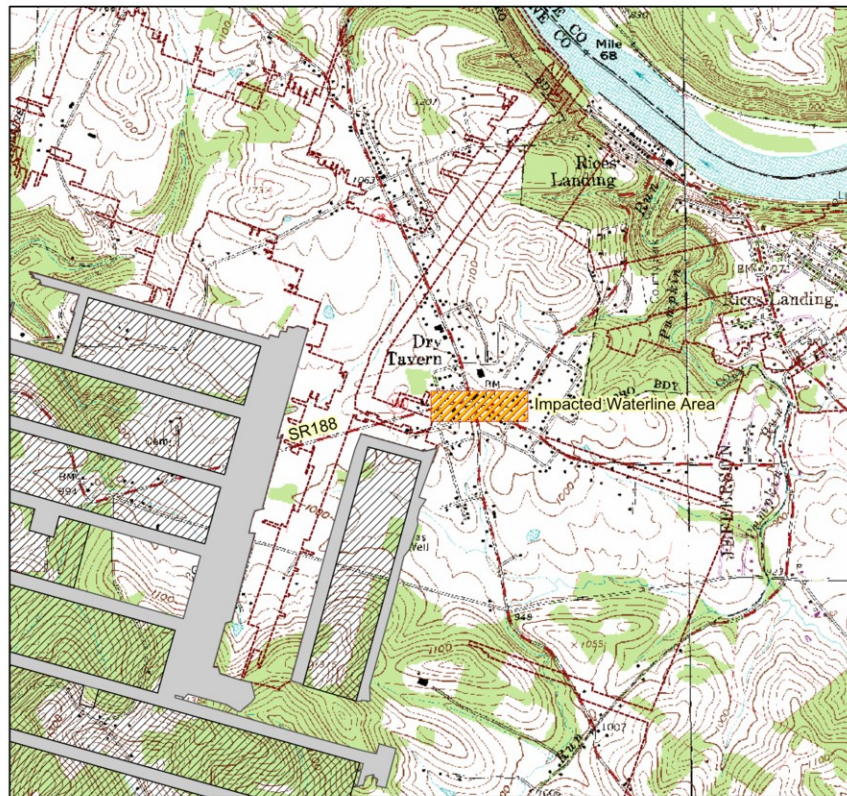


Greene/Washington Counties

Water Line with Reported Impacts: Dilworth Mine

Section X

Plate 35



Legend

- Long Wall Panels
- Room-and-Pillar
- Mining Extent

Impacted Water Line

Prepared For:
Commonwealth of Pennsylvania
Department of Environmental Protection

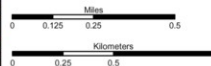


Edward G. Rendell, Governor
Kathleen A. McGinty, Secretary

Prepared By:
California University
of Pennsylvania



B. L. Franek
R. S. Ulewicz



Data adapted from:
Pennsylvania Spatial Data Access
Pennsylvania Department of Environmental Protection
Southwestern Pennsylvania Water
USGS Carmichaels, Mather, Pennsylvania
7.5 minute Quadrangles

August 2004



Greene/Washington Counties