

**EXPLANATION**  
SEDIMENTARY ROCKS

- (subaqueous deposits shown by parallel lines)
- Cm**  
pb  
Monongahela formation  
(sandy and clay shale with Pittsburgh coal at base; only the lower few feet of formation present)
  - Ccm**  
Ccm Ca  
Conemaugh formation with Ames and Ewing (?) limestone members  
(gray shale, sandstone, and clay, including some red shale and thin beds of limestone and coal; the Ames limestone member, Ccm, is mapped in the Leigonier Basin, and the Ewing (?) limestone member Ca is mapped in part of the Johnstown Basin)
  - uk** **uf**  
Ca lk  
Allegheny formation  
(chiefly gray and dark shale with local beds of clay and sandstone and several workable beds of coal; Upper Freeport coal at top; Johnstown limestone member directly underlies the Upper Kittanning coal)
  - Cpv**  
Pottsville formation  
(heavy-bedded gray sandstone with interbedded shale, clay, and thin beds of coal)
  - UNCONFORMITY**
  - Cmc**  
Mauch Chunk shale  
(red and green shale with subordinate sandstone and thin lenses of limestone)
  - Ch**  
Loyalhanna limestone  
(siliceous limestone)
  - Cpo**  
Pocono formation  
(gray sandstone and sandy shale)

**ECONOMIC AND STRUCTURE DATA**

- Coal outcrops**
- pb Pittsburgh coal
- uf Upper Freeport coal
- uk Upper Kittanning coal and underlying Johnstown limestone member
- lk Lower Kittanning coal
- Structure contours drawn on horizon of Johnstown limestone member of Allegheny formation, immediately underlying the Upper Kittanning coal  
(contour interval, 50 feet; datum, mean sea level)
- Coal mine shaft
- ✱ Coal mine  
(unless otherwise specified)
- ✕ Country coal bank
- ss Sandstone quarry
- ls Limestone quarry  
(mostly abandoned)
- ✱ Gas well
- ◇ Dry hole

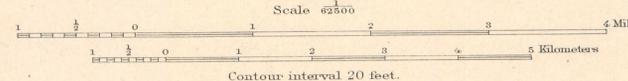
**LIST OF COAL MINES**

- Location indicated on the map by numbers
1. Saylor
  2. Orenda No. 5
  3. Orenda No. 4
  4. Orenda No. 3
  5. Consolidation No. 123
  6. Ralplton No. 14
  7. Forge No. 4
  8. Forge No. 6
  9. Forge No. 5
  10. Consolidation No. 127
  11. Consolidation No. 126
  12. Consolidation No. 125
  13. Berkeley
  14. Antoinette
  15. Orenda No. 2
  16. Hurd
  17. Kelly
  18. Consolidation Nos. 118 and 119
  19. Crescent
  20. Alex
  21. Belmont Nos. 4 and 5
  22. Belmont Nos. 2 and 3
  23. Consolidation Nos. 120 and 121
  24. Quamahoning Creek No. 1
  25. Quamahoning Creek No. 2
  26. Alexander
  27. Horner
  28. Thermal No. 3
  29. Steffey No. 2
  30. Staffey No. 3
  31. Premier
  32. Ralplton No. 2
  33. Consolidation No. 117
  34. Ralplton No. 4
  35. Ralplton No. 7
  36. Ralplton No. 5
  37. Ralplton No. 1
  38. Ralplton No. 3
  39. Brant
  40. Ralplton No. 6
  41. Auman
  42. Davis
  43. Highland
  44. Woy
  45. Neva
  46. Thermal No. 2
  47. Stauffer Nos. 1 and 4
  48. Consolidation No. 115
  49. Louise
  50. Junior

**LIST OF WELLS**

- Location indicated on the map by numbers
1. Rhoads
  2. Lahr
  3. Mull
  4. Moore
  5. Herwig (show of gas)
  6. Maust (show of gas)
  7. W. H. Miller
  8. O. S. Miller
  9. Long
  10. Bowman
  11. Boytz
  12. Emmert

R. B. Marshall, Chief Geographer.  
Frank Sutton, Geographer in charge.  
Topography by Robert Muldrow, F. Slaughter, and F. W. Farnsworth.  
Control by Geo. T. Hawkins, L. F. Biggs, and T. A. Green.  
Surveyed in 1912-1913.



Geology by G. B. Richardson.  
Surveyed in 1913.

SURVEYED IN COOPERATION WITH THE STATE OF PENNSYLVANIA.

APPROXIMATE MEAN DECLINATION 1938

Contour interval 20 feet.  
Datum is mean sea level.

Edition of Mar. 1934