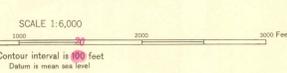


- EXPLANATION**
- Warranty tract
Boundaries indicated for general orientation and identification, but not authenticated for legal purposes.
 - Boundary of mine
 - Area reserved for barrier pillars including the Back Mountain coal bed.
 - Area reserved for barrier pillars only in the Back Mountain coal bed.
 - Outcrop and number of coal bed
Long dashes where approximately located; short dashes where covered by mine refuse; T, top split.
 - Fault showing dip and relative position of sides
Real direction of movement not necessarily known; long dashes where approximately located; short dashes where covered by mine refuse; U, upthrown side; D, downthrown side.
 - Anticline
Showing position of crest.
 - Basin or syncline
Showing position of trough.
 - Overturned anticline
Showing direction of dip of limbs.
 - Position of cross section
 - Shaft
Principal operating shaft.
 - Surface opening in a coal bed
 - Exploratory trench
 - Crop fall
Breach or collapsed area where coal bed has fallen into underground workings.
 - Stripped area
Width of excavation is indicated by length of lines and slope of floor rock by direction of lines.
 - Back-filled stripping
 - Mine refuse
Waste from mining and breaker operations such as culm, rock banks, cast piles, back fill, and silt in settling basins.
 - Stream transported mine refuse

Base: U. S. Geological Survey topographic map, Polyconic projection, 1927 North American datum.

COAL OUTCROP MAP



Prepared in 1948 from data supplied by the Natalie Coal Corporation, Lehigh Valley Coal Company, and Susquehanna Collieries Company with modifications by the Geological Survey, United States Department of the Interior.

Separate copies of the base for this map, showing ownership, topography, and culture may be purchased from the U. S. Geological Survey.



GEOLOGY OF ANTHRACITE IN THE WEST-CENTRAL PART OF THE MOUNT CARMEL QUADRANGLE, PENNSYLVANIA

BY
Howard E. Rothrock, Holly C. Wagner and Boyd R. Haley
1950