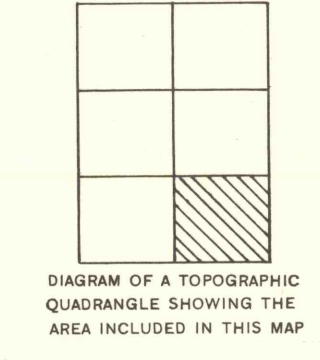
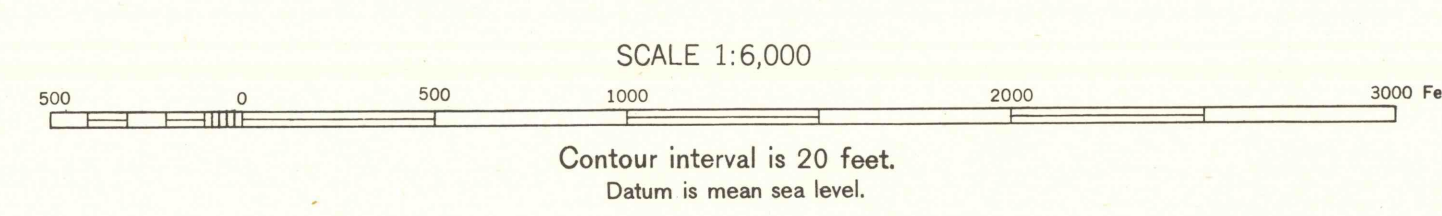


- EXPLANATION**
- Boundary of mine
 - Warranty tract
 - Boundaries are indicated for general orientation and identification but are not authenticated for legal purposes.
 - Borough line
 - Strip-mined area
 - Back-filled stripping
 - Exploratory trench
 - Tick shows where coal was found.
 - Crop fall
 - Collapsed area where surface has fallen into underground workings.
 - Mine waste
 - Includes such refuse from mining and breaker operations as culm, rock banks, coal piles, back fill, and dirt in settling basins.
 - Stream-transported waste
 - Structural cross section
 - Surface opening on coal bed
 - Coal outcrop
 - Solid where location is known, long dashes where uncertain. In areas covered by mine waste, short dashes indicate known locations, very short dashes indicate approximate locations. Dashed lines designate coal bed, L, local bed; T, top split; M, middle split; B, bottom split; U, Lykens Valley leader.
 - Fault showing dip and relative position of sides
 - Red direction of movement and necessarily known; U, upthrown side; D, downthrown side; or, overturned plate. Fault trace is solid line where accurately known, long dashes where approximately located. In areas covered by mine waste, short dashes indicate known locations, dots indicate approximate locations.
 - Anticline
 - Showing crest line
 - Syncline
 - Showing trough line
 - Overturned anticline
 - Showing crest line and direction of dip of the limbs.
 - Overturned syncline
 - Showing trough line and direction of dip of the limbs.

Base: U. S. Geological Survey topographic map. Polyconic projection, 1927 North American datum. Topography was contoured from aerial photographs made in 1942. Correction has generally not been made for topographic changes resulting from strip mining or alteration of mine refuse banks since 1942. In those areas extensively strip-mined the contours have been deleted.

APPROXIMATE MEAN DECLINATION, 1944

COAL OUTCROP MAP



Prepared in 1950 from data supplied by the Raven Run Coal Co., Lehigh Valley Coal Co., and the Philadelphia and Reading Coal and Iron Co., with modifications by the U. S. Geological Survey.

GEOLOGY OF ANTHRACITE IN THE SOUTHEASTERN PART OF THE MOUNT CARMEL QUADRANGLE, PENNSYLVANIA

By
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1953