

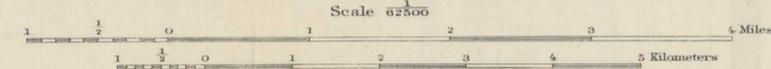
EXPLANATION

-  Structure contours
(Drawn on top of Vanport limestone member; contour interval 50 feet, datum mean sea level)
-  Outcrop of Upper Freeport coal horizon
-  Coal mine
(Figures refer to measured sections of coal beds on plates or in text)
-  Country coal bank
(Figures refer to measured sections of coal beds on plates or in text)
-  Oil well
(Oil fields lettered in green)
-  Gas well
-  Sandstone quarry

MAP SHOWING STRUCTURE AND ECONOMIC GEOLOGY OF BUTLER QUADRANGLE, PENNSYLVANIA

Geology by G. B. Richardson
 assisted by R. Van A. Mills
 Surveyed in 1915, 1928, and 1931

R. B. Marshall, Chief Geographer.
 Frank Sutton, Geographer in charge.
 Topography by Wm. O. Tufts, R.H. Reineck, and S.P. Floors.
 Control by C.B. Kendall and C.B. Burns.
 Surveyed in 1908-1909.



Contour interval 20 feet.
 Datum is mean sea level.
 1936

(Sewickley)

(Kittanning)