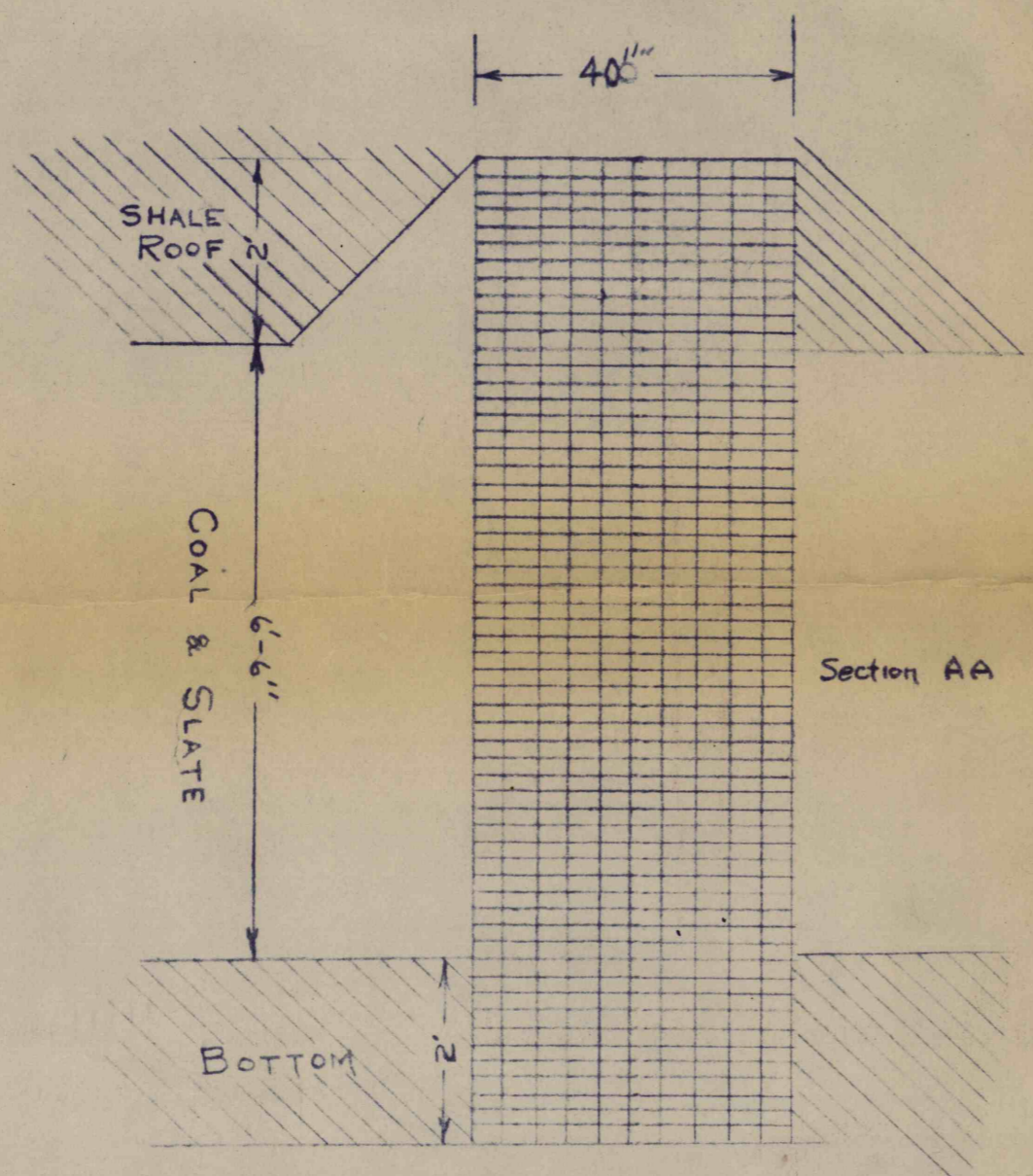


PITTSBURGH COAL COMPANY
 DIVISION OF PITTSBURGH CONSOLIDATION COAL CO.
 CONSTRUCTION PLAN OF BULKHEAD
 3RD EAST WESTLAND MINE
 DAM # 5 SCALE 1"=2'

REF. "D"



FORMULA FOR DAM THICKNESS

$$T = \frac{PW\sqrt{4R-1}}{4S}$$

T = THICKNESS OF DAM IN INCHES
 R = SHORTER RADIUS IN INCHES
 W = WIDTH OF OPENING IN INCHES
 S = COMPRESSIVE STRENGTH OF BRICK IN LBS. PER SQ. IN.
 USED 1000 LBS. PER SQ. IN.
 P = WATER PRESSURE AT DAMS IN POUNDS
 PER SQUARE INCH.