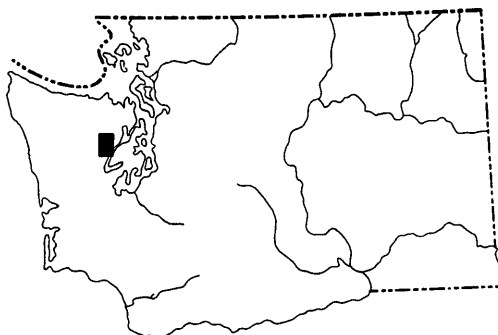


DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

GEOLOGIC
QUADRANGLE MAPS
OF THE
UNITED STATES

GEOLOGIC MAP
OF
THE BROTHERS QUADRANGLE
JEFFERSON, MASON, AND KITSAP
COUNTIES, WASHINGTON

By
W. M. Cady, M. L. Sorensen, and
N. S. MacLeod

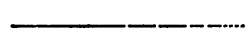
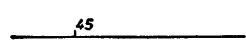
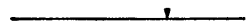



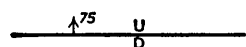

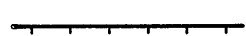
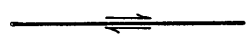

QUADRANGLE LOCATION

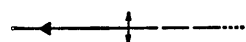
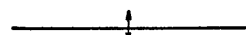
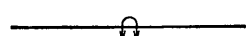
PUBLISHED BY THE U.S. GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242
1972

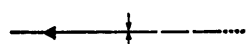

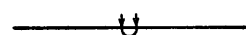
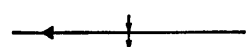
GEOLOGIC MAP SYMBOLS

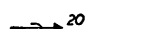
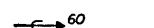
COMMONLY USED ON MAPS OF THE UNITED STATES GEOLOGICAL SURVEY

















 Contact — dashed where approximately located; short dashed where inferred; dotted where concealed
 Contact, showing dip
 Contact, well exposed at triangle

 Fault — dashed where approximately located; short dashed where inferred; dotted where concealed
 Fault, showing dip — U, upthrown side; D, downthrown side
 Fault — ball and bar on downthrown side
 Normal fault — hachured on downthrown side
 Fault — showing relative horizontal movement
 Thrust fault — sawteeth on upper plate













 Anticline — showing direction of plunge; dashed where approximately located; dotted where concealed
 Asymmetric anticline — short arrow indicates steeper limb
 Overturned anticline — showing direction of dip of limbs

 Syncline — showing direction of plunge; dashed where approximately located; dotted where concealed
 Asymmetric syncline — short arrow indicates steeper limb
 Overturned syncline — showing direction of dip of limbs
 Monocline — showing direction of plunge of axis

 Minor anticline — showing plunge of axis
 Minor syncline — showing plunge of axis

 Strike and dip of beds
 Strike and dip of overturned beds
 Strike of vertical beds
 Horizontal beds
 Strike and dip of foliation
 Strike of vertical foliation
 Horizontal foliation
 Strike and dip of cleavage
 Strike of vertical cleavage
 Horizontal cleavage
 Bearing and plunge of lineation
 Vertical lineation
 Horizontal lineation
 Strike and dip of joints
 Strike of vertical joints
 Horizontal joints

Note: planar symbols (strike and dip of beds, foliation or schistosity, and cleavage) may be combined with linear symbols to record data observed at same locality by superimposed symbols at point of observation. Coexisting planar symbols are shown intersecting at point of observation.

 Vertical shaft
 Inclined shaft
 Portal of adit, tunnel, or slope
 Inaccessible adit, tunnel, or slope
 Prospect pit
 Drilling well
 Dry hole or abandoned well
 Gas well
 Oil well
 Well, show of oil
 Well, show of gas
 Shut-in-well