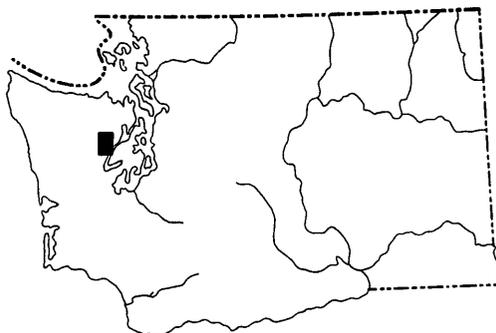


DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

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



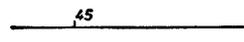
QUADRANGLE LOCATION

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

GEOLOGIC MAP SYMBOLS

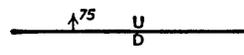
COMMONLY USED ON MAPS OF THE UNITED STATES GEOLOGICAL SURVEY

 Contact – dashed where approximately located; short dashed where inferred; dotted where concealed

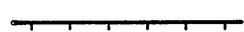
 Contact, showing dip

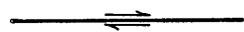
 Contact, well exposed at triangle

 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

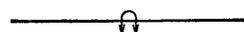
 Normal fault – hachured on downthrown side

 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

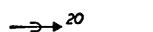
 Overturned anticline – showing direction of dip of limbs

 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