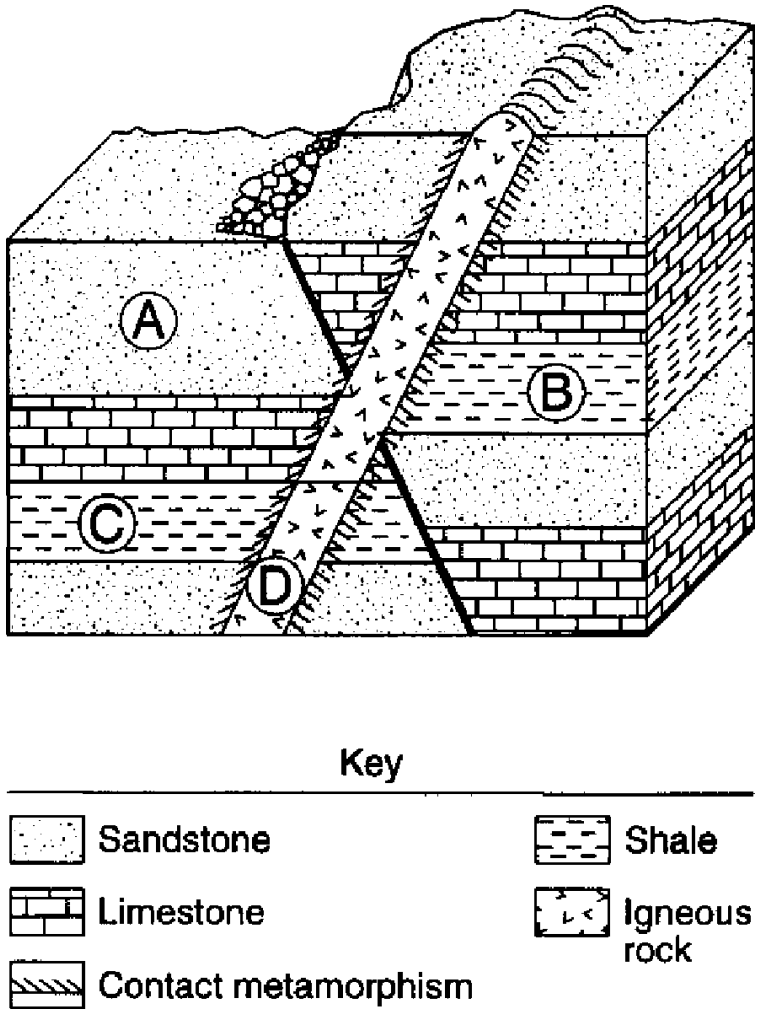
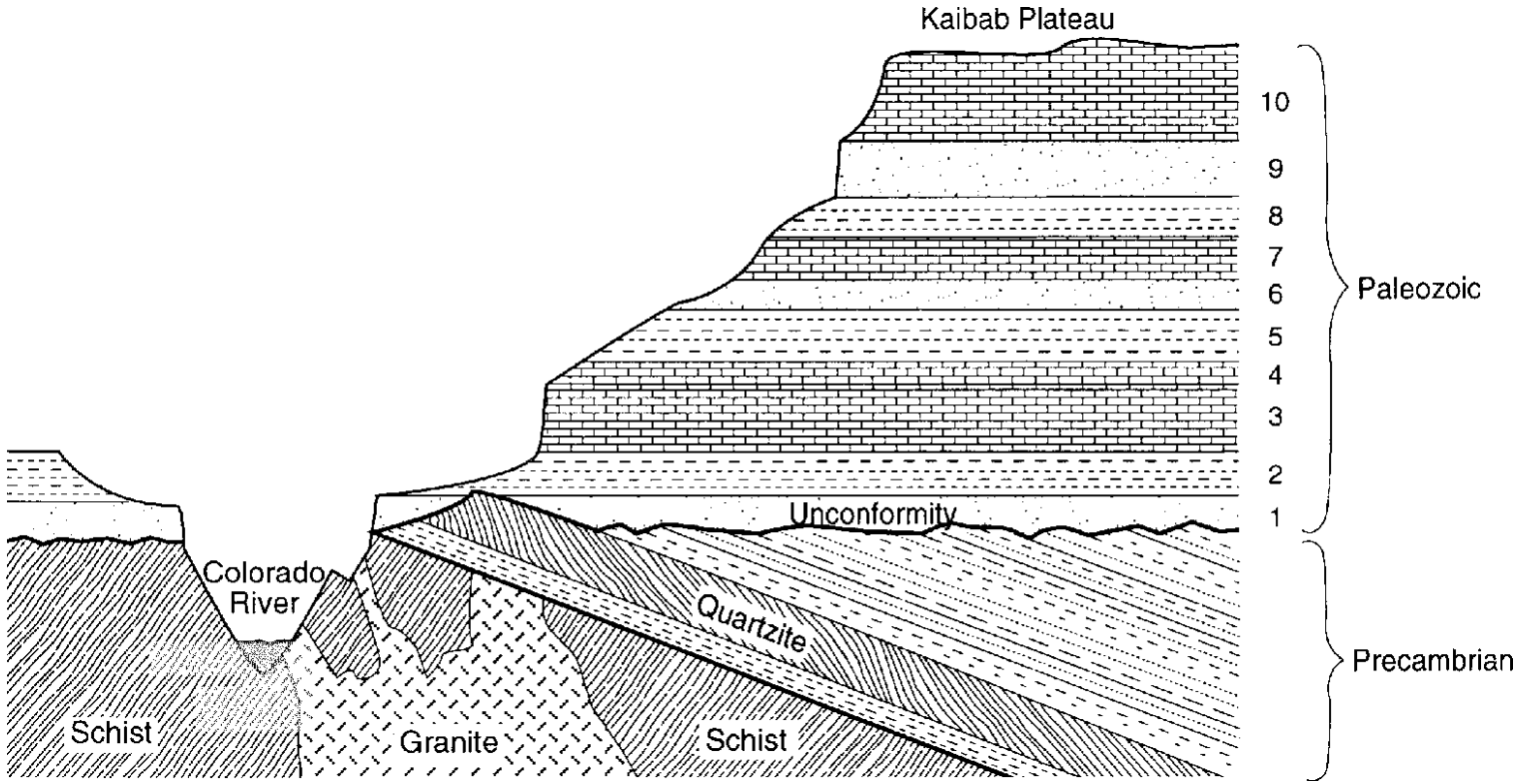
A geologic cross section is shown below.



The most recently formed rock unit is at location

A. *A* B. *B* C. *C* D. *D*

Base your answer(s) to the following question(s) on the geologic cross section below of the Grand Canyon. The numbers 1 through 10 represent Paleozoic sedimentary rock layers.



The unconformity between the Paleozoic sedimentary rocks and the Precambrian sedimentary rocks represents

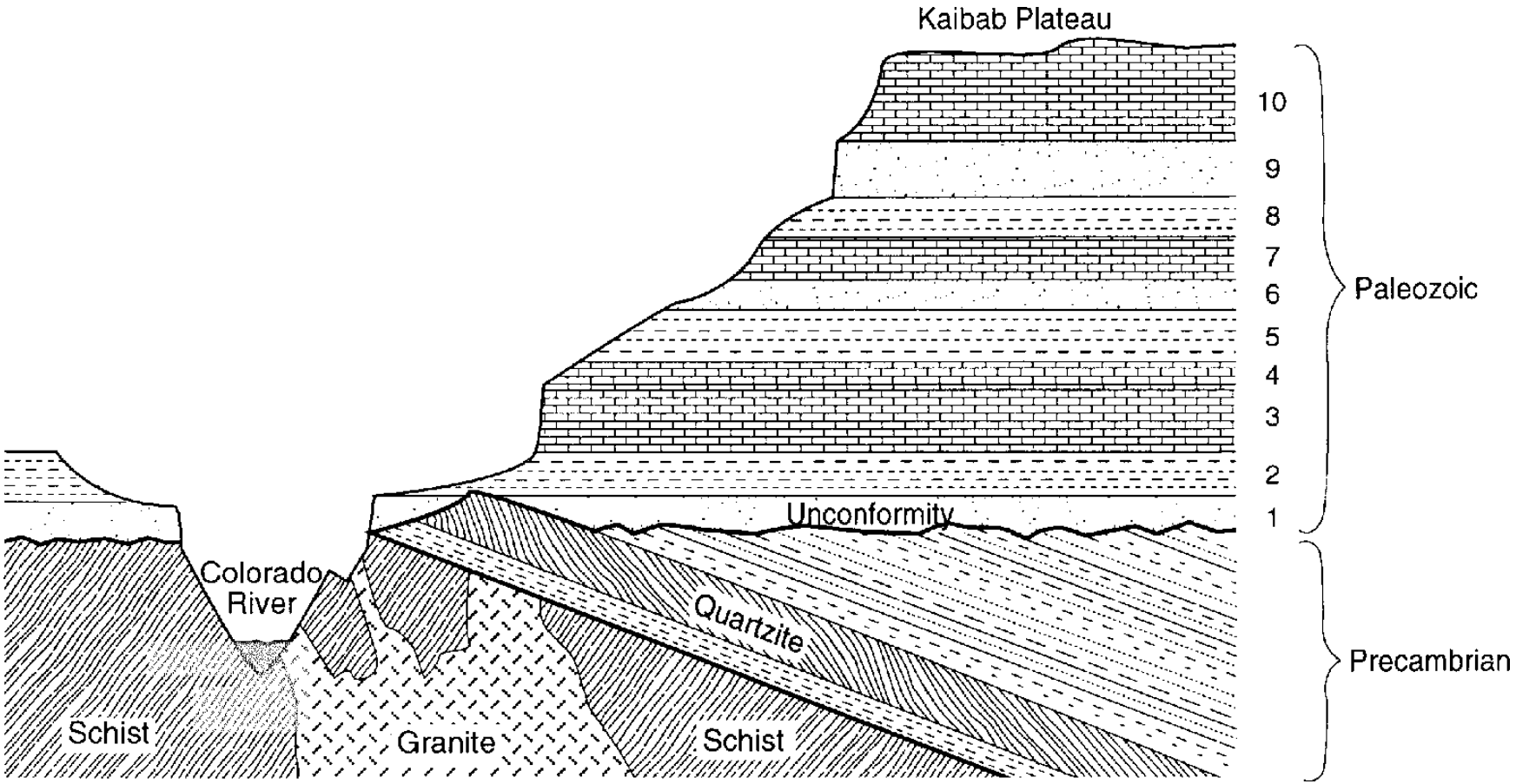
A. a gap in the geologic time record

B. an intrusion of igneous rock

C. an abundance of fossils

D. a region of metamorphic rock

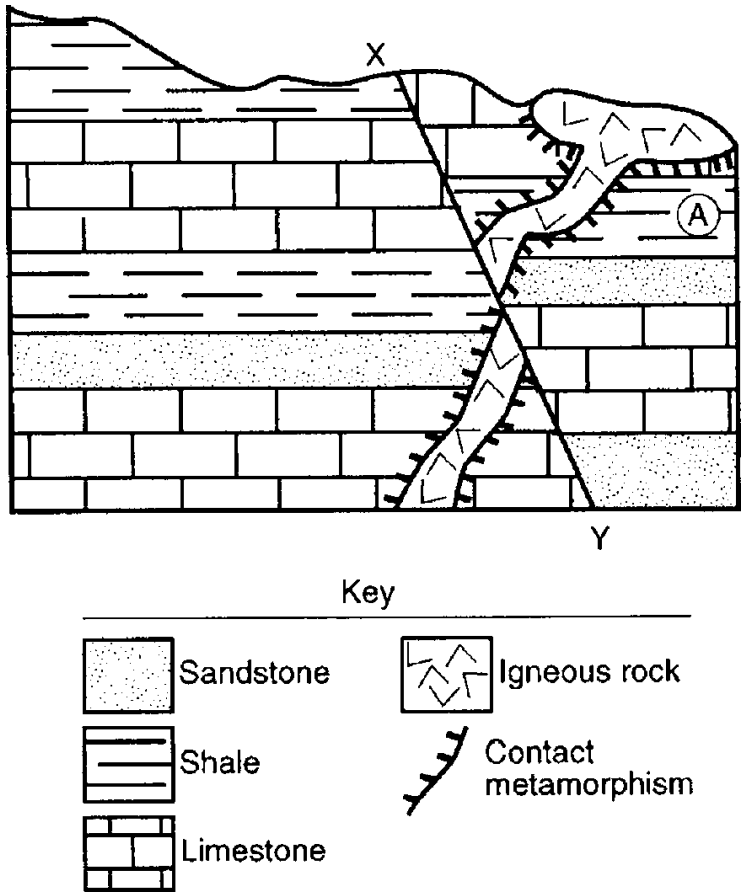
Base your answer(s) to the following question(s) on the geologic cross section below of the Grand Canyon. The numbers 1 through 10 represent Paleozoic sedimentary rock layers.



Which Paleozoic rock layer is the oldest?

A. 1 B. 10 C. 5 D. 4

A geologic cross section for a portion of Earth's crust is shown. Letter *A* is a loctaion in a rock layer, and line *XY* represents a fault.



Which of these events occured most recently at this location?

A. deposition of the layer at *A*

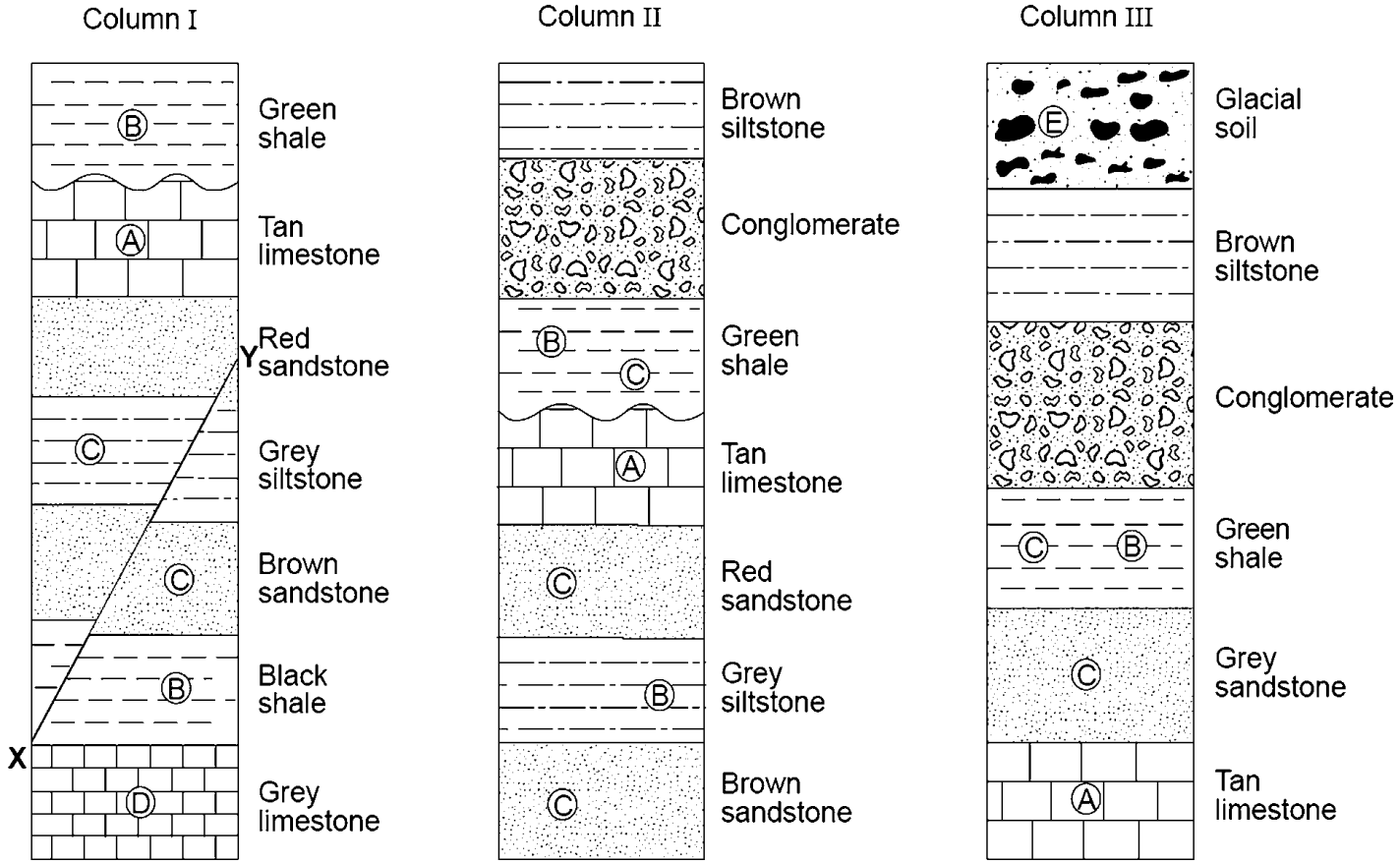
B. igneous intrusion

C. contact metamorphism

D. faulting along line *XY*

Base your answer(s) to the following question(s) on the *Earth Science Reference Tables*, the diagram below, and your knowledge of Earth science. The diagram shows three geologic columns representing widely separated rock outcrops. Letters *A* through *E* represent fossils found in the outcrops. Line *XY* represents a fault in column I. The layers have not been overturned.

Rock Outcrops



When did fault *XY*, located in column I, most likely occur?

A. before the formation of the grey limestone

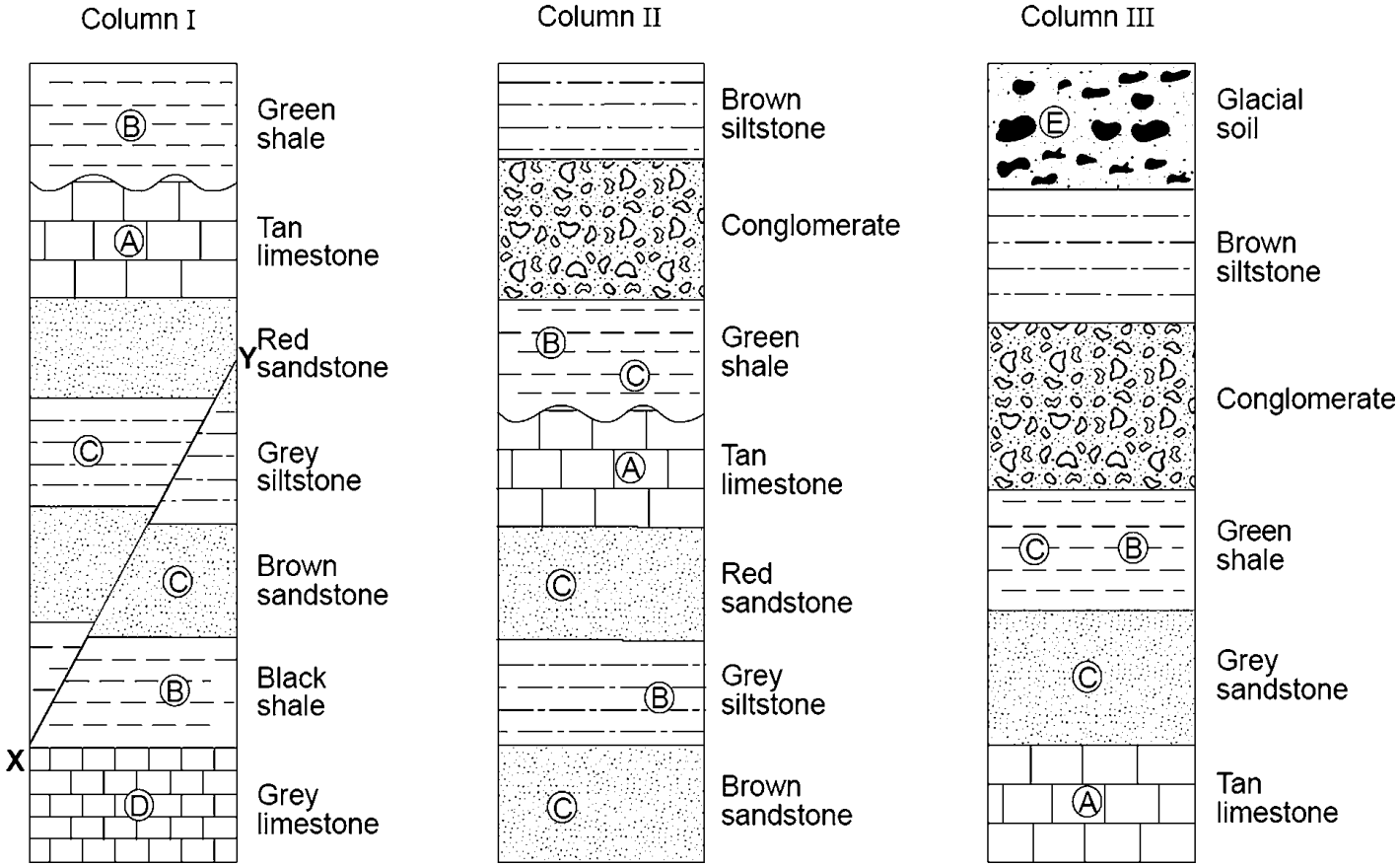
B. during the formation of the grey siltstone

C. during the formation of the black shale

D. after the formation of the red sandstone

Base your answer(s) to the following question(s) on the *Earth Science Reference Tables*, the diagram below, and your knowledge of Earth science. The diagram shows three geologic columns representing widely separated rock outcrops. Letters *A* through *E* represent fossils found in the outcrops. Line *XY* represents a fault in column I. The layers have not been overturned.

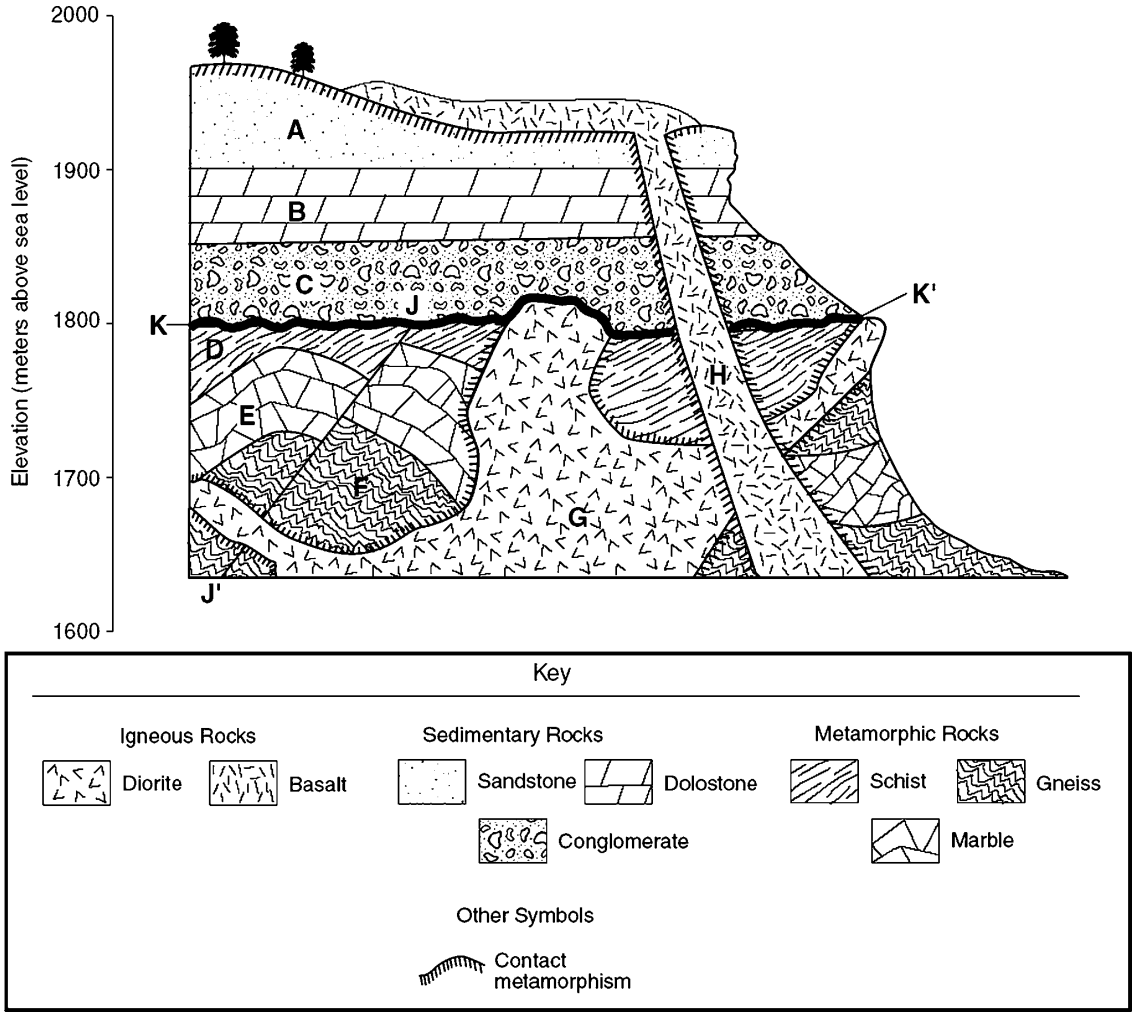
Rock Outcrops



The wavy line located between the green shale and the tan limestone layers in columns I and II most likely represents

A. contact metamorphism B. a volcanic ash layer C. a buried erosional surface D. an igneous intrusion

Base your answer(s) to the following question(s) on the 2001 edition of the Earth Science Reference Tables, the geologic cross section below, and your knowledge of Earth science. The cross section shows the rock structure of a region of Earth's crust. Letters italA through *H* are rock units. Lines *J-J'* and *K-K'* are interfaces within the cross section. Rock layers *A*, *B*, and *C* have not been overturned.



Which event occurred before the formation of rock layer *B*?

A. weathering of rock layer *A*

B. faulting of rocks along line *J–J'*

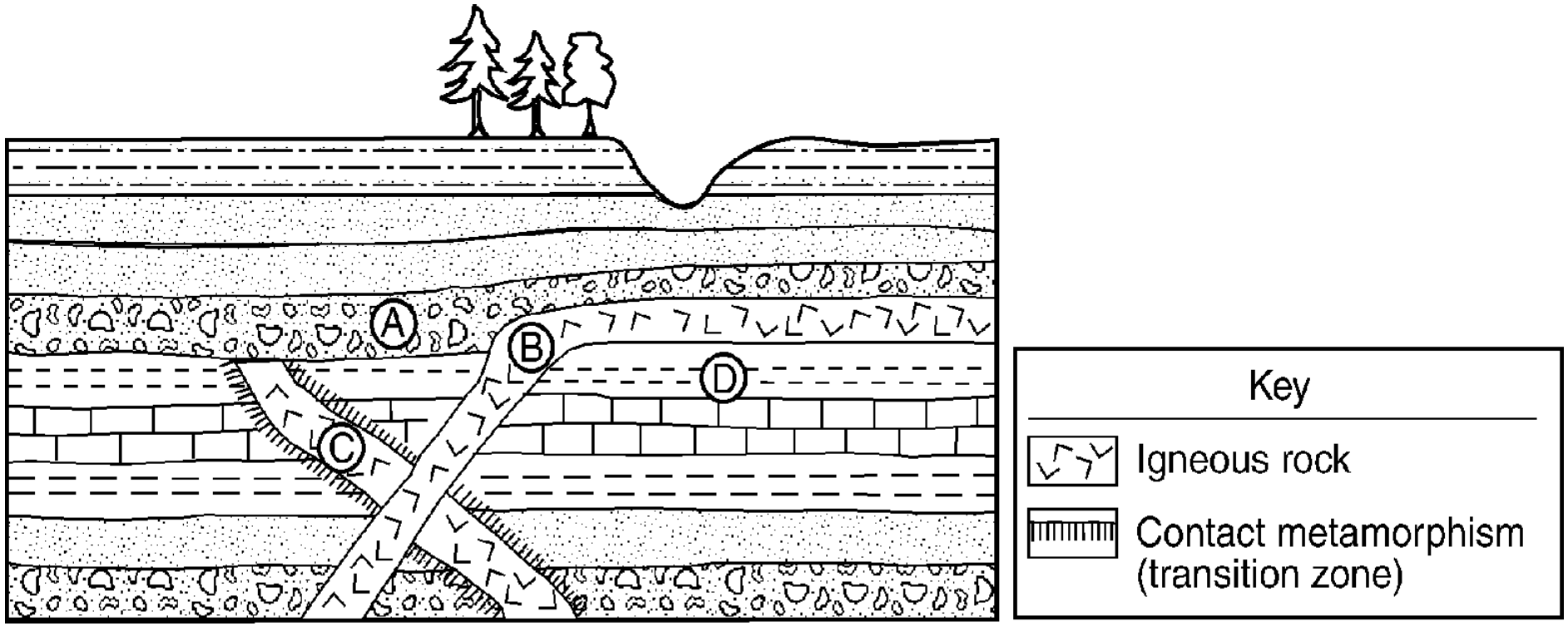
C. intrusion of igneous rock layer *H*

D. formation of metamorphic rock above rock layer *A*

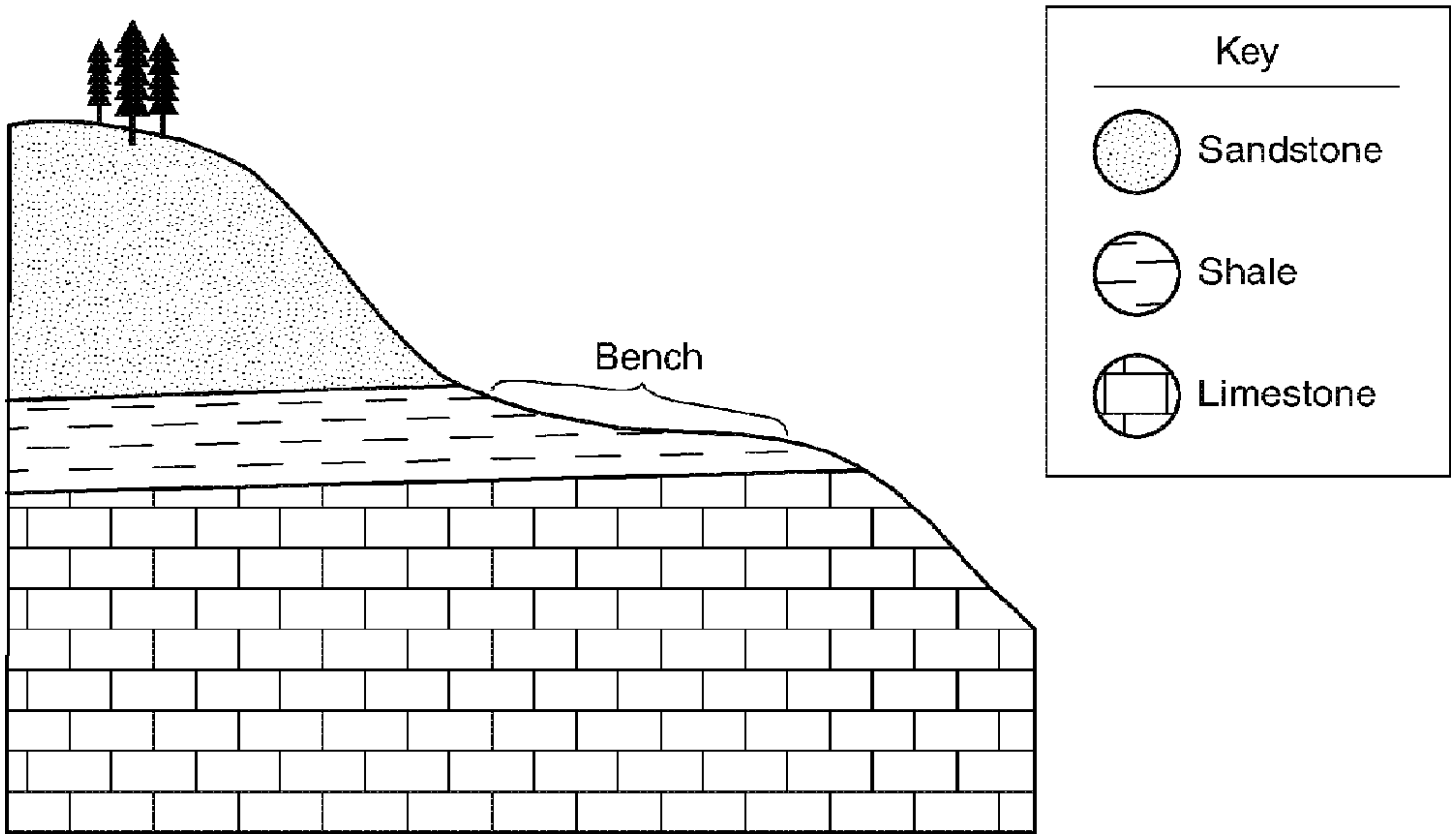
Base your answer(s) to the following question(s) on the cross section provided below.

The cross section represents a portion of Earth's crust. Letters *A*, *B*, *C*, and *D* are rock units.

Igneous rock *B* was formed after rock layer *D* was deposited but before rock layer *A* was deposited. Using the contact metamorphism symbol shown in the key, draw that symbol in the proper locations on the cross section provided to indicate those rocks that underwent contact metamorphism when igneous rock *B* was molten.



The geologic cross section below shows a hillslope and the rock layers that underlie it.



Which difference between the sandstone, shale, and limestone layers caused the formation of the relatively gently sloped section labeled “bench”?

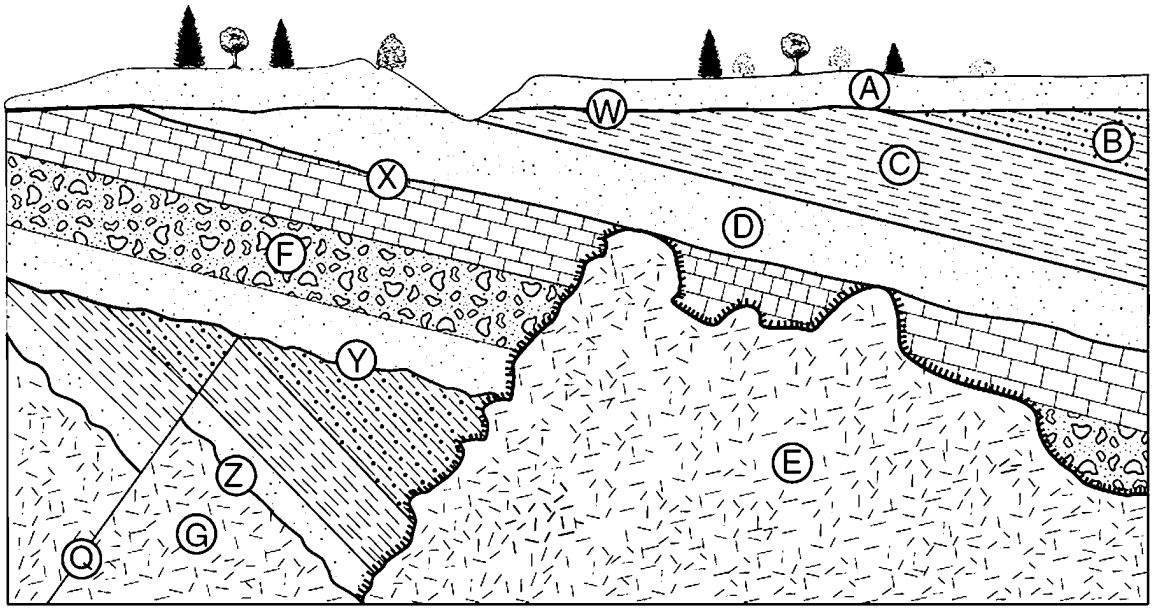
A. rock age

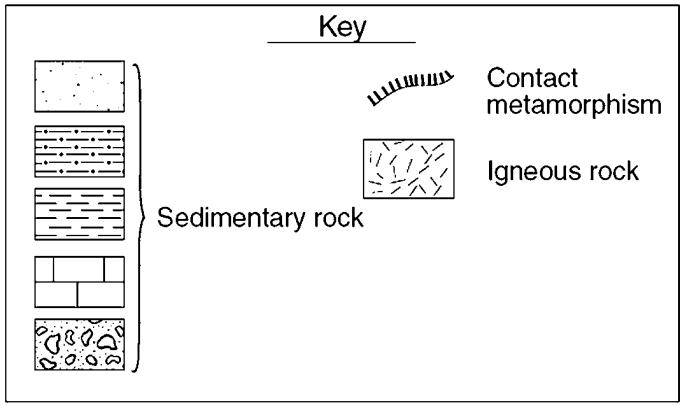
B. fossil content

C. resistance to weathering

D. amount of uranium-238

Base your answer(s) to the following question(s) on the geologic cross section of bedrock shown below. *A* through *G* identify rock layers and *Q* represents a fault. Lines *W*, *X*, *Y*, and *Z* are locations of unconformities. The rocks have not been overturned.





Which rock or feature is oldest?

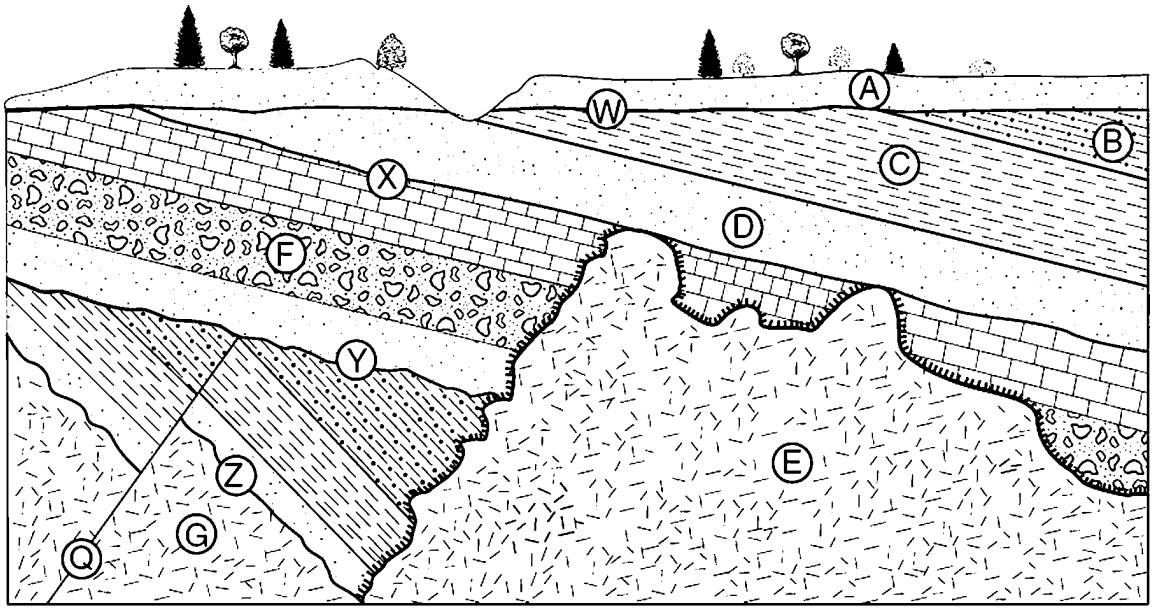
A. rock *A*

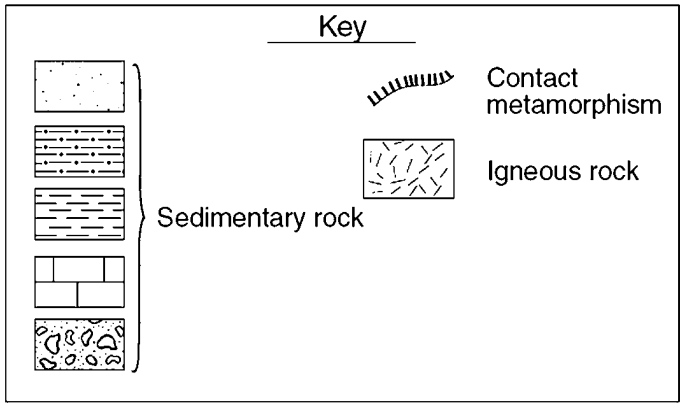
B. rock *G*

C. fault *Q*

D. unconformity *Z*

Base your answer(s) to the following question(s) on the geologic cross section of bedrock shown below. *A* through *G* identify rock layers and *Q* represents a fault. Lines *W*, *X*, *Y*, and *Z* are locations of unconformities. The rocks have not been overturned.





The unconformities shown in the cross section represent

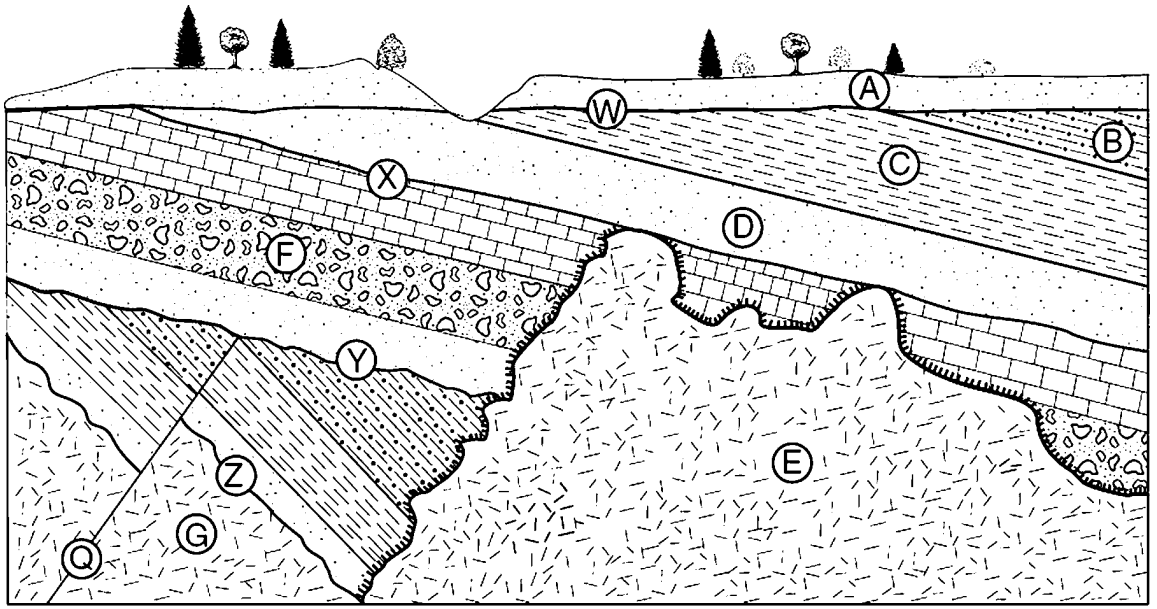
A. buried erosional surfaces

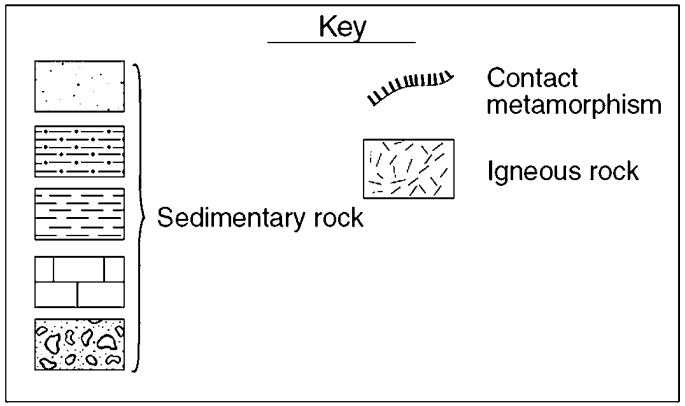
B. locations of index fossils

C. volcanic ash deposits

D. boundaries between oceanic and continental crust

Base your answer(s) to the following question(s) on the geologic cross section of bedrock shown below. *A* through *G* identify rock layers and *Q* represents a fault. Lines *W*, *X*, *Y*, and *Z* are locations of unconformities. The rocks have not been overturned.





The movement of bedrock along fault *Q* most probably produced

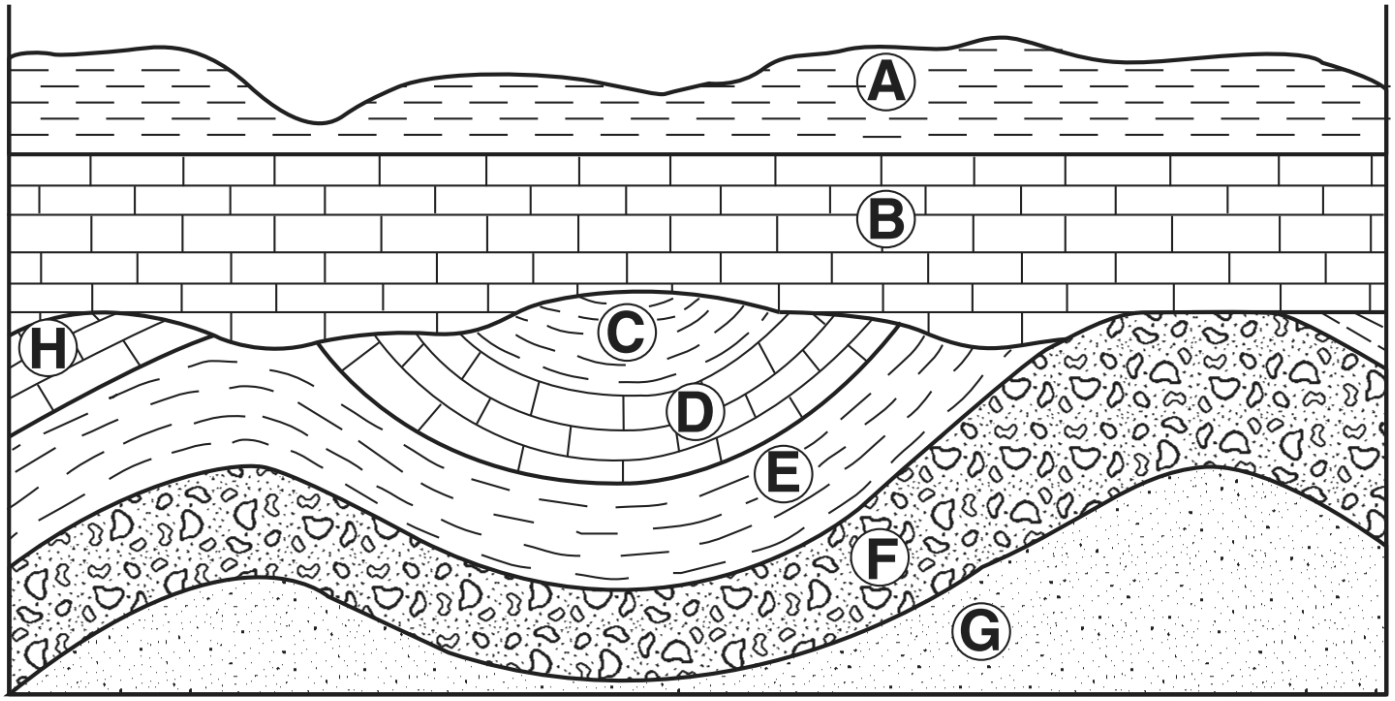
A. gaps in the rock record

B. an earthquake

C. a volcanic lava flow

D. zones of contact metamorphism

Base your answer(s) to the following question(s) on the geologic cross section below in which overturning has not occurred. Letters *A* through *H* represent rock layers.



Which sequence of events most likely caused the unconformity shown at the bottom of rock layer *B*?

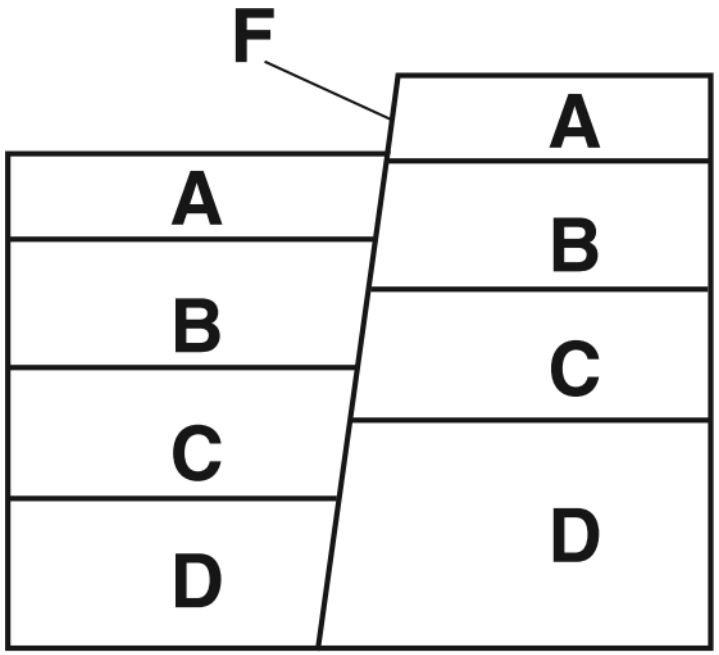
A. folding → uplift → erosion → deposition

B. intrusion → erosion → folding → uplift

C. erosion → folding → deposition → intrusion

D. deposition → uplift → erosion → folding

The cross section below shows rock layers *A*, *B*, *C*, *D*, and fault *F*. The rock layers have not been overturned.



Which sequence places the rock layers and fault in order from oldest to youngest?

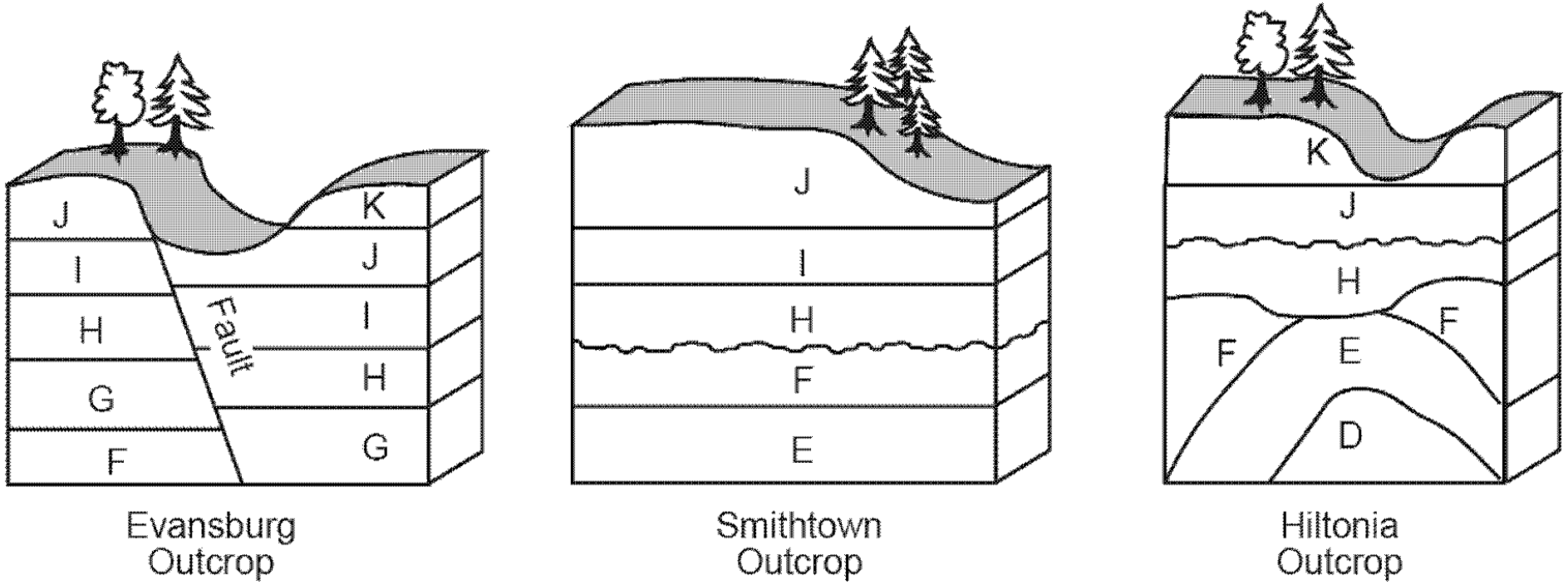
A. D → C → B → A → F

B. A → B → C → D → F

C. F → D → C → B → A

D. F → A → B → C → D

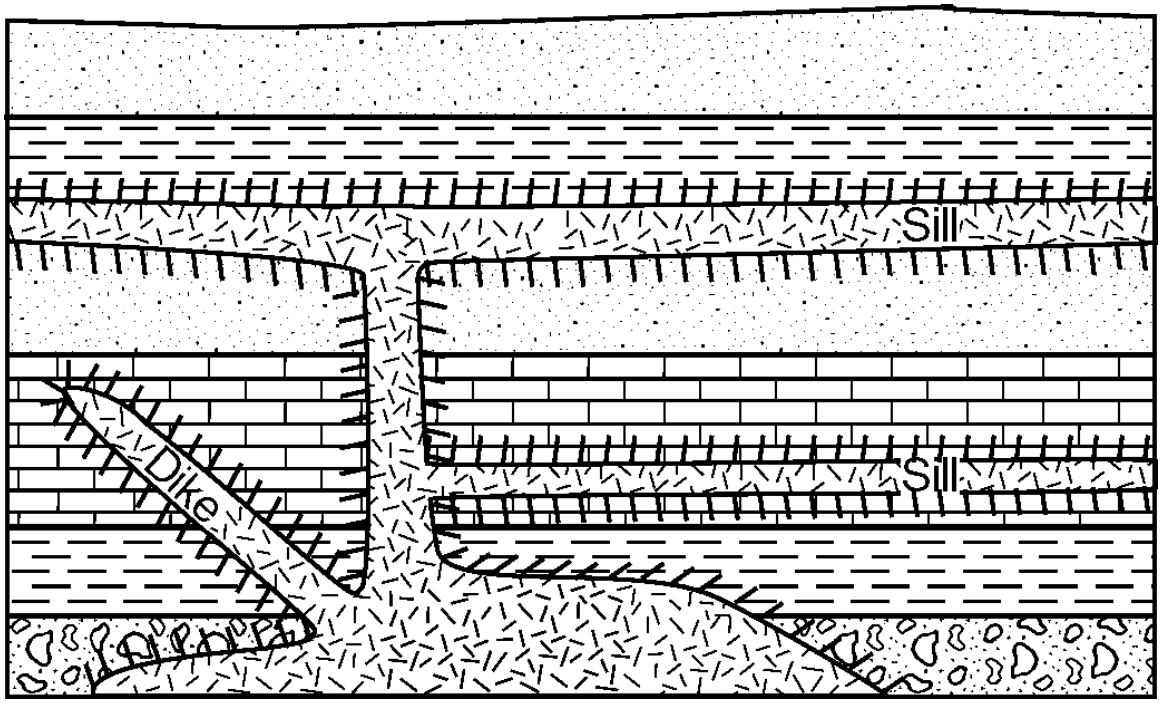
Base your answer(s) to the following question(s) on the *Earth Science Reference Tables*, your knowledge of Earth science, and the block diagrams below, which represent three widely separated outcrops. All rock layers are sedimentary. No overturning has occurred. Layers labeled with the same letter are the same age.



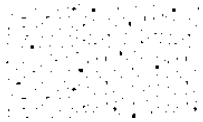
The fault in the Evansburg Outcrop is younger than

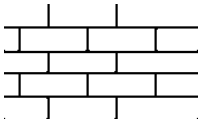
A. *G*, only B. *J*, only C. *G* and *J*, only D. *F*, *G*, *H*, *I*, and *J*

Base your answer(s) to the following question(s) on the geologic cross section below. Overturning has not occurred. The dike and sills shown in the cross section are igneous intrusions.



Which rock type is the oldest?

A. 

B. 

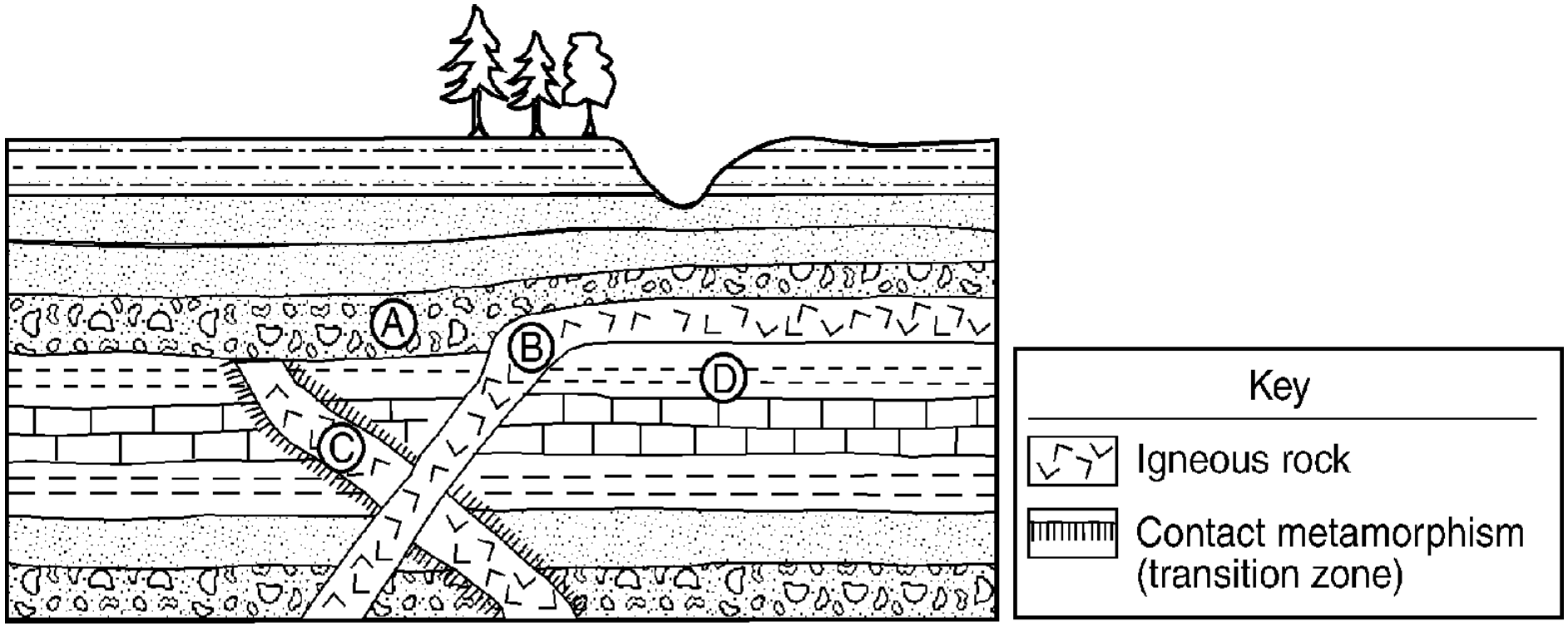
C. 

D. 

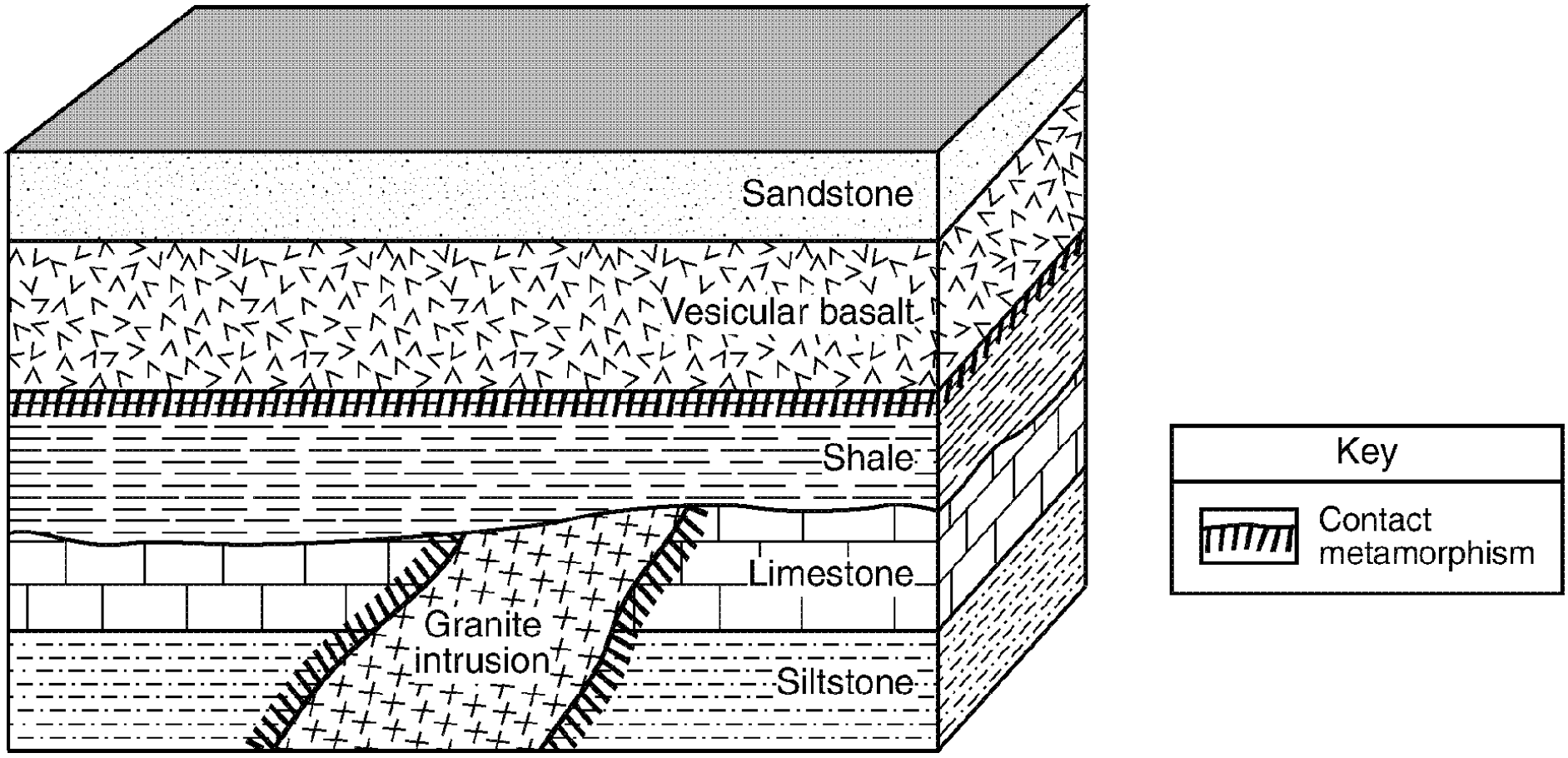
Base your answer(s) to the following question(s) on the cross section provided below.

The cross section represents a portion of Earth's crust. Letters *A*, *B*, *C*, and *D* are rock units.

In relation to rock units *A* and *B* in the cross section, when was igneous rock *C* formed?

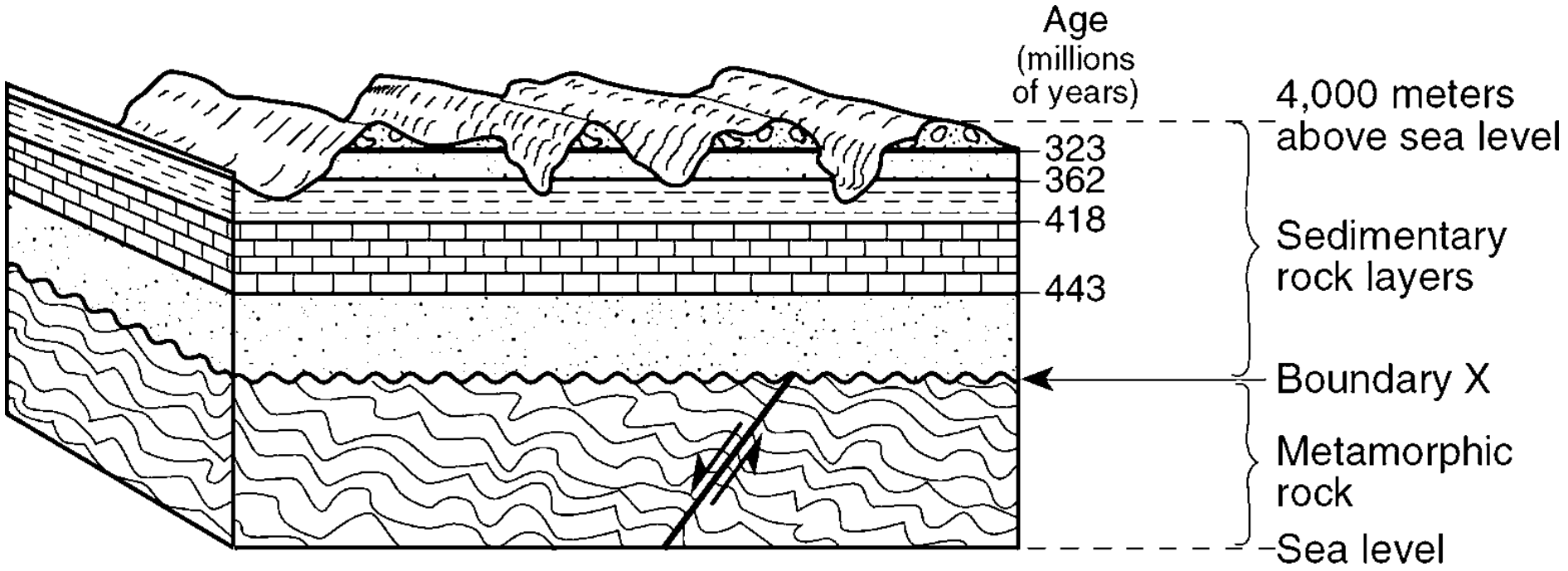


Base your answer(s) to the following question(s) on the geologic cross section below. Radioactive dating indicates that the granite intrusion is 279 million years old and the vesicular basalt is 260 million years old. The rock layers have not been overturned.



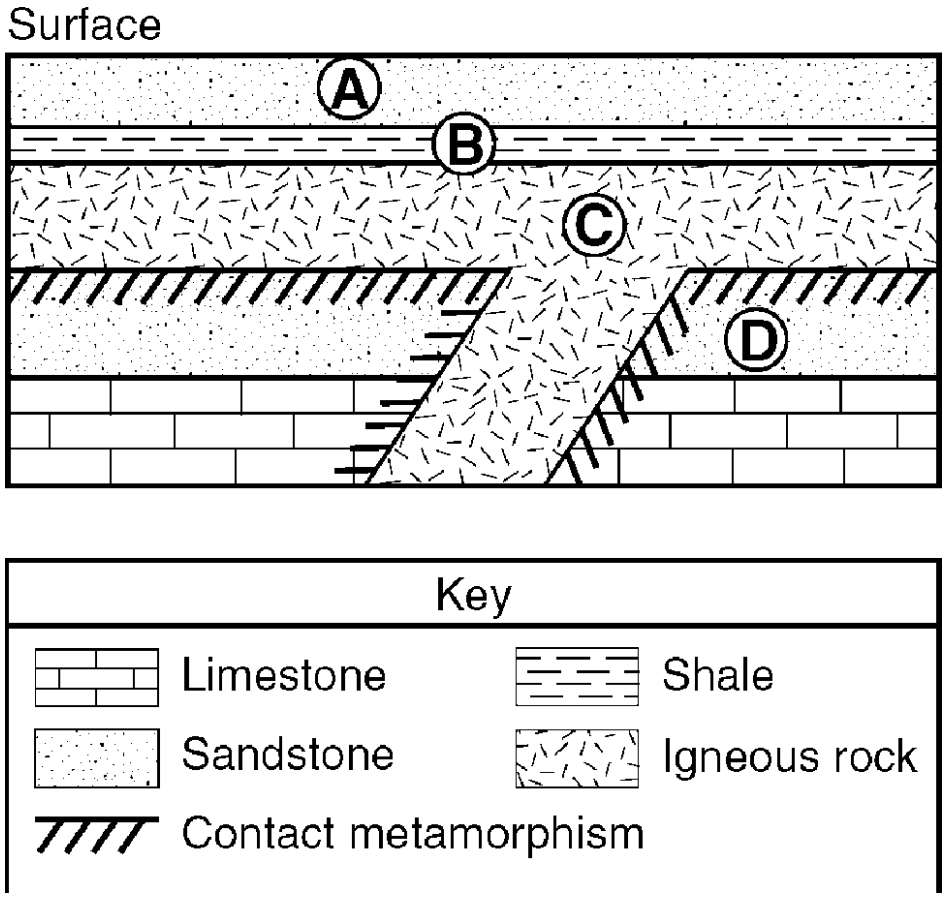
List the six rock units in the order from the oldest to the youngest.

Base your answer(s) to the following question(s) on the cross section below and on your knowledge of Earth science. The cross section shows a portion of Earth's crust. The age, in millions of years, of each boundary between the different sedimentary rock layers is shown. The age of boundary *X* between the sedimentary rock and the metamorphic rock is not shown. Assume no overturning has occurred.



Identify the geologic feature represented by boundary *X*.

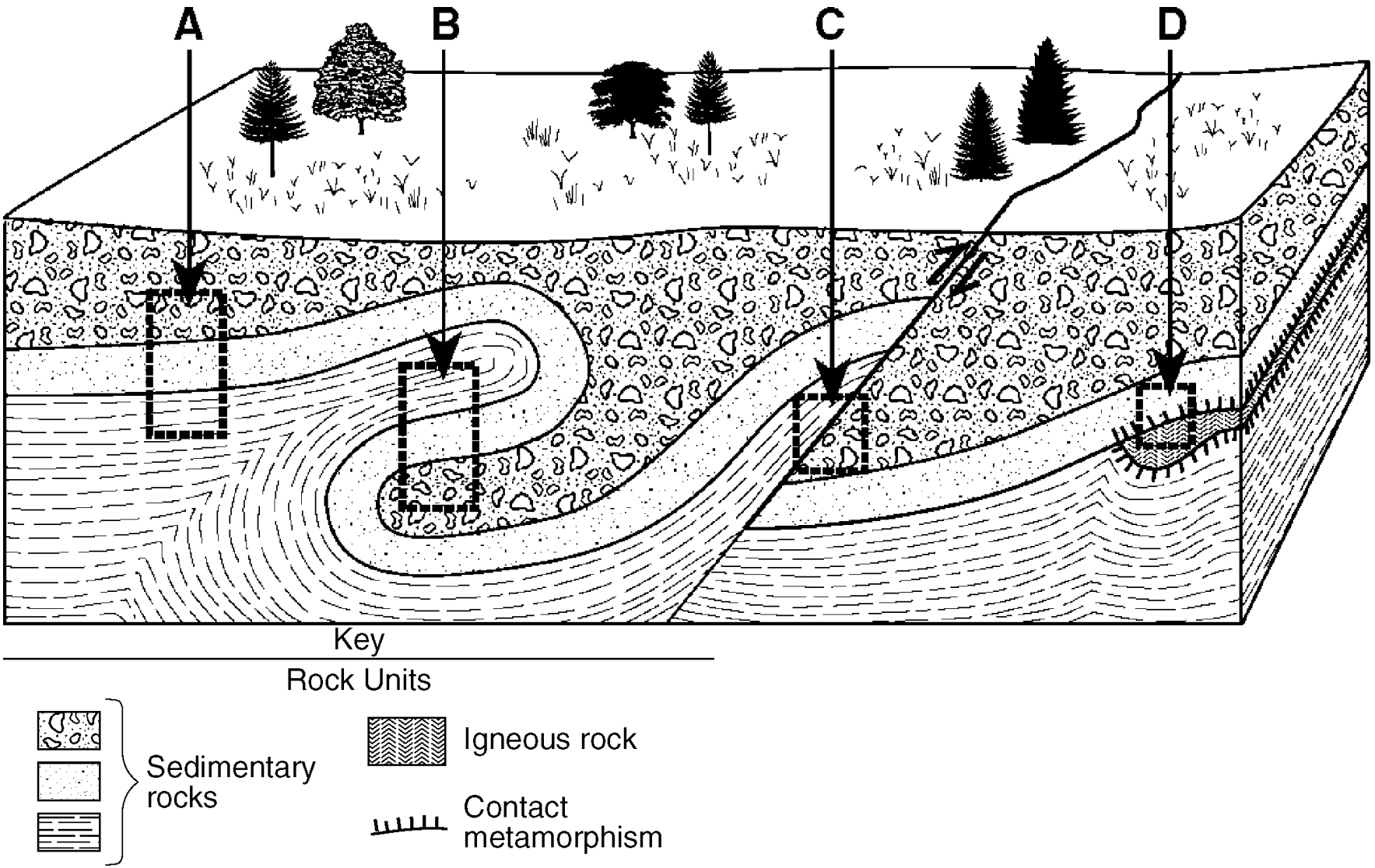
The diagram below shows a geologic cross section. Letters *A* through *D* represent different rock units.



Which sequence correctly shows the age of the lettered rock units, from oldest to youngest?

A. $A \rightarrow B \rightarrow C \rightarrow D$ B. $C \rightarrow D \rightarrow A \rightarrow B$ C. $D \rightarrow B \rightarrow A \rightarrow C$ D. $D \rightarrow C \rightarrow B \rightarrow A$

The block diagram below of a portion of Earth's crust shows four zones labeled *A*, *B*, *C*, and *D* outlined with dashed lines.



In which zone is a younger rock unit on top of an older rock unit?

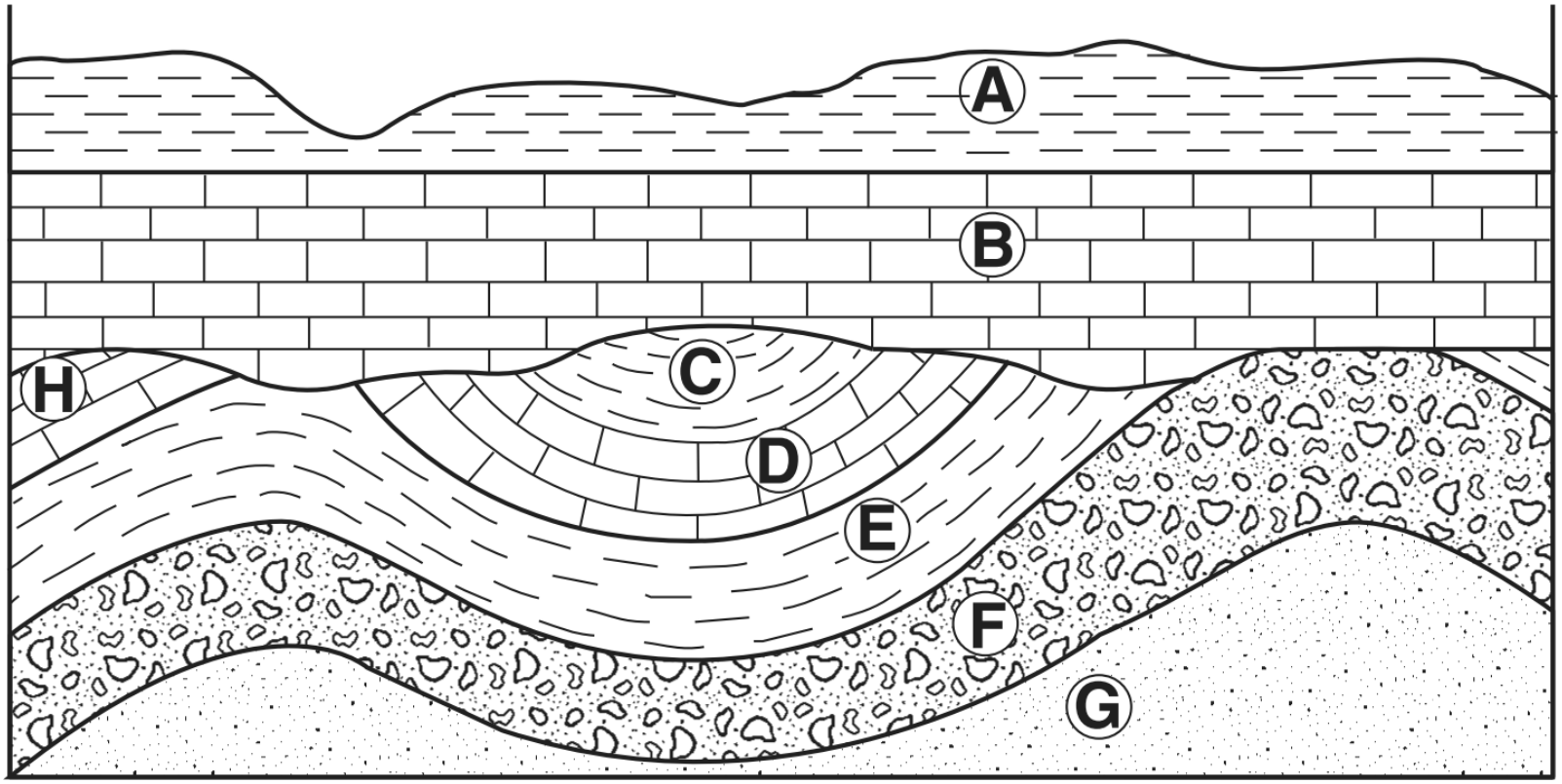
A. *A*

B. *B*

C. *C*

D. *D*

Base your answer(s) to the following question(s) on the geologic cross section below in which overturning has not occurred. Letters *A* through *H* represent rock layers.

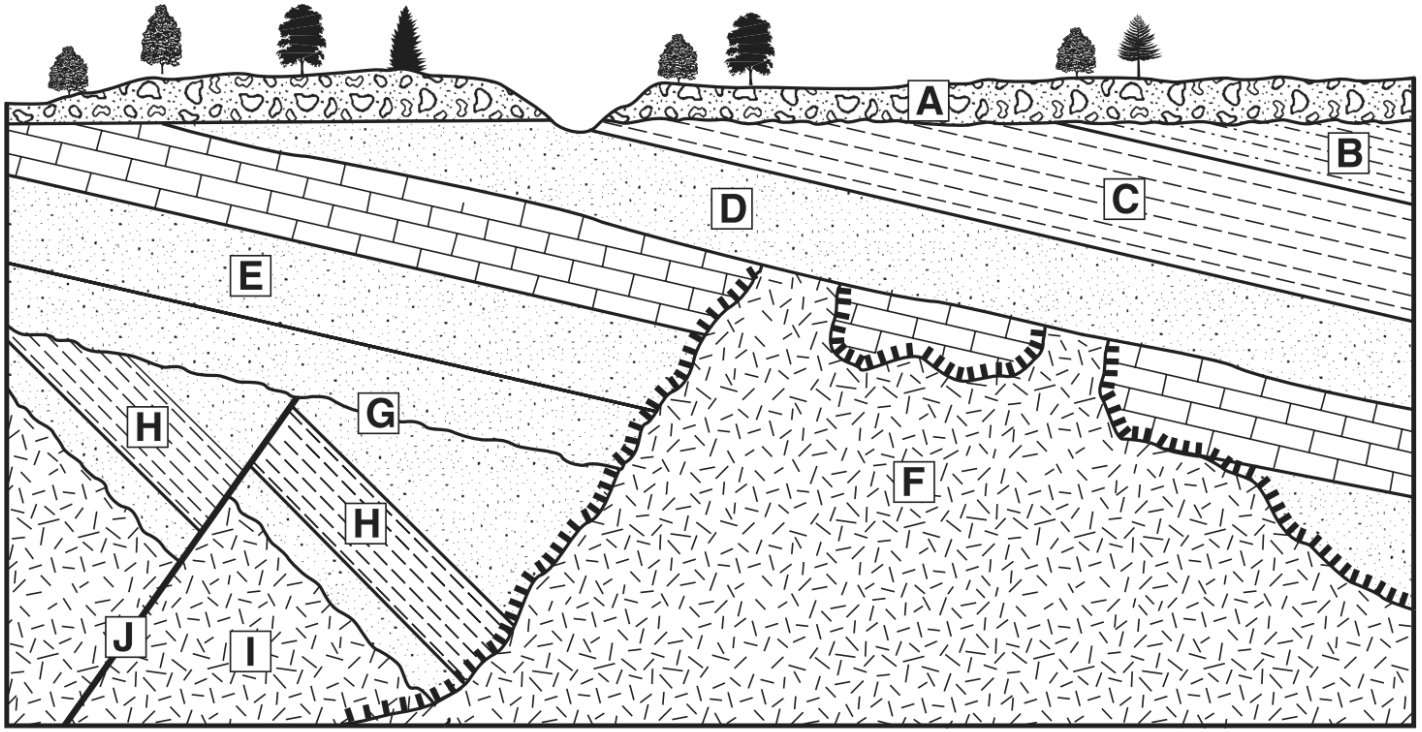


Which two letters represent bedrock of the same age?

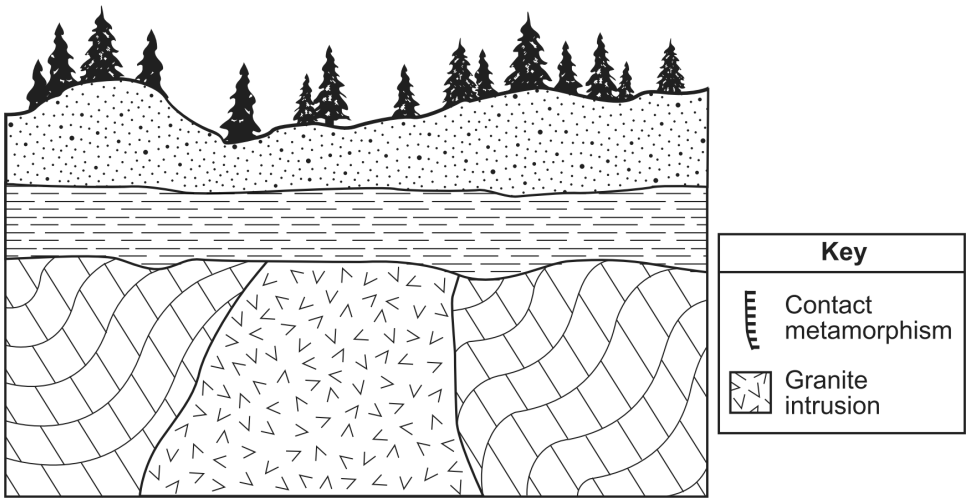
A. *A* and *E* B. *B* and *D* C. *F* and *G* D. *D* and *H*

Base your answer(s) to the following question(s) on the cross section below which shows a portion of Earth's crust. Letters *A* through *J* represent rock units or geologic structures. The rock units have not been overturned.

On the cross section provided below, draw a circle around the letter of the oldest rock unit shown.



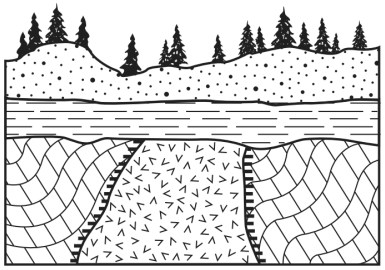
The cross section below represents four different rock units. The symbol for contact metamorphism has been omitted from the cross section.

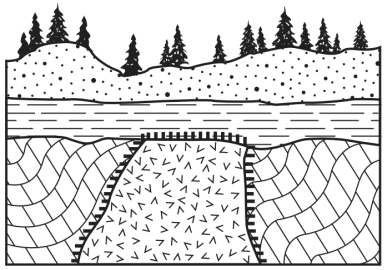


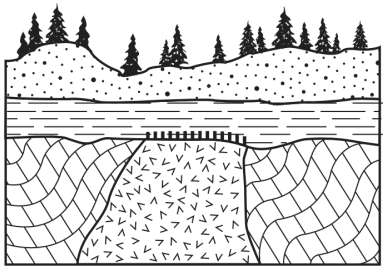
The sequence below represents the relative ages of the rock units from oldest to youngest.

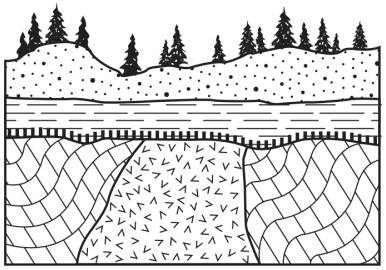
limestone → granite → shale → sandstone

Which cross section below represents where the symbol for contact metamorphism would be located, based on the relative age sequence?

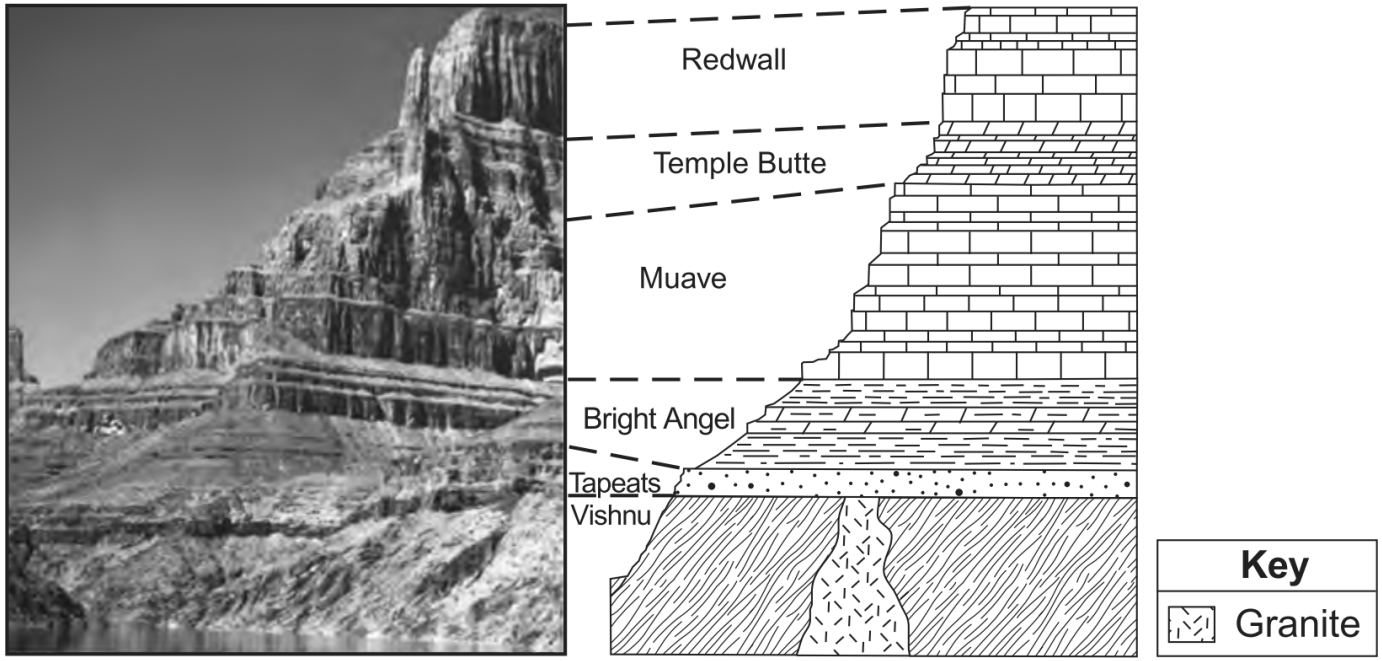
A. 

B. 

C. 

D. 

Base your answer(s) to the following question(s) on the photograph and cross section below and on your knowledge of Earth science. The sequence of rock types found in the walls of the Grand Canyon are shown. The names of rock formations are shown and the upper and lower boundaries of each formation are indicated by dashed lines. The rock layers have *not* been overturned.



The sequence of rock layers in the cross section provides evidence that the Muave formation is

A. younger than the Temple Butte, but older than the Bright Angel

B. younger than both the Temple Butte and the Bright Angel

C. older than the Temple Butte, but younger than the Bright Angel

D. older than both the Temple Butte and the Bright Angel

relative dating review 03/24/2016

1.
Answer: D

2.
Answer: A

3.
Answer: A

4.
Answer: D

5.
Answer: D

6.
Answer: C

7.
Answer: B

8.
Answer:

9.
Answer: C

10.
Answer: B

11.
Answer: A

12.
Answer: B

13.
Answer: A

14.
Answer: A

15.
Answer: D

16.
Answer: D

17.
Answer:

18.
Answer: (1)siltstone (2)limestone (3)granite intrusion or granite or intrusion (4)shale (5)vesicular basalt or basalt (6)sandstone

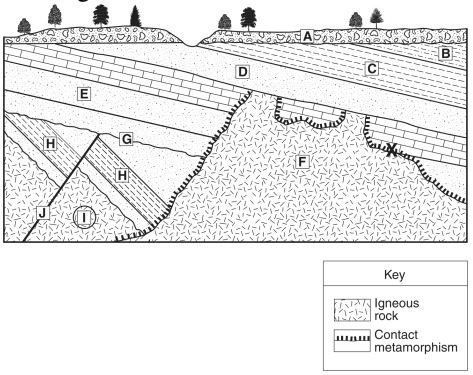
19.
Answer: -unconformity -nonconformity -time gap in the rock record -buried erosional surface

20.
Answer: D

21.
Answer: A

22.
Answer: D

23.
Answer: Circling letter I



24.
Answer: A

25.
Answer: C