GEOLOGIC ATLAS
OF THE
UNITED STATES
FREDERICKSBURG FOLIO
VIRGINIA-MARYLAND

INDEX MAP

LIST OF SHEETS
DESCRIPTION
TOPOGRAPHY
AREAL GEOLOGY

AREA OF THE FREDERICKSBURG FOLIO
AREA OF OTHER PUBLISHED FOLIOS

SCALE: 40 MILES=1 INCH

WASHINGTON, D.C.
ENGRAVED AND PRINTED BY THE U.S. GEOLOGICAL SURVEY

1894
The Geological Survey is making a large topo­graphic map and a large geologic map of the United States, which are being issued together in the form of a Geologic Atlas. (The parts of the atlas are called folios.) Each folio contains a topographic map and a geologic map of a small section of country, and is accompanied by explanatory and descriptive text. The complete atlas will comprise several thousand folios.

**THE TOPOGRAPHIC MAP.**

The features represented on the topographic map are of three distinct kinds: (1) inessential features—such as towns, cities, towns, roads, railroads, highways, villages and cities—constitute the topographic outline of the country. These features are represented on the map by simple lines, and the extent to which they are shown depends upon the scale of the map. (2) Contours indicate the horizontal form of the land. Contours are made heavy and are numbered; the heights of the contours are given in feet above sea level. The heights of many points are accurately determined and those which are most important are stated on the map by numbers printed in brown. It is desirable to show also the elevation of any part of a hill, ridge, slope or valley; to delineate the horizontal outline or contour of all slopes; and to indicate their degree of steepness. This is done by lines of constant elevation above sea level, which are drawn at regular vertical intervals. The lines are called contours and the constant vertical space between each two contours is called the contour interval. Contours are printed in brown.

The manner in which contours express the three conditions of relief (the height, the contour form and the degree of slope) is shown in the following sketch and corresponding contour map:

**EXPLANATION.**

The Geological Survey is making a large topographic map and large geologic map of the United States, which are being issued together in the form of a geologic atlas. The parts of the atlas are called folios. Each folio contains a topographic map and a geologic map of a small section of country, and is accompanied by explanatory and descriptive text. The complete atlas will comprise several thousand folios.

**THE TOPOGRAPHIC MAP.**

The features represented on the topographic map are of three distinct kinds: (1) inessential features—such as towns, cities, towns, roads, railroads, highways, villages and cities—constitute the topographic outline of the country. These features are represented on the map by simple lines, and the extent to which they are shown depends upon the scale of the map. (2) Contours indicate the horizontal form of the land. Contours are made heavy and are numbered; the heights of the contours are given in feet above sea level. The heights of many points are accurately determined and those which are most important are stated on the map by numbers printed in brown. It is desirable to show also the elevation of any part of a hill, ridge, slope or valley; to delineate the horizontal outline or contour of all slopes; and to indicate their degree of steepness. This is done by lines of constant elevation above sea level, which are drawn at regular vertical intervals. The lines are called contours and the constant vertical space between each two contours is called the contour interval. Contours are printed in brown.

The manner in which contours express the three conditions of relief (the height, the contour form and the degree of slope) is shown in the following sketch and corresponding contour map:

**EXPLANATION.**

The Geological Survey is making a large topographic map and a large geologic map of the United States, which are being issued together in the form of a Geologic Atlas. The parts of the atlas are called folios. Each folio contains a topographic map and a geologic map of a small section of country, and is accompanied by explanatory and descriptive text. The complete atlas will comprise several thousand folios.

**THE TOPOGRAPHIC MAP.**

The features represented on the topographic map are of three distinct kinds: (1) inessential features—such as towns, cities, towns, roads, railroads, highways, villages and cities—constitute the topographic outline of the country. These features are represented on the map by simple lines, and the extent to which they are shown depends upon the scale of the map. (2) Contours indicate the horizontal form of the land. Contours are made heavy and are numbered; the heights of the contours are given in feet above sea level. The heights of many points are accurately determined and those which are most important are stated on the map by numbers printed in brown. It is desirable to show also the elevation of any part of a hill, ridge, slope or valley; to delineate the horizontal outline or contour of all slopes; and to indicate their degree of steepness. This is done by lines of constant elevation above sea level, which are drawn at regular vertical intervals. The lines are called contours and the constant vertical space between each two contours is called the contour interval. Contours are printed in brown.

The manner in which contours express the three conditions of relief (the height, the contour form and the degree of slope) is shown in the following sketch and corresponding contour map:

**EXPLANATION.**

The Geological Survey is making a large topographic map and a large geologic map of the United States, which are being issued together in the form of a Geologic Atlas. The parts of the atlas are called folios. Each folio contains a topographic map and a geologic map of a small section of country, and is accompanied by explanatory and descriptive text. The complete atlas will comprise several thousand folios.

**THE TOPOGRAPHIC MAP.**

The features represented on the topographic map are of three distinct kinds: (1) inessential features—such as towns, cities, towns, roads, railroads, highways, villages and cities—constitute the topographic outline of the country. These features are represented on the map by simple lines, and the extent to which they are shown depends upon the scale of the map. (2) Contours indicate the horizontal form of the land. Contours are made heavy and are numbered; the heights of the contours are given in feet above sea level. The heights of many points are accurately determined and those which are most important are stated on the map by numbers printed in brown. It is desirable to show also the elevation of any part of a hill, ridge, slope or valley; to delineate the horizontal outline or contour of all slopes; and to indicate their degree of steepness. This is done by lines of constant elevation above sea level, which are drawn at regular vertical intervals. The lines are called contours and the constant vertical space between each two contours is called the contour interval. Contours are printed in brown.

The manner in which contours express the three conditions of relief (the height, the contour form and the degree of slope) is shown in the following sketch and corresponding contour map:

**EXPLANATION.**

The Geological Survey is making a large topographic map and a large geologic map of the United States, which are being issued together in the form of a Geologic Atlas. The parts of the atlas are called folios. Each folio contains a topographic map and a geologic map of a small section of country, and is accompanied by explanatory and descriptive text. The complete atlas will comprise several thousand folios.
pore out of cracks and volcanoes and flow over the surface as lava. Sometimes they are thrown out as ash and pumice, and are spread over wide areas by winds and streams. Other lava flows are interbedded with ash beds.

It is thought that the first rocks of the earth, which formed during what is called the Archean period, were igneous. Igneous rocks have intruded among masses beneath the surface and have been thrown out from volcanoes throughout all periods of the earth's development. These rocks occur together with sedimentary formations of all periods, and their ages can sometimes be determined by the age of the sediments with which they are associated.

Sedimentary rocks, on the other hand, are formed by the processes of weathering and erosion. These rocks are composed of the products of the wear and tear of the earth's surface by the action of wind, water, and ice.

Sedimentary rocks are classified into three main types: clastic, chemical, and organic.

Clastic rocks are formed by the weathering and erosion of pre-existing rocks.

Chemical rocks are formed by the chemical precipitation of dissolved substances from water or air. Examples include the formation of limestone from calcium carbonate in the oceans.

Organic rocks are formed by the remains of plants and animals. Examples include coal and petroleum.

Sedimentary rocks are characterized by their bedding, which is a layering of different types of sediments. This bedding is typically visible in cross-sections of sedimentary rocks, where different layers are separated by a plane of weakness known as a bedding plane.

The age of sedimentary rocks can be determined by radiometric dating, which measures the decay of radioactive isotopes. This allows scientists to determine the age of sedimentary rocks and to correlate them with other rocks of similar age in different parts of the world.

The landscape exhibits an extended plateau on the level of the Great Basin. The strata of this group are parallel, a relation noted in the columnar section. They are arranged in groups according to origin—clastic, sedimentary, igneous, or crystalline; and presented in the order of their relative age. The character of the rocks is described under their proper position in the map; and a section exhibiting this arrangement is represented in the map of areal geology.

The first of these, seen at the left of the section, is the group of sandstone and siltstone, which are associated with any particular stratum are indicated in their proper relation. The strata are divided into groups, which correspond with the great periods of geologic history. These groups are shown in the columns of diagrams by appropriate symbols such as used in the structure sections.