DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

WATER-SUPPLY PAPER 366

PROFILE SURVEYS OF SNOQUALMIE, SULTAN, AND SKYKOMISH RIVERS, WASHINGTON

PREPARED UNDER THE DIRECTION OF
R. B. MARSHALL, CHIEF GEOGRAPHER

WASHINGTON
GOVERNMENT PRINTING OFFICE
1914

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PROFILE SURVEYS OF SNOQUALMIE, SULTAN, AND SKYKOMISH RIVERS, WASHINGTON.

Prepared under the direction of R. B. MARSHALL, Chief Geographer.

GENERAL FEATURES OF SNOHOMISH RIVER BASIN.

Snohomish River is formed by the union of Skykomish and Snoqualmie rivers, in the southwestern part of Snohomish County, Wash., and flows northwestward into Puget Sound.

Skykomish River drains the west slope of the Cascade Mountains for a distance of 30 miles as measured along the divide or 22 miles in a straight line, northward between the point common to King, Kittitas, and Chelan counties, along the eastern boundary of King and Snohomish counties to a point 1 mile south of Indian Pass, at the divide between the Skykomish and Sauk drainage basins.

Skykomish River proper is formed by the junction of its North and South forks near the town of Index and the southern boundary of Snohomish County. The largest tributaries of the North Fork are Trout, Troublesome, Gobble, and Cady creeks. The South Fork is formed by the junction of Beckler and Tye rivers near the town of Skykomish, and the largest tributaries below the junction are Miller Creek and Money Creek, which enter from the south near the town of Berlin. Below Index, at the junction of the forks, Sultan River is the main tributary. It enters from the north and flows into the Skykomish at Sultan. Ten miles below Sultan the Skykomish unites with the Snoqualmie, whose Middle Fork, forming the continuation of the main stream, rises on the west slope of the Cascade Range not far from the head of the South Fork of the Skykomish and takes a westerly and northwesterly course.

Above the junction of the North and South forks the drainage area of the Skykomish is situated in the Snoqualmie National Forest, in King and Snohomish counties, except a strip about 1 mile wide along the bed of the South Fork, which is privately owned.

The topography is very rugged. The mountains are 5,000 to 6,000 feet high. In the valleys and on the lower slopes is a good stand of

Douglas fir, hemlock, and cedar, which grows thinner up the slopes and is entirely absent on the mountain tops. The soil in the valleys is a loose glacial gravel, with banks of blue clay and a few pockets of loam. The soil is thin on the slopes and entirely absent on the higher elevations.

During the winter the basin is covered with snow 2 to 10 feet deep. At the headwaters, over the greater part of the higher slopes, the snow remains until May or June, and on the higher peaks never entirely disappears. The Skykomish reaches its lowest stage in September, when freezing begins in the higher parts of the basin, and before the fall rains begin. Another low period is in February, when the stream is ice locked and all precipitation is held back in the form of snow.

There are many power sites on the forks of the Skykomish above Index. The low-water flow is augmented by the natural storage furnished by many small lakes at the headwaters and by the glacial and everlasting snow in which the stream has its source. It is probable that this flow can be further conserved by artificial storage.

GAGING STATIONS.

The Survey has maintained in the area drained by Snoqualmie, Sultan, and Skykomish rivers the gaging stations shown by the following list. The stations are arranged in downstream order, the main stem of the river being determined by measuring or estimating its drainage area; that is, the headwater stream draining the largest area is considered the continuation of the main stream and all stations from source to mouth are presented first; stations on the tributaries, in regular order from source to mouth, follow. Relations of tributaries are indicated by indention. A dash following a date indicates that the station was being maintained June 30, 1913. A period after a date indicates discontinuance.

South Fork of Skykomish River (head of Snohomish River) near Berlin, Wash., 1910–
South Fork of Skykomish River near Index, Wash., 1902–1905; 1912–
Skykomish River at Sultan, Wash., 1910–1912.
- Foss River near Skykomish, Wash., 1911.
  - East Fork of Foss River near Skykomish, Wash., 1911.
- Miller Creek near Berlin, Wash., 1911–
  - West Fork of Miller Creek near Berlin, Wash., 1911–1912.
- North Fork of Skykomish River near Index, Wash., 1910–1912.
- Middle Fork of Snoqualmie River (head of the Snoqualmie) near North Bend, Wash., 1911–
- Snoqualmie River at Snoqualmie Falls, Wash., 1902–1906; 1911–
  - North Fork of Snoqualmie River near North Bend, Wash., 1911–
  - South Fork of Snoqualmie River above Alice Creek, Wash., 1911–
  - South Fork of Snoqualmie River at North Bend, Wash., 1911–
  - Tokul Creek near Snoqualmie, Wash., 1911–
- Pilchuck Creek near Granite Falls, Wash., 1911–12.

PUBLICATIONS.

Information concerning stream flow at the stations listed in the preceding table has been published by the Survey in the following reports:

Water-Supply Papers: 85, 100, 104, 178, 214, 292, 312,[1] 332,[2] 362.[2]

Water-supply papers and other publications of the United States Geological Survey containing data in regard to the water resources of the United States may be obtained or consulted as indicated below.

1. Copies may be obtained free of charge by applying to the Director of the Geological Survey, Washington, D. C., but the edition printed for free distribution is small and is soon exhausted.

2. Copies may be purchased at nominal cost from the Superintendent of Documents, Government Printing Office, Washington, D. C., who will on application furnish lists giving prices.

3. Sets of the reports may be consulted in the libraries of the principal cities in the United States.

4. Complete sets are available for consultation in the local offices of the water-resources branch of the Geological Survey, as follows:

Albany, N. Y., Room 18, Federal Building.
Atlanta, Ga., Post Office Building.
St. Paul, Minn., Old Capitol Building.
Helena, Mont., Montana National Bank Building.
Denver, Colo., 302 Chamber of Commerce Building.
Salt Lake City, Utah, Federal Building.
Boise, Idaho, 615 Idaho Building.
Portland, Oreg., 416 Couch Building.
Tacoma, Wash., Federal Building.
San Francisco, Cal., 328 Customhouse.
Los Angeles, Cal., Federal Building.
Santa Fe, N. Mex., Capitol Building.
Honolulu, Hawaii, Kapiolani Building.

A list of the Geological Survey's publications will be sent on application to the Director of the United States Geological Survey, Washington, D. C.

[1] In press June, 1914. [2] In preparation June, 1914.

○

U. S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR
STATE OF WASHINGTON
M. E. HAY, GOVERNOR
HENRY LANDES, STATE GEOLOGIST

PLAN AND PROFILE OF SNOQUALMIE RIVER AND CERTAIN TRIBUTARIES ABOVE FALL CITY, WASHINGTON

WATER-SUPPLY PAPER 366 PLATE I A

R. B. Marshall, Chief Geographer
T. G. Gerdine, Geographer in charge
Topography by R. M. LaFollette
Surveyed in 1911
SURVEYED IN COOPERATION WITH THE STATE OF WASHINGTON

ENGRAVED AND PRINTED BY THE U.S. GEOLOGICAL SURVEY

DIAGRAM OF TOWNSHIP

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7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
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Scale 1/31,680
1 0 1 2 Miles
4,000 2,000 0 4,000 8,000 Feet
1 0 1 2 Kilometers

Vertical scale 1 inch = 100 feet
Contour interval on land 25 feet
Contour interval on river surface 5 and 25 feet
Datum is mean sea level
1914

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TRUE NORTH
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APPROXIMATE MEAN DECLINATION 1911

Subject to adjustment

4 SHEETS

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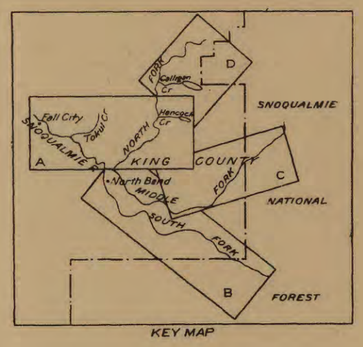
WATER-SUPPLY PAPER 366 PLATE I C



KEY MAP

R. B. Marshall, Chief Geographer
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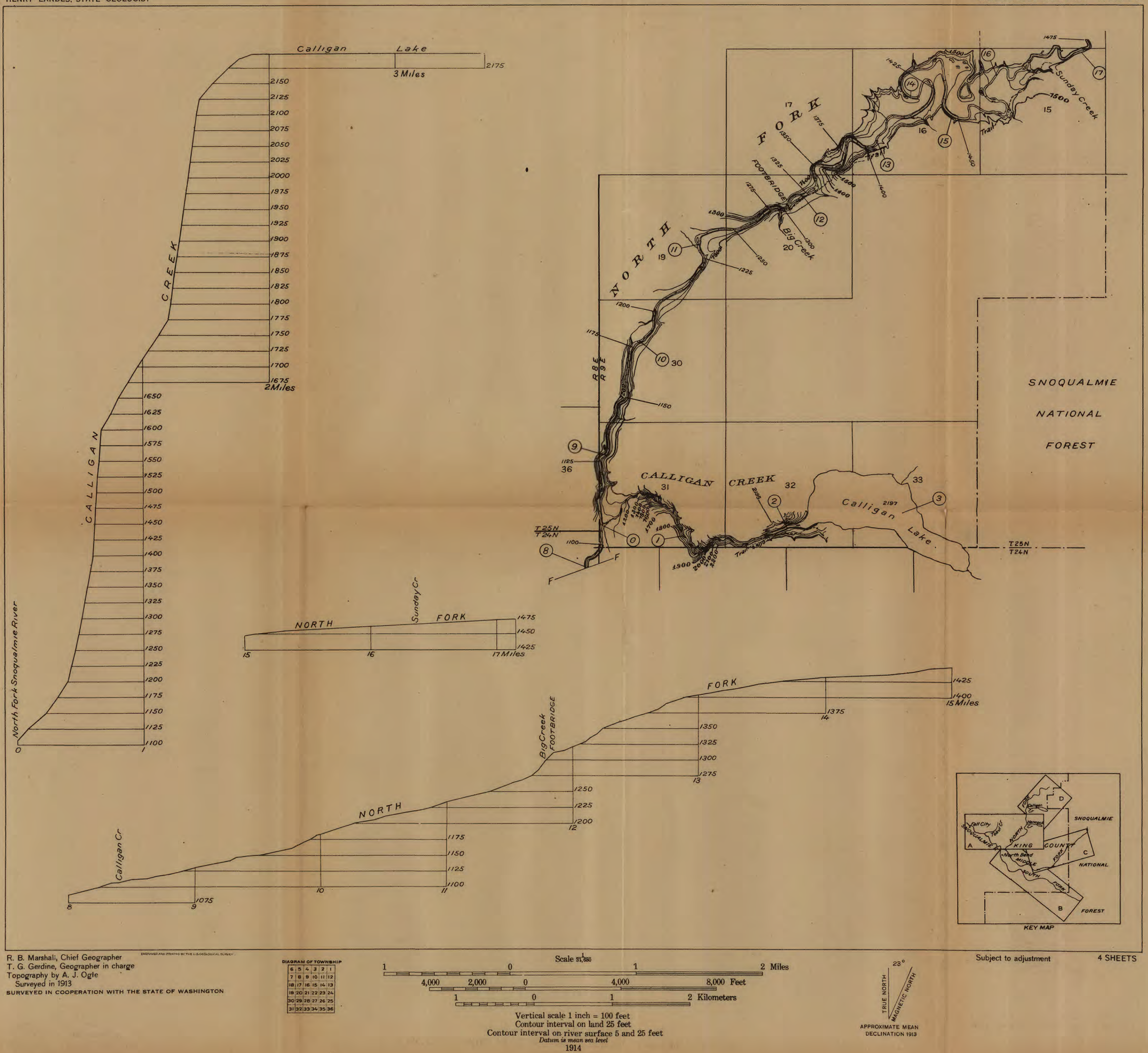
WATER-SUPPLY PAPER 366 PLATE I D



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PLAN AND PROFILE OF SULTAN RIVER ABOVE SULTAN, WASHINGTON

WATER-SUPPLY PAPER 366 PLATE II A

Reservoir Site
Topography by Washington Railroad & Electric Co.
Scale 1/31,680
Contour interval 10 feet
Datum is mean sea level

KEY MAP

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Topography by A. J. Ogle
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2 SHEETS
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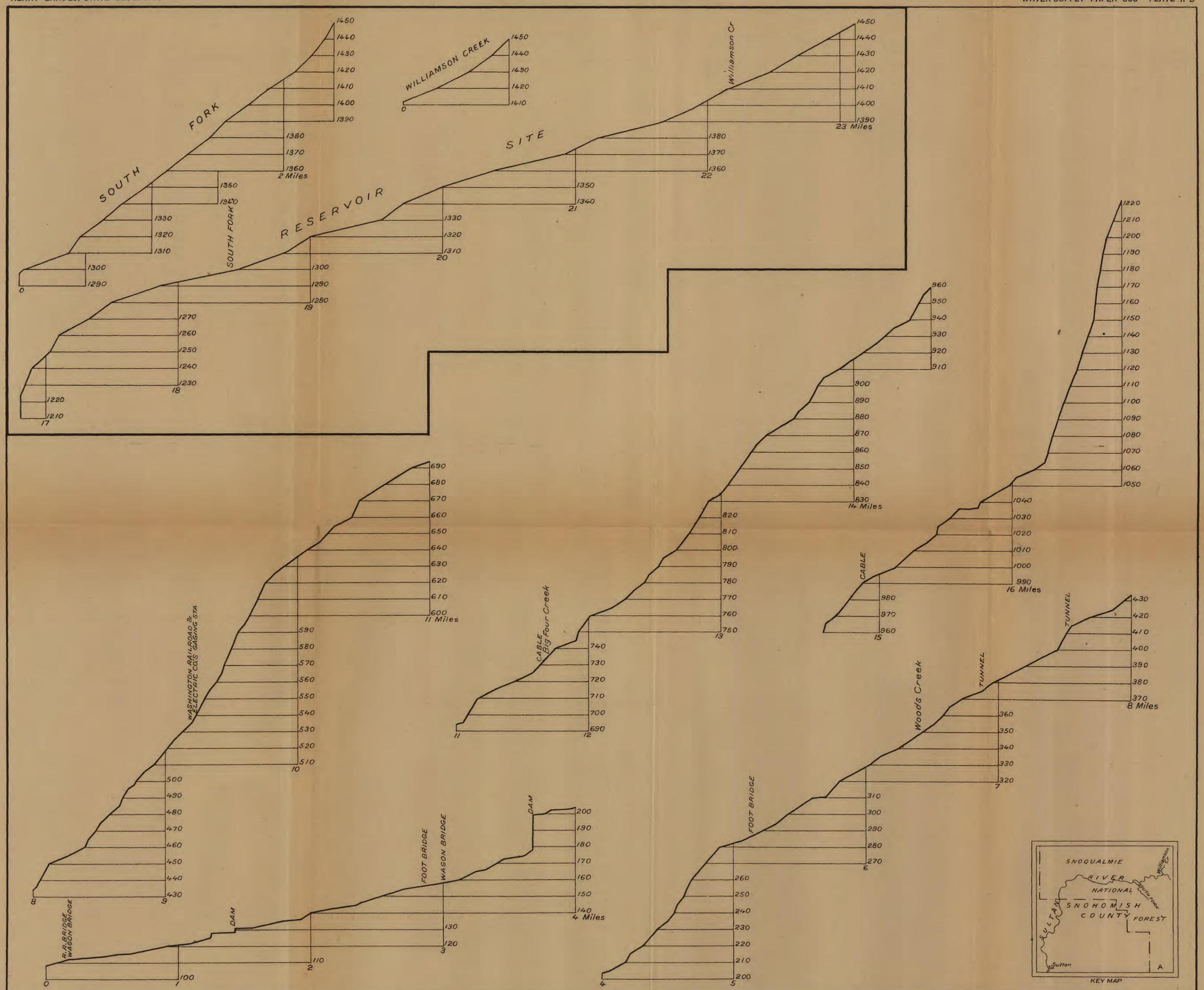
WATER-SUPPLY PAPER 366 PLATE II B



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PLAN AND PROFILE OF SKYKOMISH RIVER AND CERTAIN TRIBUTARIES ABOVE GOLD BAR, WASHINGTON

WATER-SUPPLY PAPER 366 PLATE III A

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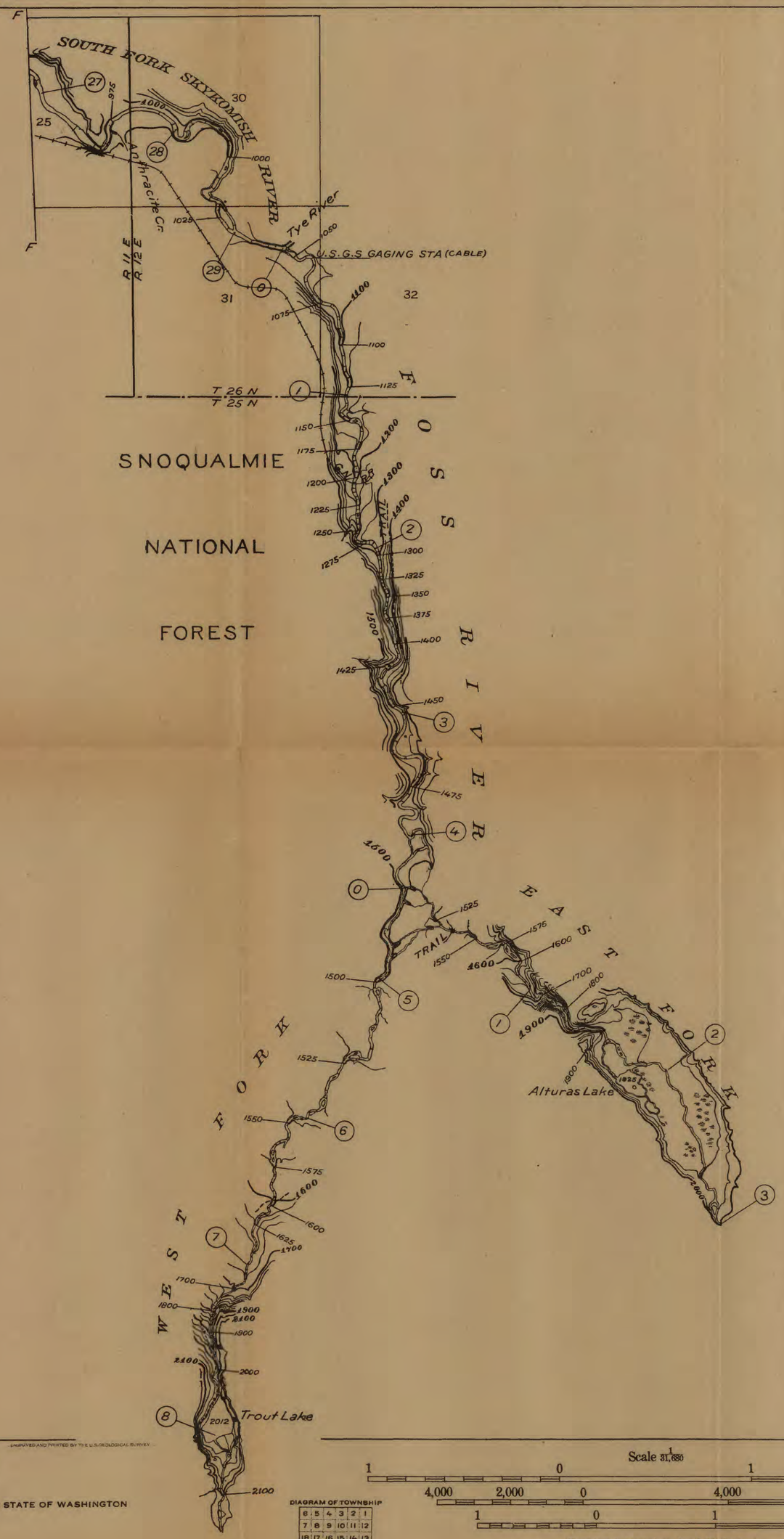

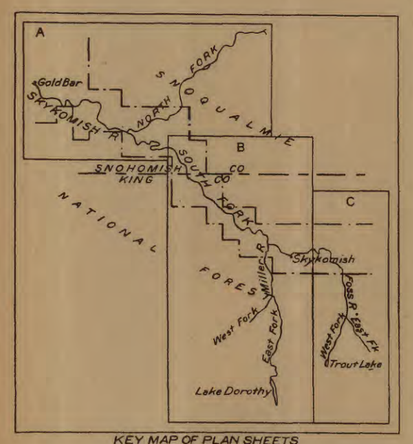

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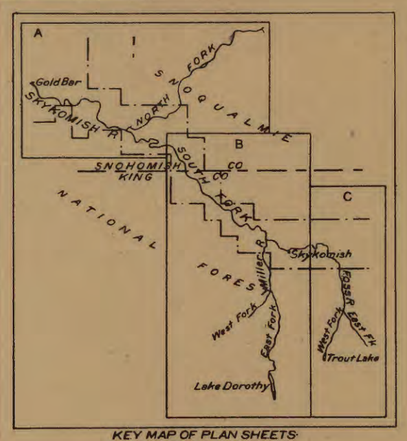
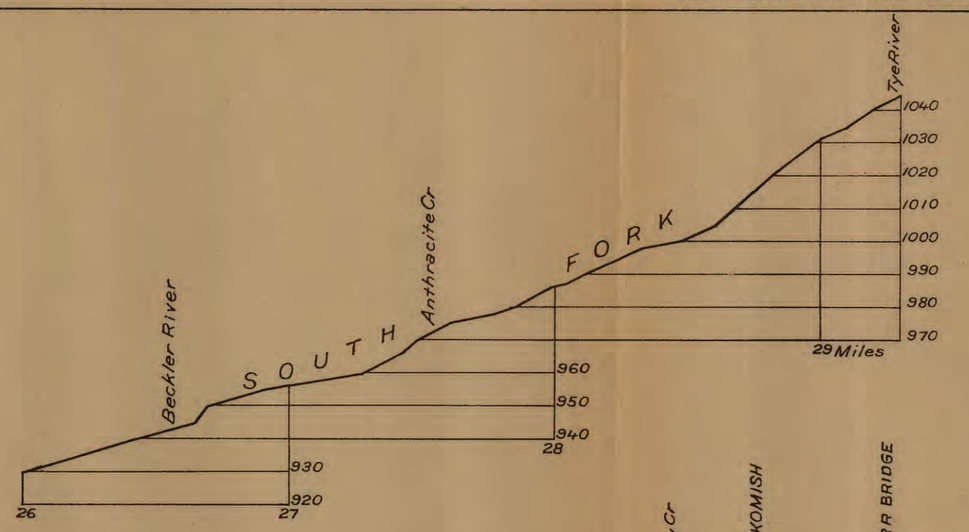
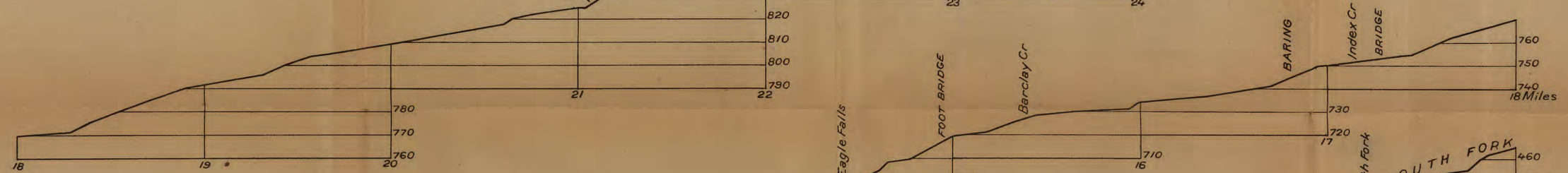
PLAN AND PROFILE OF
SKYKOMISH RIVER AND CERTAIN TRIBUTARIES
ABOVE GOLD BAR, WASHINGTON

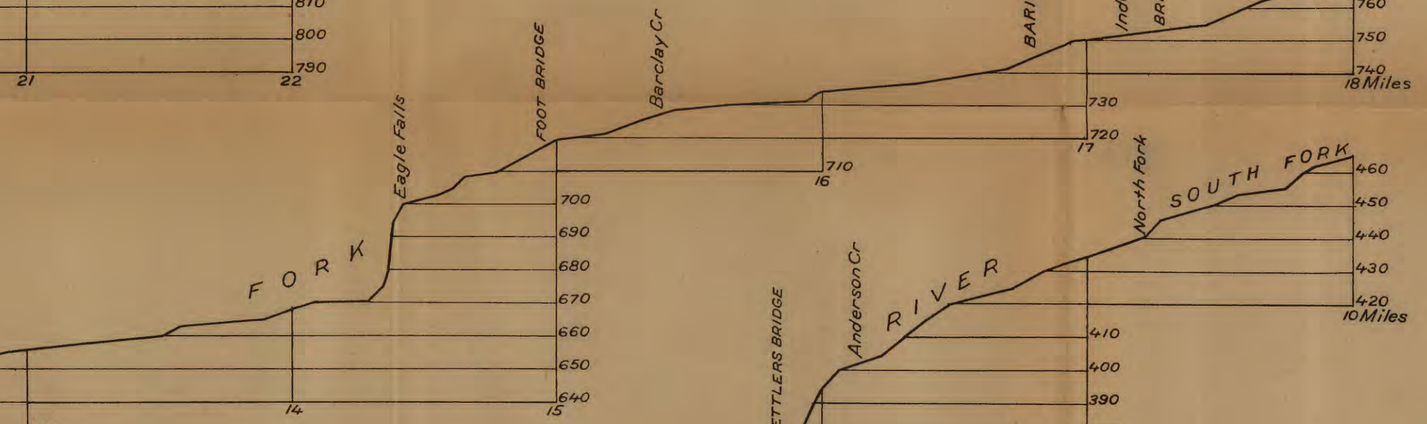
WATER-SUPPLY PAPER 366 PLATE III D

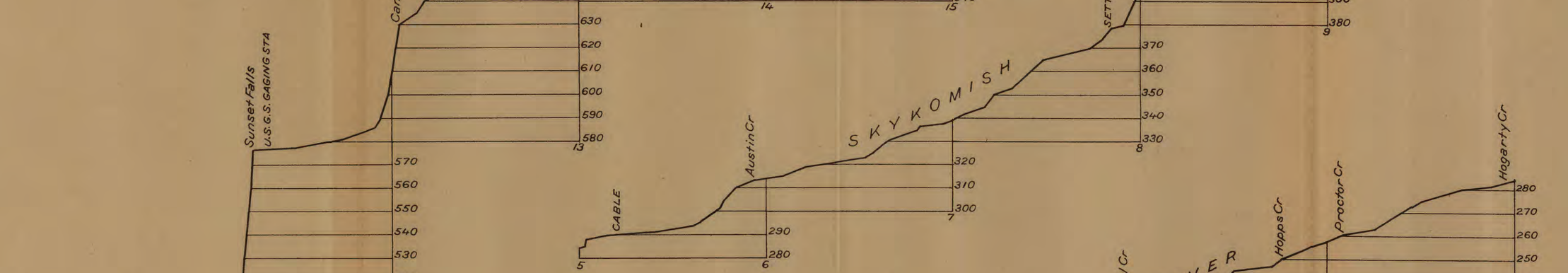


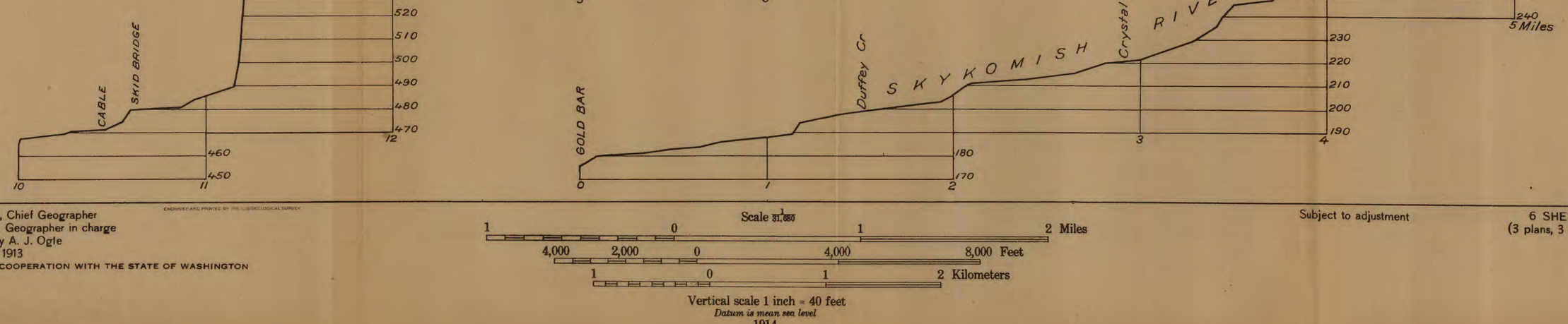
KEY MAP OF PLAN SHEETS











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6 SHEETS
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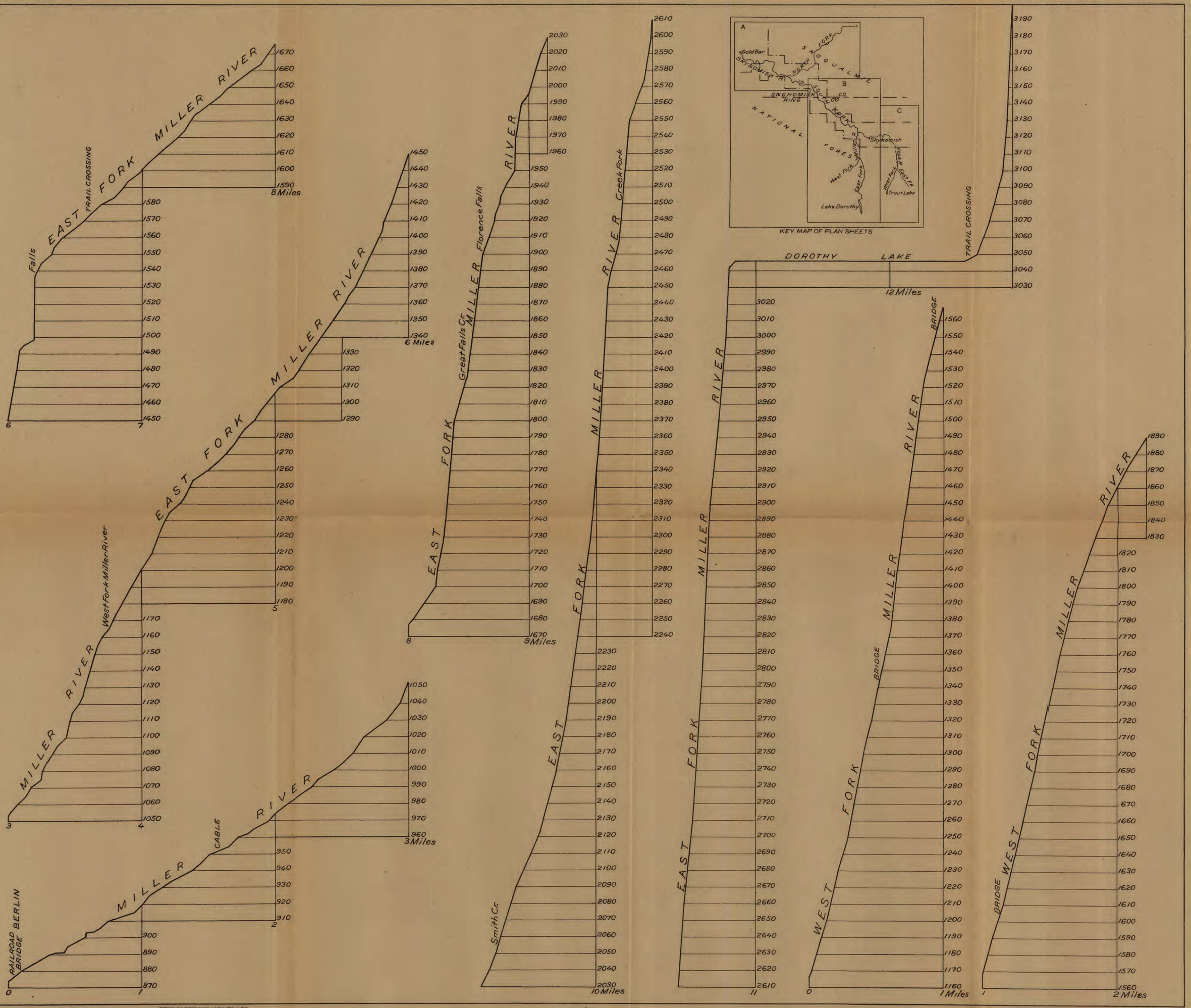
PLAN AND PROFILE OF SKYKOMISH RIVER AND CERTAIN TRIBUTARIES ABOVE GOLD BAR, WASHINGTON

WATER-SUPPLY PAPER 366 PLATE III E



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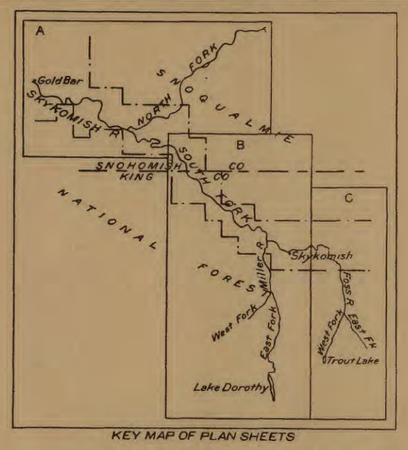
WATER-SUPPLY PAPER 366 PLATE III F



KEY MAP OF PLAN SHEETS

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