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UNITED STATES GEOLOGICAL SURVEY

GEORGE OTIS SMITH, DIRECTOR

BULLETIN 457

RESULTS OF SPIRIT LEVELING
IN THE
STATE OF WASHINGTON

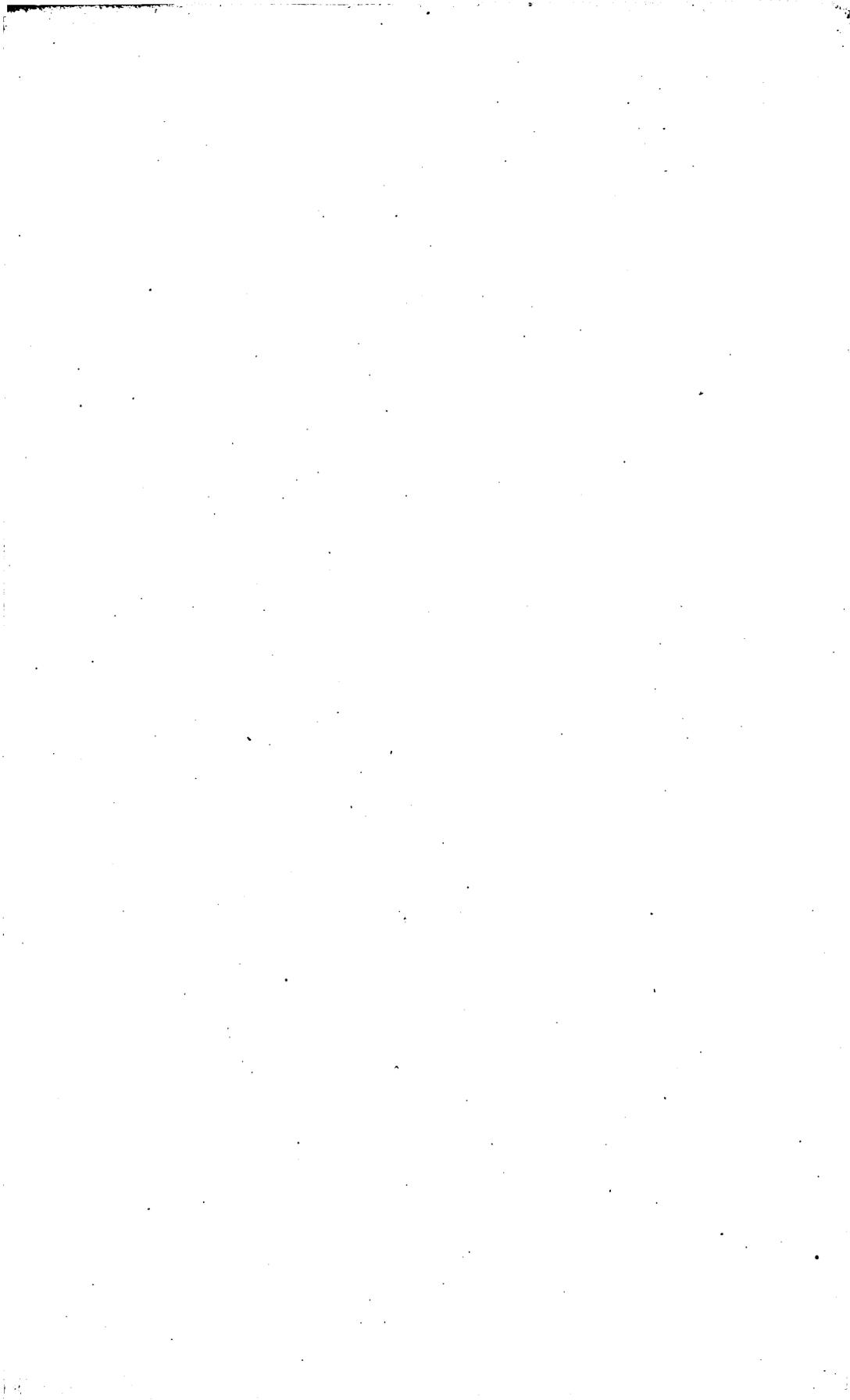
1896 TO 1910, INCLUSIVE

R. B. MARSHALL, CHIEF GEOGRAPHER

WORK DONE IN COOPERATION WITH THE STATE
DURING 1909 AND 1910



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RESULTS OF SPIRIT LEVELING IN THE STATE OF WASHINGTON, 1896 TO 1910, INCLUSIVE.

R. B. MARSHALL, *Chief Geographer.*

INTRODUCTION.

Scope of the work.—All results of spirit leveling in Washington previously published by the United States Geological Survey and all results of later work in the State are included in this report, rearranged by quadrangles. All elevations are based on the precise-level line of the United States Coast and Geodetic Survey from Seattle to Wallula, as adjusted by that bureau in 1905.

Personnel.—The field work previous to 1903 was done under the general direction of R. U. Goode, geographer; that for 1903 to 1906, inclusive, under E. M. Douglas, geographer; that for 1907 under R. B. Marshall, geographer; and the later work under T. G. Gerdine, geographer, under the general direction of R. B. Marshall, chief geographer. Credit is given to the different levelmen in the introduction to each list. The office work of computation, adjustment, and preparation of lists was done mainly by S. S. Gannett, geographer, and D. H. Baldwin, topographer, and since 1907 under the general direction of E. M. Douglas, geographer.

Classification.—The elevations are classified as precise or primary, according to the methods employed in their determination. For precise lines instruments and rods of the highest grade are used, each line is run in both forward and backward directions, and every precaution is taken to guard against error. The allowable divergence between the forward and the backward lines in feet is represented by the formula $0.017\sqrt{D}$, in which D is the distance in miles between bench marks. For primary lines standard Y levels are used; lines are run in circuits or are closed on precise lines, with an allowable closing error in feet represented by the formula $0.05\sqrt{D}$, in which D is the length of the circuit in miles, sufficient care being given the work to maintain this standard. For levels of both classes careful office adjustments are made, the small outstanding errors being distributed over the lines.

Bench marks.—The standard bench marks are of two forms. The first form is a circular bronze or aluminum tablet (*C* and *E*, Pl. I),

3½ inches in diameter and one-fourth inch thick, having a 3-inch stem, which is cemented in a drill hole in solid rock, in the wall of some public building, in a bridge abutment, or in other substantial masonry structure. The second form (*F*, Pl. I), employed where masonry or rock is not accessible, consists of a hollow wrought-iron post 3½ inches in outer diameter and 4 feet in length after being split at the bottom and expanded to 10 inches in order to give a firm bearing on the earth. A bronze or aluminum-bronze cap is riveted over the top of the post, which is set about 3 feet in the ground. A third style of bench mark with abbreviated lettering (*B* and *D*, Pl. I) is used for unimportant points. This consists of a special copper nail 1½ inches in length driven through a copper washer seven-eighths of an inch in diameter.

The tablets, as well as the caps on the iron posts, are appropriately lettered, and for cooperating States the fact of such cooperation is indicated by the addition of the State name (*G*, Pl. I). The numbers stamped on the bench marks described in the following pages represent the elevations to the nearest foot as determined by the levelman. These numbers are stamped with $\frac{3}{16}$ inch steel dies on the tablets or post caps, to the left of the word "feet." The office adjustment of the notes and the reduction to mean sea level datum may so change some of the figures that the original markings are 1 or 2 feet in error. It is assumed that engineers and others who have occasion to use the bench-mark elevations will apply to the Director of the United States Geological Survey, at Washington, D. C., for the adjusted values, and will use the markings as identification numbers only.

Datum.—All United States Geological Survey elevations are referred to mean sea level, which is the level that the sea would assume if the influence of winds and tides were eliminated. This level is not the elevation determined from the mean of the highest and the lowest tides, nor is it the half sum of the mean of all the high tides and of the mean of all the low tides, which is called half-tide level. *Mean sea level is the average height of the water, all stages of the tide being considered.* It is determined from observations made by means of tidal gages placed at stations where local conditions, such as long narrow bays, rivers, and like features, will not affect the height of the water. To obtain even approximately correct results these observations must extend over at least one lunar month, and if great accuracy is desired they must extend over several years. At ocean stations half-tide level and mean sea level usually differ but little. It is assumed that there is no difference between the mean sea level as determined from observations in the Atlantic Ocean, the Gulf of Mexico, or the Pacific Ocean. The connection with tidal stations for bench marks in certain areas that lie at some distance from the sea coast is still uncertain, and this fact is indicated by the addition of a letter or a word to the right of the word "Datum" on tablets or posts. For such areas corrections

of published results will be made from time to time as the precise-level lines of the United States Geological Survey or other Government organizations are extended.

Maps of the following quadrangles, wholly or partly in Washington, have been published by the United States Geological Survey up to February 15, 1911. They may be obtained for 5 cents each, or (except as noted) \$3 a hundred, on application to the Director of the Survey at Washington, D. C.

Blaine.	Quincy.
Blalock Island.	Red Rock.
Chelan.	Republic.
Chiwaukum.	Seattle.
Chopaka.	Seattle special.
Ellensburg.	Seattle land classification. ¹
Glacier Peak.	Skykomish.
Methow.	Snoqualmie.
Mount Adams.	Spokane.
Mount Aix.	Stehekin.
Mount Stuart.	Stilaguamish.
Mount Vernon.	Sumas.
Okanogan.	Tacoma.
Oakesdale.	Tacoma land classification. ¹
Osoyoos.	Umatilla.
Portland.	Winchester.
Pullman.	Zillah.

PRECISE LEVELING.

Cedar Lake, Ellensburg, Mount Stuart, Pasco, Prosser, Snoqualmie, Tacoma, Wallula, Yakima, and Zillah Quadrangles.

FRANKLIN, KING, KITTITAS, PIERCE, AND WALLA WALLA COUNTIES.

The elevations in the following list were determined by a double-rodded primary-level line extended from a tide gage at Tacoma and corrected to accord with the adjusted transcontinental precise-level line of the United States Coast and Geodetic Survey as published in 1905.

The leveling was done by H. S. Crowe in 1898, except in the Snoqualmie quadrangle, which was done by H. K. Kalloch in 1897, and in the Mount Stuart quadrangle, which was done by F. L. Cole in 1896.

TACOMA QUADRANGLE.

TACOMA SOUTHEAST ALONG NORTHERN PACIFIC RAILWAY TO ORTING, THENCE NORTHEAST TO BUCKLEY.

	Feet.
Tacoma, city hall building, on top of coping of cornerstone of; cross.....	110. 240
Tacoma, in wall of city hall building, on northwest corner of Seventh Street and Pacific Avenue, southeast corner of building, 2 feet above sidewalk; aluminum tablet stamped "110 T".....	109. 968
Prescott, in front of station; top of rail.....	8. 9

¹ Shows wooded areas. No wholesale rate.

	Feet.
Reservation platform, at road crossing; top of rail.....	12. 5
Milepost 5,270 feet east of, in top of stone of stone culvert, 1 foot from east end of stone, 10.7 feet from center of south track; copper plug stamped "21 T".....	21. 893
Puyallup, northeast corner of building of J. P. Stewart & Sons, in fifth row of bricks above cornerstone, corner of Stewart and Meridian streets; aluminum tablet stamped "49 T".....	48. 931
Meeker Junction; top of rail at.....	60. 7
Alderton, 150 feet east of water tank, 23 feet north of center of wagon road, 36.6 feet from center of track, 4.7 feet from south corner of east-west fence; iron post stamped "89 T".....	89. 193
Orting, in front of station; top of rail.....	192. 1
Orting, 150 feet west of water tank, 34.2 feet from center of track on south side, 3 feet west of telegraph pole, 53 feet west of center line of Bridge Street; iron post stamped "198 T".....	198. 088
South Prairie, in front of station; top of rail.....	428. 5
South Prairie, 50.7 feet east of northeast corner of station at, 2.3 feet west of telegraph pole, 19.1 feet from center of track; iron post stamped "430 T".	430. 150
Buckley, southwest corner of Collins & McNichol's butcher shop, on corner of River Avenue and Main Street; aluminum tablet stamped "723 T"....	723. 290
Buckley, in front of station; top of rail.....	724. 0

CEDAR LAKE QUADRANGLE.

BUCKLEY ALONG NORTHERN PACIFIC RAILWAY TO PALMER JUNCTION.

Enumclaw, 77.9 feet west of southwest corner of station, 3.1 feet east of mail crane, 31 feet west of center of line of Griffin Avenue; iron post stamped "742 T".....	742. 408
Enumclaw, in front of station; top of rail.....	742. 3
Veazie, 76.6 feet from main track, 15 feet from center of side track, on north side of main line and 50 feet east of road crossing; iron post stamped "777 T".....	777. 478
Palmer, 96.4 feet west of southwest corner of station, 5 feet west of mail crane, 10.4 feet from center of track, 20 feet west of center of road crossing; iron post stamped "882 T".....	882. 408

PALMER SOUTHEAST ALONG NORTHERN PACIFIC RAILWAY TO HOT SPRINGS.

Green River, sixth crossing, 25 feet west of tunnel No. 7, on north corner of east bulkhead pier of steel bridge No. 210; copper bolt stamped "1046 T".	1, 046. 695
Canton, in front of station; top of rail.....	1, 203. 7
Canton, 8.2 feet east of east end of railroad toolhouse, 2 feet west of telegraph pole; iron post stamped "1205 T".....	1, 206. 081
Maywood, 2.2 feet east of southeast corner of section house, 4.1 miles east of Canton; iron post stamped "1335 T".....	1, 335. 997
Hot Springs, 56 feet east of southeast corner of station, 17.6 feet north of center of track, 3 feet west of telegraph pole; iron post stamped "1531 T".	1, 532. 099
Hot Springs, in front of station; top of rail.....	1, 930. 55

SNOQUALMIE QUADRANGLE.

HOT SPRINGS EAST ALONG NORTHERN PACIFIC RAILWAY TO CLEALUM.

Lester, in brick projection at southwest corner of roundhouse; aluminum tablet stamped "1614 T".....	1, 615. 089
Lester, in front of station; top of rail.....	1, 610. 7

¹ Bench mark found loose in 1904; reset in concrete.

Stampede, 75 feet southwest of station, 10 feet northwest of bluff on Deer Creek; iron post stamped "2776 T" ¹	Feet. 2, 777. 319
Stampede tunnel, at east end of; top of south rail at east end of snow shed.....	2, 834. 2
Martin, on bank above track, 40 feet east of station and 20 feet south of main track, 6 feet east of telegraph pole; iron post stamped "2782" ¹	2, 784. 012
Martin, in front of station; top of south rail.....	2, 776. 7
Snoqualmie wagon road, at intersection with Northern Pacific Railway, 12 feet north of track, 15 feet east of wagon road, 3.6 miles west of Easton; iron post stamped "2304".....	2, 305. 808
Easton, 90 feet northwest of northwest corner of station, 110 feet north of track at water tank, 80 feet south of general store and post office; iron post stamped "2166".....	2, 167. 621
Big Creek, 25 feet north of west pillar of signpost at siding, 35 feet north of main track, 150 feet east of trestle No. 56 over small creek; iron post stamped "2103".....	2, 104. 735
Nelson, 3 feet east of fence corner and 12 feet west of large pine tree, 205 feet south of track, 200 feet northeast of house of Peter Nelson, and 410 feet southwest by west from signboard "Nelson," iron post stamped "2030".....	2, 031. 498

MOUNT STUART QUADRANGLE.

CLEALUM SOUTHEAST ALONG NORTHERN PACIFIC RAILWAY TO ELLENSBURG.

Clealum, in front of station; top of rail.....	1, 908. 8
Clealum, 84.5 feet west of center of front door of Reed House, 81.5 feet southeast from southeast corner of Clealum Mercantile Co.'s store, in SW. $\frac{1}{4}$ sec. 26, T. 20 N., R. 15 E.; iron post stamped "1905" ²	1, 907. 184
Teañaway, in front of station; top of rail.....	1, 836. 0
Teañaway, 200 feet north of station, on section line 30 feet south of corner of secs. 4, 5, 32, and 33, T. 19 N., R. 16 E.; iron post stamped "1838"....	1, 838. 399
Bristol, west side of NW. $\frac{1}{4}$ sec. 13, T. 19 N., R. 16 E., 40 feet southwest of southwest corner of section house and under sign board "Bristol," 14.3 feet north of center of track; iron post stamped "1784".....	1, 785. 076
Dudley, in front of station; top of rail at joint.....	1, 703. 8
T. 19 N., R. 17 E.; on south side of SE. $\frac{1}{4}$ sec. 34, 1.5 miles northwest of Thorp, at first road crossing, 140 feet north of railroad, close to wagon road; iron post stamped "1658".....	1, 659. 028
Thorp, in front of station; top of rail.....	1, 635. 4
Thorp, in NE. $\frac{1}{4}$ sec. 11, T. 18 N., R. 17 E., at intersection of Main Street and Taneum Creek road; iron post stamped "1634 T".....	1, 634. 269
Milepost 122, 1,830 feet east of, on cross on sandstone inside of frame tower on north side of railroad track and east of road crossing; stone stamped "U. S. + BASE".....	1, 584. 836
Masons; center of track at road crossing.....	1, 561. 6

ELLENSBURG QUADRANGLE.

ELLENSBURG SOUTHEAST ALONG NORTHERN PACIFIC RAILWAY TO THRALL.

Ellensburg, in front of telegraph office; top of rail.....	1, 510. 49
Ellensburg, in top of brick pier with stone coping in State Normal School grounds; bronze tablet stamped "1571 T".....	1, 571. 503
Thrall siding; base of rail center of main line.....	1, 442. 06

¹ Bench mark found loose in 1904; reset in concrete.² This bench mark is now under the band stand.

ELAH SOUTHWEST ALONG NORTHERN PACIFIC RAILWAY TO NORTH YAKIMA, THENCE
SOUTHEAST TO YAKIMA.

Naches River, opposite where it empties into Yakima River, in center of west end of stone pier of railroad bridge; copper plug stamped "1090 T".	Feet. 1, 090. 333
North Yakima, opposite station, in pilaster of northwest corner of entrance to city hall building on Front Street; aluminum tablet stamped "1067 T".	1, 067. 230
North Yakima, in front of station; top of rail.....	1, 067. 35

YAKIMA QUADRANGLE.

THRALL SOUTH ALONG NORTHERN PACIFIC RAILWAY TO ROZA.

Umtanum, 85 feet southwest of section house, 56 feet southwest of center of track; iron post stamped "1350 T".....	1, 350. 072
Umtanum, in front of section house; top of rail.....	1, 348. 95
Roza, opposite station, 198 feet west of telegraph office, 0.25 mile east of milepost 148; iron post stamped "1249 T".....	1, 249. 308
Roza, in front of station; top of rail.....	1, 249. 2

ROZA SOUTH ALONG NORTHERN PACIFIC RAILWAY TO SELAH.

Selah, 2.6 feet southwest of west corner of fence around section house, 18 feet from center of main track; iron post stamped "1147 T".....	1, 147. 591
Selah, in front of section house; base of rail.....	1, 148. 76

YAKIMA SOUTH ALONG NORTHERN PACIFIC RAILWAY TO PARKER.

Yakima, in front of telegraph office; base of rail.....	980. 29
Yakima, 1.25 miles north of bridge over Yakima River, 110 feet west of wagon road, 100 feet south of intersection of Fort Simcoe and Toppenish roads, 125 feet east of main line of Northern Pacific Railway, at corner of fence at cattle crossing; iron post stamped "937 T".....	937. 665

ZILLAH QUADRANGLE.

PARKER SOUTHEAST ALONG NORTHERN PACIFIC RAILWAY TO MARTON.

Parker siding, in front of signboard; base of rail.....	923. 0
Simcoe, 180 feet east of east end of station, 50.3 feet south of center of track, corner of fence; iron post stamped "855 T".....	855. 142
Simcoe, in front of station; top of rail.....	859. 1
Toppenish, in front of station; base of rail.....	757. 2
Toppenish, 108 feet east from northeast corner of station, 25 feet south of center of main track, near corner of fence; iron post stamped "755 T".....	755. 427
Road crossing, 30 feet south of center of road, 37 feet from center of track, 3 feet north of fifth post along west fence line; iron post stamped "717 T".....	716. 689
Satus, 26 feet southwest of southwest corner of platform of station, 30 feet south of center of track, 2.5 feet north of first telegraph pole south of station; iron post stamped "674 T".....	673. 995
Satus, in front of station; top of rail.....	675. 30
Milepost 198, opposite, 9 feet north of fence, 116 feet south of center of track; iron post stamped "717 T".....	716. 361
Mabton, in front of telegraph office; top of rail.....	716. 55.
Mabton, at water tank, 2 feet east of fence around railroad section house, 35 feet north of center of track, 40 feet west of center line of wagon road at crossing of railroad; iron post stamped "715 T".....	715. 206



GEOLOGICAL SURVEY BENCH MARKS.

A, Tablet used in cooperating States. The State name is inserted at G.
 B and D, Copper temporary bench mark, consisting of a nail and copper washer.
 A, C, and E, Tablets for stone or concrete structures.
 F, Iron post used where there is no rock.

WALLULA QUADRANGLE.

PASCO SOUTH ALONG NORTHERN PACIFIC RAILWAY TO HUNTS JUNCTION, THENCE ALONG OREGON RAILROAD & NAVIGATION CO.'S LINE TO OREGON-WASHINGTON STATE LINE 6.2 MILES SOUTHWEST OF WALLULA.

Milepost 236, 90 feet northeast of, 42 feet east of center of track, 5 feet north of telegraph pole; iron post stamped "342 A"	Feet. 343. 157
Hunts Junction, 120 feet southeast of milepost 240, 36 feet east of track, 5 feet east of telegraph pole; iron post stamped "341 A"	342. 775
Wallula, 18 feet north of center of station, 290 feet north of south end of bridge, 27 feet south of center of track at Northern Pacific connection; iron post stamped "322 A"	323. 338
Milepost 208, 150 feet east of, 570 feet east of State line post, 18 feet south of track; iron post stamped "318 A"	319. 163

NOTE.—The following additional bench marks in the Wallula quadrangle were placed by the Reclamation Service in 1904, the leveling being done by H. Bucher.

PASCO EAST ALONG SNAKE RIVER AND COUNTY ROAD AND ACROSS COUNTRY TO SEC. 11, T. 9 N., R. 31 E., THENCE NORTHWEST TO MILEPOST 221, NORTHERN PACIFIC RAILWAY (PORTION OF LINE).

Pasco, aluminum tablet set in round house, stamped "378 T"	377. 796
T. 9 N., R. 30 E., NE. $\frac{1}{4}$ sec. 36, on highest point of hill about 500 feet north of road, marks the position of a triangulation station signal known as "Snake Signal," iron post stamped "482 T"	481. 708
T. 9 N., R. 31 E., south center of sec. 20, 60 feet north of road, 240 feet west of the east (upstream) end of a grove of locust trees situated on a flat between Snake River and the hills; iron post stamped "356 T"	355. 647
T. 9 N., R. 31 E., NW. $\frac{1}{4}$ sec. 23, 250 feet from Snake River, on west side of county road, 20 feet south of private gate in fence; iron post stamped "408 T"	407. 564
T. 9 N., R. 31 E., south quarter corner of sec. 11, 10 feet east of junction of roads, 2 $\frac{1}{2}$ feet from wire fence, on north side of road; iron post stamped "668 T"	667. 351
T. 9 N., R. 31 E., NE. $\frac{1}{4}$ sec. 4, 0.8 mile northeast of junction of roads at preceding bench mark, on top of sand ridge, marks the position of a triangulation station signal known as "No. 7;" iron post stamped "752 T"	751. 653
T. 10 N., R. 30 E., east-central part of sec. 25, on top of sand ridge, marks position of a triangulation station signal known as "No. 6;" iron post stamped "556 T"	556. 257

TRIANGULATION STATION NO. 6 NORTH AND WEST TO ELTOPIA.

T. 10 N., R. 31 E., 500 feet southeast of northwest corner of sec. 18, on ridge on west side of coulee; iron post stamped "675 T"	675. 163
T. 11 N., R. 30 E., 550 feet a little west of north of southeast corner of, on sand ridge on west side of coulee; iron post stamped "708 T"	707. 463
T. 11 N., R. 30 E., 1,250 feet west of north of southeast corner of SE. $\frac{1}{4}$ sec. 25, 2 miles south of point where road from Eltopia to Ryegrass Wells turns east to go up over high ridge on ridge; iron post stamped "592 T"	591. 737

SEC. 11, T. 9 N., R. 31 E., NORTHEAST ALONG SECTION ROADS TO POINT NEAR FISHHOOK FERRY THENCE NORTH AND WEST TO ELTOPIA.

T. 9 N., R. 32 E., northwest corner of sec. 6, on south side of road by large fence post on east side of gate; iron post stamped "781 T"	780. 303
T. 10 N., R. 32 E., at southeast corner of sec. 20, on north side of road, 2 feet from wire fence, 15 feet west of crossroads; iron post stamped "795 T" ..	794. 960

	Page.
T. 10 N., R. 32 E., in south center of sec. 14, 1.3 miles northwest of Fishhook Ferry on Snake River, on north side of road near sign board between forks of road; iron post stamped "738 T".....	737. 618
T. 10 N., R. 32 E., north-central part of sec. 3, 50 feet west of road at summit of ridge; iron post stamped "1136 T".....	1, 135. 370
T. 11 N., R. 32 E., near center of sec. 22, 3 feet east of sign-board between forks of road, marked "Fishhook Ferry 6 miles" pointing down road to south, road to southeast leads to Paradise Ferry; iron post stamped "993 T"....	992. 743
T. 11 N., R. 32 E., 900 feet north of southwest corner of sec. 17; 200 feet east of dim road turning off down coulee, on south side of road by stone and stake marked "R. A.," in coulee north of Ryegrass Wells; iron post stamped "811 T".....	810. 412
T. 11 N., R. 31 E., north-central part of sec. 14, first post north of fence corner on north side of road, in bottom of large coulee, smaller coulee with road comes in from the north; iron post stamped "680 T".....	679. 956
T. 11 N., R. 31 E., south-central part of sec. 7, 2.7 miles southeast of Eltopia, 40 feet east of forks of road on highest point of ridge, 15 feet north of road; iron post stamped "835 T".....	834. 842

AT FISHHOOK FERRY.

Fishhook Ferry, 120 feet east of Oregon Railroad & Navigation Co.'s track, 10 feet southeast of telegraph pole on hillside, telegraph pole is opposite crossing sign on railroad where road leads down to Fishhook Ferry landing; iron post.....	423. 749
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PROSSER QUADRANGLE.

MABTON EAST ALONG NORTHERN PACIFIC RAILWAY TO KIONA.

Byron siding, 350 feet south of milepost 208, near signboard "Mabton 7 miles, Globe 9 miles, Bickerton 27 miles," 150 feet from center of track, 2 feet from fence corner; iron post stamped "696 T".....	696. 368
Prosser, 540 feet west of station, in corner of fence of railroad reservation at Sixth Street, in southwest corner of Block B, lot 8; iron post stamped "661 T".....	661. 260
Gibbon, 171 feet north of station platform, 150 feet north of center of main track, 2 feet south of wire fence; iron post stamped "627 T".....	627. 252
Chandler siding, 1.6 feet from southwest corner of fence around railroad section house, 15 feet from center of main line; iron post stamped "534 T".....	534. 285

PASCO QUADRANGLE.

KIONA EAST ALONG NORTHERN PACIFIC RAILWAY TO PASCO.

Kiona, 12 feet west of west end of platform, 12 feet south of main track, in east corner of fence around fruit orchard in small park on railroad reservation; iron post stamped "515 T".....	514. 689
Kiona, in front of station; base of rail.....	514. 7
Milepost 235, 31 feet north of; iron post stamped "640 T".....	640. 251
Badger, in front of station; top of rail.....	681. 0
Through cut, south end of, 3 feet east of telegraph pole, 120 feet southeast of milepost 240; iron post stamped "605 T".....	605. 017
Relief siding, 2 feet east of first telegraph pole southwest of signboard at, 920 feet west of mileboard 246; iron post stamped "567 T".....	566. 841
Kennewick, 95 feet southeast of southeast corner of station, 51 feet north of center of track; 1.7 feet west of corner of fence around section house; iron post stamped "362 T".....	361. 688

	Feet.
Kennewick, in front of station; top of rail.....	361. 8
Pasco, in northwest corner of brick roundhouse of Northern Pacific Railway Co., in center of third course of bricks above stone foundation; aluminum tablet stamped "378 T".....	377. 796
Pasco, in front of telegraph office; top of rail.....	381. 10

NOTE.—The following additional bench marks in the Pasco quadrangle were established by the Reclamation Service in 1904, the leveling being done by H. Bucher.

PASCO NORTHWEST UP COLUMBIA RIVER TO NORTHWEST CORNER T. 9 N., R. 29 E., THENCE NORTHEAST TO MILEPOST 221, NORTHERN PACIFIC RAILWAY.

Pasco, aluminum tablet set in round house, stamped "378 T".....	377. 796
T. 9 N., R. 29 E., northeast corner of sec. 27, south side of road, 2 feet from fence; iron post, stamped "362 T".....	361. 734
Timberman's Ferry, 0.3 mile from, about center of sec. 18, T. 9 N., R. 29 E., on east side of road, 1 foot from fence at fence corner at south corner of field; iron post stamped "387 T".....	386. 829
T. 9 N., R. 29 E., northwest corner of, on west side of road 3 feet north of fence corner; iron post stamped "463 T".....	462. 853
T. 10 N., R. 29 E., 1,600 feet a little south of west from northwest corner of sec. 30, on ridge 800 feet east of Columbia River (post marks the position of guide post No. 93); iron post stamped "509 T".....	508. 340
T. 10 N., R. 29 E., 620 feet south by 220 feet east of northwest corner of sec. 28, on top of sand ridge, marks position of guide post No. 22; iron post stamped "513 T".....	513. 213
T. 10 N., R. 29 E., near center of sec. 23, on highest point of ridge, marking the position of West Glade triangulation station guide post No. 18; iron post stamped "607 T".....	606. 427

PASCO EAST ALONG SNAKE RIVER AND COUNTY ROAD AND ACROSS COUNTRY TO SEC. 11, T. 9 N., R. 31 E., THENCE NORTHWEST TO MILEPOST 221, NORTHERN PACIFIC RAILWAY (PORTION OF LINE).

T. 10 N., R. 30 E., southwest corner of sec. 15, 2 feet from fence, 3 feet north of fence corner; iron post stamped "687 T".....	686. 349
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PRIMARY LEVELING.

Asotin (30'), Oakesdale (30'), Pullman (30'), and Spokane Quadrangles.

GARFIELD, SPOKANE, AND WHITMAN COUNTIES.

The elevations in the following list were determined by primary leveling extended from Spokane, and accord with a new adjustment which raises the formerly published elevations at Spokane 1 foot.

The leveling was done as follows: Spokane quadrangle in 1898 by H. S. Crowe and J. H. Carlock, and in 1903 by E. M. Fry; Oakesdale, Pullman, and Asotin quadrangles in 1903 by E. M. Fry.

SPOKANE QUADRANGLE.

MARSHALL NORTHEAST ALONG NORTHERN PACIFIC RAILWAY TO SPOKANE.

Marshall, 100 feet northwest of railroad crossing and 100 feet east of post-office building; iron post stamped "2130 T".....	2, 131. 114
Milepost Wallula 157, Hope 89, 660 feet south of, 48 feet west of center of track, 2 feet south of fence, 90 feet southwest of cattle guard; iron post stamped "1857 T".....	1, 858. 285

	Feet.
Spokane, in front of Northern Pacific station; top of rail.....	1, 910. 4
Spokane, in front of Great Northern station; top of rail.....	1, 880. 9
Spokane, center of astronomic pier in courthouse grounds; aluminum tablet stamped "1891 T".....	1, 891. 954
Spokane, in southeast corner of brick wall of station, in second course of brick above stone foundation, fourth row west from corner; bronze tablet stamped "1914 T".....	1, 914. 628

SPOKANE EAST ALONG NORTHERN PACIFIC RAILWAY TO THE STATE LINE.

Milepost W. 166, H. 80, 60 feet northwest of, 40 feet north of railroad; iron post stamped "1953 T".....	1, 953. 856
Trent, 2 miles east of, 100 feet north of railroad at road crossing; iron post stamped "2041 T".....	2, 042. 323
Otis siding, 0.5 mile east of, at northwest corner of fence at road crossing, 50 feet north of center of track; iron post stamped "2083 T".....	2, 083. 758
Washington-Idaho State line, 0.3 mile west of, 200 feet north of railroad crossing; iron post stamped "2112 T".....	2, 112. 620

SPOKANE NORTH ALONG SPOKANE FALLS & NORTHERN RAILWAY TO DRAGOON, THENCE ALONG HIGHWAY TO CHATTAROY.

Mead, 100 feet southwest of station, in line with telegraph poles; iron post stamped "1906 S".....	1, 906. 628
Dragoon, 90 feet west of station, 20 feet east of road; iron post stamped "1745 S".....	1, 746. 372
Chattaroy post office, 1,500 feet east of, 30 feet southwest of Davis mill road crossing Great Northern Railway, in center of boulder 60 by 40 inches, 2 feet above surface; aluminum tablet stamped "1799 S".....	1, 799. 598

CHATTAROY ALONG GREAT NORTHERN RAILWAY TO POINT 1 MILE NORTH OF MILAN.

Milan, 220 feet southeast of station, 160 feet northwest of post office, in fork of roads; iron post stamped "1779 S".....	1, 780. 427
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POINT NEAR MILAN EAST AND SOUTH ALONG HIGHWAY VIA MEDLER, FISH RANCH, SPIRIT LAKE, AND FISH LAKE TO RATHDRUM (PORTION OF LINE).

Elk post office, 4 miles east of, 60 feet northeast of fork of roads, 480 feet south of corner of secs. 13, 14, 23, and 24, T. 29 N., R. 44 E., in boulder 60 by 40 inches, 20 inches above surface of ground; aluminum bolt stamped "U. S. G. S. 2468 ft. S. B. M.".....	2, 468. 997
Elk post office, 7.5 miles east of, on summit of road 40 feet south of bend, 160 feet west of precipitous break in ridge, in boulder 40 by 30 inches, 20 inches above ground; aluminum bolt stamped "U. S. G. S. 3112 ft. S. B. M.".....	3, 113. 454
Washington-Idaho State line, 120 feet south of, 240 feet north of old bridge over Blanchard Creek, 20 feet north of road, in center of boulder 40 by 30 inches, 20 inches above ground; aluminum tablet stamped "2382 S".....	2, 382. 760

SPOKANE NORTH ALONG HIGHWAY VIA TOMKINSON TRIANGULATION STATION TO MEAD.

Spokane, 2.5 miles north of, 20 feet east of fork of road, 280 feet northeast of spring west of road, in root of pine tree; nail.....	1, 903. 10
Tomkinson triangulation station, about 860 feet southwest of Thomas Tomkinson's house, 400 feet west of road, about 7 miles north of Spokane, in center of stone post; aluminum tablet stamped "2372 S".....	2, 372. 766
Mead, 2.5 miles southwest of, 70 feet northeast of junction of Mead road with Spokane and Clarks Mill road, in 12-inch pine tree 10 feet west of road; spike.....	1, 953. 04

Mead, 0.5 mile southwest of, north of forks of road to Spokane, in root of 24-inch pine tree; nail.....	Feet. 1,925.86
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DRAGOON WEST AND SOUTH ALONG HIGHWAY TO TOMKINSON TRIANGULATION STATION.

Wayside, in northwest corner of Odd Fellows Hall, 2 feet above ground, in stone wall; aluminum tablet stamped "2065 S".....	2,065.877
Wayside, 5 miles south of, 20 feet north of forks of road, in root of 14-inch pine west of road; nail.....	2,032.30
Wayside, 9 miles southwest of, 80 feet east of road, in sec. 28, T. 27 N., R. 42 E., in center of bowlder 60 by 40 inches, 2 feet above ground; aluminum bolt stamped "U. S. G. S. 2889 ft. S. B. M.".....	2,890.260

CHATTAROY EAST ALONG HIGHWAY TO DAVIS MILL, THENCE SOUTH AND WEST TO POINT NEAR MEAD.

Chattaroy, 5 miles east of, 120 feet northwest of corner of secs. 20, 21, 28, and 29, T. 27 N., R. 44 E., 100 feet northwest of forks of road in bowlder 60 by 36 inches, 2 feet above ground; aluminum bolt stamped "U. S. G. S. 2065 ft. S. B. M.".....	2,065.772
Davis house, 7 miles south of, 60 feet southwest of road crossing, in SW. $\frac{1}{4}$ sec. 27, T. 27 N., R. 44 E.; iron post stamped "1922 S".....	1,922.942
Mead, 2.5 miles northeast of, at northeast corner of crossroads, in Tps. 26 and 27 N., Rs. 43 and 44 E.; iron post stamped "1881 S".....	1,882.245

POINT 4 MILES NORTHEAST OF MEAD ALONG HIGHWAY SOUTH AND EAST BY CIRCUITOUS ROUTE TO THE STATE LINE.

Newman Lake, 4.5 miles west of, 30 feet north of forks of road at top of hill, in root of 10-inch pine west of road; tack.....	2,733.21
Newman Lake, 0.5 mile north of, 60 feet southeast of schoolhouse, 8 feet north of road; iron post stamped "2151 S".....	2,152.256
Newman Lake, water surface.....	2,131.0
Newman Lake, 0.5 mile east of, 3 miles north of Northern Pacific Railway, 30 feet south of forks of road, 1,000 feet east of house, in center of bowlder 30 by 20 inches, 1 foot above ground; aluminum bolt stamped "U. S. G. S. 2147 ft. S. B. M.".....	2,147.886

POINT 7 MILES NORTHEAST OF MEAD SOUTH ALONG HIGHWAY TO NORTHERN PACIFIC RAILWAY.

Pleasant Prairie, east end of middle of triangle, center of crossroads; iron post stamped "2431 S".....	2,432.393
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CHATTAROY NORTH ALONG HIGHWAY TO POINT NEAR MILAN.

Chattaroy, 500 feet south of, 4 feet north of road, in top of stone 20 by 10 inches, 6 feet above ground; cut cross.....	1,702.17
Chattaroy, 4.8 miles north of, northeast corner of forks of roads, in top of bowlder 10 by 8 inches, 6 inches above ground; cross.....	1,860.94

WAYSIDE ALONG HIGHWAY NORTH TO DEER PARK, THENCE SOUTHEAST ALONG SPOKANE FALLS & NORTHERN RAILWAY TO DRAGOON.

Wayside, 4 miles northwest of, 10 feet northeast of corner secs. 27, 28, 33, and 34, T. 28 N., R. 42 E.; iron post stamped "2093 S".....	2,094.167
Deer Park, southeast corner of crossroads at station, 70 feet southeast of post office, 130 feet east of Spokane Falls & Northern Railway; iron post stamped "2117 S".....	2,118.021
Buckeye, in front of station; top of rail.....	1,964.70

DEER PARK NORTHEAST ALONG HIGHWAY VIA WEST BRANCH POST OFFICE TO POINT 1 MILE
NORTH OF MILAN.

	Feet.
Corner of secs. 19, 24, 25, and 30; top of stone.....	2, 222. 18
Deer Park, 4.5 miles northeast of, 50 feet south of forks of roads, 80 feet west of county road, 170 feet northwest of corner of secs. 19, 20, 29, and 30, T. 29 N., R. 43 E.; iron post stamped "2268 S".....	2, 269. 467
Westbranch, 200 feet north of post office, 30 feet west of bridge over flume, in top of boulder 48 by 36 inches, 1 foot above ground and 3 feet north of road; aluminum bolt stamped "U. S. G. S. 1906 ft. S. B. M.".....	1, 907. 360

POINT NEAR OTIS ALONG HIGHWAY SOUTH 3 MILES, THENCE EAST VIA LIBERTY LAKE TO STATE
LINE, THENCE NORTH TO NORTHERN PACIFIC RAILWAY.

Liberty Lake, 500 feet north of, 100 feet west of schoolhouse, 20 feet east of road; iron post stamped "2098 S".....	2, 099. 461
Liberty Lake; water surface.....	2, 054. 0

SOUTHEAST CORNER OF SEC. 18, T. 25 N., R. 45 E., SOUTH ALONG HIGHWAY 2 MILES, THENCE
NORTHWEST ALONG HIGHWAY AND RAILROAD TO SPOKANE.

Sprague avenue road, 2.2 miles southwest of, 130 feet north of forks of road, 60 feet northeast of schoolhouse; iron post stamped "2131 S".....	2, 131. 575
Sprague avenue road, 4.8 miles southwest of, 100 feet south of forks, in root of 30-inch pine tree 4 feet east of road; spike.....	2, 331. 58
East Spokane, 80 feet west of post office, 20 feet south of road, 160 feet south of track; iron post stamped "1933 S".....	1, 933. 941

EAST SPOKANE SOUTHEAST ALONG TRACK OF OREGON RAILROAD & NAVIGATION CO. TO
BUCKLEY.

Chester, 200 feet northwest of section house, 30 feet north of fork of roads, 60 feet north of track; iron post stamped "2011 S".....	2, 011. 761
Mica, in front of station; top of rail.....	2, 479. 72
Mica, 250 feet east of post office, 100 feet west of track, 80 feet south of fork of road, in center of boulder 50 by 30 inches, 30 inches above ground; aluminum bolt stamped "U. S. G. S. 2478 ft. S. B. M.".....	2, 479. 426
Freeman, 1.8 miles southeast of, 60 feet south of road crossing, 50 feet east of forks, 200 feet southwest of church; iron post stamped "2600 S".....	2, 601. 306

OLSEN SWITCH EAST ALONG HIGHWAY TO STATE LINE.

W. F. Horton's house, 50 feet south of road, 800 feet west of State line, in masonry in northeast corner; aluminum bolt stamped "U. S. G. S. 2690 ft. S. B. M.".....	2, 690. 742
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POINT 1.8 MILES SOUTH OF FREEMAN WEST ALONG HIGHWAY TO NORTHERN PACIFIC RAILWAY,
THENCE NORTH TO MARSHALL.

Oregon Railroad & Navigation Co.'s track, 3 miles west of, 20 feet south of fork of roads, at top of hill, in center of boulder 28 by 12 inches, even with ground; aluminum bolt stamped "U. S. G. S. 2512 ft. S. B. M.".....	2, 513. 128
Hangman Creek, 0.2 mile east of, 800 feet west of fork of road, south end of ridge, 20 feet north of road, in center of boulder 30 by 20 inches, even with ground; aluminum bolt stamped "U. S. G. S. 1927 ft. S. B. M.".....	1, 928. 364
Hangman Creek, 2.2 miles west of, at top of hill 50 feet east of forks of road, 140 feet north of telephone line; iron post stamped "2454 S".....	2, 455. 336
Palouse branch of Northern Pacific Railway, milepost 4, 0.2 mile north of, 80 feet east of road crossing, 40 feet east of small bridge, 20 feet east of forks of road; iron post stamped "2272 S".....	2, 273. 250

SPOKANE WEST ALONG GREAT NORTHERN RAILWAY 4 MILES.

	Feet.
Alta Vista, in front of station; top of rail.....	1, 823
Junction Great Northern and Seattle & Lake Shore railroads, 0.8 mile west of, 30 feet southwest of point of curvature, in north face of boulder 12 by 10 feet, 10 feet above ground; aluminum bolt stamped "U. S. G. S. 1903 ft. S. B. M.".....	1, 904. 254

JUNCTION GREAT NORTHERN AND SEATTLE & LAKE SHORE RAILROADS SOUTH 7 MILES.

Junction, 7.0 miles south of, 130 feet east of road crossing, 80 feet east of track, in center of boulder 30 by 20 inches, 20 inches above ground; aluminum bolt stamped "U. S. G. S. 2267 ft. S. B. M.".....	2, 267. 558
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MARSHALL SOUTH ALONG NORTHERN PACIFIC RAILWAY TO GARFIELD (PORTION OF LINE).

Marshall, 100 feet northwest of railroad crossing; iron post stamped "2130 S".....	2, 131. 047
Milepost No. 4, 0.2 mile north of, 50 feet east of track; iron post stamped "2272 S".....	2, 273. 091

LOCKWOOD SOUTH ALONG TRACK OF OREGON RAILROAD & NAVIGATION CO. TO ROCKFORD.

Lockwood, 200 feet southwest of church, 60 feet south of road crossing; iron post stamped "2600 S".....	2, 601. 306
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OAKESDALE QUADRANGLE.

MARSHALL SOUTH ALONG NORTHERN PACIFIC RAILWAY TO GARFIELD (PORTION OF LINE).

Davis ranch, 1,500 feet south of, 50 feet west of track, north side of county road crossing; iron post stamped "2381 S".....	2, 381. 977
Spangle, northeast corner of Main and Second Streets, in brick building used as saloon, 4 feet from corner of building; bronze tablet stamped "2431 S".....	2, 432. 417
Plaza, 200 feet west of station, 150 feet west of track, 200 feet southeast of post office, east side of Main Street; iron post stamped "2352 S".....	2, 352. 520
Rosalia, in southeast corner of Bank of Rosalia Building, 2 feet north of entrance door, 2 feet from ground; bronze tablet stamped "2236 S".....	2, 236. 713
McCoy's siding, 100 feet south of milepost No. 32, opposite side of road from warehouse, 2 feet from fence; iron post stamped "2402 S".....	2, 402. 947
Oakesdale, southwest corner of Main and First Streets, in wall of Commercial State Bank Building, 2 feet west of door and 2 feet above sidewalk; bronze tablet stamped "2464 S".....	2, 464. 929
Belmont, 20 feet north of station, 50 feet east of track, near platform; iron post stamped "2502 S".....	2, 502. 361
Garfield, 100 feet west of station, north side of Fourth Street, 5 feet from sidewalk; iron post stamped "2485 S".....	2, 485. 220

ROCKFORD SOUTH ALONG TRACK OF OREGON RAILROAD & NAVIGATION CO. TO GARFIELD.

Rockford, 150 feet northeast of station, 50 feet south of track, 5 feet from board sidewalk; iron post stamped "2376 S".....	2, 376. 642
Fairfield, 100 feet south of station, 5 feet west of platform, near telegraph pole; iron post stamped "2559 S".....	2, 559. 032
Fairfield, in front of station; top of rail.....	2, 561
Latah, 100 feet north of station, west side of platform, 10 feet west of track; iron post stamped "2442 S".....	2, 442. 369
Latah, in front of station; top of rail.....	2, 444

Tekoa, northeast corner of brick building occupied by Tekoa Mercantile Co., at corner of Main and Fourth Streets, 3 feet from sidewalk, 1 foot from corner; aluminum tablet stamped "2537 S".....	Feet. 2, 537. 155
Seltice, 15 feet south of station, 20 feet north of track; iron post stamped "2528 S".....	2, 528. 921
Farmington, 50 feet east of station, 20 feet south of track, at northwest corner of small park; iron post stamped "2629 S".....	2, 629. 782
Garfield, in front of station; top of rail.....	2, 473

SELTICE WEST ALONG TRACK OF OREGON RAILROAD & NAVIGATION CO. TO SUNSET.

Thornton, 200 feet southeast of station, 30 feet west of grain warehouse No. 1, 10 feet east of track, at road crossing; iron post stamped "2297 S".....	2, 297. 100
Sunset, 100 feet west of station, 10 feet west of wagon road, 25 feet north of track, 600 feet south of post office, at railroad crossing, near crossing post; iron post stamped "2127 S".....	2, 127. 143

POINT 1.5 MILES SOUTH OF SPANGLE EAST ALONG HIGHWAY TO FAIRFIELD.

Johns ranch, 200 feet northeast of house, south side of road, 2 feet from fence; iron post stamped "2506 S".....	2, 506. 633
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SUNSET SOUTHEAST ALONG HIGHWAY TO GARFIELD.

"Cash up" Davis ranch, 100 feet southeast of house (old store building), 100 feet southwest of granary and barn, at forks of Colfax and Oakesdale road; iron post stamped "2348 S".....	2, 348. 904
Cottonwood schoolhouse, 1,000 feet east of, 50 feet west of Cottonwood church, at northwest corner of church yard; iron post stamped "2466 S".....	2, 466. 793

THORNTON NORTH ALONG HIGHWAY TO ROSALIA.

Horm schoolhouse, 200 feet west of, 600 feet north of Fisk house, at corner of school yard, at forks of road; iron post stamped "2417 S".....	2, 417. 973
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COTTONWOOD SCHOOLHOUSE SOUTHEAST ALONG HIGHWAY TO STEPTOE BUTTE.

Steptoe Butte, summit of, 5 feet east of southeast corner of old hotel, 20 feet east of cistern, in large bowlder; aluminum tablet stamped "3613 S"....	3, 613. 956
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PULLMAN QUADRANGLE.

GARFIELD SOUTH ALONG TRACK OF OREGON RAILROAD & NAVIGATION CO. TO PULLMAN.

Water surface under railroad bridge over Palouse River, June 27, 1903.....	2, 415. 7
Palouse, 50 feet north of station, at north end of platform, 15 feet east of track, 200 feet south of milepost 59; iron post stamped "2432 S".....	2, 432. 739
Fallon, 50 feet west of platform, 150 feet southwest of grain warehouse, 5 feet north of porch to post office and store, west side of county road; iron post stamped "2488 S".....	2, 489. 386
Whelan, 3 feet south of southeast corner of station platform, 100 feet north-west of warehouse, at steps; iron post stamped "2510 S".....	2, 510. 952

PULLMAN EAST ALONG NORTHERN PACIFIC RAILWAY TO MOSCOW.

Pullman Junction; rail at switch at junction of Lewiston branch and Genesee branch of Northern Pacific Railway.....	2, 371
Washington-Idaho State line, 15 feet north of track, in base of signpost "Washington-Idaho State line;" spike.....	2, 534. 13

PULLMAN EAST ALONG NORTHERN PACIFIC RAILWAY TO GENESEE.

	Feet.
Chambers station, 1,000 feet south of platform, in northeast corner of stone foundation of public schoolhouse; bronze tablet stamped "2561 S".....	2,562.484
Johnson, corner of Main and Dean Streets, in brick foundation of residence of J. M. Ellsworth, 10 feet east of door, 1.5 feet above ground; bronze tablet stamped "2628 S".....	2,629.060

GARFIELD SOUTHWEST ALONG TRACK OF OREGON RAILROAD & NAVIGATION CO. TO DIAMOND.

Palouse River; water surface, June 10, 1903.....	2,196
Elberton, 800 feet north of station, 200 feet west of fruit drier, 100 feet west of track at road crossing, west side of county road; iron post stamped "2188 S".....	2,188.840
Elberton, in front of station; top of rail.....	2,189
Colfax, in front of station; top of rail.....	1,965
Colfax, southwest corner of courthouse yard, 200 feet east of river, 2 feet east of stone steps, 5 feet north of sidewalk; iron post stamped "1965 S".....	1,965.547
Diamond, 200 feet east of platform, 600 feet north of hotel, 50 feet south of track, edge of right of way; iron post stamped "2041 S".....	2,041.857

COLFAX SOUTHEAST ALONG TRACK OF OREGON RAILROAD & NAVIGATION CO. TO PULLMAN.

Riverside, 75 feet south of warehouse, 25 feet west of county bridge over South Palouse River, 200 feet east of ranch house, north side of road near railroad; iron post stamped "2164 S".....	2,165.103
Bridge D-9; water surface, June 17, 1903.....	2,164
Guy, in front of station; top of rail.....	2,246
Guy, 450 feet south of station, 10 feet west of track, 50 feet west of Balfour, Guthrie & Co.'s warehouse, 10 feet south of county road; iron post stamped "2250 S".....	2,250.705
Pullman, 3 feet north of station platform, 15 feet west of track; iron post stamped "2341 S".....	2,342.374
Pullman, Washington Agricultural College, west side of main entrance to administration building, in granite pillar 2.5 feet above ground; bronze tablet stamped "2536 S".....	2,536.689

COTTONWOOD SCHOOLHOUSE SOUTHWEST ALONG HIGHWAY TO DIAMOND.

Troup ranch, 300 feet east of house, at forks of road, 5 feet south of mail box, west side of road; iron post stamped "2316 S".....	2,316.574
Torrent ranch, 600 feet west of house, bridge over Palouse River (known as Torrent's bridge).....	1,773.03
Water surface under bridge, July 10, 1903.....	1,757
Torrent ranch, 500 feet west of house, 20 feet north of county road, at east end of steel bridge over Palouse River, near large pine tree; iron post stamped "1769 S".....	1,769.972

COLFAX SOUTHWEST ALONG HIGHWAY TO WILCOX, THENCE SOUTHEAST TO PULLMAN.

Smith ranch, 300 feet southwest of barn, 1,000 feet west of house, west side of road at road forks; iron post stamped "2187 S".....	2,187.822
Wilcox, 150 feet west of post office and store, 100 feet south of blacksmith shop, at forks of road; iron post stamped "1812 S".....	1,812.754
Dunn ranch, 250 feet west of house, at gate, in root of elm tree; nail.....	1,858.43
Dowling bridge over Union Flat Creek, 300 feet north of, 1,000 feet north of Dowling house, at forks of road near mail box; iron post stamped "1996 S".....	1,997.096
Regan ranch, 300 feet south of house, 5 feet south of small stream, on east side of road, in root of cottonwood tree; spike.....	2,062.05

Saints Home, 0.2 mile northeast of, 50 feet east of Hamilton bridge over Union Flat Creek, east side of road, in root of poplar tree; spike.....	Feet. 2,068.09
T. 15 N., R. 44 E., sec. 31, at north quarter of, 2 miles west of Lewis Church; iron post stamped "2374 S".....	2,375.422
Spring Flat, Lewis Church, in foundation at northwest corner of, just west of entrance; bronze tablet stamped "2409 S".....	2,409.988

PULLMAN SOUTHWEST ALONG HIGHWAY TO WAWAWAI, THENCE SOUTHEAST VIA STEPTOE CANYON TO UNIONTOWN (PORTION OF LINE).

Fowler ranch, 0.2 mile east of house, south side of road, end of bridge over Union Creek; iron post stamped "2316 S".....	2,316.726
Klingard signal, 0.2 mile east of Klingard house, triangulation station on hill in wheat field; iron post stamped "2708 S".....	2,708.860
Wawawai, 1.5 miles east of, east side of road; top of large bowlder.....	1,456.43
Wawawai, 0.2 mile west of post office, 100 feet north of ferryman's house, south of road at gatepost; iron post stamped "657 S".....	657.733
Wawawai, 2 miles southeast of, 0.2 mile east of Snake River, west side of road; top of bowlder.....	765.64
O'Dell ranch, 200 feet northeast of house, 50 feet south of small stream, 2 feet inside of wire fence, in large bowlder; bronze tablet stamped "719 S".....	719.755
Bishop ranch, 0.2 feet west of house, in root of poplar tree at front gate; spike.....	695.787
Alex-Indian ranch, 200 feet south of house, 1,000 feet east of river, west side of road; top of bowlder.....	692.24
Steptoe Canyon, 150 feet north of old corral, 20 feet east of creek, west side of road; top of large bowlder.....	1,776.54
Nesterbank ranch, 0.25 mile west of house, 50 feet west of road, 10 feet west of small creek, in stone wall (natural), in field, west side of Steptoe Canyon; bronze tablet stamped "2541 S".....	2,541.974
Colton, corner of Main and Second streets, northwest corner of Fraternity Block, 4 feet north of entrance to bank, 2 feet above sidewalk; bronze tablet stamped "2563 S".....	2,564.251
Uniontown, southeast corner of Montgomery and Spring streets, northwest corner of brick building occupied by First State Bank, 10 feet north of entrance, 2 feet above sidewalk; bronze tablet stamped "2574 S".....	2,574.646

WAWAWAI ALONG HIGHWAY BY CIRCUITOUS ROUTE VIA OFFIELD CANYON, KIRBY SCHOOLHOUSE, AND ALPOWA TO STEPTOE CANYON (PORTION OF LINE).

Snake River, at Wawawai; water surface, August 22, 1903.....	629
Offield, at mouth of Offield Canyon, 600 feet north of house, 500 feet northeast of packing house, 0.25 mile west of Snake River, east side of road, near orchard fence; iron post stamped "671 S".....	672.054
Overherd ranch, 150 feet south of house, 10 feet east of creek, west side of road, in root of cottonwood tree; spike.....	887.54
Richardson ranch, 250 feet west of house, 350 feet south of barn, near fence east side of road, 5 feet south of locust tree; iron post-stamped "2447 S".....	2,448.167
Kirby schoolhouse, 500 feet south of, 200 feet north of small creek, 1,000 feet northwest of ranch house, 20 feet west of wagon road, in stone; bronze tablet stamped "2427 S".....	2,428.401

ASOTIN QUADRANGLE.

PULLMAN ALONG HIGHWAY SOUTHWEST TO WAWAWAI, THENCE SOUTHEAST VIA STEPTOE CANYON TO UNIONTOWN (PORTION OF LINE).

Quast ranch, 200 feet north of house, 0.2 mile east of Snake River, 100 feet east of county road, in large bowlder; bronze tablet stamped "748 S".....	749.814
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WAWAWAI ALONG HIGHWAY BY CIRCUITOUS ROUTE VIA OFFIELD CANYON, KIRBY SCHOOL-
HOUSE, AND ALPOWA TO STEPTOE CANYON (PORTION OF LINE).

Swenney ranch, 0.5 mile east of house, 20 feet northwest of road forks of Lewiston-Pomeroy stage road and road down Dead Man Gulch, in side fence corner; highest point of stone 10 by 8 by 6 inches.....	Feet. 2, 518. 99
Fannin ranch, 0.5 mile west of, at summit of divide between Alpava Creek and Pataha Creek, 50 feet south of forks of Pomeroy and Watertine Roads, south side of road near mail box; iron post stamped "2610 S" ..	2, 611. 033
Alpowa post office, 15 feet north of, in yard of A. E. Lee's ranch, 3 feet west of front gate, 100 feet south of north fork of Alpowa Creek; iron post stamped "1322 S".....	1, 323. 209
Alpowa Canyon, 50 feet south of old house of Walker ranch, 150 feet north of creek, north side of road, in root of large poplar tree; spike.....	1, 069. 99
Alpowa Ferry, 1,000 feet west of landing, west side of Snake River, 100 feet northeast of house, 200 feet west of warehouse, south side of road, at corner of fence; iron post stamped "720 S".....	721. 090
Pate ranch, 1,000 feet north of house, 20 feet north of creek, in solid rock wall, at north side of road; bronze tablet stamped "1208 S".....	1, 209. 593

Connell, Odessa, Othello, Pasco, Ritzville, and Rock Lake 30' Quadrangles.

ADAMS, FRANKLIN, LINCOLN, AND SPOKANE COUNTIES.

The elevations in the following list were determined by primary leveling extended from the precise-level line of the United States Coast and Geodetic Survey at Pasco. The double-rodged line from Pasco to Spokane of this list was part of a line from Tacoma eastward along the Northern Pacific Railway and was re-covered by the Coast and Geodetic Survey between Pasco and Green River.

The leveling was done in 1898 by H. S. Crowe, except a part of that in the Connell quadrangle, which was done in 1903 by R. B. Shaw.

PASCO QUADRANGLE.

PASCO NORTH ALONG NORTHERN PACIFIC RAILWAY TO ELTOPIA (DOUBLE LINE).

Pasco, in northwest corner of brick roundhouse of Northern Pacific Railway, in center of third course of bricks above stone foundation; aluminum tablet stamped "378 T".....	Feet. 377. 796
Pasco, in front of telegraph office; top of rail.....	381. 1
Milepost "Wallula 20, Hope 226," 50 feet south of, 18 feet west of center of main track, 5 miles east of Pasco; iron post stamped "445 T".....	444. 745
Glade, opposite center of siding at; top of rail of main line.....	492. 8
Milepost "Wallula 25, Hope 221," 90 feet southeast of, 3.5 feet west of telegraph pole; iron post stamped "537 T".....	537. 309
Eltopia, 35 feet east of gate to section house, 33 feet from center of main track, 50 feet from tank house, 1.4 feet from fence; iron post stamped "591 T".....	590. 909
Eltopia, in front of water tank; top of rail.....	591. 3

OTHELLO QUADRANGLE.

ELTOPIA NORTH ALONG NORTHERN PACIFIC RAILWAY TO MESA (DOUBLE LINE).

Thorough cut, at south end of, 330 feet northeast of, milepost "Wallula 37, Hope 209," 5 feet north of telegraph post; iron post stamped "651".....	651. 275
Lake, in front of section house; top of rail.....	677. 6

Lake (Mesa) in northwest corner of fence at section house, 40 feet east of center of track, 180 feet north of the water tank; iron post stamped "677 T"	Feet. 677. 042
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CONNELL QUADRANGLE.

MESA NORTHEAST ALONG NORTHERN PACIFIC RAILWAY TO LIND (DOUBLE LINE).

Mesa, 4.6 miles northeast of, 50 feet southeast of center of track, opposite milepost "Wallula 46, Hope 200," 4 feet southwest of telegraph pole; iron post stamped "715 T"	715. 289
Connell station, 16 feet from northeast corner, between platform and telegraph pole, 16 feet southeast of center of track; iron post stamped "838 T"	838. 184
Trestle 194, 100 feet south of west end of, 12 feet north of telegraph pole, 400 feet northeast of milepost "Wallula 55, Hope 191," 50 feet south of center of track; iron post stamped "924 T"	924. 220
Hatton, near corner of fence east of schoolhouse, near center line of sec. 20, T. 15 N., R. 31 E., 100 feet west of center of track; iron post stamped "1077 T"	1, 077. 453
Hatton, in front of telegraph office; top of rail	1, 064. 1
Scott station, 50 feet northeast from north corner, 2.5 feet north of telegraph pole near pump house, 50 feet east of center of main track; iron post stamped "1167 T"	1, 166. 529
Scott, in front of telegraph office; top of south rail	1, 166. 6
Milepost "Wallula 68, Hope 178," 47 feet southeast of, near east line of railroad fence at road crossing, 60 feet east of center line of crossing, 33 feet east of center of main track; iron post stamped "1394 T"	1, 393. 788
Providence, in front of section house; top of rail	1, 537. 7
Milepost "Wallula 73, Hope 173," 1,920 feet northeast of, 50 feet east of center of track, 10 feet north of telegraph pole at Farm crossing; iron post stamped "1476 T"	1, 476. 427
Lind station, 28 feet from northwest side of tank house, in northeast corner of fence around and 50 feet east of corner of telegraph office, 21 feet northwest of center of track; iron post stamped "1362 T" ¹	1, 362. 560

LIND WEST ALONG HIGHWAY TO ADAMS-GRANT COUNTY LINE.

Lind, 3.1 miles west of, 15 feet southeast of Lind Coulee Road, 120 feet southwest of bridge over Dry Creek; iron post stamped "1316 T"	1, 316. 097
Lind, 5.6 miles west of, 15 feet southeast of Lind Coulee Road, 20 feet northwest of perpendicular bluff, 25 feet high, in top of large boulder; tablet stamped "1297 T"	1, 297. 027
Lind, 9 miles west of, 20 feet northeast of Lind Coulee Road, on top of hill just above schoolhouse, in rock 3 feet 6 inches long by 6 inches above ground; tablet stamped "1325 T"	1, 324. 470
Lind, 11.5 miles west of, 10 feet northeast of Lind Coulee Road, 100 feet southwest of gap in fence, in rock among a number of loose boulders; tablet stamped "1247 T"	1, 247. 308
T. 17 N., R. 31 E., at center of east line of sec. 14, 10 feet west of Lind Coulee Road, 1 foot east of Knottingham's east fence, in rock 3 feet long set 2.5 feet in ground; tablet stamped "1202 T"	1, 201. 776
Lind, 18.1 miles west of, 50 feet west of junction in forks of old Crab Creek or McManoman trails or roads; iron post stamped "1198 T"	1, 197. 830
T. 17 N., R. 31 E., 350 feet west of center line in NW. $\frac{1}{4}$ sec. 6, 0.25 mile north of county road; iron post stamped "1204 T"	1, 203. 797

¹ This bench mark was removed by track gang April 10, 1906, and placed under a tank, elevation not known.

RITZVILLE QUADRANGLE.

PAHA NORTHEAST ALONG NORTHERN PACIFIC RAILWAY TO SPRAGUE (DOUBLE LINE).

	Feet.
Milepost "Wallula 90, Hope 156," opposite; iron post stamped "1645 T" . . .	1, 645. 383
Ritzville, 1.1 miles south of, 4 feet north of telegraph pole, 150 feet south-east of milepost "Wallula 95, Hope 151," 42 feet east of center of track; iron post stamped "1798 T"	1, 797. 947
Ritzville, in fifth row of bricks above stone foundation at north entrance to Adams County courthouse; aluminum tablet stamped "1820 T"	1, 820. 511
Ritzville, 4 miles east of, 45 feet northwest of milepost "Wallula 100, Hope 146," 50 feet north of center of track, 0.4 foot west of telegraph pole; iron post stamped "1848 T"	1, 849. 003
Iona, 2 feet east of railroad fence at, 123 feet north of center of track, 145 feet from north front of warehouse, 300 feet northwest of milepost "Wallula 104, Hope 142;" iron post stamped "1944 T"	1, 944. 083
Harriston siding, at west end of; head of block of switch	1, 928. 3
Harriston, 30 feet west of southwest corner of railroad section house, 50 feet north of center of track, 4 feet west of telegraph pole, 6 miles east of Iona; iron post stamped "1937 T"	1, 937. 191
Harriston, in front of section house; top of rail	1, 937. 3
Sprague Lake; water surface	1, 880
Harriston, 5.6 miles east of, 40 feet north of center of track, 7 feet west of telegraph pole, 60 feet south of railroad fence, 100 feet west of cattle guard where cattle cross under trestle to Sprague Lake; iron post stamped "1897 T"	1, 897. 630
Sprague, in brick wall of Grey's store, northeast corner of First and C Streets, ninth tier of bricks above sidewalk; aluminum tablet stamped "1899 T"	1, 899. 351
Sprague, in front of station; top of rail	1, 899. 2

ROCK LAKE QUADRANGLE.

SPRAGUE NORTHEAST ALONG NORTHERN PACIFIC RAILWAY TO CHENEY (DOUBLE LINE).

Sprague, 1 mile east of, 50 feet north of center of track, 4 feet west of telegraph pole at road crossing; iron post stamped "1936 T"	1, 937. 083
Kline, in front of section house; top of rail	2, 113. 1
Milepost "Wallula 127, Hope 119," 60 feet northeast of, 50 feet north of center of track, 6 feet southwest of telegraph pole, 50 feet west of east switch stand; iron post stamped "2147 T"	2, 148. 042
Tyler, 1.8 miles west of, 60 feet north of milepost "Wallula 132, Hope 114," 30 feet west of center of track; iron post stamped "2272 T"	2, 272. 621
Tyler, in front of telegraph office; top of rail	2, 292. 1
Milepost "Wallula 137, Hope 109," 20 feet from, 28 feet from center of track, 4.8 feet east of telegraph pole; iron post stamped "2284 T"	2, 284. 864
Milepost "Wallula 142, Hope 104," 390 feet northeast of, 40 feet south of center of track; iron post stamped "2353 T"	2, 353. 717
Cheney, in front of station; top of rail	2, 336. 0
Cheney, in northeast corner of First National Bank Building, corner of Main and D Streets, in top of eighth row of bricks above sidewalk; aluminum tablet stamped "2351 T"	2, 352. 622
Cheney, on right-hand side of portico entrance to Washington State Normal School, in eighth tier of brick above tile floor and 16 feet east of corner of wall; aluminum tablet stamped "2432 T"	2, 432. 825

ODESSA QUADRANGLE.

LIND NORTH ALONG NORTHERN PACIFIC RAILWAY TO PAHA.

Milepost "Wallula 85, Hope 161," 0.25 mile west of, 100 feet north of railroad track, 50 feet north of railroad fence, 40 feet north of center of wagon road; iron post stamped "1507 T".....	Feet. 1, 507. 508
Paha, in front of station; top of rail.....	1, 563. 9

Chewelah, Colville, Davenport, Marcus, Reardan, and Wilbur Quadrangles.

FERRY, LINCOLN, SPOKANE, AND STEVENS COUNTIES.

The elevations in the following list were determined by primary leveling extended from the precise-level line of the United States Coast and Geodetic Survey along the Northern Pacific Railway.

The leveling was done as follows: Marcus quadrangle in 1901 by E. M. Fry and R. A. Farmer and in 1905 by J. G. Hefty; Colville quadrangle in 1901 by Farmer and in 1905 by Hefty; Chewelah quadrangle in 1901 by Farmer; Davenport and Wilbur quadrangles in 1903 by Philo Holbrook, jr.; and Reardan quadrangle in 1898 by H. S. Crowe, in 1901 by Farmer, and in 1903 by Holbrook. The leveling by Hefty was done under the United States and Canada Boundary Commission and that by Holbrook under the United States Reclamation Service.

COLVILLE QUADRANGLE.

ARDON SPUR NORTHWEST ALONG SPOKANE & NORTHERN RAILWAY TO MEYERS FALLS.

Colville, 120 feet west of station; iron post stamped "1582 S".....	Feet. 1, 579. 371
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RYAN NORTHEAST ALONG SPOKANE FALLS & NORTHERN RAILWAY TO BOUNDARY (DOUBLE LINE).

Ryan post office and store, in front of, at road crossing; top of rail.....	1, 360. 2
Milepost 117, 0.3 mile south of, 150 feet south of square water tank; top of rail.....	1, 349
Milepost 119, 17 feet north of, 22 feet west of center of track; iron post stamped "1427 T".....	1, 425. 132
Marble post office, in front of, at road crossing; top of rail.....	1, 463. 7
Milepost 122, 6 feet north of second telegraph pole north of, 27 feet west of track, at section line between secs. 16 and 17, wagon road on top of bluff 200 feet higher; iron post stamped "1442 T".....	1, 439. 466
Milepost 124, across track from, about 20 feet south of, in rock cut in limestone at south end of cut above Little Dalles; aluminum tablet stamped "1356 T".....	1, 354. 229
Milepost 127, 20 feet northwest of, 10 feet from track; point of granite boulder.....	1, 323. 04
Milepost 127, 20 feet north of, 10 feet northwest of track, in granite boulder; aluminum tablet stamped "1325 T".....	1, 323. 012
Red Mountain Junction, at north switch; top of rail.....	1, 320. 6
Northport, in south end of, in southwest corner of block 7, on street next to railroad; iron post stamped "1335 T".....	1, 332. 945
Milepost 130, 10 feet west of track, at beginning of rock cut just north of smelter; point on rock.....	1, 351. 12
Trestle 78, center of, across large creek; top of rail.....	1, 337. 5

Milepost 132, 0.25 mile south of, 30 feet west of track, 6 feet from telegraph pole, near river bank, north end of tangent on Sand Flat; iron post stamped "1329 T"	Feet. 1, 326. 819
Milepost 136, 6 feet from; iron post stamped "1338 T"	1, 336. 632
Boundary, Washington, on international boundary line, on gravel flat near azimuth mark; iron post stamped "1356"	1, 354. 138
Boundary; top of azimuth post	1, 356. 168
Boundary, at boundary line crossing; top of rail	1, 352. 6

MARCUS QUADRANGLE.

MEYERS FALLS NORTH ALONG SPOKANE FALLS & NORTHERN RAILWAY TO RYAN (DOUBLE LINE).

Meyers Falls, 120 feet north of station; iron post stamped "1632 S"	1, 630. 214
Meyers Falls, in front of station; top of rail	1, 631
Meyers Falls, 0.9 mile north of, at road crossing, west side of track, in foot of crossing signpost; spike	1, 571. 98
Trestle 73, west guard rail of, bolt head in	1, 457. 53
Meyers Falls, 2.5 miles north of, under a rocky point filled with prospect holes and in little basin, wagon road at foot of grade below track, 56 feet east of track; iron post stamped "1423 T"	1, 421. 140
Meyers Falls, 3.2 miles north of, at north end, west side, in guard rail of trestle No. 75; bolt head	1, 355
Marcus, 200 feet south of station, east side of track, in root of pine; spike ..	1, 260. 23
Marcus, on edge of railroad right of way, 200 feet south of station, at end of unopened street, 75 feet from Mint Saloon; iron post stamped "1263 T"	1, 260. 663
Marcus, 1.0 mile north of, opposite milepost 102, 50 feet east of track, in root of pine tree; spike	1, 292. 12
Marcus, 2 miles north of, 100 feet north of milepost 103, on bank next river; top of quartz boulder	1, 271. 28
Marcus, 3 miles north of, at north end of Seven Devils, wagon road 50 feet east of railroad track, at cabin, in root of pine tree; nail	1, 262. 71
Marcus, 3 miles north of, east of track, at west edge of wagon road, opposite a small cabin, in limestone boulder; aluminum tablet stamped "1275 T"	1, 273. 263
Marcus, 5.8 miles north of, at county road crossing, north of wagon road, 40 feet west of track; iron post stamped "1349 T"	1, 346. 731
Marcus, 8.5 miles north of, 40 feet north of track, opposite milepost 109, graveyard on opposite side of track, in root of pine tree; spike	1, 383. 39
Bossburg, 180 feet west of south end of station, at corner of lot; iron post stamped "1358 T"	1, 356. 166
Bossburg, 2.0 miles north of, 7 feet east of track, 200 feet north of milepost 112; point on granite boulder	1, 293. 89
Bossburg, 3.0 miles north of, 50 feet north of track, at milepost 113, just north of limerock knoll behind which wagon road runs; iron post stamped "1278 T"	1, 275. 766
Ryan post office, 0.5 mile south of, 10 feet east of milepost 116, 30 feet east of track; iron post stamped "1376"	1, 373. 779

MEYERS FALLS WEST ALONG STAGE ROAD TO KAYLOR POST OFFICE.

Kettle Falls, southwest corner of Franklin and Jefferson streets, 125 feet west of public-school house, in root of 10-inch pine tree; nail	1, 307. 17
Kettle Falls, Columbia River; surface of water, March 20, 1901	1, 169

Weston ranch, 0.2 mile east of, 300 feet west of milepost 26, 6 feet south of road; iron post stamped "2537"	Feet. 2, 535. 068
Sherman Hotel, 0.5 mile west of, 5 feet north of road at top of grade; iron post stamped "3709"	3, 707. 246
Chilikoot Summit, 10 feet north of road summit; iron post stamped "5592" ..	5, 595. 642

CHEWELAH QUADRANGLE.

CLAYTON NORTHWEST ALONG SPOKANE FALLS & NORTHERN RAILWAY TO ARDON SPUR.

Loon Lake, 50 feet west of northwest corner of station; iron post stamped "2416 S"	2, 417. 541
Springdale, at west end of station platform; iron post stamped "2086 S" ..	2, 086. 885
Valley, 60 feet west of mail catch; iron post stamped "1670 S"	1, 670. 786
Chewelah, 300 feet north of station, 150 feet south of milepost 65; iron post stamped "1668 S"	1, 669. 266
Blue Creek, at northeast corner of post office; iron post stamped "1639 S" ..	1, 636. 871
Addy, at road crossing, 150 feet south of milepost 74; iron post stamped "1635 S"	1, 632. 724
Ardon, spur north of Ayer's barn, 15 feet east of track; iron post stamped "1605 S"	1, 602. 494

REARDAN QUADRANGLE.

DEER PARK NORTHWEST ALONG SPOKANE FALLS & NORTHERN RAILWAY TO CLAYTON.

Clayton, in wall of engine room of Washington Brick, Lime & Manufacturing Co. Mills; bronze tablet stamped "2265 S"	2, 265. 935
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SPOKANE WEST DOWN SPOKANE RIVER TO CANYON SCHOOLHOUSE.

Spokane, 0.7 mile west of, upper side of track, 20 feet, stump marked "1654.16" (Great Northern bench mark)	1, 900. 175
T. 26 N., R. 42 E., southeast corner of sec. 20, northwest of Spokane; iron post stamped "1677 T"	1, 678. 758
Abbot schoolhouse, 75 feet north of Charles road; iron post stamped "1738 T" ..	1, 738. 766
T. 27 N., R. 40 E., southeast corner of sec. 20; iron post stamped "1758 T" ..	1, 759. 085
T. 27 N., R. 39 E., center of sec. 20, at Lazebrook's place, 150 feet from river bank; iron post stamped "1704 T"	1, 705. 188

MONDOVI EAST ALONG NORTHERN PACIFIC AND GREAT NORTHERN RAILWAYS TO SPOKANE.

Mondovi station; iron post stamped "2507 T"	2, 508. 165
Reardan; iron post stamped "2497 T"	2, 498. 249
Deep Creek station; iron post stamped "2308 T"	2, 309. 120
Lyons, 0.5 mile south of, at crossing of wagon road, 20 feet from road, 25 feet from track; iron post stamped "2322 T"	2, 323. 198

CHENEY NORTH ALONG NORTHERN PACIFIC RAILWAY TO SPOKANE (DOUBLE LINE).16.

At junction of Y of Washington Central branch and Northern Pacific Railway ..	2, 322. 9
Cheney, 4.5 miles east of, 35 feet west of center of track, 5 feet north of telegraph pole; 60 feet southwest of road crossing; iron post stamped "2195 T"	2, 196. 420

DAVENPORT QUADRANGLE.

CANYON SCHOOLHOUSE WEST DOWN SPOKANE AND COLUMBIA RIVERS TO CRESTON.

Canyon schoolhouse, 100 feet from, alongside of road; iron post stamped "1285 T"	1, 285. 611
Halfway House on county road, 400 feet north of barn and near road to Davenport, 15 miles distant; iron post stamped "1553 T"	1, 554. 145

T. 28 N., R. 37 E., quarter corner east side of sec. 19, at schoolhouse on road between Fort Spokane and Davenport; iron post stamped "1239 T".....	Feet. 1, 239. 731
Fort Spokane, 0.5 mile south of, on bench alongside of road running east and west in sec. 29, T. 27 N., R. 36 E.; iron post stamped "1672 T".....	1, 673. 320
Peach post office, 3.5 miles west of, at foot of road to Creston and down Columbia on Warren place; iron post stamped "1540 T".....	1, 541. 135

CRESTON EAST ALONG NORTHERN PACIFIC RAILWAY TO MONDOVI.

Fellows station; iron post stamped "2329 T".....	2, 330. 101
Rocklyn station; iron post stamped "2385 T".....	2, 386. 341
Davenport; iron post stamped "2408 T".....	2, 409. 019

WILBUR QUADRANGLE.

POINT NEAR CRESTON WEST ALONG NORTHERN PACIFIC RAILWAY TO COULEE CITY.

Creston, 0.5 mile east of, at crossroads; iron post stamped "2444 T".....	2, 445. 318
Wilbur station; iron post stamped "2165 T".....	2, 166. 252
Govan station, at milepost 81; iron post stamped "2069 T".....	2, 070. 237
Almira station; iron post stamped "1916 T".....	1, 917. 391

Chopaka, Nespelem, Okanogan, Osoyoos, and Republic Quadrangles.

DOUGLAS, FERRY, AND OKANOGAN COUNTIES.

The elevations in the following list were determined by primary leveling forming part of a level net extending from the coast.

The leveling was done as follows: Republic and Osoyoos quadrangles in 1901 and 1902 by E. M. Fry and in 1903 by F. E. Fellows; Chopaka quadrangle in 1902 by Fry and in 1903 by Fellows; Nespelem quadrangle in 1901 by Fry; and Okanogan quadrangle in 1899, 1901, and 1902 by Fry, in 1903 by Fellows and W. R. Hill, and in 1904 by G. H. Kendall.

OKANOGAN QUADRANGLE.

TWISP EAST ALONG HIGHWAY 16 MILES, THENCE NORTH TO SNOLDEN RANCH.¹

Burke ranch, 1,000 feet east of house, 5 feet north of road, in root of pine tree; nail marked "2403".....	Feet. 2, 403. 70
Ramm ranch, 1,500 feet west of house, 5 feet north of road at forks of Twisp and Conconully and road to Ramm ranch, 1,000 feet north of Frazier Creek, 1 foot out of ground; iron post stamped "2495 T".....	2, 494. 895
Hancock ranch, 2 miles east of, 400 feet north of Frazier Creek, in root of pine tree on south side of road; nail marked "3201".....	3, 201. 19
Summit, 0.5 mile west of, in root of tree at north side of road; nail marked "3703".....	3, 703. 01
Summit of divide between Frazier Creek and Loop Loop Creek, 5 feet south of wagon road (Conconully and Methow Valley road); 1 foot out of ground; iron post stamped "4020 T".....	4, 020. 044
Summit, 1.5 miles east of, north side of road, in top of sawed stump; brass cartridge shell marked "3709".....	3, 709. 41
Milepost 4 (on Loop Loop and Methow road), 300 feet east of, south side of road, in root of fir tree; nail marked "3296".....	3, 295. 95

¹ This line closed 2.96 feet high and is unadjusted.

Old Cabin camp ground, 100 feet east of creek crossing, 300 feet south of old log cabin, 25 feet south of road, in notch in pine tree; nail marked "3244".....	Feet. 3, 244. 68
Milepost 1, 500 feet east of, 1 <u>mile</u> west of Loop Loop bridge, north side of road, in root of fir tree; nail marked "2847".....	2, 847. 48
Loop Loop Creek, junction of Conconully and Methow roads and Loop Loop and Okanogan roads, in root of tree on south side of road; nail marked "2431".....	2, 431. 74
Loop Loop Creek, junction of Conconully and Methow road and Okanogan and Loop Loop roads, 5 feet west of roads and 50 feet east of creek; iron post stamped "2433".....	2, 433. 052
Johnson ranch, 300 feet southeast of house, 250 feet east of bridge, south side of road, in root of tree; nail marked "2576".....	2, 575. 87
Summit of divide between Loop Loop and Ruby creeks, 200 feet south of, 10 feet east of road, in large bowlder; bronze tablet stamped "3081 T".....	3, 081. 227

ALTA LAKE ALONG ROAD NORTH AND WEST TO VROMAN RANCH.

Alta Lake, 300 feet south of, 100 feet west of road, 1,000 feet west of McCutchin's ranch house; iron post stamped "1201 T".....	1, 201. 376
Methow River, 1 mile from, 50 feet west of road, on summit of hill south of Methow Valley, in root of 20-inch pine tree; nail.....	1, 220. 36
Methow River, 0.5 mile from, at intersection of road up Methow road to Ives Landing; on top of stone.....	1, 028. 08
Vroman ranch, in front of, 200 feet southeast of house, 200 feet east of shop, 100 feet north of State road; iron post stamped "1042 T".....	1, 036. 64

PATEROS SOUTHWEST ALONG WAGON ROAD TO ALTA LAKE (SPUR LINE).

Pateros, 100 feet southwest of post-office, 60 feet north of hotel; iron post stamped "780".....	780. 120
Pateros Hotel, 0.3 mile southwest of, 35 feet south of Methow River, 4 feet north of road; top of pointed red rock marked "771".....	771. 756
Pateros Hotel, 1 mile southwest of, 0.3 mile west of cabins on Methow River, 600 feet southwest of gully, foot of bank of first bench; small blue rock marked "1101".....	1, 101. 53
Alta Lake, 700 feet northwest of, 0.3 mile southeast of house, 20 feet east of road, in green salt grass meadow; iron post stamped "1188".....	1, 188. 055
Alta Lake, northeast end of; surface of water on September 25, 1903.....	1, 175. 7

POINT NEAR VROMAN RANCH NORTHEAST ALONG WAGON ROAD TO RIVERSIDE.

Pateros Wash, 100 feet southeast of post office at, 100 feet north of hotel and 0.25 mile northwest of mouth of Methow River, north side of street; iron post stamped "780".....	780. 120
Columbia River; surface of water, August 17, 1901.....	742. 7
Brewster Wash, 1.5 miles south of, north side of road near natural rock cut; top of large stone marked "817".....	816. 97
Brewster Wash, southwest corner of Brewster Hotel, in stone foundation of hotel, which is on southeast corner of Second and Bruce Avenues; bronze tablet stamped "812".....	812. 430
Davis ranch, in large granite stone at northeast corner of stone wall to basement of barn, 300 feet south of house, on Okanogan River; bronze tablet stamped "912".....	906. 457
Chiliwest Creek, road crossing at, west side of road, in root of balm tree; nail marked "861".....	854. 95
Malott post office and road house, 5 feet north of northeast corner of house and 50 feet west of stage road; iron post stamped "845".....	839. 015

Reilly ranch, center of lane, 500 feet north of house and 200 feet west of barn, in place; top of stone marked "830"	Feet. 823. 61
Reilly ranch, 1 mile north of, 10 feet east of road; top of boulder marked "837"	831. 00
Alma, 300 feet south of store and post office, at corner of fence, 50 feet east of road, 0.25 mile south of Salmon River; iron post stamped "895"	887. 740
Richardson ranch, 20 feet north of barn, 75 feet south of irrigation ditch, side of road; on top of large stone marked "1272"	1, 264. 25
Pogue ranch, 1 mile north of, west side of road; on top large stone marked "1303"	1, 295. 88
Pogue ranch, 2.5 miles north of, at forks of road; top of stone marked "1323"	1, 315. 02
Riverside Wash, 2 miles south of, 500 feet east of road, 0.25 mile south of Roger's cabin in Pogue Flat, at quarter section corner; iron post stamped "1331"	1, 322. 995

THOMPSON RANCH ON OKANOGAN RIVER EAST AND SOUTH BY CIRCUITOUS ROUTE TO BRIDGE-
PORT FERRY, THENCE NORTHWEST ALONG HIGHWAY TO CENTRAL FERRY.

Indian cabins, 0.8 mile north of, 400 feet east of river, 50 feet east of road, 200 feet west of granite cliff; top of granite rock marked "806"	806. 73
Okanogan River, 1.25 miles east of, 200 feet east of gully, 50 feet east of road, near granite outcrop; top of granite boulder marked "1235"	1, 235. 09
Okanogan River, 2.5 miles east of, 600 feet west of meadow and spring, in small gap, 5 feet south of trail; granite boulder marked "1771"	1, 770. 94
East end of long meadow, at cabin, 120 feet west of; top of round granite boulder marked "2008"	2, 008. 31
Deffland Ferry, 4.5 miles east of, 0.25 mile east of cabin at east end of meadow, 200 feet east of tall lava rock with three pyramids on top, in large granite boulder; bronze tablet stamped "2137"	2, 136. 529
Cabin in meadow, 1.25 miles east of, 0.5 mile west of summit at head of ravine, in ravine at turn; black basalt boulder marked "2287"	2, 287. 46
Two Lakes, 1.5 miles south of, 600 feet southeast of spring, in granite boulder on small knoll; aluminum tablet stamped "2524"	2, 524. 109
Upper north end of long flat meadow between low ridges, 15 feet south of rock; on large basalt boulder with bushes on top marked "2513"	2, 512. 85
Colville Reservation summit, 0.25 mile south of large rock with two pyramids, 0.25 mile west of large rock with bushes on top, near head of ravine, in granite rock; aluminum tablet stamped "2504"	2, 503. 640
Columbia River, 2.5 miles west of, in amphitheater, 1,000 feet west of black rock slide, 600 feet north of head of gully breaking into Columbia Valley; top of granite marked "2249"	2, 249. 03
Columbia River, 2 miles west of, 1 mile south of pines on slope, 600 feet north of spring gully; on large low lava rock marked "1872"	1, 872. 46
Bridgeport, 6 miles northeast of, 0.25 mile northwest of road, 1,000 feet south of spring, on rocky point, in basalt rock; aluminum tablet stamped "1249"	1, 248. 612
Indian cabin, 1 mile northeast of, 1,000 feet west of road and mouth of coulee, 30 feet south of gully; on top of basalt boulder on small bench marked "1088"	1, 089. 072
Bridgeport Ferry, 2.5 miles northeast of, 1,000 feet east of Indian tepee and spring, 40 feet east of road, 20 feet west of granite outcrop; iron post stamped "969"	969. 122
Bridgeport Ferry, 1 mile east of, 70 feet north of road, point of ridge; on granite boulder marked "933"	932. 52
Bridgeport Ferry, 500 feet east of north tower, at junction of road; iron post stamped "843"	842. 739

	Feet.
Bridgeport, 0.8 mile west of, 2,000 feet southeast of south ferry tower, at road junction; iron post stamped "817 T".....	816. 666
Bridgeport, 2.25 miles northwest of, 100 feet south of road, foot of small rocky point; on granite rock marked "932".....	931. 67
Bridgeport, 3.5 miles west of, top of hill east of Koepp ranch, at road center; iron post stamped "934-5".....	934. 086
Koepp ranch, 0.3 mile southeast of, at foot of hill, 15 feet south of road; on granite rock marked "825".....	824. 633
Brewster Ferry, 4.0 miles east of, 1,500 feet northeast of Cobb ranch house, road branch north into Cobb ranch; iron post stamped "794".....	793. 561
Brewster Ferry, 1.25 miles east of, 4 feet north of road, in grassy hollow; on top of white granite marked "769".....	767. 99
Brewster Ferry, 0.25 mile east of, 800 feet east of road junction, 8 feet east of road; on white granite marked "821".....	818. 98
Central Ferry, south tower, 1,000 feet southeast of, 200 feet east of gully, at road junction to ferry, 100 feet northeast of; iron post stamped "818 T"....	816. 843

CENTRAL FERRY (WEST OF BREWSTER) SOUTH ALONG WAGON ROAD 3 MILES (SPUR LINE).

Central Ferry, 0.7 mile south of, southeast corner of barn at; on small stone marked "1102".....	1, 101. 37
Columbia River, 1.5 miles south of, 800 feet south of schoolhouse, 4 feet west of road; white rock marked "+1305".....	1, 304. 06
Central Ferry, 2.5 miles south of, 1.0 mile south of schoolhouse, 1,000 feet north of small house, 60 feet west of spring branch, east side of road; iron post stamped "1736".....	1, 735. 331

MALOTT WEST ALONG HIGHWAY TO OGLESBY RANCH, NEAR RED SHIRT.

Malott, 1.5 miles southwest of, 6 feet south of road; old bench mark on flat rock in place opposite cliff marked "820".....	813. 69
Stage road on Okanogan, 1.0 mile northwest of, 50 feet north of road, on first bench north of horseshoe bend in road; on granite boulder marked "1312".....	1, 311. 68
Stage road at Chiliwist Creek, 2.3 miles northwest of, 0.25 mile northeast of White ranch, 6 feet east of road; flat rock marked "1511".....	1, 510. 83
Schoolhouse, 0.8 mile southeast of, 1,700 feet northwest of Indian cabin, 16 feet west of road, in root of fir tree; nail marked "1693".....	1, 693. 40
Schoolhouse, 150 feet northeast of, 20 feet northwest of road, in root of large pine tree; nail marked "1960".....	1, 959. 61
Schoolhouse, 2,900 feet northeast of, 0.7 mile east of Mason ranch, 15 feet southeast of crossroads, in root of pine tree; nail marked "2034".....	2, 033. 59
Schoolhouse, 0.8 mile northeast of, 0.25 mile east of Mason ranch, 130 feet northeast of fence corner, 30 feet east of road, in cleft rock; bronze tablet stamped "2036".....	2, 036. 445
Deneen ranch, west side bars, 550 feet northwest of, 50 feet west of road, in group of rock; on rock in place marked "2398".....	2, 398. 06
Deneen ranch, 1.0 mile northwest of, 0.25 mile southwest of Wenner cabin, 20 feet east of road, on big flat, in root of pine tree; nail marked "2620"....	2, 620. 32
Wenner cabin, 0.5 mile west of, at foot of steep hill to summit, 500 feet south of road, 40 feet northeast of, in granite rock among group of boulders; aluminum tablet stamped "2720".....	2, 718. 784
Summit of Chiliwist road, 0.8 mile north of, 12 feet north of road, bench foot of steep rise, in root of pine tree; nail marked "3007".....	3, 006. 442
Summit of Chiliwist, Silver road at, 20 feet south of road, in granite boulder; aluminum tablet stamped "3810".....	3, 810. 054

	Feet.
Summit, 1.0 mile west of, 600 feet north of turn in road at foot of steep rise, 10 feet east of road; top of rock marked "3595"	3, 594. 43
Summit, 2.0 miles northwest of, 0.25 mile south of grassy meadow, 30 feet east of road, on small ridge, in root of pine; nail marked "3536"	3, 535. 37
Silver stage road junction, 3.8 miles east of, 6 feet south of road, east side of flat, in root of pine; nail marked "3378"	3, 377. 27
Silver stage road junction, 2.5 miles east of, 0.25 mile west of road through balm trees, 50 feet north of road, in root of pine tree; nail marked "3359" ..	3, 359. 26
Silver stage road junction, 1.5 miles east of, 0.25 mile northwest of road through saddle, 50 feet north of road, group of moraine bowlders, in granite rock; aluminum tablet stamped "3174"	3, 174. 966
Junction of Silver-Brewster stage road and Chiliwist Creek road, 5.5 miles east of Silver, in root of fir; nail marked "2582"	2, 581. 62
Lyde ranch, 1.3 miles east of, north side of road, at granite outcrop; on top of bowlder marked "2278"	2, 277. 21
Lyde ranch house, 0.25 mile east of, 6 feet north of road, corner of wire fence at, in root of pine; nail marked "2025"	2, 024. 53

RUBY SOUTHEAST ALONG HIGHWAY TO ALMA.

Ruby, 1.5 miles south of, 0.5 mile north of Broughton ranch, 6 feet west of road; top of large bowlder marked "1735"	1, 731. 98
Broughton ranch, 0.5 mile south of, 1,000 feet south of bridge, 4 feet west of road, in root of pine; nail marked "1706"	1, 702. 72
Jones ranch, 3,400 feet south of, 8 feet west of road, in root of large pine tree; nail marked "1521"	1, 518. 26
Clover schoolhouse, 400 feet northeast of, 600 feet south of road junction, 1,000 feet north of bridge over Salmon Creek, 100 feet east of road, in top of large rock; bronze tablet stamped "1425"	1, 421. 767
Clover schoolhouse, 3,000 feet southeast of, 2,816 feet northwest of Osterberg ranch, 4 feet north of road; top of rock marked "1479"	1, 475. 59
Alma, 3.0 miles northeast of, 460 feet southeast of road junction, 100 feet northwest of falls in irrigation ditch, 20 feet west of road; on flat rock marked "1361"	1, 357. 70
Alma, 150 feet southwest of store and post office, at fence corner; iron post stamped "895"	887. 740

RIVERSIDE SOUTHEAST ALONG ROAD UP JOHNSON CREEK TO WATER RANCH.¹

T. 35 N., R. 26 E., sec. 32, 600 feet west of Water ranch house, 300 feet north of Johnson Creek, 10 feet south of road, in large bowlder; bronze tablet stamped "1332 T"	1, 331. 278
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CHOPAKA QUADRANGLE.

SNOLDEN RANCH ALONG HIGHWAY NORTHEAST TO BOONE RANCH, THENCE NORTHWEST TO CONCONULLY, THENCE SOUTHWEST TO SNOLDEN RANCH.

Ruby City schoolhouse, 1,000 feet northeast of, 500 feet east of bridge over creek, 10 feet west of road, in root of pine tree; nail marked "1880"	1, 876. 831
Conconully, 3.0 miles southeast of, at northeast corner of Boone ranch, 25 feet west of road forks of Conconully-Riverside and Conconully-Brewster stage roads, in corner of fence; iron post stamped "2036"	2, 033. 632
Conconully, 0.8 mile east of, top of steep grade on Brewster road, north side of road, in root of fir; nail marked "2382"	2, 379. 28

¹ Line run twice.

	Feet.
Conconully, 600 feet north of schoolhouse at forks of Brewster stage road and Loop road, in cottonwood tree; nail marked "2294"	2, 291. 26
Conconully, 2.0 miles south of, 50 feet west of West Fork of Salmon Creek, 4 feet south of road; top of bowlder marked "2348"	2, 345. 36
Milepost 3, 25 feet east of, 3 feet south of road, in root of fir tree; nail marked "2728"	2, 724. 94
Old log cabin, 100 feet south of, 50 feet east of road, in root of fir tree; nail marked "3103"	3, 100. 654
Milepost 6, 200 feet east of; top of bowlder in road, marked "3236"	3, 233. 44

CONCONULLY ALONG HIGHWAY NORTH TO FISH LAKE, THENCE EAST TO WAGONROAD COULEE,
THENCE SOUTH TO RIVERSIDE. .

Conconully (Okanogan County) courthouse, 10 feet north of front gallery, 6 feet west of steps; iron post stamped "2361"	2, 358. 343
Conconully, 1.5 miles east of, 500 feet north of lake, 20 feet north of road, in root of pine tree; nail marked "2329"	2, 325. 79
Summit, 0.25 mile south of, east side of road, in tree; nail marked "2340" ..	2, 337. 51
Old sawmill site, 0.25 mile south of, 25 feet west of road, in root of fir tree; nail marked "2232"	2, 229. 40
Speckman ranch, 50 feet south of house, 50 feet north of barn, east side of road, in root of tamarack tree; nail marked "1827"	1, 824. 26
Speckman ranch, 400 feet north of house, at forks of road up Fish Lake and the Loomis-Conconully stage road, 0.5 mile north of Fish Lake; east side of road; iron post stamped "1822"	1, 819. 417
Sehalon ranch, 400 feet north of house, 0.25 mile east of Fish Lake, 50 feet south of road, in root of pine tree; nail marked "1811"	1, 808. 37
Noyes ranch, 400 feet north of house, 20 feet north of road, at summit of divide at head of Pine Creek, in root of cottonwood tree; nail marked "2182"	2, 179. 86
Mud Lake; surface of water, November 20, 1902.....	2, 116. 5
Reed's store, 50 feet south of, 125 feet north of road, 0.25 mile east of forks of road up north fork of Pine Creek and road up south or main fork of Pine Creek; iron post stamped "2119"	2, 116. 395
Fate ranch, 150 feet south of east gate to, at northwest corner of log schoolhouse; top of corner stone marked "2024"	2, 021. 85
Wagonroad Coulee, 4.0 miles north of Riverside Wash, 75 feet east of road, 0.5 mile east of small lake; iron post stamped "1230"	1, 222. 008
Riverside, on west bank of Okanogan River, 5 feet north of road to ferry; iron post stamped "865"	857. 257

FISH LAKE ALONG HIGHWAY NORTH TO LOOMIS, THENCE EAST TO OROVILLE.

Cockron ranch, 30 feet west of barn, 300 feet east of house, 60 feet east of gate, 700 feet north of north end of Blue Lake, east side of road; iron post stamped "1683"	1, 680. 538
Hall ranch, 600 feet south of house, 50 feet east of road, in root of pine tree; nail marked "1500"	1, 497. 33
Chilson ranch, 1.0 mile south of, 10 feet east of road, 200 feet east of creek, on large bowlder; chisel mark marked "1411"	1, 407. 58
Hall ranch, 600 feet south of house, 50 feet east of road, 10 feet south of bearing tree to sec. 26, T. 38 N., R. 25 E.; iron post stamped "1501"	1, 498. 474
Chilson ranch, 300 feet south of gate, east side of road; top of stone marked "1332"	1, 328. 39
Loomis, northeast corner of post office, on south side of main street, 15 feet west of front door of Loomiston Trading Co.'s store, at edge of sidewalk; iron post stamped "1310"	1, 306. 478

Riley ranch, at northeast corner of, 20 feet south of Oroville road, 10 feet west of sheep chute road, in post; nail marked "1419"	1, 415. 83
Spectacle Lake, at west end of; surface of water, October 27, 1902	1, 347. 8
Bright Spot Mining Camp, 1,000 feet south of bunk house and tunnel; 50 feet southeast of road, at top of steep grade; iron post stamped "1916 T"	1, 909. 470
Golden, 2.0 miles south of, 0.25 mile west of lake, 10 feet west of road; top of stone	1, 931. 96
Wannacut Lake; surface of water on November 14, 1901	1, 845. 5
Golden, 10 feet south of porch to old store, 300 feet north of Spokane mill, 10 feet north of road; iron post stamped "1891 T"	1, 884. 310

RILEY RANCH (EAST OF LOOMIS) ALONG HIGHWAY SOUTHEAST TO POINT NEAR TONASKET.

Barberry ranch, 1.0 mile south of, 50 feet east of road; on top of large boulder	1, 685. 75
King ranch, 0.5 mile north of, 150 feet east of road; top of large boulder	1, 603. 13
Loyd Beall ranch, 300 feet north of house, 25 feet northeast of corral, 15 feet east of road; iron post stamped "1459"	1, 455. 565

LOYD BEALL RANCH SOUTHWEST TO AENEAS CREEK AND LAKE (SINGLE SPUR LINE).

Aeneas Creek, crossing of county road (Tonaskett and Conconully road), 100 feet south of creek ford, 50 feet southeast of road, on side of hill; top of boulder marked "1389"	1, 385. 71
Aeneas Lake; surface of water on December 2, 1902	1, 358. 0

LOOMIS ALONG HIGHWAY NORTHWEST UP SIMILKAMEEN RIVER TO CANADIAN BOUNDARY (SPUR LINE).

Loomis, 2.0 miles north of, 50 feet east of road, on high point, in root of lone pine tree; nail marked "1277"	1, 274. 381
Alderman ranch, 1,000 feet north of house, 10 feet east of road; top of large boulder marked "1192"	1, 188. 87
Palmer Lake; surface of water at south end on October 30, 1902	1, 147
Pitman ranch, 1,000 feet west of house, 12 feet north of gate, 300 feet east of Palmer Lake, on east side of road; iron post stamped "1177"	1, 173. 673
Pershall ranch, 500 feet west of house, 100 feet west of road, 150 feet east of Palmer Lake, in root of pine tree; nail marked "1162"	1, 159. 43
Thein ranch, 150 feet north of house, 5 feet north of road, 100 feet from lake; top of boulder in place marked "1190"	1, 186. 617
Edwards ranch, 0.25 mile south of house, at forks of road, up Similkameen River and road down river to Nighthawk post office; iron post stamped "1166 T"	1, 163. 121
Golden Zone stamp mill, 800 feet southeast of, 200 feet west of road; point on large boulder marked "1200"	1, 196. 65
International Boundary Line, 0.25 mile south of, 300 feet northeast of Indian cabin, 3 feet east of road, 0.25 mile west of Similkameen River; iron post stamped "1197"	1, 194. 316

PALMER LAKE NORTH ALONG HIGHWAY DOWN SIMILKAMEEN RIVER TO CANADIAN BOUNDARY.

Clark ranch, 0.25 mile west of, 3 feet south of road, 10 feet east of telephone pole; top of boulder	1, 412. 19
Blue Lake, 150 feet south of, 10 feet north of road; top of stone	1, 794. 85
Blue Lake, surface of water on November 13, 1901	1, 764. 7
Blue Lake, 0.25 mile south of, 4 feet east of road; top of boulder	1, 852. 47

OSOYOOS QUADRANGLE.

TONASKET ALONG HIGHWAY NORTHWEST TO BRIGHT SPOT MINING CAMP.

	Feet.
Tonasket, 2.0 miles west of, 10 feet west of road; iron post stamped "1322 T" .	1, 314. 998
Watkins ranch, 100 feet east of corral, 25 feet east of road near section corner; top of stone.....	1, 320. 29

TONASKET NORTH ALONG HIGHWAY TO OROVILLE.

Tonasket post office, 200 feet southeast of, 150 feet north of barn, near ferry derrick, on west bank of Okanogan River; iron post stamped "904".....	895. 875
Griffin ranch, 0.25 mile west of house at mouth of lane, 30 feet west of road, 0.5 mile west of Okanogan River; iron post stamped "958 T".....	950. 708
McDonald ranch, 1.5 miles south of, 0.25 mile south of Loomis road forks, 20 feet east of road; top of large boulder marked "984".....	976. 84
Battomly ranch, southwest of house, 15 feet west of road, about 0.5 mile west of Okanogan River; iron post stamped "945 T".....	937. 162
Battomly ranch, 0.25 mile west of house, 10 feet west of road; top of large boulder marked "968".....	960. 99
Similkameen River; surface of water.....	911

OROVILLE SOUTHWEST ALONG HIGHWAY TO BLUE LAKE.

Monroe ranch, 1.0 mile west of, 5 feet north of road, in bottom of telephone pole; nail marked "1342".....	1, 334. 36
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RIVERSIDE NORTHEAST ALONG HIGHWAY TO ANGLIN, THENCE NORTHWEST TO TONASKET.

Cutts ranch, 1.0 mile south of, 20 feet east of road, 50 feet east of small creek, near milepost No. 11; iron post stamped "2183".....	2, 175. 025
Chewiliken Valley, foot of, at north side of road at beginning of steep grade; top of large boulder marked "2586".....	2, 578. 25
Chewiliken Valley, 1.0 mile north of Cutts ranch, in root of fir tree 15 feet east of road; nail marked "2687".....	2, 679. 84
Foster ranch (Chewiliken Valley), 300 feet west of house, 150 feet south of road, in root of 36-inch pine tree; nail marked "3057".....	3, 049. 82
Talkire Lake, surface of water.....	3, 008
Talkire Lake, 0.5 mile north of, 5 feet east of road; top of stone marked "3147".....	3, 139. 73
Summit, divide between Chewiliken Valley and Bonaparte Creek, 10 feet east of State road, 500 feet north of small lake; iron post stamped "3216".....	3, 208. 677
Griggs ranch, 0.5 mile southwest of house, 5 feet east of road, in root of pine tree; nail marked "2522".....	2, 514. 34
Junction of State road (locally known as the Cutoff road) and main road up Bonaparte Creek, 200 feet north of Bonaparte Creek and 5 feet north of county road; iron post stamped "2116".....	2, 108. 651
Pasley ranch, 0.8 mile east of house, north side of road, top of stone; tree near marked "U.S.B.M. 2091".....	2, 083. 92
Pasley ranch, 1.0 mile west of, at mouth of deep canyon, 25 feet south of wagon road; top of large boulder marked "1992".....	1, 984. 14
Government Indian school, 2.5 miles northeast of, north side of road, road up Antoine Valley 0.25 mile west; top of large stone marked "1482".....	1, 474. 26
Tonasket post office (Parry's ferry), 300 feet southeast of store, 150 feet northeast of barn, at ferry derrick in west bank of Okanogan River; iron post stamped "904 T".....	895. 875

TONASKET ALONG HIGHWAY NORTHEAST TO ANTOINE VALLEY (SPUR LINE).

Antoine Valley, 1.0 mile northeast of Duffy ranch, 0.25 mile north of Government sawmill road, at township corner of Ts. 37 and 38 N., Rs. 27 and 28 E.; iron post stamped "1499 T".....	Feet. 1,489.574
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ANGLIN ALONG HIGHWAY NORTHEAST TO VAN BRUNT RANCH.

Junction of State road and road along Bonaparte Creek, 5 feet west of road and 200 feet north of creek; iron post stamped "2116 T".....	2,108.651
Paterson ranch, 1.5 miles west of, 20 feet south of road, in root of pine tree; nail marked "2283".....	2,275.84
Best ranch, 0.25 mile west of house, north side of road, at northwest corner of fence; top of stone marked "2335".....	2,327.95
Best ranch, 1.0 mile east of, 100 feet south of road, near pine tree marked "U.S.G.S.;" top of stone marked "2512".....	2,504.64
Bingham Flat, east end of, 10 feet north of road; top of stone marked "3272".....	3,264.14
Lamming store, 100 feet north of, 5 feet north of road crossing Bonaparte Creek, 10 feet south of creek; iron post stamped "3333 T".....	3,325.936
Van Brunt ranch, 300 feet east of house, in forks of road; iron post stamped "3711 T".....	3,714.299

BEST RANCH ALONG HIGHWAY SOUTHEAST TO JOE AENEAS RANCH (SPUR LINE).

Best ranch; 500 feet northeast of house, 30 feet north of road, 20 feet south of creek crossing, near mouth of Aeneas Valley; iron post stamped "2376 T".....	2,368.232
Kayle ranch, 0.25 mile east of house, at crossroads, about 3.0 miles from mouth of Aeneas Valley; iron post stamped "2541 T".....	2,533.097
Rupert ranch, 500 feet east of house, 50 feet north of garden fence, in root of pine tree; nail marked "2626".....	2,618.32
Chief Aeneas ranch, 400 feet south of house, 4 feet east of road, 200 feet southwest of barn; iron post stamped "2625 T".....	2,617.387
Joe Aeneas ranch, 0.25 mile southeast of, 20 feet north of road, in top of small hill; iron post stamped "2676".....	2,668.576
Koby ranch, 0.8 mile northwest of, 1,000 feet southeast of bridge over creek, 100 feet east of road; top of stone marked "2455.572".....	2,448.10

BEAVER CREEK (HARVEY RANCH) ALONG HIGHWAY NORTHWEST TO CHESAW, THENCE WEST TO OROVILLE.

Fork road to Crystal Butte mine, 100 feet north of; top of large stone marked "3743".....	3,736.353
Chesaw, 200 feet north of United States customhouse, opposite Morrison Brothers' hotel; iron post stamped "2917 T".....	2,910.433
Chesaw schoolhouse, southeast corner; top of stone marked "3013".....	3,006.16
Field ranch, 0.5 mile west of, south side of road; top of boulder marked "3893".....	3,886.14
He He Rock, 1,000 feet west of, summit between Meyers Creek and Okanogan River, 5 feet west of road; iron post stamped "4091 T".....	4,084.078
Kipling post office, 100 feet southwest of, 200 feet north of Tonasket Creek, 5 feet south of road; iron post stamped "3698 T".....	3,691.005
Hawthorn store, 300 feet west of, fork road; iron post stamped "3387 T".....	3,380.040
McDonald ranch, 0.8 mile east of, 20 feet north of road, 400 feet north of Tonasket Creek; iron post stamped "1959 T".....	1,951.537
Grayson ranch house, 400 feet east of, north side of road; top of large stone marked "1589".....	1,582.09
Okanogan River, 1.5 miles east of, in ford of Tonasket Creek; top of stone marked "1117".....	1,109.85

Oroville, southeast corner of lot at corner of Main and River streets, 200 feet south of Oroville Trading Company's store; iron post stamped "928 T".....	Feet. 920. 572
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CHESAW NORTH ALONG HIGHWAY TO CANADIAN BOUNDARY LINE (SPUR LINE).

Chesaw, 0.25 mile north of, west side of road; top of stone marked "2886" .	2, 878. 59
International boundary line, east side of road, 600 feet west of Meyer's Company; iron post stamped "2631 T"	2, 624. 199
Boundary monument No. 75, top of.....	2, 726. 598
Boundary monument No. 75, base of.....	2, 721. 98

OROVILLE NORTH ALONG HIGHWAY TO CANADIAN BOUNDARY LINE (SPUR LINE).

Osoyoos Lake, at foot; surface of water October 21, 1901.....	911. 6
Okanogan Smith ranch, at fence corner at corner of lane just east of house; top of rock marked "952"	944. 53
International boundary line, 0.1 mile east of Osoyoos Lake, 800 feet west of road, 2 feet south of boundary monument No. 89; iron post stamped "1058 T"	1, 050. 382

OROVILLE NORTHWEST ALONG HIGHWAY UP SIMILKAMEEN RIVER 4 MILES.

Similkameen River, 300 feet south of, south side of road, on high bluff; top of rock marked "1097"	1, 089. 748
Okanogan Free Gold Mining Camp, 100 feet east of bunk house, 800 feet east of stamp mill; top of large bowlder marked "1224"	1, 216. 48
Okanogan Free Gold Mining Camp, 1.0 mile northwest of, north side at end of road, 0.5 mile east of Okanogan River, 0.5 mile south of falls; iron post stamped "1415 T".....	1, 407. 697

REPUBLIC QUADRANGLE.

REPUBLIC NORTHEAST ALONG KETTLE FALLS ROAD TO MISSOURI PERKINS RANCH (SPUR LINE).

Republic, 2.5 miles east of, 1,000 feet west of Republic Brewery, 5 feet south of road, at foot of steep grade; iron post stamped "2345 S".....	2, 348. 207
T. 37 N., R. 34 E., NW. $\frac{1}{4}$ sec. 19, 10 feet southeast of house on Missouri Perkins ranch, 5 feet west of State road; iron post stamped "4113 S".....	4, 117. 248

REPUBLIC SOUTH DOWN SANPOIL RIVER ROAD TO ALKIRE (SPUR LINE).

Rabbit Creek, 150 feet north of, on Sanpoil River, 10 feet east of road, 600 feet north of milepost 9; iron post stamped "2142 S".....	2, 145. 351
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REPUBLIC WEST ALONG STATE ROAD TO VAN BRUNT RANCH.

Republic, northeast corner of schoolhouse, in stone foundation at base of tower; aluminum tablet stamped "2500 S".....	2, 503. 137
Welsh sawmill, 1.0 mile west of, 3 feet north of road at point just east of steep grade; iron post stamped "2922 S".....	2, 925. 189
Limekiln, 1,000 feet east of, 3.0 miles east of Wauconda Mining Camp, 4 feet south of road; iron post stamped "3664 S".....	3, 667. 221
Van Brunt ranch, 300 feet east of house, at junction of Chesaw stage road and Okanogan State road; iron post stamped "3711 S".....	3, 714. 299

REPUBLIC NORTH ALONG COUNTY ROAD TO CURLEW.

Torboy, at west end of lane to Dessertelle ranch, east side of road at junction with Marcus State road; iron post stamped "2411 S".....	2, 414. 43
Curlew Lake, surface of water at south end of, May 14, 1901.....	2, 345

T. 38 N., R. 33 E., sec. 14, 100 feet south of ford, 5 feet north of road, at St. Peters Creek; iron post stamped "2217 S" 2, 220. 613 Feet.

CURLEW LAKE WEST ALONG TROUT CREEK ROAD TO TOWNSHIP CORNER (SPUR LINE).

T. 38 N., R. 32 E., 5 feet northwest of southeast corner, 400 feet west of house of McCool ranch; iron post stamped "2674 S" 2, 677. 079

MOUTH OF ST. PETERS CREEK EAST OVER TRAIL TO FORKS OF ST. PETERS CREEK (SPUR LINE).

T. 38 N., R. 34 E., 1,000 feet southeast of northwest corner of sec. 19, 0.5 mile east of forks of St. Peters Creek, 1.0 mile west of Olliver ranch, north side of road; iron post stamped "2839 S" 2, 842. 272

CURLEW EAST ALONG TRAIL UP LONG ALEX CREEK 2 MILES TO SEMORE RANCH (SPUR LINE).

Semore ranch, 0.8 mile east of, 100 feet south of Long Alex Creek, 5 feet south of road; iron post stamped "2399 S" 2, 402. 696

CURLEW NORTHEAST ALONG COUNTY ROAD TO NELSON (SPUR LINE).

Curlw, 800 feet south of post office, 100 feet south of Long Alex Creek, south side of road; iron post stamped "1814 S" 1, 817. 460

Goosmus Creek, 400 feet north of, 150 feet north of barn, 12 feet east of road; iron post stamped "1768 S" 1, 771. 397

UP GOOSMUS CREEK 2 MILES TO LOUIE RANCH (SPUR LINE).

Manuel Louie ranch, 300 feet north of southeast corner of fence, 10 feet east of fence, 10 feet west of road, about 0.3 mile north of Goosmus Creek; iron post stamped "2616 S" 2, 619. 560

CURLEW WEST ALONG KETTLE RIVER ROAD TO MIDWAY, B. C. (SPUR LINE).

Castello ranch, 2.0 miles west of, opposite mouth of Tonata Creek, 75 feet north of Kettle River, 5 feet north of wagon road; iron post stamped "1828 S" 1, 831. 810

T. 40 N., R. 32 E., sec. 27, at Lynch ranch, 0.2 mile east of mouth of Toroda Creek, 100 feet north of Kettle River, 10 feet north of road, 100 feet west of old stone building; iron post stamped "1851 S" 1, 854. 314

LYNCH RANCH VIA TORODA CREEK TO VAN BRUNT RANCH.

Cox ranch, 1.0 mile south of, about 0.6 mile north of Marias Creek, 400 feet west of Toroda Creek, 4 feet west of road; iron post stamped "2228 S" .. 2, 231. 101

Harvey ranch, 1,000 feet south of house, 50 feet south of junction of Chesaw and Toroda roads, 1,000 feet south of mouth of Beaver Creek, west side of road; iron post stamped "2460 S" 2, 463. 188

Toroda, 500 feet north of post office, at north end of street, west side of road, 100 feet south of small bridge over creek; iron post stamped "2932 S" .. 2, 935. 818

NEAR REPUBLIC EAST ALONG HIGHWAY TO MILEPOST 11.

Kaylor, 300 feet west of post office, about sec. 7, T. 36 N., R. 34 E., 150 feet east of milepost 8, on east bank of creek near pole bridge, south side of road; iron post stamped "3496 S" 3, 499. 513

Seward station (stage), 1.5 miles east of, 20 feet north of milepost No. 11, in root of fir tree; nail 4, 665. 57

MOUTH OF BEAVER CREEK NORTHWEST ALONG ROAD TO CHESAW (PORTION OF LINE).

Beaver Creek, 1,000 feet south of mouth, 50 feet south of road up Beaver Creek, 1,000 feet south of Harvey ranch, west side of road; iron post stamped "2460 T" 2, 463. 188

Pemberton ranch, 1.0 mile west of, north side of road, in root of fir tree; nail; marked "2520"	Feet. 2, 521. 381
Fish Lake, 5 feet above water surface, road north side	2, 557
Summit, 1.5 miles east of, 50 feet west of road, top of large boulder; marked "3401"	3, 402. 33
Milepost 4, 100 feet west of, 20 feet south of road, in root of large fir tree; nail; marked "3654"	3, 655. 721
T. 39 N., R. 30 E., southwest corner of sec. 12, 5 feet north of road; iron post stamped "4131 T"	4, 123. 952

NESPELEM QUADRANGLE.

ALKIRE VIA TRAIL UP FIRST WEST FORK OF SANPOIL RIVER TO COUNTY LINE (PART OF SPUR LINE).

Alkire, 200 feet east of Alkire Hotel, 150 feet south of store, in corner of fence 5 feet south of road; iron post stamped "1965 S"	1, 968. 010
Ts. 34 and 35 N., Rs. 31 and 32 E., 0.2 mile south of corner, 150 feet west of Okanogan County boundary line, 20 feet north of trail, in large boulder; aluminum tablet stamped "2295 S"	2, 298. 328

Bacon (15'), Chelan (30'), Coulee City (30'), Hicksville (15'), Jameson (30'), Moses Lake (15'), and Wilson Creek (15') quadrangles.

CHELAN, DOUGLAS, AND GRANT COUNTIES.

The elevations in the following list were determined by primary leveling extended from the precise-level line of the United States Coast and Geodetic Survey along the Northern Pacific Railway.

The leveling was done as follows: Coulee City and Wilson Creek quadrangles in 1903 by R. A. Farmer; Hicksville and Moses Lake quadrangles in 1903 by R. B. Shaw; Chelan quadrangle in 1898 by E. M. Fry, in 1897 by P. F. Byrne, and in 1903 by Farmer; Moses Jameson quadrangle in 1899 by Fry and in 1903 by Farmer; and Bacon quadrangle in 1903 by Farmer and Shaw and in 1909 by C. H. Semper. During 1910, in cooperation with the State, additional leveling in the Moses Lake quadrangle was done by D. S. Birkett.

CHELAN QUADRANGLE.

POINT ABOUT 7 MILES NORTH OF WENATCHEE NORTH ALONG ROAD UP WEST SIDE OF COLUMBIA RIVER AND UP KNAPP COULEE TO CHELAN.

T. 24 N., R. 20 E., sec. 26, Swakane Creek, near mouth of, 10 feet west of State road and 10 feet north of road up Swakane Valley; iron post stamped "696 T"	Feet. 696. 474
O'Connor's Ferry, 100 feet southwest of ferry derrick, top of granite boulder on west side of road	706. 2
T. 25 N., R. 21 E., north side of sec. 20, 250 feet northwest of Entiat River bridge, 150 feet northeast of store on north side of road; iron post stamped "696 T"	696. 707
T. 26 N., R. 21 E., south side of sec. 20, 200 feet northwest of J. T. Fisher house, 6.0 miles southwest of Knapp's ferry, near steam ferry landing; iron post stamped "705 T"	705. 392
Knapp's Ferry, fractional sec. 12, T. 26 N., R. 21 E., opposite Troy, 35 feet south of warehouse, at south side of granite boulder; iron post stamped "709 T"	709. 286

	Feet.
Knapp's Coulee, near northwest corner of cornfield, on top of large boulder (5 cubic yards) on stage road.....	1, 209. 13
Ts. 26 and 27 N., and Rs. 21 and 22 E., in Knapp's Coulee, 710 feet west of corner; iron post stamped "1370".....	1, 340. 00
Navarre's east fence, about 400 feet east of and about 60 feet south of road, top of large rock 6 feet high and 6 feet in diameter.....	1, 145. 76
Lakeside, about 100 feet from Lake Chelan, set inside of Capt. Johnson's fence; iron post stamped "1121".....	1, 091. 182
Lakeside, water level at wharf 4 p. m., August 13, 1897.....	1, 078
Lake Chelan, near gate 100 feet from, in root of pine tree; wire nail.....	1, 084. 48
Chelan, 125 feet left of road opposite cut bank, Chelan River; on top of boulder.....	1, 207. 99
Lake Chelan, water level on north side, 12.30 p. m., July 31, 1897.....	1, 079
Lakeside, at wharf in front of Lakeview Hotel, water level in Lake Chelan at 3 p. m., June 8, 1899.....	1, 080. 7
Chelan, 0.5 mile west of, 50 feet west of south end of bridge over Chelan River; top of boulder.....	1, 088. 93

COLUMBIA RIVER ALONG HIGHWAY NORTH UP NAVARRE COULEE TO SUMMIT OF RIDGE (SPUR LINE).

T. 27 N., R. 21 E., quarter corner secs. 16 and 21; top of corner stone.....	1, 465. 7
T. 27 N., R. 21 E., sec. 9, 300 yards southwest of log cabin, 40 feet east of road, on a knoll in clump of pine trees at top of ascent on south side of ridge; iron post stamped "1664 T".....	1, 664. 140

COLUMBIA RIVER NORTHWEST ALONG HIGHWAY UP ENTIAT VALLEY (SPUR LINE).

T. 26 N., R. 20 E., sec. 20, 200 feet north of Gray house, in northeast corner of fence 5 feet west of road, in granite boulder; aluminum bolt stamped "1316 T".....	1, 316. 618
T. 27 N., R. 19 E., sec. 2, 100 feet north of log house, 100 feet west of crib, east side of trail up Entiat River, in large granite boulder; aluminum bolt stamped "1680".....	1, 680. 824

COLUMBIA RIVER WEST ALONG HIGHWAY AND TRAIL UP SWAKANE CANYON AND SOUTH DOWN NEHOCKUM CANYON TO MISSION.

T. 24 N., R. 19 E., sec. 11, divide between Swakane and Nehockum canyons, 10 feet west of trail on summit of, in granite boulder; aluminum bolt stamped "3255".....	3, 255. 847
Mission, in front of Great Northern Railway station; top of rail.....	796. 1
Mission, 150 feet southwest of station, 100 feet south of railroad water tank, at corner in center of NW. $\frac{1}{4}$ sec. 4, T. 23 N., R. 19 E.; iron post stamped "797 T".....	797. 320

O'CONNOR'S FERRY ALONG HIGHWAY EAST TO WATERVILLE, THENCE NORTH TO KNAPP'S FERRY.

O'Connor's Ferry landing, 400 feet east of, 1.0 mile southwest of Orondo, on north side of road and east bank of Columbia River; iron post stamped "678 T".....	678. 864
T. 25 N., R. 22 E., 42 feet northeast of corner of secs. 29, 30, 31, and 32; iron post stamped "2771 T".....	2, 771. 510
T. 25 N., R. 22 E., corner of secs. 19, 20, 29, and 30, top of stone set for corner to.....	2, 799. 63
Waterville, Douglas County courthouse, in east wall of brick vault on south side of, 2 feet from ground and 2 feet from southeast corner of vault; aluminum tablet stamped "2617 T".....	2, 617. 361

Waterville, Douglas County Bank Building, in front wall of, 2 feet from sidewalk and 2 feet north of entrance door; aluminum tablet stamped "2624 T".....	Feet. 2, 624. 087
T. 26 N., R. 22 E., southeast corner of sec. 28, on front or south side, 1.5 feet from ground and 2 feet from southeast corner of foundation of schoolhouse; aluminum tablet stamped "3004 T".....	3, 004. 853
T. 26 N., R. 22 E., sec. 29, at head of Bunn's Canyon, 250 feet northwest of small house, 10 feet from east side of road; iron post stamped "3055 T".....	3, 054. 933
Troy post office, 1,000 feet southwest of, just opposite warehouse at Knapp's ferry, on left bank of Columbia River; iron post stamped "725 T".....	725. 225

DOBSON RANCH ALONG HIGHWAY BY CIRCUITOUS ROUTE TO SOUTH VIA BADGER MOUNTAIN TO WATERVILLE.

T. 24 N., R. 21 E., sec. 12, Badger Mountain, at junction of roads on summit of; iron post stamped "4145".....	4, 144. 954
T. 25 N., R. 22 E., southeast corner of sec. 33, 150 feet southeast of schoolhouse (district No. 3), on north side of road; iron post stamped "2736 T".....	2, 736. 151

JAMESON QUADRANGLE.

CHELAN NORTH ALONG STATE ROAD TO ALTA LAKE.

Chelan, 3.25 miles north of, 0.25 mile north of Wilson ranch house, 15 feet west of road; iron post stamped "1417 T".....	1, 417. 396.
Johnson ranch, northeast corner of, 200 feet west of road and south side of drain; on stone.....	1, 330. 97
Antoine ranch, 1.0 mile south of, 25 feet east of road, 500 feet north of mile-post 48; iron post stamped "1361 T".....	1, 361. 369
Willis ranch, 300 feet south of and 50 feet east of northeast corner of fence, side of road; highest point of stone.....	1, 460. 01
McCarty ranch, 0.5 mile north of, 100 feet east of State road, on highest point of stone set for quarter corner of township line.....	1, 425. 27

POINT NEAR BAIRD WEST ALONG HIGHWAY TO WATERVILLE.

T. 25 N., R. 26 E., 15 feet south of standard section corner to secs. 35 and 36, Baird, 2.5 miles west of; iron post stamped "2441 T".....	2, 441. 381
T. 25 N., R. 26 E., corner of secs. 27, 28, 33, and 34, 520 feet south of, 20 feet north of road, near telephone pole 533; iron post stamped "2386 T".....	2, 386. 957
Telephone pole 641, 4 feet west of; iron post stamped "2185 T".....	2, 185. 559
White Sulphur Springs, 400 feet north of; top of large rock marked with circle of paint; marked "1951".....	1, 951. 540
White Sulphur Springs, 0.25 mile west of, 10 feet north of road; iron post stamped "1883 T".....	1, 883. 797
Moses Coulee, at bottom of, west side of, 6 feet west of telephone pole; iron post stamped "1670 T".....	1, 670. 480
"Dewey" triangulation station, top of bronze tablet stamped "2609 T"....	2, 609. 035
Farmer, 2.5 miles east of, 8 feet west of telephone pole 915; iron post stamped "2539 T".....	2, 539. 822
Farmer, 1.0 mile west of, 5 feet east of telephone pole 1033; iron post stamped "2371 T".....	2, 370. 887
Telephone pole 1144, 4 feet east of; iron post stamped "2505 T".....	2, 505. 673
Telephone pole 1241, 6 feet east of; iron post stamped "2472 T".....	2, 472. 339
Douglas, 0.5 mile north of, 10 feet north of telephone pole 1336; iron post stamped "2509 T".....	2, 509. 232

CHELAN SOUTHEAST TO CHELAN FALLS (SPUR LINE).

Coulee, at north end of, 48 feet east from pine tree 15 inches in diameter near rock slide; top of rock 2 by 5 by 2 feet.....	Feet. 1,179.40
Chelan River, near large rock bluff near head and left of gulch opening into; top of rock.....	996.0
Chelan Falls, at southwest corner of intersection of Chelan Avenue and First Street, near northeast corner of hotel; iron post stamped "764"....	733.702

COULEE CITY QUADRANGLE.

SPRAGUE WATER TANK NORTH ALONG NORTHERN PACIFIC RAILWAY TO COULEE CITY, THENCE WEST ALONG HIGHWAY TO POINT NEAR BAIRD.

Milepost 8, 250 feet north of, west of track; iron post stamped "1522 T" ..	1,522.932
Milepost 7, 4 feet east of; top of iron peg 4 feet long in ground, marked "1552" ..	1,522.27
Milepost 5, 1,200 feet south of, 20 feet east of track; iron post stamped "1647 T" ..	1,647.386
Coulee City, 2.0 miles east of, 350 feet north of milepost 2, 200 feet north-west of railroad crossing; iron post stamped "1711 T" ..	1,711.857
Coulee City, southeast corner of station, 4 feet east of; iron post stamped "1584 T" ..	1,584.089
Coulee City, 3.1 miles west of, 8 feet north of telephone pole 109, south of road; iron post stamped "1602 T" ..	1,602.292
Coulee City, 6.0 miles west of, 10 feet north of telephone pole 211; iron post stamped "2240 T" ..	2,240.821
T. 25 N., R. 27 E., 20 feet south of standard corner to secs. 32 and 33, Baird, 1.0 mile east of; iron post stamped "2452 T" ..	2,452.612

ELMIRA WEST ALONG NORTHERN PACIFIC RAILWAY TO COULEE CITY.

Hartline, on Northern Pacific Railway, east of station; iron post stamped "1911 T" ..	1,911.443
Hartline, 5.25 miles west of, at milepost 102; iron post stamped "1821 T" ..	1,820.510

BACON QUADRANGLE.

MOSES LAKE WEST ALONG HIGHWAY TO EPHRATA.

Moses Lake, 2.9 miles north of, 10 feet west of road, in granite outcrops; tablet stamped "1089 T" ..	1,088.949
Moses Lake, 6.0 miles north of, 8 feet southwest of road, in 2 by 2 foot bowl-der 1 foot above ground; tablet stamped "1274 T" ..	1,273.949

POINT 4 MILES SOUTHEAST OF EPHRATA SOUTHEAST AND NORTH ALONG HIGHWAY TO GREAT NORTHERN RAILWAY (PORTION OF LINE).

Ephrata, 6.0 miles south of, on road down east side of Moses Lake, west margin of road; top of large rock marked "U. S. □ B. M. 1130" ..	1,129.90
T. 21 N., R. 27 E., southwest corner of sec. 33, Ephrata, 7.0 miles south of; iron post stamped "1066" ..	1,066.375
Gibbons ranch, 1.0 mile north of, on west margin of road; top of rock marked "U. S. □ B. M. 1069" ..	1,069.13
Crab Creek, Joe Ogen ranch, about 800 feet northwest of house, at corner of wire fence; iron post stamped "1071" ..	1,070.743
Crab Creek, at angle in road, opposite ranch house and sheep pens, west side of road; top of large rock marked "U. S. □ B. M. 1079" ..	1,079.68
Crab Creek, 1.6 miles south of railroad, on east side of road, top of large rock marked "U. S. □ B. M. 1124" ..	1,124.05
Milepost 1596, 4 feet east of; iron post stamped "1251 T" ..	1,251.724

ADRIAN SOUTH ALONG HIGHWAY TOWARD MOSES LAKE (SPUR LINE).

	Feet.
Milepost 1590, 4 feet east of; iron post stamped "1188 T"	1, 188. 334
Adrian, 2.8 miles south of, at Cowell ranch house, 30 feet south of house, at corner of chicken yard; iron post stamped "1210"	1, 210. 278
Adrian, 3.6 miles south of, in small coulee at north end, west side; top of rock marked "U. S. □ B. M. 1173"	1, 174. 18
Adrian, 4.7 miles south of, 1,200 feet south of G. M. Walher house, 100 feet north of wire fence; top of outcrop marked "U. S. B. M. 1165"	1, 164. 81

POINT NEAR EPHRATA NORTHEAST ALONG GREAT NORTHERN RAILWAY TO ADRIAN.

Milepost 1596, 4 feet east of; iron post stamped "1251 T"	1, 251. 724
Milepost 1593, 4 feet east of; iron post stamped "1233 T"	1, 233. 050
Milepost 1590, 4 feet east of; iron post stamped "1188 T"	1, 188. 334

ADRIAN EAST ALONG GREAT NORTHERN RAILWAY TO POINT NEAR WILSON CREEK (SPUR LINE).

Milepost 1587, 4 feet east of; iron post stamped "1252 T"	1, 252. 238
Stratford, 5 feet west of milepost 1584; iron post stamped "1277 T"	1, 277. 253
Milepost 1581, 150 feet north of; iron post stamped "1259 T"	1, 259. 855
Wilson Creek Wash, 2.0 miles west of, at road crossing, 8 feet east of sign- board; iron post stamped "1272 T"	1, 272. 870

ADRIAN NORTH ALONG NORTHERN PACIFIC RAILWAY TO COULEE CITY (PORTION OF LINE).

Milepost 18, 12 feet north of, 20 feet west of track; iron post stamped "1351 T"	1, 351. 995
Milepost 15, 100 feet north of, east of track; iron post stamped "1489 T" ..	1, 489. 564
Sunbath, 400 feet south of section house, 30 feet west of track; iron post stamped "1522 T"	1, 522. 711

WILSON CREEK QUADRANGLE.

ADRIAN EAST ALONG GREAT NORTHERN RAILWAY TO POINT NEAR WILSON CREEK (PORTION OF
SPUR LINE).

Milepost 1581, 150 feet north of; iron post stamped "1259 T"	1, 259. 855
Wilson Creek Wash, 2.0 miles west of, at road crossing, 8 feet east of sign- board; iron post stamped "1272 T"	1, 272. 870

HICKSVILLE QUADRANGLE.

LIND WEST ALONG ROAD AND TRAIL TO MOSES LAKE (PORTION OF LINE).

T. 18 N., R. 30 E., 750 feet east of center of sec. 20, 27.1 miles west of Lind; 75 feet west of old trail; iron post stamped "1153 T"	1, 152. 836
T. 18 N., R. 29 E., in SW. $\frac{1}{4}$ sec. 13, 8 feet north of old McMoman trail, on summit of very small ridge running north and south, 30 miles west of Lind; iron post stamped "1157 T"	1, 156. 875
Lind, 33 miles west of, 20 feet west of road, 100 feet north of forks in road, 600 feet east of north of small shanty; iron post stamped "1225 T"	1, 224. 694
T. 19 N., R. 29 E., northwest corner of sec. 20, 39.3 miles west of Lind, 7 feet north of road; iron post stamped "1189 T"	1, 188. 569

MOSES LAKE QUADRANGLE.

LIND WEST ALONG ROAD AND TRAIL TO MOSES LAKE (PORTION OF LINE).

T. 19 N., R. 28 E., in sec. 24, 42.6 miles northwest of Lind, east edge of Moses Lake, 300 feet northwest along east side of lake, in 6-foot by 8-inch rock 2 feet above ground; tablet stamped "1049 T"	1, 048. 678
Moses Lake, surface of water, September 28, 1903	1, 045. 9

MOSES LAKE, BENCH MARKS IN VICINITY ESTABLISHED FROM WATER SURFACE:

Moses Lake, at foot of, 50 feet east of edge of, 40 feet south of dim road, in 2 by 4 foot rock, 1 foot out of ground; tablet stamped "1070 T"	Feet. 1,069.702
Moses Lake, east side of, in T. 20 N., R. 28 E., a trifle east of triangulation station Lewis, in large loose bowlder by water's edge; tablet stamped "1049 T"	1,049.283

MOSES LAKE NORTHWEST ALONG HIGHWAY TO EPHRATA.

Moses Lake, 15 feet west of, across head of lake from very old haystack, in large flat-topped bowlder (granite) 6 by 8 by 3 feet high; tablet stamped "1049 T"	1,049.081
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POINT 3 MILES NORTH OF NORTH END OF MOSES LAKE SOUTH ALONG ROAD WEST OF LAKE TO MAE, THENCE WEST TO POINT 2 MILES SOUTH OF MORRISON.

T. 21 N., R. 27 E., 0.1 mile west of north-south line between secs. 32 and 33, on township line and south line of sec. 32, 7 miles south of Ephrata; iron post stamped "1066"	1,066.375
Moses Lake, 2.9 miles north of, 10 feet west of road, in granite outcrop; aluminum tablet stamped "1089 T"	1,088.949
Drumhiller ranch, 0.8 mile south of, 0.3 mile west of Crab Creek, 45 feet east of road and 30 feet west of north-south fence; point on basalt bowlder marked "U. S. 1065.6 B. M."	1,065.55
Moses Lake, 1.5 miles north by 0.5 mile west of head of, 2 miles south of Drumhiller ranch house, 1.3 miles north of J. Sargent ranch house, 175 feet east of road, 175 feet south of fence corner, in granite bowlder 4 by 4½ by 4 feet; aluminum tablet stamped "1092 WASH"	1,092.394
Moses Lake, 0.25 mile west of, intersection of roads on bench, 500 feet south of, on east fork and 0.6 mile south of head of lake; point on basalt bowlder 2½ by 1½ by 1½ feet, marked "U. S. 1117 B. M."	1,117.32
Moses Lake, 1.3 miles south of head of, at top edge of mesa, 200 feet west of lake and 119 feet above present surface of lake, near section line between secs. 33 and 34, T. 20 N., R. 27 E., 15 feet east of road; iron post stamped "1157 WASH"	1,157.201
Moses Lake, 1.3 miles south of head of, 35 feet west of road, on west side of lake, at top of hill; point on basalt bowlder marked "U. S. 1154.7 B. M." ..	1,154.62
Mae, 2 miles north of, 4.2 miles south of head of Moses Lake, 1.3 miles east of lake and 0.6 mile northwest of pink-colored schoolhouse (West Shore school), 15 feet east of road; point on basalt bowlder marked "U. S. 1101 B. M."	1,101.04
West Shore schoolhouse, northeast corner of sec. 14, T. 19 N., R. 27 E., in northeast corner of school yard; iron post stamped "1107 WASH"	1,106.831
Mae, 3.2 miles west of, 5 feet north of road, on edge of bench 1,000 feet east of Maxwell's pumping plant; point on low-lying basalt bowlder 2 by 1 foot, marked "U. S. 1091 B. M."	1,090.41
T. 19 N., R. 27 E., 250 feet west of quarter section corner between secs. 20 and 29, 3.4 miles west of Mae, 50 feet east of Maxwell's pumping plant, north side of road, 33 feet north of section line, in low-lying basalt bowlder 2 by 1½ feet; aluminum tablet stamped "1075 WASH"	1,075.242
T. 19 N., R. 27 E., southwest corner of sec. 18; iron post stamped "1235 WASH"	1,234.803
T. 19 N., R. 26 E., northwest corner of sec. 22, 2 miles south by 0.5 mile east of Morrison; iron post stamped "1226 WASH"	1,226.090

MAE POST OFFICE EAST ALONG HIGHWAYS TO MOSES LAKE.

T. 19 N., R. 27 E., northeast corner of sec. 26, 1,225 feet east of Mae; iron post stamped "1067 WASH"	Feet. 1,066.480
T. 19 N., R. 27 E., 0.8 mile east of southeast corner of sec. 24, 70 feet west of Moses Lake, on bench 20 feet above water, 30 feet west of edge of bench, end of road leading east to lake, 80 feet east of point where east road intersects north-south road; iron post stamped "1058 WASH"	1,058.330
Moses Lake, surface of water, August 3, 1910.....	1,038.04

MAE SOUTH VIA SOUTH END OF MOSES LAKE TO SEC. 28, T. 18 N., R. 26 E.

T. 18 N., R. 28 E., NE. $\frac{1}{4}$ sec. 6, about 200 feet east of southwest corner of NE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 6 (40-acre corner), 150 feet west of James Lee ranch house, in line of fences at fence corner; iron post stamped "1040 WASH"	1,039.475
T. 18 N., R. 27 E., on south line of NE. $\frac{1}{4}$ sec. 14, about 1,400 feet east of southwest corner of that quarter, 20 feet east of edge of mesa, 100 feet north of dim road which turns down hill and leads to southwest, 0.4 mile northwest of most northerly of potholes containing water; iron post stamped "1107 WASH"	1,107.052
T. 18 N., R. 27 E., near northwest corner of sec. 26, 15 feet east of dim road, spike in knuckle at base of lone willow tree 14 inches in diameter, marked "U. S. 1031 B. M."	1,030.42
T. 18 N., R. 27 E., NW. $\frac{1}{4}$ sec. 28, on little knoll, edge of bench which rises abruptly 35 feet overlooking sand dunes on lowland to east, 2 miles west of lone willow tree 14 inches in diameter alongside of dim north-south road, witnessed by willow pole 8 feet high with flag; iron post stamped "1077 WASH"	1,076.615
T. 18 N., R. 27 E., in NW. $\frac{1}{4}$ sec. 30, about middle of mesa east-west, 400 feet south of long east-west sand ridge 15 feet high, point on top of granite boulder 3 by 5 by 3 $\frac{1}{2}$ feet, witnessed by willow pole 6 feet high with flag.	1,161.30
T. 18 N., R. 26 E., southeast corner of sec. 28; 20 feet west of road; iron post stamped "1142 WASH"	1,142.428

POINT 1 MILE WEST OF OUTLET OF MOSES LAKE (CRAB CREEK), SEC. 6, T. 18 N., R. 27 E., SOUTHEAST AROUND SOUTH END OF MOSES LAKE, THENCE SOUTHEAST TO TOWNSHIP LINE (SEC. 35, T. 18 N., R. 28 E.), THENCE NORTHEAST TO SOUTHEAST CORNER OF SEC. 1, T. 18 N., R. 28 E. (UNCHECKED SPUR LINE).

Moses Lake, surface of water, August 5, 1910.....	1,038.05
Moses Lake, south end of, 400 feet north of, 20 feet south of dim road, east side of lake on top of bench, in basalt boulder 2 feet long; aluminum tablet stamped "1070 T"	1,069.702
Moses Lake, 2.6 miles south-southeast of, edge of mesa about 100 feet above old lake bed, 18 feet east of edge of bench, south of most southerly of sand dunes on mesa; iron post stamped "1104 WASH"	1,103.901
T. 18 N., R. 28 E., southeast corner of sec. 35; iron post stamped "1080 WASH"	1,079.811
T. 18 N., R. 28 E., southeast corner of sec. 13; iron post stamped "1139 WASH"	1,138.670

NORTH END OF MOSES LAKE TO M'CONHIE'S RANCH (CHECKED SPUR LINE).

Moses Lake, surface of water, August 15, 1910.....	1,037.91
Moses Lake, 1.25 miles south of head of, in NE. $\frac{1}{4}$ sec. 34, near southwest corner T. 20 N., R. 27 E., 400 feet east of lake on edge of first bench, 100 feet north of McConhie's irrigation project headquarters, in granite boulder; aluminum tablet stamped "1072 WASH"	1,072.010

Beverly, Ephrata, Malaga, Palisades, Quincy, Redrock, Wenatchee, Winchester 15', and Yakima Quadrangles, and Two Unnamed Quadrangles South of Malaga and Wenatchee Quadrangles.

CHELAN, DOUGLAS, GRANT, AND KITTITAS COUNTIES.

The elevations in the following list were determined by primary leveling extended from the Coast and Geodetic Survey precise-level line at and near Ellensburg. Additional bench marks in this area established by the Reclamation Service are also included in this list.

The leveling was done as follows: Wenatchee quadrangle in 1898 by E. M. Fry, in 1903 by R. A. Farmer, and in 1909 by C. H. Semper; Palisades quadrangle and quadrangle south of Malaga quadrangle in 1903 by Farmer; Ephrata, Malaga, Winchester, and Quincy quadrangles by Farmer and Semper in 1903 and 1909, respectively; and Beverly, Redrock, and Yakima quadrangles and quadrangle south of Wenatchee quadrangle in 1909 by Semper.

The work of 1909 was done in cooperation with the State, and the standard bench marks then established are stamped with the State name.

EHRATA QUADRANGLE.

WINCHESTER NORTHEAST ALONG GREAT NORTHERN RAILWAY TO MILEPOST 1598.

Milepost 1605, 200 feet east of, in base of west post of emergency rail support, south of track; spike	Feet. 1, 319. 78
Milepost 1603, 1,100 feet east of, 30 feet north of track, in top of boulder; aluminum tablet stamped "1261 T"	1, 261. 785
Milepost 1601, top of stake at foot of (railroad engineers' bench mark)	1, 246. 41
Ephrata, southwest corner of Mercantile Co.'s store, 6 feet west of; iron post stamped "1273 T"	1, 272. 465

POINT 5 MILES NORTHWEST OF MOSES LAKE NORTHWEST ALONG HIGHWAY TO EPHRATA:

Moses Lake, 6.0 miles north of, 8 feet southwest of road, in 2 by 2 foot boulder 1 foot above ground; aluminum (?) tablet stamped "1274 T" (reported broken off, only the stem left)	1, 273. 949
Moses Lake, 6.0 miles north of, 4 miles south of Ephrata, 1,080 feet north of fork in road, 30 feet east of road, at telephone pole, iron post stamped "1275"	1, 275. 297

EHRATA SOUTH ALONG ROAD 5 MILES.

Ephrata, 3.7 miles south of, at curve in road to south, about halfway uphill, 5 feet east of road, in top of large granite boulder; aluminum tablet stamped "??"	1, 282. 852
Ephrata, 4.9 miles south of, on west margin of road, on large rock; marked "U. S. \square B. M. 1270"	1, 270. 28

PALISADES QUADRANGLE.

TRINIDAD NORTHEAST AND SOUTHEAST ALONG NORTHERN PACIFIC RAILWAY TO CRATER.

Willow Springs, southeast corner of water tank, in foundation; aluminum tablet stamped "1114 T"	1, 114. 183
Crater, 0.5 mile south of, opposite milepost 1620, 10 feet east of track; iron post stamped "1242 T"	1, 242. 400

WINCHESTER QUADRANGLE.

MILEPOST 1612 EAST ALONG NORTHERN PACIFIC RAILWAY TO WINCHESTER.

Winchester, 1.5 miles west of, 5 feet east of milepost 1611; iron post stamped "1291 T"	Feet. 1, 291. 457
Winchester, 20 feet south of track, opposite section house, in top of granite boulder; aluminum tablet stamped "1277 T"	1, 277. 083

POINT 5 MILES SOUTH OF EPHRATA SOUTH ALONG HIGHWAY TO MORRISON, THENCE WEST 3 MILES, THENCE NORTHWEST TO WINCHESTER.

Ephrata, 6.3 miles south of, 30 feet east of road, 500 feet north of road to east, on top of large boulder; marked "U. S. □ B. M. 1241"	1, 241. 08
T. 20 N., R. 26 E., northwest corner of sec. 22; iron post	1, 243. 492
T. 20 N., R. 26 E., southwest corner of sec. 34; iron post	1, 246. 447
T. 19 N., R. 26 E., southwest corner of sec. 6; iron post	1, 215. 136
T. 20 N., R. 25 E., southwest corner of sec. 26; iron post	1, 214. 217
T. 20 N., R. 25 E., west quarter corner of sec. 22; iron post	1, 215. 811
Winchester, 20 feet south of track, opposite section house, in top of granite boulder; aluminum tablet stamped "1277"	1, 277. 083

POINT 3 MILES WEST OF MORRISON WEST ALONG HIGHWAY 6 MILES.

T. 19 N., R. 25 E., northwest corner of sec. 11, in corner fence post; spike marked "1156"	1, 156. 23
T. 19 N., R. 25 E., northwest corner of sec. 10; iron post	1, 212. 616
T. 19 N., R. 25 E., northwest corner of sec. 7; iron post	1, 201. 601

MORRISON SOUTH ALONG HIGHWAY 3 MILES, THENCE WEST 5 MILES, THENCE SOUTH 2 MILES AND WEST TO SOUTHWEST CORNER OF T. 19 N., R. 25 E.

T. 19 N., R. 26 E., northwest corner of sec. 22; iron post	1, 226. 090
T. 19 N., R. 26 E., northwest corner of sec. 30; iron post	1, 160. 667
T. 19 N., R. 25 E., northeast corner of sec. 34; iron post	1, 184. 534
T. 19 N., R. 26 E., northwest corner of sec. 30; iron post	1, 160. 667
T. 19 N., R. 25 E., northeast corner of sec. 34; iron post	1, 184. 534
T. 19 N., R. 25 E., southeast corner of sec. 32; iron post stamped (?)	1, 166. 395
T. 19 N., R. 25 E., southwest corner of sec. 31; iron post stamped "1185 T"	1, 185. 437

POINT 3 MILES SOUTH OF MORRISON SOUTH ALONG HIGHWAY 8 MILES.

T. 19 N., R. 26 E., southwest corner of sec. 34; iron post	1, 147. 967
T. 18 N., R. 26 E., northwest corner of sec. 22; iron post	1, 133. 990
T. 18 N., R. 26 E., near southeast corner of sec. 28, 20 feet west of road, on top of small hill; iron post	1, 142. 428

RECLAMATION SERVICE BENCH MARK.¹

Tps. 19 and 20 N., Rs. 24 and 25 E., at corner; iron post stamped "1206 T"	1, 206. 494
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QUINCY QUADRANGLE.

CRATER EAST ALONG NORTHERN PACIFIC RAILWAY TO MILEPOST 1612.

Milepost 1617, 5 feet east of; iron post stamped "1316 T"	1, 316. 708
Quincy station, opposite west end of station platform, south of track; iron post stamped "1301 T"	1, 301. 292

QUINCY SOUTH AND EAST ALONG HIGHWAY TOWARD MORRISON.

Quincy, 1.3 miles west of, 5 feet east of milepost 1617; iron post stamped "1316 T"	1, 316. 708
Quincy, at southeast corner of Bank of Douglas County; iron post	1, 301. 662

¹Leveling done in 1904 by Philo Holbrook, jr.

Quincy, 5.0 miles south of, southeast corner of sec. 31, T. 20 N., R. 24 E.; iron post.....	Feet.
T. 19 N., R. 24 E., northwest corner of sec. 10; iron post.....	1, 259. 589
POINT 6 MILES SOUTH OF QUINCY SOUTH ALONG HIGHWAY 5 MILES, THENCE EAST TO SOUTHWEST CORNER OF T. 19 N., R. 25 E.	
T. 19 N., R. 24 E., northwest corner of sec. 20; iron post stamped "1236"....	1, 236. 027
T. 19 N., R. 24 E., southwest corner of sec. 32; iron post.....	1, 212. 867
T. 19 N., R. 24 E., southwest corner of sec. 35; iron post stamped "1219"....	1, 219. 325
SOUTHWEST CORNER OF SEC. 32, T. 19 N., R. 24 E., SOUTH ALONG HIGHWAY 6 MILES, THENCE EAST 2 MILES.	
T. 18 N., R. 24 E., southeast corner of sec. 18; iron post.....	1, 208. 781
T. 18 N., R. 24 E., southwest corner of sec. 32; iron post.....	1, 323. 319

REDROCK QUADRANGLE.

POINT 12 MILES SOUTH OF MORRISON WEST ALONG HIGHWAY 9 MILES.

T. 17 N., R. 26 E., southeast corner of sec. 4; iron post.....	1, 120. 735
T. 17 N., R. 25 E., southeast corner of sec. 1; iron post.....	1, 132. 413
T. 17 N., R. 25 E., northwest corner of sec. 10; iron post.....	1, 165. 613
T. 17 N., R. 25 E., southwest corner of sec. 6; iron post.....	1, 209. 38
T. 17 N., R. 25 E., SW. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 7 (old bench mark not connected)....	1, 239. 253

POINT 12 MILES SOUTH OF MORRISON SOUTH ALONG HIGHWAYS 4.5 MILES, THENCE WEST TO SEC. 26, T. 17 N., R. 24 E.

T. 17 N., R. 26 E., southeast corner of sec. 4; iron post.....	1, 120. 735
T. 17 N., R. 26 E., at center of quarter corners in sec. 22; iron post stamped "1279".....	1, 278. 889
T. 17 N., R. 26 E., southeast corner of sec. 30; iron post stamped "1055"....	1, 055. 244
T. 17 N., R. 25 E., northeast corner of sec. 34; iron post stamped "1115"....	1, 114. 830
T. 17 N., R. 25 E., southeast corner of sec. 30; iron post stamped "1174"....	1, 174. 303

NORTHWEST CORNER OF SEC. 31, T. 17 N., R. 26 E., SOUTH ALONG HIGHWAY TO REDROCK.

T. 16 N., R. 26 E., northeast corner of NW. $\frac{1}{4}$ sec. 6; iron post stamped "1024".....	1, 023. 583
T. 16 N., R. 26 E., northwest corner of sec. 20; iron post stamped "666"....	666. 08
Redrock, bridge over Crab Creek, south end, east side, in guard rail; marked "U. S. \square B. M. 540"; spike.....	540. 41

POINT 1.7 MILES EAST OF COLLETTA WEST ALONG CHICAGO, MILWAUKEE & PUGET SOUND RAILWAY TO JERICO.

Colletta, 1.7 miles east of, at east end of long rock side cut, 15 feet south of track; iron post stamped "667".....	666. 728
Colletta, 0.6 mile east of, 6 feet north of track, opposite large hill of scab rock, on top of boulder; marked "U. S. \square B. M. 643".....	642. 81
Colletta, in front of station sign; top of rail.....	629. 4
Redrock, on Chicago, Milwaukee & Puget Sound Railway, south of wagon bridge over Crab Creek, 300 feet east of, 35 feet north of track, at telegraph pole; iron post stamped "598".....	598. 035
Smyrna, in front of station sign; top of rail.....	552. 5
Smyrna, 1.1 miles west of, in sec. 28, T. 16 N., R. 25 E., 150 feet east of J. W. Hare house, 35 feet north of track; iron post stamped "536".....	536. 406
Smyrna, 3.4 miles west of, at west end of trestle over Crab Creek, top of bolt in north guard rail; marked "U. S. \square B. M. 528".....	528. 29
Smyrna, 4.6 miles west of, 1.0 mile east of Jericho, 30 feet north of track, 7 feet west of telegraph pole; iron post stamped "522".....	521. 995
Jericho, in front of station sign; top of rail.....	525. 8

SMYRNA SOUTHWEST ALONG HIGHWAY TO TOP OF SADDLE MOUNTAIN (CHECKED SPUR).

Top of Saddle Mountain; iron post (on horse trail that leads up mountain from Smyrna, about 3 miles).....	Feet. 2, 431. 350
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RECLAMATION SERVICE BENCH MARK.¹

T. 17 N., R. 25 E., SW. $\frac{1}{4}$ NW. $\frac{1}{4}$, sec. 7, near range line on north slope of French Mountain; iron post stamped "1239 T".....	1, 239. 253
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BEVERLY QUADRANGLE.

SOUTHWEST CORNER OF SEC. 32, T. 18 N., R. 24 E., SOUTH ALONG HIGHWAY TO BEVERLY.

T. 18 N., R. 24 E., southwest corner of sec. 32; iron post.....	1, 323. 319
T. 17 N., R. 24 E., northwest corner of sec. 20; iron post.....	1, 326. 384
T. 17 N., R. 24 E., southwest corner of sec. 32; iron post.....	1, 071. 883
T. 16 N., R. 24 E., center east side of SW. $\frac{1}{4}$ sec. 6; in fence post; spike; marked "1210".....	1, 210. 59
T. 16 N., R. 24 E., northwest corner of sec. 18; iron post.....	1, 174. 523

SOUTHWEST CORNER OF SEC. 34, T. 18 N., R. 24 E., SOUTH AND EAST ALONG HIGHWAY TO LOW GAP, THENCE SOUTH AND WEST TO NORTHWEST CORNER OF SEC. 22, T. 17 N., R. 24 E.

T. 17 N., R. 24 E., southwest corner of sec. 2; iron post.....	1, 274. 170
T. 17 N., R. 25 E., southwest corner of sec. 6; iron post stamped "1209".....	1, 209. 380
T. 17 N., R. 24 E., southwest corner of sec. 24; iron post stamped "1170".....	1, 169. 652
T. 17 N., R. 24 E., southeast corner of sec. 28; iron post stamped "1076".....	1, 075. 990

JERICHO WEST ALONG CHICAGO, MILWAUKEE & PUGET SOUND RAILWAY TO COHASSETT.

Jericho, 460 feet west of station sign, 8 feet north of track, in rock cut, top of rock; marked "U. S. \square B. M. 527".....	527. 11
Jericho, 2.0 miles west of, 170 feet west and north of cabin, 10 feet north of track; iron post stamped "528".....	528. 304
Beverly, at Chicago, Milwaukee & Puget Sound Railway station, 20 feet west of water tank, 12 feet south of main track; iron post.....	546. 490
Beverly, at extreme west end of railroad trestle over Columbia River, top of bent, south side of track; railroad spike marked "561".....	561. 51
Cohasset, 300 feet east of west end of sidetrack, 30 feet south of track; iron post.....	769. 817

WENATCHEE QUADRANGLE.

POINT NEAR MISSION SOUTHEAST ALONG GREAT NORTHERN RAILWAY TO MALAGA.

Wenatchee, 100 feet west of station, 150 feet east of water tank; iron post stamped "639 T".....	639. 485
Wenatchee, Columbia River Bank Building, front of, 2 feet above sidewalk, 8 feet north of entrance door; aluminum tablet stamped "669 T".....	669. 589
Wenatchee, 3.0 miles east of, 300 feet east of milepost 1648, north of road crossing, at corner of fence; iron post stamped "649 T".....	649. 319

WENATCHEE NORTH ALONG STATE ROAD UP COLUMBIA RIVER TO MILEPOST 7.

Milepost 7, about 0.2 mile south of, 1,000 feet northwest of old lime works on west side of road; iron post stamped "738 T".....	738. 090
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POINT IN T. 22 N., R. 20 E., NORTH TO MALAGA.

Summit, 12.9 miles north of, 0.4 mile south of Boland ranch, on east margin of road, on large rock; marked "U. S. \square B. M. 789".....	789. 40
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¹ Leveling done in 1904 by Philo Holbrook.

Summit, 13.7 miles north of, on road to Ellensburg, at corner of wire fence in front of W. R. Prowell ranch house; iron post stamped "783"	Feet. 783. 112
Malaga, 3.6 miles southeast of, on road to Ellensburg, east side of road, on large rock; marked "□790"	789. 62
Malaga, 2.4 miles southeast of, at gateway leading to G. G. Hager ranch house; iron post stamped "805"	805. 225

WENATCHEE EAST ALONG HIGHWAY 3 MILES.

Center of bridge over Wenatchee River	690. 3
Wenatchee, 1.2 miles east of, 800 feet northeast of east end of bridge over river, on road to north, on west side of large rock; top of rock marked "U. S. □ B. M. 678"	678. 59
Wenatchee, 2.5 miles northeast of, at northwest corner of H. J. Betty ranch (road turns east up canyon); iron post stamped "965"	965. 900

QUADRANGLE SOUTH OF WENATCHEE QUADRANGLE.

POINT NEAR SOUTHWEST CORNER OF T. 18 N., R. 20 E., NORTH ALONG HIGHWAY TOWARD MALAGA.

Ellensburg, 12.7 miles northeast of, at crossroads, at northwest corner of R. B. Gage ranch; iron post stamped "2310"	2, 309. 800
Ellensburg, 16.0 miles northeast of, 3.2 miles north of R. B. Gage ranch house, 15 feet east of road, opposite wire fence corner; iron post stamped "3173"	3, 172. 545
Ellensburg, 19.0 miles northeast of, 0.4 mile north of first summit of mountain, 10 feet east of wire fence, 10 feet west of road; iron post stamped "4770"	4, 770. 205
Ellensburg, 22.3 miles northeast of, on top of mountain, 80 feet west of wire fence, 30 feet east of road; iron post stamped "5134"	5, 133. 824
Ellensburg, 23.6 miles northeast of, at summit of mountain, 10 feet west of road, in root of pine tree; spike marked "U. S. B. M. 5373" (tree 5 feet south of b. m. bears sign "Cable Ferry 13 miles")	5, 372. 75
Summit, 2.3 miles north of, in small grass draw, 30 feet west of road, 45 feet south of small clump of poplar brush; iron post stamped "4789"	4, 788. 555
Summit, 3.3 miles north of, on east side of road, in rocky clearing, top of rock; marked "U. S. □ B. M. 4213"	4, 213. 15
Top of loose stone monument, probably triangulation station	4, 177.
Summit, 4.6 miles north of, in canyon, at foot of steep grade (cut bank), south margin of road; iron post stamped "3443"	3, 442. 647
Summit, 5.6 miles north of, at foot of mountain where grain fields commence, large pine stump in center of road, in root of; spike marked "U. S. B. M. 2953"	2, 953. 49
Summit, 7.4 miles north of, on Colocham Creek, in front of W. A. Haley ranch house, east side of road, large rock marked "U. S. □ B. M. 1882" ..	1, 881. 56
Summit, 7.8 miles north of, on Colocham Creek, opposite schoolhouse, at west margin of fence; iron post stamped "1767"	1, 766. 888
Summit, 10.7 miles north of, on Colocham Creek, in front of E. N. Cook ranch, on east side of road; iron post stamped "971"	971. 208

MALAGA QUADRANGLE.

MALAGA EAST ALONG GREAT NORTHERN RAILWAY TO HAMMOND, THENCE SOUTH TO MILEPOST 1630.

Malaga, 6 feet southeast of milepost 1645; iron post stamped "651 T"	651. 843
Iron bridge over Columbia River, 15 feet southwest of, 8 feet south of track, in solid rock; aluminum tablet stamped "677 T"	677. 528

Rock Island, opposite station, 30 feet south of rock, 6 feet north of milepost 1639; iron post stamped "615 T"	Feet. 615. 217
Milepost 1635, 10 feet west of; iron post stamped "591 T"	591. 127
Columbia River station, opposite signpost; top of rail.....	606. 1
Moses Coulee, bridge over, 600 feet east of east end of, 30 feet south of track; iron post stamped "630 T"	630. 599
Milepost 1630, 40 feet southwest of; iron post stamped "782 T"	782. 530

POINT 3 MILES EAST OF WENATCHEE EAST AND SOUTH TO ROCK ISLAND.

Wenatchee, 6.0 miles east of, at Dave Horner ranch house, 3 feet from northeast corner of house; iron post stamped "1771"	1, 772. 014
Wenatchee, 7.0 miles east of, Fair View ranch, in road, 30 feet south of barn, at north line of wire fence; large rock marked "□ 1549"	1, 549. 95
T. 22 N., R. 21 E., sec. 14, at schoolhouse at three-corners, road to south, northeast corner; iron post stamped "1162"	1, 162. 964
Wenatchee, 10.8 miles east of, junction of mail road with road to spring and road to river (four mail boxes), 30 feet south of road, large rock marked "□ 1190"	1, 190. 69
Rock Island, opposite station, 30 feet south of rock, 6 feet west of milepost 1639; iron post stamped "615 T"	615. 248

POINT 2.6 MILES NORTH OF ROCK ISLAND NORTH ALONG MAIL ROAD UP BADGER MOUNTAIN (SINGLE SPUR LINE).

Rock Island, 4.7 miles north of, on mail road over Badger Mountain, at road to west leading to Mills ranch; iron post stamped "1844"	1, 844. 645
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QUADRANGLE SOUTH OF MALAGA QUADRANGLE.

MILEPOST 1630 EAST ALONG NORTHERN PACIFIC RAILWAY TO TRINIDAD.

Trinidad, 100 feet east of station; iron post stamped "958 T"	958. 334
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YAKIMA QUADRANGLE.

COHASSETT WEST ALONG CHICAGO, MILWAUKEE & PUGET SOUND RAILWAY TO BOYLSTON.

Beverly, 6.4 miles west of, at railroad crossing, 45 feet west of, 25 feet south of track; iron post.....	1, 247. 934
Beverly, 8.7 miles west of, 75 feet west of railroad crossing, 15 feet south of rail; iron post.....	1, 511. 451
Rye, switch at west end of water tank, top of west front foundation timber of; spike driven vertically; marked "1755"	1, 755. 13
Rye, 1.3 miles west of, 250 feet west of trestle, 15 feet north of track, at east end of railroad cut; iron post stamped "1924"	1, 923. 692
Cheviot, in front of station sign; top of rail.....	2, 164. 3
Cheviot, 0.8 mile west of, at railroad overhead crossing of highway, 60 feet east of bridge, at telegraph pole; iron post stamped "2271"	2, 271. 010

BOYLSTON WEST ALONG CHICAGO, MILWAUKEE & PUGET SOUND RAILWAY TO ELLENSBURG.

Boylston, at railroad crossing, at west end of tunnel, 40 feet south of track; iron post stamped "2446"	2, 445. 925
Boylston, 4.3 miles west of, 1,680 feet east of Renslow switch, west end of high trestle over wagon road, east end of cut, 7 feet south of track; iron post stamped "2050"	2, 050. 155
Boylston, 7.3 miles west of, at corner of wire fence, 200 feet northeast of small cabin, at margin of railroad right-of-way; iron post stamped "1777" ..	1, 776. 679
Kittitas, in front foundation pier of railroad water tank; aluminum tablet stamped "1646"	1, 646. 360

Kittitas, 3.4 miles west of, at railroad crossing, west side of road, 15 feet south of track; iron post stamped "1608" 1, 607. 874

POINT 2 MILES EAST OF ELLENSBURG NORTHEAST ALONG HIGHWAY TO POINT NEAR SOUTHWEST CORNER OF T. 18 N., R. 20 E.

Ellensburg, 6.4 miles northeast of, at crossroads, at milepost 6, northwest corner; iron post stamped "1836" 1, 835. 507

Ellensburg, 9.9 miles northeast of, at west corner of road to south; iron post stamped "2031" 2, 031. 403

Ellensburg and Mount Aix Quadrangles.

KITTITAS, LEWIS, PIERCE, AND YAKIMA COUNTIES.

The elevations in the following list were determined by primary leveling extended from the double-rodged line along the Northern Pacific Railway which was re-covered later by the precise-level party of the United States Coast and Geodetic Survey. Other elevations in the Ellensburg quadrangle are given in another list.

The leveling was done in the Ellensburg quadrangle in 1899 by H. K. Kalloch and in the Mount Aix quadrangle in 1900 by C. J. Hutchinson and in 1901 by Sidney Arnold.

ELLENSBURG QUADRANGLE.

ELLENSBURG WEST ALONG ROAD VIA MANASTASH CANYON TO T. 17 N., R. 16 E.

T. 17 N., R. 18 E., quarter corner on south side of sec. 10, 115 feet east of gate to schoolhouse, 5 feet south of fence, 22 feet west of fence corner; iron post stamped "1546 T" 1, 546. 548

T. 17 N., R. 17 E., sec. 15, first ranch in Manastash Canyon, 350 feet southwest of house and 35 feet southwest of gate, 15 feet north of road; iron post stamped "2135 T" 2, 134. 780

T. 17 N., R. 16 E., sec. 13, 3 feet east of northeast corner to cabin, 165 feet west of section line, 30 feet south of edge of bench above south fork of Manastash Creek; iron post stamped "2731 T" 2, 731. 096

ELLENSBURG SOUTHWEST ALONG ROAD VIA SHUSHUSKIN CANYON TO WENAS CREEK, THENCE SOUTHEAST DOWN WENAS CREEK TO SELAH STATION.

T. 17 N., R. 18 E., sec. 34, head of Shushuskin Canyon, 15 feet south of road, 25 feet east of junction with Durr road to Yakima; iron post stamped "2387 T" 2, 387. 239

T. 16 N., R. 18 E., northwest corner of sec. 6, 500 feet south of road, 16 feet southeast of fence corner; iron post stamped "2837 T" 2, 837. 164

T. 16 N., R. 17 E., sec. 5, Umptanum and Wenas Creeks, summit of pass between, 12 feet south of road; iron post stamped "3128 T" 3, 127. 984

T. 16 N., R. 16 E., sec. 13, mouth of Kittitas Canyon, 1 foot north of fence, 8 feet south of 3.5-foot pine tree, 45 feet south of road forks, 500 feet southwest of junction of Ellensburg-Yakima road with road up Wenas Creek; iron post stamped "2266 T" 2, 266. 450

T. 16 N., R. 17 E., sec. 32, 65 feet north of east gate to barn of Burge's ranch, 500 feet southwest of house, 5 feet south of road, in small group of young trees; iron post stamped "2008 T" 2, 008. 489

T. 15 N., R. 17 E., sec. 3, 1,000 feet west of Chamberlain ranch, in top of flat rock shelf 15 feet south of road, in bend around point of hill; bronze tablet stamped "1883 T" 1, 883. 741

	Feet.
T. 15 N., R. 17 E., northeast corner of sec. 24, 90 feet south of bridge over branch of Wenas Creek, at road fork to North Yakima, via Selah Valley, 2 feet north of fence and 15 feet south of Naches River road; iron post stamped "1622 T"	1, 622. 056
T. 14 N., R. 18 E., southwest corner of sec. 2, 25 feet east of old Durr road, at junction with Wenas road and 50 feet north of main road, 3 feet south of fence, 450 feet west of Ruby house; iron post stamped "1318 T"	1, 318. 165
QUINN'S ROAD ON WENAS CREEK SOUTHWEST ACROSS BRIDGE TO NACHES RIVER, THENCE SOUTHEAST TO NORTH YAKIMA.	
T. 14 N., R. 17 E., north side of sec. 2, summit of pass between Wenas Creek and Naches River, 25 feet southeast of road; iron post stamped "1917 T"	1, 917. 171
T. 14 N., R. 17 E., north side of sec. 11, 2 feet northeast of fence, 50 feet southwest of road, 845 feet northwest of lane leading past schoolhouse; iron post stamped "1502 T"	1, 502. 271
T. 14 N., R. 18 E., sec. 30, 1,000 feet north of schoolhouse, 5 feet west of junction of Naches road with lane, inside wire fence corner; iron post stamped "1331 T"	1, 331. 166
T. 13 N., R. 18 E., sec. 9, 300 feet north of schoolhouse at Cowiche Creek road crossing, 100 feet west of road, 60 feet east of irrigating ditch siphon, in top of boulder 5 by 9 feet; bronze tablet stamped "1180 T"	1, 180. 859
LINE WEST UP SOUTH FORK OF WENAS CREEK AND SOUTHEAST DOWN NACHES RIVER TO SEC. 11, T. 14 N., R. 17 E.	
T. 16 N., R. 15 E., about sec. 13 (unsurveyed), 2 miles east of summit of upper pass between Wenas Creek and Naches River, 30 feet south of road at east end of open flat, between blazed pine trees each 12 feet distant; iron post stamped "3863 T"	3, 863. 526
T. 16 N., R. 15 E., about sec. 21 (unsurveyed), 3 feet southwest of northwest corner of dwelling house of Mehaffy ranch, at junction of Naches and Wenas roads, 0.8 mile northwest of upper ford of Naches River; iron post stamped "2138 T"	2, 139. 092
T. 15 N., R. 15 E., northeast corner of sec. 13, 3 feet west of gate to Stevens house, Buckeye ranch, 2 feet south of fence, 10 feet north of road; iron post stamped "1855 T"	1, 854. 899
T. 15 N., R. 16 E., sec. 34, 125 feet north of house at west end of oak flat, F. V. Hansen ranch, east end of grade over hill, 75 feet south of cliff talus, in small point of outcropping ledge; bronze tablet stamped "1661 T"	1, 661. 154
T. 15 N., R. 17 E., sec. 31, inside fence at Lamberson ranch, 4 feet west of gate leading to house, 50 feet west of road crossing at Wapata ditch; iron post stamped "1568 T"	1, 568. 178
UP TIETON RIVER FROM MOUTH SOUTHWEST TO T. 14 N., R. 15 E.	
T. 14 N., R. 16 E., sec. 2, Timm ranch, 3 feet north of southeast corner of stone foundation of milk house; iron post stamped "1681 T"	1, 681. 579
T. 14 N., R. 15 E., about sec. 13 (unsurveyed), 0.8 mile west of Harper ranch, 1,000 feet west of west branch of dry watercourse from deep canyon to north, 60 feet north of cleared field and 600 feet north of Tieton River, 9 feet south of 25-foot outcropping point at base of high rock cliff; iron post stamped "1958 T"	1, 958. 754
NACHES RIVER WEST UP COWICHE CREEK AND EAST DOWN ATANUM CREEK TO OLD YAKIMA.	
T. 13 N., R. 17 E., sec. 3, North and South forks of Cowiche Creek, 60 feet northeast of low point of divide between outside of wire fence, 30 feet northwest of main road; iron post stamped "1570 T"	1, 570. 212

	Feet.
T. 14 N., R. 17 E., sec. 31, Oak Grove creamery, 10 feet west of gate to lane leading to, 3 feet south of fence; iron post stamped "1824 T"	1, 823. 584
T. 14 N., R. 16 E., sec. 33, 675 feet east of mouth of McDaniel Canyon, 100 feet north of creek, 50 feet north of road, in face of outcropping lava formation at base of low basalt cliff; bronze tablet stamped "2204 T"	2, 203. 858
T. 13 N., R. 16 E., in northwest corner sec. 18, Louis Christensen ranch; 100 feet west of forks of main road with road to; 20 feet south of road and 3 feet north of branch road, at forks of South Fork of Cowiche Creek, on granite ledge; bronze tablet stamped "2632 T"	2, 631. 763
T. 13 N., R. 15 E., sec. 27, summit of pass between Cowiche and Atanum Creeks, 0.8 mile from Cowiche Creek, in shallow sag at head of draw, 0.8 mile above sawmill; blazed pines are east, south, and west; iron post stamped "3686 T"	3, 685. 335
T. 12 N., R. 15 E., sec. 2, opposite Hinckle ranch house, northeast side of road and 3 feet from fence, 300 feet southeast of Nasty Creek road crossing; iron post stamped "2463 T"	2, 462. 185
Tampico, sec. 18, T. 12 N., R. 16 E., 100 feet east of old store, at forks of road to north and south and at forks of Atanum Creek, south side of main road, 2 feet north of fence and 6 feet east of fence corner; iron post stamped "2127 T"	2, 116. 217
T. 12 N., R. 17 E., 930 feet east of west side of sec. 18, 30 feet north of road, 9 feet west of wire fence corner; iron post stamped "1703 T"	1, 692. 052
T. 12 N., R. 17 E., west side of sec. 10, 275 feet southeast of schoolhouse, 3 feet inside corner of wire fence on northeast corner of crossroads; iron post stamped "1479 T"	1, 468. 575
T. 12 N., R. 18 E., west side of sec. 3, 600 feet southeast of schoolhouse, 45 feet north of road in jog of fence; iron post stamped "1066 T"	1, 066. 145

HARPER RANCH WEST ALONG TIETON RIVER.

T. 14 N., R. 15 E., 6 miles west of Harper ranch, 40 feet west of creek, north of trail on left bank and 150 feet north of Tieton River, opposite a steeply rock about 75 feet wide and 250 feet high; iron post stamped "2236 T"	2, 237. 030
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BENCH MARKS ESTABLISHED BY THE UNITED STATES RECLAMATION SERVICE.

T. 13 N., R. 17 and 18 E., quarter corner between secs. 19 and 24, 8 miles west of North Yakima, 40 feet north of Cowiche telephone line, 20 feet north of Cowiche road, 3 feet north of fence corner and corner of Alvin Bair's homestead; iron post stamped "1354"	1, 354. 060
T. 14 N., R. 17 E., corner of secs. 20, 21, 28, and 29, 1.8 miles north of Cowiche post office, 300 feet northeast of Austin house, 800 feet west of Chambers house, 4 feet from northeast corner of fence, at angle in road; iron post stamped "1751"	1, 751. 047
T. 14 N., R. 16 E., 30 feet southwest of northeast corner to sec. 13, 20 feet west from range line, 10 feet west and 3 feet south of road at right angle bend, 0.25 mile east of Louis Lanch house, 0.5 mile north of North Fork schoolhouse; iron post stamped "1971"	1, 970. 978
T. 14 N., R. 16 E., on line between secs. 10 and 11, 600 feet north of corner of secs. 10, 11, 14, and 15, 70 feet north of North Fork of Cowiche Creek, 800 feet east of house on French place, 30 feet north of road and fence corner, beside wire fence; iron post stamped "2183 T"	2, 183. 058
T. 14 N., R. 17 E., near center of sec. 8, 0.25 mile from small lake and reservoir, 800 feet southeast of Lake triangulation signal, 100 feet east of reservoir embankment, 80 feet southeast of Hill house, 3 feet from southeast corner fence inside; iron post stamped "1957 T"	1, 956. 961

T. 14 N., R. 17 E., 40 feet southeast of northwest corner of sec. 27, 30 feet east of fence corner, 2 feet north of fence; iron post stamped "1872 T" ..	Feet. 1,872.013
T. 13 N., R. 17 E., 300 feet south of northeast corner of sec. 12, 2,000 feet southeast of triangulation signal Burlingame, 50 feet west of range line, 200 feet south of scab rock hill, 50 feet east of spur of scab rock leading from hill; iron post stamped "1731 T"	1,731.081

MOUNT AIX QUADRANGLE.

EAST SIDE OF TIETON BASIN WEST ALONG TIETON RIVER AND INDIAN CREEK TO COWLITZ PASS.

Tieton Basin, east side, at ford, 40 feet south of Tieton River, in rocky ground between two pine trees; iron post stamped "2452 T"	2,452.386
South Fork of Tieton River, 200 feet east of, near mouth, on south side of trail to fork, 6 feet east of lone tamarack tree; iron post stamped "2785 T" ..	2,785.558
Russell ranch, 1,160 feet west of barn, 200 feet north of main trail to Cowlitz Pass, on hillside overlooking hay field, on top of irregular mass of outcropping basalt; bronze tablet stamped "2932 T"	2,932.341
Indian Creek, 4 miles above mouth, west of deep gorge of, on right side of trail on steep ascent to summit, west of small spring creek, on top of solid block of basalt; bronze tablet stamped "3719 T"	3,719.758
Cowlitz Pass, on south side of trail at forks, at base of small hill, west of small lake, on top of a mass of basalt rock about 6 by 6 by 3 feet; bronze tablet stamped "5191 T"	5,191.551

CHRISTENSEN RANCH ON COWICHE CREEK TO SUMMIT BETWEEN COWICHE CREEK AND TIETON RIVER.

T. 13 N., R. 14 E., 400 feet west by 200 feet north of southeast corner of sec. 2, on top of extreme point of Cowiche Ridge overlooking Russell trail, Goose Egg Mountain and Tieton Basin, in solid mass of basalt; bronze tablet stamped "5745 T"	5,744.893
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MEHAFFEY RANCH UP NACHES RIVER AND AMERICAN RIVER TO GOLD HILL.

Gold Creek, 100 feet east of crossing, 9 feet east of center of trail, in large flat rock; bronze tablet stamped "2437 T"	2,437.589
Bumping River, 800 feet above mouth of, 90 feet northeast from where Bumping River trail crosses Naches River, 10 feet north of trail, 80 feet north of north edge of Naches River; iron post stamped "2557 T"	2,557.286
American River, 2.5 miles northwest of mouth, 25 feet north of bank, 4 feet north of trail where it turns over hill, in flat rock 4 by 12.5 by 9.5 feet; bronze tablet stamped "2937 T"	2,937.014
Pleasant Prairie, 20 feet north of northeast corner of old cabin, 54 feet north of American River, 8 feet west of flag pole; iron post stamped "3337 T" ..	3,336.910
Bear Gap, summit of Cascade Mountains, 10 feet east of Buckley trail; iron post stamped "5882 T"	5,882.209
Bear Gap, 1.5 miles northwest of, 600 feet northwest of second creek crossing, 100 feet west of trail, in large rock; bronze tablet stamped "4518 T" ..	4,518.533

MOUTH OF AMERICAN RIVER TO BUMPING LAKE.

Goose Prairie, northeast corner of cabin, 280 feet south of trail, 280 feet north of river, 500 feet east of "Old Man Fife" grave; iron post stamped "3265 T"	3,265.836
Bumping Lake, 120 feet northeast of lower end of (northeast end), at head of Bumping River, 10 feet north of trail, 30 feet north of old fence; iron post stamped "3407 T"	3,407.764

Chiwaukum, Mount Stuart, Skykomish, Snoqualmie, and Sultan Quadrangles.**CHELAN, KING, KITTITAS, PIERCE, AND SNOHOMISH COUNTIES.**

The elevations in the following list were determined by primary leveling extended from a double-rodged line along the Northern Pacific Railway, which was re-covered later by the precise-level party of the Coast and Geodetic Survey.

In Snoqualmie and Mount Stuart quadrangles additional elevations will be found in the list for the line along the Northern Pacific Railway.

The leveling was done as follows: Snoqualmie quadrangle in 1897 by Frank Cole, in 1898 by H. K. Kallock, in 1900 by C. J. Hutchison, and in 1910 by D. S. Birkett; Mount Stuart quadrangle in 1896 by Cole; Skykomish quadrangle in 1897 by G. N. Pratt and in 1898 by H. K. Kallock; Sultan quadrangle in 1898 by Kallock; and Chiwaukum quadrangle in 1898 by R. A. Farmer and Kallock, in 1900 by E. M. Fry, and in 1901 by C. E. Hill.

SULTAN QUADRANGLE.**INDEX (ON SPUR LINE FROM PESHASTIN).**

Index, at station, 40 feet southwest of agent's window, 27 feet southwest of track; iron post stamped "532 T".....	Feet.
	532. 176

SILVERTON SOUTH ALONG TRAIL OVER DIVIDE AND DOWN WILLIAMSON CREEK TO SULTAN RIVER (PORTION OF SPUR LINE).

T. 29 N., R. 9 E., north bank of Sultan River, 50 feet east of north end of bridge over river, 600 feet east of mouth of Williamson Creek, in bed rock; copper bolt stamped "1413".....	1, 414. 339
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GRANITE FALLS SOUTH TO LAKE ROESIGER.

Lake Roesiger, 100 feet east of Nesbeth barn, 150 feet left of trail, in bowlder; copper bolt stamped "619".....	619. 930
Lake Roesiger, surface of water.....	568

SKYKOMISH QUADRANGLE.**CLEALUM ALONG HIGHWAY NORTH TO FISH LAKE (PORTION OF SPUR LINE).**

Fish Lake, at foot of; water level June 25, 1898.....	3, 325. 4
Fish Lake, in open meadow east of, 90 feet east of road, 105 feet north of small double log cabin, 125 feet west of edge of timber, in granite bowlder 6 by 7 by 9 feet; aluminum tablet stamped "3371 T".....	3, 372. 708
Fish Lake, near head of; water level June 27, 1898.....	3, 326. 4

PESHASTIN ALONG GREAT NORTHERN RAILWAY WEST TO INDEX (PORTION OF SPUR LINE).

Cascade Tunnel, 12.5 feet west of main track, 120 feet north of water tank, 780 feet north of main switch, 90 feet southwest of tool house; iron post stamped "3373 T".....	3, 373. 835
Cascade Summit, 225 feet south of section house at, 13 feet west of main track in curve, 345 feet south of north switch of side track; iron post stamped "4061 T".....	4, 061. 486
Wellington, 16 feet north of new station, 15 feet south of section house, 20 feet east of main track; iron post stamped "3114 T".....	3, 114. 779
Madison, 75 feet southeast of roundhouse, 45 feet east of dwelling house, 16 feet south of main track, 260 feet west of east end of side track, 15 feet east of 26-inch stump; iron post stamped "2106 T".....	2, 106. 488

Madison, 7 miles from, 5 miles from Skykomish, 9 feet east of track in south end of small gravel pit, 600 feet south of signboard "Bridge 418 1 mile," 420 feet north of milepost 1734; iron post stamped "1389 T"	Feet. 1,389.706
Skykomish, 80 feet west of station, 20 feet east of water tank, 15 feet south of main track; iron post stamped "930 T"	930.116
Salmon, 12 feet north of track and 130 feet east of switch at west end of side-track; iron post stamped "759 T"	759.716

INDEX NORTHEAST ALONG HIGHWAY TO MINERAL CITY (PORTION OF SPUR LINE).

Galena, 6 feet southwest of corner of Silver Creek store, 12 feet east of road; iron post stamped "1110 T"	1,110.747
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MONTE CRISTO SOUTH ALONG EVERETT & MONTE CRISTO RAILWAY TO POINT NEAR SILVERTON.

Monte Cristo station, 247 feet north of freight platform, 20 feet east of switchback, in large rock north of Everett & Monte Cristo Railway trestle; copper bolt stamped "2772"	2,774.073
Bridge 51, 210 feet east of, on hemlock stump 30 inches in diameter, 20 feet north of center of track	2,510.154

CHIWAAKUM QUADRANGLE.

CAMAS CREEK NORTH TO PESHASTIN.

County road, south side of Wenatchee River, at junction of Peshastin road with, 5 feet north of road forks, 12 feet west of fence corner, 2 feet south of wire fence, 85 feet south of 14 by 20 foot log cabin; iron post stamped "1103 T"	1,103.771
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WENATCHEE NORTHWEST ALONG GREAT NORTHERN RAILWAY TO INDEX (SPUR LINE).

Peshastin station, Great Northern Railway, 65 feet southeast of wagon road, 75 feet southwest of track at road crossing and mail catch, 20 feet southeast of small board shack; iron post stamped "1045 T"	1,046.012
Peshastin, 2.3 miles west of, 6 feet north of track, 12 feet southwest of point of bluff at west end of sand-rock grading along Wenatchee road, 20 feet east of small ravine and filling; iron post stamped "1095 T"	1,096.028
Leavenworth, 120 feet southwest of station office, 5 feet southeast of platform, 3.5 feet southwest of low building; iron post stamped "1165 T" ..	1,165.593
Leavenworth, 2.6 miles from, 3,810 feet north of milepost 1676, 6 feet east of track, under low bank and 20 feet east of large boulder; iron post stamped "1309 T"	1,310.003
"Big Eddy" of Wenatchee River, east of, 4.5 feet west of track, 150 feet north of milepost 1679, at south end of cut around high rock point; iron post stamped "1556 T"	1,556.309
Leavenworth, 8.2 miles northwest of, 13.5 feet east of track, directly east of small island in Wenatchee River, 360 feet southeast of rocky point at track curve; 1,950 feet south of milepost 1682; iron post stamped "1647 T" ..	1,647.468
Chiwaukum, 40 feet south of corner of section house, 60 feet southeast of mail catch and switch, 40 feet northeast of track, 4 feet north of telegraph pole; iron post stamped "1814 T"	1,815.054
Chiwaukum Divide (Little Summit), about 750 feet south of top of; top of east rail at road crossing and track sign	2,084.5
Chiwaukum Summit, at north end of dirt cut at, 3.4 miles north of Chiwaukum, 19 feet east of track, 455 feet north of milepost 1687; iron post stamped "2083 T"	2,083.288
Nason Creek, 19 feet south of sign post, 975 feet east of switch at west end of side track at, 13 feet north of track; iron post stamped "2162 T"	2,162.243

Merritt, 133 feet northwest of water tank, 15 feet southeast of 2.5 foot stump 6 feet from track, 11 feet southwest of main track; iron post stamped "2186 T".....	Feet. 2, 186. 306
Merritt, 3.0 miles west of, 11 feet southwest of track at cut around rock point, 1,530 feet west of trestle 384, 930 feet east of bridge 385; iron post stamped "2485 T".....	2, 485. 840
Berne, 180 feet east of switch to spur, 7.5 feet south of main track, 225 feet west of water tank; iron post stamped "2918 T." (This bench mark was lowered 0.5 foot December 13, 1904, by order of superintendent of rail- road, as it interfered with and endangered lives of trainmen, and the elevation was corrected).....	2, 918. 170
MOUTH OF EAGLE CREEK ALONG HIGHWAY AND TRAIL TO SUMMIT OF DIVIDE, THENCE WEST DOWN CHUMSTICK CANYON TO NORTHUP RANCH.	
Bellvue ranch, 10 feet south of large gate at west entrance, 2 feet from fence, 10 feet south of road, iron post stamped "1360 T".....	1, 360. 374
Smith ranch, 1,000 feet west of house, 50 feet west of large entrance gate and 200 feet southwest of barn; iron post stamped "1984 T".....	1, 984. 591
Chumstick Canyon, on summit of divide between Eagle and Chumstick Creeks, at root of pine tree; aluminum tablet stamped "3270 T".....	3, 270. 904
UP STROMBERGS CANYON NORTHWEST TO DIVIDE BETWEEN STRAWBERRY CREEK AND WENATCHEE RIVER (SPUR LINE).	
Strombergs Canyon, 0.1 mile east of summit, on north side of and 150 feet west from mouth of, in large boulder; aluminum tablet stamped "1767 T".....	1, 768. 133
CHUMSTICK SCHOOLHOUSE, AT MOUTH OF SCHOOLHOUSE CANYON, WEST ALONG OLD ROAD TO CHIWAUKUM.	
Chumstick schoolhouse, 800 feet east of, at forks of road; iron post stamped "1631 T".....	1, 631. 897
Chumstick schoolhouse, 2.0 miles west of, at summit between Schoolhouse Canyon and Wenatchee River, at north side of road, in root of pine tree; nail.....	2, 116. 21
CHIWAUKUM WEST UP CHIWAUKUM CREEK TO BROWN BEAR MINING CAMP (SPUR LINE).	
Brown Bear mine, 250 feet north of, 300 feet northwest of falls of Chiwaukum Creek, 10 feet north of trail, 100 feet north of creek; iron post stamped "2374 T".....	2, 374. 846
UP CHUMSTICK, LITTLE CHUMSTICK, AND WENATCHEE RIVERS TO WENATCHEE LAKE, THENCE SOUTH TO CHIWAUKUM SUMMIT.	
Chumstick Canyon, mouth of, 5 feet east of trail and 500 feet southeast of road, in top of stump; nail.....	1, 734. 52
Burgess ranch, 300 feet southwest of house at gate, 5 feet west of fence, 150 feet south of Beaver Creek bridge; iron post stamped "1882 T".....	1, 882. 20
Coal mines, 500 feet north of shaft house, 10 feet south of road, in root of pine tree; nail.....	2, 008. 99
Wenatchee Lake, 500 feet southeast of bank at foot of, at old steamer land- ing, 150 feet east of Wenatchee River, 150 feet north of old log shack; iron post stamped "1880 T".....	1, 880. 368
Wenatchee Lake, foot of, water level 8.30 a. m., August 20, 1900.....	1, 870
WENATCHEE LAKE WEST 4 MILES UP WHITE RIVER (SPUR LINE).	
Wenatchee Lake, 150 feet southwest of house on Bates ranch, 5 feet inside of fence, 50 feet from bank at head of lake; iron post stamped "1873 T".....	1, 874. 052

Bates ranch, 4.0 miles north of, 5 feet east of trail up White River, 300 feet north of third bend in river; iron post stamped "1905 T"..... 1,905.923 Feet.

LEAVENWORTH (SHUGART RANCH) NORTH ALONG HIGHWAY AND CHIWAWA CREEK TRAIL TO BUCK CREEK PASS (PORTION OF LINE).

Foster ranch, 300 feet northwest of house, 10 feet west of road to Lakeview mine, in root of pine tree; nail; marked "2027"..... 2,027.48
 Deep Creek, 100 feet south of, in forks of Chiwawa Creek trail and road to Lakeview mine, in root of fir tree, 1 foot east of trail; nail..... 2,238.88
 Deep Creek, 100 feet south of, in forks of Chiwawa Creek trail and road to Lakeview mine, 5 feet north of road; iron post stamped "2239 T"..... 2,239.681
 Cross Creek, 0.5 mile northwest of, 4 feet northeast of trail, in root of big fir; nail; marked "2174"..... 2,174.59
 Alder Creek, 28 feet south of bridge over, 10 feet east of trail; iron post stamped "2137 T"..... 2,137.777
 Alder Creek, 2.0 miles northwest of, 1 foot south of trail, top of pointed rock about 2 feet high at summit of hill..... 2,567.60
 Twin Creek, 8 feet north of, 2 feet west of trail, in root of black pine tree; nail marked "2348"..... 2,348.12
 Grouse Creek, 500 feet south of, 6 feet east of trail, in root of black pine tree; nail marked "2501"..... 2,501.36
 Chickman Creek, 70 feet southeast of trail crossing (ford), in base of large pine tree; nail..... 2,438.97
 Chickman Creek, 60 feet southeast of trail crossing (ford), 12 feet northwest of large pine tree; iron post stamped "2438 T"..... 2,438.588
 Chickman Creek, surface of water at trail crossing; August 17, 1901.... 2,431.9.
 Chickman Creek, 2.7 miles northwest of, 3 feet east of trail, 780 feet northwest of small stream, in root of tall pine tree; nail marked "2489"..... 2,489.81
 Rock Creek, 1.0 mile southeast of, 3 feet west of trail, on large rock 9 feet square and 6 feet high, in south face; bronze tablet stamped "2512 T".... 2,512.652
 Rock Creek, at trail crossing; surface of water August 23, 1901..... 2,499.1
 Rock Creek, 1.3 miles northwest of, 8 feet west of trail, in root of big fir tree; nail marked "2502"..... 2,502.20
 Rock Creek, 3.4 miles northwest of, 7 feet west of trail, 100 feet north of dry rocky creek bed, in root of spruce tree; nail marked "2578"..... 2,578.46

SNOQUALMIE QUADRANGLE.

CLEALUM NORTH ALONG HIGHWAY TO FISH LAKE (PORTION OF SPUR LINE).

Ronald, south side of sec. 7, T. 20 N., R. 15 E., northeast side of main street, at southeast corner of old Northern Pacific Coal Co.'s boarding house, 500 feet south of track; iron post stamped "2345 T"..... 2,346.322
 Clealum Lake, foot of, west side of sec. 2, T. 20 N., R. 14 E., 150 feet east of lake, just east of road and 20 feet from northwest corner of Lake View House; iron post stamped "2150 T"..... 2,151.572
 Clealum Lake, foot of; water level May 24, 1898..... 2,127.8
 Clealum Lake, head of, in highest point of large granite boulder 15 feet from, 30 feet from road; aluminum tablet stamped "2140 T"..... 2,141.269
 Morgan ranch, 200 feet east of, 15 feet west of road and 3 feet from fence; iron post stamped "2157 T"..... 2,158.537
 Big Salmon La Sac, 10 feet west of road, 6 feet from edge of low river bench, 150 feet east of river; iron post stamped "2394 T"..... 2,395.741
 Clearing, containing 3 deserted cabins, on edge of and just east of road, in top of large boulder with "U.S.M.M.No.2, Cle Elum Mining District" cut on west face; aluminum tablet stamped "2838 T"..... 2,839.842

Boulder Creek, 100 feet south of bridge over, 30 feet southeast of road, 12 feet northeast and 20 feet northwest from deserted log cabins, 50 feet southwest from 6 by 9 granite bowlder; iron post stamped "2895 T".....	2, 896. 522
Camp Creek ford, 20 feet south of, 100 feet southeast of old log cabin on bench east of road; iron post stamped "3086 T".....	3, 087. 175
Fortune Creek, 30 feet north of north end of bridge over, 18 feet east of road; iron post stamped "3204 T".....	3, 205. 046

EASTON NORTH ALONG HIGHWAY TO LAKE KACHESS (SPUR LINE).

Lake Kachess, at end of road 45 feet west of old cabin built of square logs, 50 feet from edge of lake and 675 feet north of boathouse; iron post stamped "2235".....	2, 230. 490
Lake Kachess; surface of water September 6, 1897.....	2, 222. 0

MARTIN NORTH ALONG HIGHWAY TO SNOQUALMIE PASS (SPUR LINE).

Lake Keechelus, at south end of, 40 feet north of wagon road, 120 feet south of old sawmill site at foot of lake, 500 feet southwest of ford at head of Yakima River, 20 feet south of bench mark is 3-foot hemlock tree blazed on three sides; iron post stamped "2479".....	2, 475. 356
Gold Creek trail, directly opposite and 6 feet south of road, small burn east of bench mark; iron post stamped "2502".....	2, 498. 470

MOUTH OF BUMPING RIVER NORTH TO MATHEWS CABIN (PORTION OF SPUR LINE).

Mathews cabin, 1.0 miles southeast of, on summit of road, on trail 0.5 mile northwest of where it leaves river; iron post stamped "3119 T".....	3, 118. 968
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NOTE.—The United States Reclamation Service has established the following bench marks in the Snoqualmie quadrangle:

"A" LINE FOR CONTROL OF CLEALUM DAM SITE.

Lake Clealum, 10 feet on right side of main road from Clealum to Fish Lake, directly in front of the Lake View House, 175 feet from lake, 8.0 miles from Clealum; iron post stamped "2150 T" (permanent bench mark No. 1).....	2, 151. 572
Lake Clealum, near outlet of, 500 feet nearly east of house at present dam, 20 feet north of trail running east from said house and 250 feet due north of Clealum River at point 700 feet below dam (1905), some 30 feet south-east of dead fir blazed and marked "2192.435;" iron post stamped "2192" (permanent bench mark No. 2).....	2, 193. 757
Lake Clealum, 1,000 feet below outlet, on left bank directly above Government gaging station and 200 feet north of same, 20 feet north of trail leading south from house at outlet, on top of high ridge, 550 feet east of bench mark No. 2, two blazed pines are within 50 feet, marked "2248.886" and "2250.661;" 120 feet above river gage; iron post stamped "2249" (permanent bench mark No. 3).....	2, 250. 803

"B" LINE FOR CONTROL OF KACHESS DAM SITE.

Lake Kachess, at end of road, 45 feet west of old cabin built of square logs, 50 feet from edge of lake, 675 feet north of boathouse; iron post stamped "2235" (permanent bench mark No. 1).....	2, 230. 490
Lake Kachess, near outlet of lake, on east side of river, 300 feet southeast of crib dam, 200 feet east of house on road side, 10 feet west of station 2 (P. T. sheet No. 1, Kachess dam site); iron post stamped "2253" (permanent bench mark No. 2).....	2, 249. 027

Lake Kachess, near outlet of lake, on west side of river, 400 feet north of west from crib dam, 15 feet south of west from station 4 (P. T. sheet No. 1, Kachess dam site); iron post stamped "2250" (permanent bench mark No. 3).....	Feet. 2, 245. 686
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"C" LINE FOR CONTROL OF KEECHELUS DAM SITE.

Lake Keechelus, 30 feet west of public road, 68 feet east of lake, 450 feet south of Christopher Hansen's house, 500 feet south of outlet to lake; iron post stamped "2479" (permanent bench mark No. 1).....	2, 475. 421
Lake Keechelus, on ridge near outlet of lake, 205 feet north of timber dam on Yakima River, 190 feet east of public road, 500 feet east of lake; iron post stamped "2510" (permanent bench mark No. 2).....	2, 506. 135

NOTE.—The following bench marks were established by D. S. Birkett in cooperation with the State in 1910 in connection with leveling in the Cedar Lake quadrangle.

HUMPBACK CREEK FILL (1 MILE EAST OF RAINY CREEK) NORTHEAST ALONG HIGHWAY TO SNOQUALMIE PASS, TYING AT THAT POINT WITH SPUR LINE NORTHWEST ALONG HIGHWAY FROM MARTIN.

Rockdale, 0.4 mile west of, west end of trestle FF 82 (being filled), 30 feet south of track, copper bench mark nail in notch cut in base of fir stump 2 feet in diameter and 3 feet high; aluminum tag stamped "2485".....	Feet. 2, 485. 36
Rockdale, 8 feet north of track, in concrete abutment of water tank; aluminum tablet stamped "Prim. Trav. Sta. No. 11, 1910, 2508 WASH".....	2, 507. 979
Laconia, 200 feet west of station, in foundation of water tank at east end; copper bench mark nail; aluminum tag stamped "3003".....	3, 003. 85
Snoqualmie Pass, 8 feet south of road at summit, 0.25 mile west of small lake in marsh north of road; iron post stamped "3131" and "3127 WASH".....	3, 127. 173

MOUNT STUART QUADRANGLE.

CLEALUM NORTHWEST ALONG ROSLYN BRANCH RAILROAD TO ROSLYN.

Roslyn, SE. $\frac{1}{4}$ sec. 17, T. 20 N.; R. 15 E., 221.4 feet north of the center of north doorway of new brick power house at Roslyn Mines, in center of railroad track; iron post stamped "2222".....	2, 218. 324
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ELLENSBURG NORTHWEST ALONG HIGHWAY TO M'CALLUM, THENCE WEST TO TEANAWAY RIVER, THENCE SOUTHWEST TO TEANAWAY.

Ellensburg, in front of station; top of rail.....	1, 510. 08
T. 18 N., R. 18 E., 0.25 mile north of sec. 28, near fence post, just northwest of intersection of north-south road, 125 feet northeast of white school-house; iron post stamped "1576".....	1, 570. 902
T. 18 N., R. 18 E., west of center of sec. 6, 0.8 mile southeast of road fork north to Green Canyon, 50 feet southwest of center of Dry Creek road; iron post stamped "1841".....	1, 836. 176
T. 19 N., R. 17 E., 550 feet west of northeast corner of sec. 16, divide between Dry Creek and Horse canyons, near road at summit, 22 feet north of north end of small bridge over an irrigation ditch; iron post stamped "2574".....	2, 568. 369
McCallum, about 900 feet south of northwest corner of sec. 27, T. 20 N., R. 17 E., about 20 feet southeast of center of intersection of road with Clealum road, 62 feet south by southwest from door of post office, just east of section line; iron post stamped "2178".....	2, 173. 535

T. 20 N., R. 16 E., southeast corner of sec. 24, Teanaway River road, in center of small triangle formed by roads, about 15 feet west of section corner on township line; iron post stamped "1991"..... 1,986.289
Feet.

M'CALLUM NORTH UP SWAUK CREEK OVER DIVIDE AND DOWN PESHASTIN CREEK.

Liberty post office, near center of sec. 10, T. 20 N., R. 17 E., 155 feet south of front door of post office, 95 feet southeast from southwest corner of new house; iron post stamped "2417"..... 2,411.967
 Swauk and Peshastin creeks, divide between, 20 feet west of road; iron post stamped "4071"..... 4,066.265
 Swauk-Peshastin divide, first cabin north of, east side of road and opposite, about 3.8 miles south of Blewett, cabin is on opposite side of creek from road and four trees are blazed; iron post stamped "2784"..... 2,778.968
 Blewett post office, 70 feet west of front door of, 125 feet from southeast corner of engine house of stamp mill; iron post stamped "2328"..... 2,323.086
 Peshastin Creek, bridge over, about 80 feet south of, and 300 feet south of junction of Ingalls and Peshastin creeks, on east side of trail; trees blazed in vicinity; iron post stamped "1822"..... 1,817.276
 Peshastin Creek, junction of road down, with road from Camas, 25 feet southwest from, 125 feet southwest from southwest end of small bridge on main road; iron post stamped "1513"..... 1,507.886

PESHASTIN CREEK SOUTHEAST UP CAMAS CREEK OVER DIVIDE AND NORTH DOWN BRENDER CANYON TO MISSION.

T. 23 N., R. 18 E., unsurveyed, Robinson & Bluett's sawmill, 0.25 mile east of, 6 feet north of road at summit of divide between Brender Canyon and Camas Creek; iron post stamped "3029 T"..... 3,029.639

PESHASTIN CREEK WEST UP NIGGER CREEK TO DIVIDE.

Patterson's cabin, 25 feet north of, about 7 miles up the creek and near its head; iron post stamped "5769"..... 5,763.682
 Falls and Cascade creeks, ridge between, running north from a high mountain just west of Nigger Creek and Falls Creek divide, and about 300 feet south and 25 feet east of highest point of north end of ridge; iron post stamped "6257"..... 6,251.900

LIBERTY NORTHEAST UP WILLIAMS CREEK ROAD 4 MILES.

T. 21 N., R. 18 E., sec. 31, unsurveyed, headwaters of Williams Creek, 20 feet east of intersection of last road and between two roads; iron post stamped "3403"..... 3,397.610

NORTH UP GREEN CANYON ROAD TO GREEN CANYON.

T. 19 N., R. 18 E., W. $\frac{1}{2}$ sec. 31, 0.5 mile east of Green Canyon, at first road running from Green Canyon after leaving Dry Creek, on the east side of a small ravine; iron post stamped "1967"..... 1,961.500
 T. 19 N., R. 18 E., W. $\frac{1}{2}$ sec. 7, Dry Creek, at forks of road, about 5 miles from, 30 feet east of intersection with road running to west up a steep hill; iron post stamped "2649"..... 2,644.128
 T. 20 N., R. 18 E., SW. $\frac{1}{4}$ sec. 31, unsurveyed, north end of road, about 150 feet west of house at end of road; iron post stamped "3049"..... 3,043.776

THORP WEST UP TANEUM CREEK.

T. 18 N., R. 17 E., near center of sec. 4, intersection of road; iron post stamped "1837"..... 1,831.537

T. 18 N., R. 16 E., about 1,200 feet south-southwest from northeast corner of (unsurveyed), about 1,000 feet southwest of first house above Taneum Creek schoolhouse, and on south side of creek, in a clump of small pines; house is on north bank of creek; iron post stamped "2046"	Feet. 2, 040. 930
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NORTHWEST UP TEANAWAY RIVER AND MIDDLE FORK.

T. 20 N., R. 16 E., in SE. $\frac{1}{4}$ sec. 10, 15 feet west of junction of Teanaway River road with ranch road running west; iron post stamped "2127" ..	2, 122. 052
Teanaway River, middle fork of, about 2.0 miles above intersection with main fork, 10 feet north of wagon road and about 600 feet southeast from a two-story log house, the first one occupied going up the river, just in edge of wood; iron post stamped "2333"	2, 328. 048

NORTH UP NORTH FORK OF TEANAWAY RIVER.

T. 21 N., R. 16 E., sec. 32, unsurveyed, on north fork of Teanaway River road, 10 feet west of junction with ranch road running northeast and 60 feet east of top of bluff above river; iron post stamped "2376"	2, 370. 856
Teanaway River, north fork and Second Creek, junction of, 2 miles above Beverly Creek, 125 feet east by 40 feet south of, 5 feet west of trail; iron post stamped "3361"	3, 360. 402
Snow ranch, 8.0 miles above, opposite a high rocky bluff between the upper forks of Teanaway, on trail and 30 feet east of top of river bank, four trees blazed in vicinity; iron post stamped "4248"	4, 243. 134

CLEALUM SOUTH 2 MILES.

T. 19 N., R. 15 E., in NW. $\frac{1}{4}$ sec. 2, junction with road from Easton to Ellensburg, 68.5 feet west from southwest corner of a large barn and 43.5 feet north of prominent fence corner; iron post stamped "2070"	2, 065. 507
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Glacier Peak, Marblemount, Mount Baker, and Stilaguamish Quadrangles.

SKAGIT, SNOHOMISH, AND WHATCOM COUNTIES.

The elevations in the following list were determined by primary leveling extended from tidal-gage bench marks established by the Coast and Geodetic Survey at Fairhaven and Tulalip.

The leveling was done as follows: Mount Baker quadrangle in 1907 by H. M. Hadley, in 1898 by L. D. Ryus and G. C. Jacobs; Marblemount quadrangle in 1898 by Ryus and in 1900 by E. M. Fry; Stilaguamish quadrangle in 1897 by G. H. Pratt and Fred Graff and in 1898 by Ryus; Glacier Peak quadrangle in 1897 by Pratt and John Graff and in 1898 by Ryus.

MOUNT BAKER QUADRANGLE.

KENDALL EAST ALONG HIGHWAY TO GLACIER.

Glacier, 1,400 feet north of station, 115 feet east of Glacier Creek bridge; iron post stamped "880 B"	Feet. 880. 725
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HAMILTON EAST ALONG GREAT NORTHERN RAILWAY.

Hamilton, in front of station; top of rail	93. 9
Hamilton, 4 feet south of station and 5 feet east of southwest corner of platform; iron post stamped "96 T. U. L."	94. 719
Birdsview, about 3.0 miles west of, south of road at south end of gravel road, in 36-inch fir tree; nail	130. 95

Birdsview, about 1.0 mile west of, 40 feet west of bridge over Grandy Creek, south of road; iron post stamped "142 T. U. L."	Feet. 141. 856
Baker, about 4.5 miles west of, on bench opposite orchard on river bank, in 16-inch fir tree north of road; nail.	210. 94
Baker, 0.25 mile west of, at bottom of hill, 40 feet north of fence corner, 50 feet north of road, in granite boulder; copper bolt stamped "231 T. U. L." ..	230. 506
McKutchen's, 0.25 mile east of, northeast side of foothill, 30 feet north on trail, in granite rock west of trail; copper bolt stamped "207 T. U. L." ..	206. 194

BAKER TO GRASMERE, THENCE NORTH ON WEST SIDE OF BAKER RIVER TO PARK CREEK AND TO POINT 1 MILE NORTH OF SWIFT CREEK.

Baker, 0.25 mile west of, at bottom of hill, 40 feet north of fence corner, 50 feet north of road, in granite boulder; copper bolt stamped "231 T. U. L." ..	230. 506
Grasmere, road crossing, 0.6 mile north of, 2 feet east of road, in base of 18-inch fir tree; nail marked "570"	570. 58
Vogler Lake, 1.2 miles south of, 300 feet north of summit of hill, 150 feet south of old deserted cabin, 5 feet east of road, in 2 by 2 by 2 foot granite boulder; aluminum tablet stamped "1086"	1, 086. 653
Vogler Lake, surface of, June 19, 1908	1, 059. 5
Frank Edgar ranch, 300 feet north of house, 5 feet west of road, at foot of cedar snag, 60 feet south of corner of secs. 14, 15, 21, and 22, in granite boulder; aluminum tablet stamped "1085"	1, 084. 996
Small stream, 150 feet north of, at bend in trail, 2 feet east of trail, in base of soft maple tree 18 inches in diameter; nail marked "1075"	1, 075. 41
Sulphur Creek, 40 feet south of where creek is crossed by trail, at bend in trail, in base of 36-inch fir tree; nail and aluminum tag stamped "443" ..	443. 14
Sulphur Creek, 0.3 mile north of, at bend in trail, on top of bench on north side of creek, in base of 36-inch fir tree; nail marked "686". (Tree bears linen sign of south boundary of Washington Forest Reservation)	684. 22
Sulphur Creek, 1.2 miles north of, north of gully, on east edge of trail, in boulder; aluminum tablet stamped "743"	743. 283
Sulphur Creek, 2.6 miles north of, 0.2 mile north of deep draw, 8 feet west of trail, in base of 18-inch fir tree; nail marked "733"	732. 86
Friday Creek, 50 feet north of, at sharp bend in trail, in base of 36-inch tall dead cedar tree; nail; marked "626"	625. 91
Boulder Creek bar, south edge of, west of trail, in boulder; aluminum tablet stamped "742"	742. 720
Park Creek, 0.9 mile south of, on south edge of small clearing, 200 feet south of abandoned cabin, 3 feet east of trail, in base of 36-inch fir tree; nail and aluminum tag stamped "748" and tree painted "748"	747. 90
Park Creek, 20 feet south of foot bridge, at junction of trails, solid rock having 1 by 1.5 feet exposed; highest point marked "761"	761. 32
Morovitz ranch, 300 feet north of house, 100 feet north of small stream, 50 feet south of barn, in 6 by 4 by 3 foot boulder of igneous rock; aluminum tablet stamped "831" and rock painted	831. 064
Morovitz ranch, 0.7 mile north of, on open hillside, 50 feet north of small flat bench, 4 feet east of trail, small pile of rock behind bench mark rock, on embedded boulder; highest point marked "1101"	1, 001. 23
Morovitz ranch, 1.9 miles north of, at place where trail comes out upon Rainbow Creek bar, in root of 48-inch fir tree; nail marked "1207"	1, 207. 77
Swift Creek, west side of, foot bridge, 50 feet south of point where trail crosses, in large boulder; aluminum tablet stamped "1615"	1, 614. 805
Swift Creek bridge, 0.3 mile north of, east of trail, on 12 by 6 by 5 foot boulder of igneous rock; highest point marked "1694"	1, 694. 54

Swift Creek footbridge, 0.8 mile north of, on upper side of where trail after crossing big slide enters grove of trees, on large gray boulder; highest point marked "2000"	Feet. 1,999.895
BAKER NORTH BY HATCHERY TRAIL TO BAKER LAKE, THENCE WEST TO MOUTH OF PARK CREEK.	
Baker, 0.2 mile west of, at bottom of hill, 40 feet north of fence corner, 50 feet north of road, in granite boulder; copper bolt stamped "231 T. U. L."	230.506
Baker, 2.5 miles north of, on summit of low ridge, 2 feet east of road, in knuckle of base of cedar tree; nail and aluminum tag stamped "279"	279.38
Baker, 5 miles north of, at summit of stiff climb and at bend in trail, east of trail, on round granite boulder 12 inches in diameter; highest point marked "772"	772.10
T. 36 N., R. 9 E., quarter corner of secs. 18 and 19, 7 feet northwest of, in base of 24-inch fir tree; nail and aluminum tag stamped "901"	901.19
Board marked "Hatchery 10 miles," 100 feet south of, east of trail, in base of tall dead cedar tree 48 inches in diameter; nail and aluminum tag stamped "960"	960.28
United States Fish Hatchery, Baker Lake, 20 feet north of cook house, in granite boulder 6 inches above surface of ground; aluminum tablet stamped "670"	670.34
Baker Lake, northwest corner of, where trail starts to Morovitz ranch, 15 feet from lake, 10 feet south of trail, in base of 24-inch alder tree; nail marked "666"	666.52

MARBLEMOUNT QUADRANGLE.

SAUK CITY NORTHEAST ALONG HIGHWAY AND TRAIL TO PANTHER CREEK.

Kunde ranch, 400 feet north of bars to, on north side of road, in conglomerate granite rock 10 feet square, 5 feet high; copper bolt stamped "291 T. U. L."	291.028
T. 35 N., R. 10 E., northeast corner of sec. 13	310.50
Marblemount, 0.5 mile west of, 300 feet northeast of sec. 13, T. 35 N., R. 10 E., south of road, in 30-inch hemlock stump; nail	316.76
Thornton ranch, 2.0 miles west of, 100 feet north of Skagit River, north side of trail, in large granite bluff; aluminum tablet stamped "425 T. U. L."	426.548
Davis ranch, 3.0 miles west of, 50 feet south of Hanging Rock camping place, 100 feet north of Skagit River, in slanting rock wall; aluminum tablet stamped "842 T. U. L."	743.376
Ruby Creek mining camp at mouth of, 10 feet north of cook house, 20 feet east of blacksmith shop, in large boulder; aluminum tablet stamped "1372 T. U. L."	1,274.091
Panther Creek, at mouth of; surface of water	1,644.5

MARBLEMOUNT EAST ALONG HIGHWAY 16 MILES.¹

Marblemount, forks of main road and Ruby Creek trail, 200 feet west of hotel, in 42-inch fir stump at junction; nail	322.37
Skagit River at ferry; water surface	300.4
Marblemount post office, 10 feet west of blacksmith shop, 60 feet east of river, in 54-inch cedar stump; nail	312.43
Marblemount, 2.1 miles east of, 50 feet north of road, 200 feet east of gravel slide, in granite rock 7 feet square, 4 feet high; copper bolt stamped "410 T. U. L."	409.303
Marblemount, 7.0 miles east of, 200 feet east of bridge over gulch, south of road, in 36-inch fir tree; nail	801.04

¹ This line closes 3 feet low and is unadjusted.

	Feet.
Marble Creek at ford; water surface.....	977. 9
Marblemount, 11.0 miles east of, west end of corduroy and 4 feet above fork road to north, in 42-inch cedar stump; nail.....	1, 030. 31
Hurd house, 150 feet north of, in granite rock 4 feet high, 10 feet north of road; copper bolt stamped "1057 T. U. L.".....	1, 055. 35
Marblemount, 14.0 miles east of, 30 feet east of small bridge, south of road, in 54-inch cedar tree; nail.....	1, 047. 02
Marblemount, 16 miles east of, 50 feet above river, south of trail, in 36-inch cedar tree; nail.....	1, 202. 86

STILAGUAMISH QUADRANGLE.

HARTFORD JUNCTION NORTHEAST ALONG NORTHERN PACIFIC RAILWAY TO GRANITE FALLS,
THENCE NORTHWEST ALONG HIGHWAY TO ARLINGTON.

Granite Falls, 600 feet west of station, south side of track and north of wagon road, in V formed by road and track; crossing; iron post stamped "Prim. Trav. Sta. No. 6, 386 WASH 1909".....	385. 120
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POINT NEAR SILVERTON ALONG EVERETT & MONTE CRISTO RAILWAY AND DOWN SAUK RIVER
TO GRANITE FALLS.

Bridge 42, Perry Creek, 120 feet west of, on south side of track; on hemlock stump 24 inches in diameter.....	1, 748. 28
Bridge 37, 25 feet east of west end of, on larch stump 36 inches in diameter.....	1, 645. 92
Bed of South Fork of Stilaguamish River, opposite bridge 37.....	1, 630
Milepost 30, 670 feet west of, 15 feet south of track, on hemlock stump 4 feet in diameter.....	1, 574. 34
Forty-five Mining Co.'s ore house, 450 feet east of, 15 feet north of center of track; on cedar stump 5 feet in diameter.....	1, 478. 14
Silverton, 1,000 feet east of water tank, 210 feet east of milepost 29, 20 feet north of track, in granite boulder 6 by 6 by 6 feet; copper bolt stamped "1521".....	1, 522. 84
Milepost 28, about 1,800 feet west of, south side of track, on hemlock stump 36 inches in diameter.....	1, 437. 10
Milepost 27, about 1,850 feet west of, on north side of track, on hemlock 36 inches in diameter.....	1, 385. 13
Stilaguamish River, third crossing of, 210 feet west of bridge 30, south of track, on a spruce stump 4 feet in diameter.....	1, 281. 22
Boardman Creek, about 2,200 feet east of west end of bridge 29 over, in T. 30 N., R. 9 E., probably sec. 20, 40 feet south of railroad, on west end of ledge which rises up some 40 feet above track, bench mark is 4 feet higher than track; copper bolt stamped "1247".....	1, 248. 483
Mud Tunnel, 400 feet northwest of west end of, on hemlock 36 inches in diameter, 20 feet west of track.....	1, 179. 04
Bridge 23, 120 feet west of, on hemlock stump 18 inches in diameter, south side of track.....	1, 063. 99
Bridge 19, 1,050 feet west of, north side of track, on hemlock stump 18 inches in diameter.....	945. 83
Bridge 17, 250 feet west of, in T. 30 N., R. 8 E., about 400 feet east of section line between secs. 7 and 8, 15 feet south of Everett & Monte Cristo track, in a 6-foot cut; copper bolt in slate rock stamped "897".....	898. 584
Bridge 15, 250 feet east of, 20 feet south of track, on hemlock stump 4 feet in diameter.....	866. 90
Tunnel 5, east portal of; top of rail.....	787. 3

	Feet.
Tunnel 4, east portal of; top of south rail.....	764. 6
Tunnel 3, east portal of; top of south rail.....	745. 1
Tunnel 2, west portal of; top of tie at.....	621. 5
Tunnel 2, 600 feet west of, north of track, on fir stump 24 inches in diameter.....	605. 4
Milepost 9, 20 feet west of, on opposite side of track from, in side of solid rock cut about the middle of ten degree curve to the right, 10 feet south of center of track; copper bolt stamped "460".....	461. 031
Blackman spur, 470 feet west of head block, 15 feet north of track, on hemlock stump 30 inches in diameter.....	440. 17
Granite Falls, 350 feet west of station, 40 feet south of track, on first ridge west of station; iron post stamped "397".....	397. 806

SILVERTON SOUTH ALONG TRAIL OVER DIVIDE TO WILLIAMSON CREEK, THENCE DOWN CREEK TO SULTAN RIVER.

Forty-five Mining Co.'s tram, 40 feet south of the fifth mast, on hemlock stump 36 inches in diameter, beside trail.....	1, 877. 05
Forty-five Mining Co.'s tram, 40 feet southwest of the ninth mast, on larch stump 24 inches in diameter, on trail.....	2, 361. 53
First loop in trail cut out of solid rock, 50 feet below, 50 feet below tram, 10 feet below trail, on hemlock stump 20 inches in diameter.....	2, 330. 44
Second loop in trail cut out of solid rock, on hemlock 20 inches in diameter, where trail begins to descend.....	3, 377. 32
Michigan Gulch, 25 yards south of tram, 10 feet north of trail, on larch 36 inches in diameter.....	3, 573. 42
Summit, 5 feet west of mast on tram, on larch stump 36 inches in diameter.....	4, 177. 07
Summit, about 0.5 mile south of, on larch 30 inches in diameter on south side of trail.....	3, 514. 59
Adelaide Gulch, near intersection of two small streams, on hemlock 12 inches in diameter on south side of trail.....	3, 019. 13
Forty-five Mining Co.'s sawmill, 80 feet east of, on larch stump above skid road.....	2, 582. 97
Williamson Creek, intersection of trail with right bank of, on larch 24 inches in diameter.....	1, 903. 89
Log cabin, 850 feet south of, on east side of trail, on larch 36 inches in diameter.....	1, 813. 05
T. 29 N., R. 10 E., probably in sec. 7, 200 feet south of small creek, in detached rock 10 by 10 by 5 feet; copper bolt stamped "1688".....	1, 689. 93

GRANITE FALLS SOUTHEAST ALONG HIGHWAY TO LAKE ROESIGER.

Granite Falls, 350 feet west of station, 40 feet south of track, on first ridge of solid land west of station; iron post stamped "397".....	397. 806
Granite Falls, 1,200 feet east of, on 18-inch fir on right of road.....	398. 12
Kerren's, across bridge opposite, 5-foot cedar stump, left of road.....	440. 57
Whetmore's slashing, 1,000 feet south of, on root of cedar stump, right of road.....	511. 87
Swamp, 150 feet beyond bridge over, left of road; on 18-inch hemlock....	497. 31
Menzel Lake, opposite middle of, on hemlock stump right of road.....	505. 75
Henry Menzel house, on 2-foot hemlock stump opposite, left of road.....	540. 58
Chowndings, 1,250 feet north of, in clearing, on 18-inch hemlock left of road.....	461. 80
Barstow house, 40 feet north of, near trail cutting across to Lake Roesiger wagon road; on 18-inch hemlock stump.....	524. 30
Barstow house, 1,000 feet southeast of, on 3-foot hemlock left of trail.....	639. 04
Lake Roesiger road, 800 feet south of house; on 12-inch hemlock left of road.....	733. 49

CHOWNDINGS ALONG HIGHWAY TO KELLEY RANCH.

	Feet.
Chowndings, 1,500 feet beyond, on 24-inch hemlock left of road.....	486. 75
Schoolhouse, 800 feet beyond, on 30-inch hemlock stump right of road....	491. 42
Russell house; 500 feet west of, on 24-inch hemlock stump right of road....	504. 95
Law house, 1,200 feet west of, on 36-inch hemlock stump right of road....	549. 92
Crow house, 100 feet north of, on 36-inch hemlock stump in Crow's field..	562
Summit of divide, on 5-foot cedar snag on right of trail	740. 32
Feemster house, 200 feet northwest of, on 5-foot cedar left of trail.....	639. 83
Kelley house, 1,200 feet west of, on 36-inch cedar near creek right of trail..	664. 93
Kelley house, 1,250 feet east of, on 18-inch hemlock 15 feet left of trail...	708. 43
Kelley house, 1,750 feet east of, on bowlder on side of hill 25 feet to left of trail and 275 feet from Pilchuck River; copper bolt stamped "746"....	747. 500

GRANITE FALLS NORTHEAST ALONG HIGHWAY TO CANYON CREEK.

Granite Falls, 0.5 mile northeast of, northwest side of road, 8 feet from fence, 75 feet from gate to house, in twin fir stump; nail.....	440. 27
Granite Falls, 1.0 mile northeast of, in 76-inch cedar stump 10 feet high and east of road at curve; nail.....	454. 24
Granite Falls, 1.5 miles northeast of, east side of road at bend, very prominent 20-inch hemlock tree; nail.....	388. 25
Stilaguamish River, south fork, bridge over, 100 feet southwest of, northwest side of road, in 20-inch hemlock tree; nail.....	362. 73
Stilaguamish River, south fork, 0.5 mile northeast of, southeast side of road, in 20-inch fir stump 4 feet high; nail.....	460. 68
Stilaguamish River, south fork, 1.0 mile northeast of, northwest of road, top of ridge; in 24-inch hemlock tree; nail.....	568. 47
Canyon Creek, foot bridge, at junction of trail to with road.....	523. 9
Stilaguamish River, south fork, bridge over, 1.25 miles northeast of, 150 feet from Canyon Creek, north of road on hillside, in 36-inch fir tree; nail.	446. 35
Canyon Creek, 150 feet west of house, at mouth of small stream from north..	430. 52
Canyon Creek, 0.25 mile north of east side of trail, on first bench, in 34-inch fir stump; nail.....	479. 16
T. 31 N., R. 7 E., south quarter corner of sec. 32, 125 feet northeast of, in rock projecting 2.5 feet out of hill; copper bolt stamped "545 M. C."..	547. 725

BARLOW PASS ALONG HIGHWAY DOWN SAUK RIVER TO DARRINGTON, THENCE WEST ALONG NORTHERN PACIFIC RAILWAY TO BRIDGE OVER STILAGUAMISH RIVER.

Raucher cabin, 600 feet north of, T. 31 N., R. 10 E., 0.5 mile southeast of meander corner between secs. 4 and 9, on cedar 18 inches in diameter on west of road	732. 59
Meander corner between secs. 4 and 9, 300 feet north (along road) of, T. 31 N., R. 10 E., in cedar 12 inches in diameter, on west of road, about 40 feet from river.....	710. 98
Milepost 12, about 1,000 feet south of, 150 feet north of bench of land 20 feet higher than bench mark, on west of road, on hemlock 30 inches in diameter.....	689. 56
Milepost 11, about 1,800 feet southeast of, 100 feet north of short ascent 12 feet high to bench of land, 30 feet from river bank, on cottonwood 28 inches in diameter, on west of road.....	662. 05
Milepost 11, about 250 feet northwest of, 200 feet north (along road) of log cabin, on fir 24 inches in diameter, west of road.....	646. 35
Clear Creek, 50 feet east of, at point about 150 feet above its mouth, 50 feet south of a log cabin, in ledge on south of road; copper bolt stamped "625" ..	626. 940

Clear Creek, about 4,500 feet northwest of, about 1,200 feet (along road) north of first clearing north of Clear Creek, on cedar 30 inches in diameter on east of road.....	Feet. 593. 57
Milepost 8, about 1,500 feet north of, on fir 12 inches in diameter on west of road.....	575. 87
Emmons house, 100 feet northwest of, at junction of road down Sauk River with road to Darrington post office, on fir 18 inches in diameter.....	566. 92
Stilaguamish River, junction of Sauk River road with road down, 58 feet west of Sauk River road and 20 feet south of Stilaguamish road, in fir tree 28 inches in diameter; nail.....	556. 88
Stilaguamish River, junction of Sauk River road with road down, 0.25 mile west of, north of road, on cedar 8 inches in diameter.....	545. 28
Milepost 6, 500 feet west of, 140 feet west of point where road makes a sharp turn to west, on hemlock 15 inches in diameter.....	532. 25
Darrington "burn," on west side of, sec. 9, T. 32 N., R. 9 E., 10 feet north of trail, halfway down the slope between bench and bottom land, slope faces south, a log barn on Squire Creek bottom bears south-southeast about 600 feet distant, in granite boulder 3.5 by 2.5 by 1 feet, above ground; copper bolt stamped "496".....	498. 161
James Smith ranch, by bars across trail leading to, 150 feet west of Squire Creek; on cedar 8 inches in diameter.....	456. 88
W. Spoerhase ranch, opposite gate entrance to, on cedar 36 inches in diameter.....	454. 69
T. 32 N., R. 8 E., secs. 12 and 13, 100 feet west of quarter corner between, north side of trail, on hemlock 20 inches in diameter.....	454. 66
T. 32 N., R. 9 E., 20 feet northwest of corner to secs. 11, 12, 13, and 14, on cedar 18 inches in diameter, which is the northwest bearing tree of corner.....	467. 06
Cavanaugh's trail, point of branching, on cedar stump 18 inches in diameter on north side of trail.....	429. 69
Boulder Creek, top of descent toward, 80 feet east of, on hemlock 14 inches in diameter on west edge of bench.....	412
Joe Pott's clearing, sec. 8, T. 32 N., R. 8 E., on trail to, and about 700 or 800 feet southwest of cabin, about 2,000 feet northerly from main trail down Stilaguamish River, on south side of dry watercourse bearing east and west; in rock 3.5 by 2.5 by 1.5 feet above ground; copper bolt stamped "303".....	305. 328
T. 32 N., R. 8 E., quarter corner between secs. 7 and 8, 150 feet west of creek in ravine, south of trail, on cedar 4 feet in diameter.....	374. 14
Milepost 1, 40 feet west of, north side of trail; on cedar 4 feet in diameter..	371. 79
T. 32 N., R. 7 E., quarter corner between secs. 11 and 12, about 0.5 mile east on left bank of north fork of Stilaguamish River, on south side of trail; top of low bluff; on cedar 36 inches in diameter.....	299. 90
T. 32 N., R. 7 E., about 600 feet southeast of quarter section corner between secs. 11 and 12, 15 feet north of abandoned road which branches off from the new wagon road about 200 feet northeast, in slashing 30 feet north of steep descent to North Fork of Stilaguamish River, about 50 feet below, on north slope of rock 6.5 feet long and 2.5 feet wide, roof-shaped; copper bolt stamped "286".....	288. 100
N. C. Hollingsworth house, about 1.9 miles west of, 40 feet east of junction of old and new roads, in root of 24-inch cottonwood tree north side of road; nail.....	206. 14
Four-mile post, about 300 feet east of, top of hill, in 20-inch fir tree on north side of road; nail.....	274. 21

DARRINGTON NORTH ALONG HIGHWAY TO M'KUTCHIENS.

Darrington, 4.0 miles north of, east of road, opposite bars; in 36-inch cedar tree; nail.....	Feet. 478. 61
Darrington, 5.0 miles north of, in fir tree on west side of road at top of hill; nail.....	455. 29
Darrington, 7.5 miles north of, 200 feet north of corduroy bridge over swamp, in 42-inch cedar tree on east side of road; nail.....	397. 77
Suiattle River, 0.25 mile south of mouth of, 8.5 miles north of Darrington, in ledge of granite and slate 15 feet above and 15 feet west of road, in cut of hill; copper bolt stamped "414 M. C.".....	415. 813
Darrington, 14.5 miles north of, 10 feet west of road and south of west of island in Sauk River, in rocky bluff 10 feet high, 40 feet above river; copper bolt stamped "333 M. C.".....	335. 358
Darrington, 18.5 miles north of, south edge of clearing, 200 feet northeast of barn, east of road, in cottonwood tree; nail.....	256. 86
Sauk, 3.5 miles south of, 50 feet from northeast corner of Phillips's fence, 50 feet from slough, west of road, in 80-inch charred cedar tree; nail....	251. 00
Sauk, 2.0 miles south of, north of gate of fork roads to east, about 1,000 feet northwest of bridge over small stream, in sandstone ledge 12 feet west of road; copper bolt stamped "246 M. C.".....	247. 949
Skagit River, Sauk Ferry, about mean height of river.....	202. 2

M'MURRAY EAST ALONG HIGHWAY AND TRAIL TO LAKE CAVANAUGH, THENCE NORTH VIA DAY LAKE TO LYMAN FERRY (PORTION OF LINE).

Deer Creek trail, 5.0 miles from Lake Cavanaugh road, 3 feet south of southwest corner of reflectors, 4 feet north of trail; iron post stamped "1260 WASH 1909".....	1, 260. 590
T. 33 N., Rs. 6 and 7 E., quarter corner between secs. 12 and 7, crossing of range line and Deer Creek trail, in root of tree; copper temporary bench mark.....	1, 294. 19
Deer Creek trail, 100 feet west of junction of trail to Day Lake, 7.2 miles from Lake Cavanaugh Road, 15 feet east of stream, 6 feet west of 8-foot cedar, top of large boulder; aluminum tablet stamped "1147 WASH 1909".....	1, 146. 497
Deer Creek trail, 0.2 mile north of, on trail to Day Lake, 43 paces east to corner of secs. 5, 6, 7, and 8, east side of trail, in root of tree blazed and marked with pencil "43 paces east to cor. secs. 5, 6, 7, and 8"; copper temporary bench mark.....	1, 471. 87
Tps. 33 and 34 N., R. 7 E., 60 rods east of corner of secs. 5, 6, 31, and 32, crossing of trail from Deer Creek to Day Lake with township line, east edge of trail; in 8-inch tree blazed and marked with pencil, copper temporary bench mark.....	1, 710. 38
Day Lake, east end of, fork of trail, in tree blazed and marked in pencil "Deer Creek, keep to right"; copper temporary bench mark.....	1, 627. 21
Day Lake, surface of water.....	1, 599. 55
Day Lake, north side of, about one-third of the distance from east and west end, 250 feet west of cabin, 15 feet west of small stream; in top of large boulder; aluminum tablet stamped "1616 WASH 1909".....	1, 615. 325
Day Lake, 1.8 miles northwest of, at summit of hill, 150 feet northwest of cabin, just west of 8-foot cedar, east edge of trail; in top of granite boulder; aluminum tablet stamped "2339 WASH 1909".....	2, 338. 314
Day Lake, 3.5 miles northwest of, 20 feet west of cabin, east edge of trail, in root of stump; copper temporary bench mark.....	1, 971. 64

Day Lake, 3.7 miles northwest of, 7.5 miles southeast of Lyman, 15 feet north of stream, 40-foot waterfall about 70 feet to east, east edge of trail, top of rock about 3 feet high; aluminum tablet stamped "2005 WASH 1909".....	Feet. 2,004.959
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GLACIER PEAK QUADRANGLE.

MONTE CRISTO ALONG EVERETT & MONTE CRISTO RAILWAY TO POINT NEAR SILVERTON.

Sauk River bridge, 60 feet west of west end of, 30 feet south of center of track, on hemlock stump 26 inches in diameter.....	2,302.12
Barlow Pass station, about 0.5 mile east of, 30 feet north of center of track, on hemlock stump with wide-spreading roots.....	2,312.71
Barlow Pass station, 12 feet east of, 12 feet north of center of track, on 30-inch larch stump.....	2,346.60
Barlow Pass, about 4,200 feet west of, near point of 5° curve left, 15 feet south of center of track, on 24-inch hemlock stump.....	2,242.38
Milepost 36, 400 feet west of, 15 feet south of track, on 30-inch hemlock stump.....	2,203.85
Milepost 34, 350 feet west of, on 36-inch hemlock stump.....	1,927.77

BARLOW PASS ALONG HIGHWAY DOWN SAUK RIVER TO DARRINGTON.

Barlow Pass station, about 0.25 mile northeast of, 10 feet east of wagon road, 150 feet north of long puncheon incline on road, on hemlock 10 inches in diameter.....	2,249.64
Barlow Pass station, about 0.5 mile northeast of, on root of double hemlock 24 inches and 30 inches in diameter, 15 feet west of wagon road, at station 37 plus 50 on Goat Lake electric line survey.....	2,220.64
Sauk River, junction of road from Barlow Pass with road along, on 28-inch hemlock.....	2,202.54
Sauk River, junction of road from Barlow Pass with road along, about 1,600 feet north of, on west edge of wagon road, on hemlock 20 inches in diameter.....	2,192.62
County road milepost 29, about 800 feet south of, on west edge of road, on 30-inch hemlock.....	2,156.08
County road milepost 29, about 1,100 feet north of, west side of wagon road at point where creek 10 feet wide first touches road on east; on 30-inch hemlock.....	2,029.80
Goat Lake wagon road, intersection with Sauk River road; on 5-foot cedar..	1,953.97
Goat Lake wagon road, intersection with Sauk River road, about 1,800 feet north of, 150 feet south of old bridge site, west side of road on 24-inch hemlock.....	1,810.28
Elliott Creek, about 200 feet north of mouth of, 80 feet north of bridge site, on east side of road; on 36-inch hemlock.....	1,698.86
Elliott Creek, about 750 feet north of mouth of, 150 feet north of narrow strip of bottom land near foot of rise in road, 15 feet west of road; on 20-inch larch.....	1,645.34
Elliott Creek, about 1.0 mile north of, west side of road, top of steep hill sloping north; on hemlock 48 inches in diameter.....	1,578.61
Milepost 25, about 1.0 mile south of, 30 feet east of right bank of river, 10 feet west of road; on 36-inch cedar.....	1,498.39
Milepost 25, 50 feet north of, creek crosses by bridge about 12 feet above water, 5 feet west of road; on 15-inch alder.....	1,370.70
Orient, at junction of north-south forks of Sauk River, about 140 feet southeast of meander corner on southwest bank of north fork, meander corner is on section line between secs. 9 and 16, T. 30 N., R. 11 E., in granite boulder 4 by 6 by 2.5 feet above ground; copper bolt stamped "1241"....	1,243.31

	Feet.
Milepost 23, about 1,080 feet north of, about one-third of distance up the second hill of "pitch" after passing creek; west side of road; on 30-inch cedar.....	1, 193. 35
Milepost 22, about 700 feet south of, 75 feet south of bridge across small creek on south side of clearing, east side of road; on granite boulder....	1, 161. 54
Milepost 22, about 3,350 feet north of, 150 feet north of cabin between road and river, east side of road; on hemlock 36 inches in diameter.....	1, 098. 96
Milepost 21, about 20 feet north of, west side of road; on 36-inch cedar....	1, 077. 34
T. 31 N., R. 11 E., secs. 29, 30, 31, and 32, on bearing tree for corner to, west side of road; 4-foot cedar.....	1, 035. 44
Pugh ranch, 500 feet north of, west side of road, on 5-foot cedar.....	1, 023. 13
T. 31 N., R. 11 E., about 1,500 feet from corner of secs. 29, 30, 31, and 32, left bank of Sauk River, 20 feet northeast of pool at foot of fall on Falls Creek 150 feet above its mouth; in ledge; copper bolt stamped "1039".....	1, 040. 488
Snover cabin, about 660 feet north of, on east of road; on hemlock 30 inches in diameter.....	980. 81
McClellan ranch, 2,400 feet northwest of, 10 feet west of road, on 5-foot cedar.....	940. 95
T. 31 N., R. 10 E., between secs. 14 and 15, 100 yards northwest of Duber cabin, about 220 feet southeast of meander corner on west bank of Sauk River, 10 feet west of road, in blue ledge; copper bolt stamped "838"....	839. 982
Bordens Creek, 50 feet north of, on west of road, on 15-inch hemlock.....	815. 42

MONTE CRISTO LAKE SOUTHEAST ALONG HIGHWAY TO GOAT LAKE.

Elliott Creek, bed of, at road crossing.....	1, 797
Goat Lake, 61 feet north of Coffin log house, 12 feet northeast of Goat Lake road, and about 60 feet northeast of Elliott Creek, in rock in place; copper bolt stamped "3162".....	3, 165. 579
Goat Lake, surface of water.....	3, 155. 6

MARBLEMOUNT EAST ALONG HIGHWAY TO CASCADE PASS.¹

Mineral Park, 150 feet north of east end of bridge over North Fork, 30 feet east of trail, 50 feet northeast of dugout root house, in granite rock in bank 3.5 feet high, projecting 3 feet from earth; copper bolt stamped "1396 T. U. L.".....	1, 394. 978
Mineral Park, 2.5 miles northeast of, north bank of North Fork, 50 feet from old bridge, north of trail, in hemlock tree; nail.....	2, 038. 07
Gilbert cabin, 2.5 miles east of, 100 feet east of rock slide, north of trail; marked cross on sharp point at lower end of granite rock on grassy slope....	4, 947. 91
Cascade summit; iron post stamped "5423." (This post was set in 1897 and the elevation as stamped was based upon an assumed datum at Chelan Falls on Columbia River).....	5, 390. 457

Mazama, Methow, Slate Pass, and Stehekin Quadrangles.

CHELAN, OKANOGAN, AND WHATCOM COUNTIES.

The elevations in the following list were determined by primary leveling extended from tidal gages at Tulalip and Fairhaven and from the precise-level line of the Coast and Geodetic Survey along the Northern Pacific Railway. The double-run line in the Slate Pass quadrangle from Harts Pass to the International Boundary was by the United States and Canada Boundary Survey.

¹ This line closes 3 feet low and is unadjusted.

The leveling was done as follows: Stehekin quadrangle in 1897 by P. F. Byrne, in 1899 by E. M. Fry, and in 1901 by C. E. Hill; Slate Pass quadrangle in 1899, 1900, and 1901 by Fry, in 1904 by Thomas Riggs, and in 1905 by George Newman; Methow quadrangle in 1899 and 1902 by Fry; and Mazama quadrangle in 1899 by Fry.

SLATE PASS QUADRANGLE.

PANTHER CREEK EAST ALONG TRAIL TO SLATE CREEK PASS.

	Feet.
Canyon Creek, 300 feet east of bridge over, 0.5 mile from mouth of, on north side and 30 feet from creek, 400 feet north of house of Old Channel Hydraulic Co., in rock bluff; aluminum tablet stamped.....	1, 899. 720
Mill Creek, mouth of, 200 feet northwest of cabin near, 250 feet north of Canyon Creek, in rock wall near old placer diggings; aluminum tablet..	2, 440. 520
Slate Creek, 500 feet north of mouth of, 100 feet east of Smoky Cabin, 100 feet east of trail, in large bowlder; aluminum tablet.....	2, 838. 759
Slate Creek camp, 1.5 miles southeast of, junction of Slate Creek and Benson Creek trail; top of bowlder; marked "4877".....	4, 805. 41
Slate Creek Pass, at summit between Trout and Slate Creeks, in large stone 10 feet south of trail; aluminum bolt stamped "6197".....	6, 197. 563

SLATE CREEK OR HARTS PASS SOUTHWEST ALONG TRAIL TO BARRON, THENCE TO WINDY PASS AND RETURN TO HARTS PASS.

Harts Pass (Slate Creek Pass), on trail at summit, between Trout and Slate Creeks, in top of bowlder; aluminum bolt stamped "6197".....	6, 197. 563
Harts Pass, 0.7 mile southwest of, at creek crossing road, in root of twin trees; spike.....	5, 789. 999
Harts Pass, 1.3 miles southwest of, point on rock at creek crossing road about 2 miles south of Barron.....	5, 129. 30
Harts Pass, 1.7 miles southwest of, in root of spruce tree on north bank of road; spike.....	5, 073. 03
Barron, 75 feet from; 2.0 miles southwest of Harts Pass; on north edge at junction of Barron and Slate Creek roads, point on conical-shaped rock..	4, 806. 04
Barron, 6 feet west of road, 3 feet west of post office, in store of Methow Trading Co. (now Simon Veasy), 150 feet east of Skagit River Hotel; iron post stamped "5353 TUL".....	5, 353. 126
Barron, 0.5 mile north of, in west side of tamarack stump 50 feet west of road; nail.....	5, 843. 98
Barron, 3.9 miles north of, west side of road, in balsam stump; nail head..	5, 994. 88
Barron, 1.5 miles north of, 100 feet north of Sky trail, 300 feet east of Barron trail, in Windy Pass, in top of largest bowlder in lowest part of saddle on divide between Pasayton River and north fork of Slate Creek; bronze tablet stamped "6262 TUL".....	6, 262. 250
Harts Pass, 4.5 miles northwest of, on small knoll in middle of pass between a fork of Slate Creek and Pasayton River, 100 feet north of trail; iron post stamped "6575 TUL".....	6, 575. 487
Harts Pass, 4.0 miles northwest of, 3 feet to left of trail, in pass between Pasayton River and fork of Slate Creek, in root of small tamarack tree; nail.....	6, 703. 283
Harts Pass, 2.8 miles northwest of, painted rock 4 feet below trail.....	6, 987. 69
Harts Pass, 1.5 miles northwest of, near top of bench coming up from valley; on bowlder.....	6, 770. 97
Harts Pass, 0.5 mile northwest of, on high trail from pass; on bowlder.....	6, 411. 62

WINDY PASS NORTHEAST ALONG TRAIL TO PASAYTON RIVER, THENCE NORTH DOWN RIVER TO INTERNATIONAL BOUNDARY LINE.

	Feet.
Windy Pass, 0.6 mile northeast of, 4 feet from trail, in root of leaning spruce tree; head of spike.....	5,780.35
Windy Pass, 1.3 miles northeast of, 20-penny spike in root of spruce tree 20 feet from creek.....	5,388.22
Windy Pass, 2.1 miles northeast of, 50 feet from trail, in large spruce tree up east fork of Pasayton River; spike.....	5,097.48
Windy Pass, 3.6 miles northeast of, on west bank of river below small flat on west side and above slide on west side of river; in large rock; aluminum tablet stamped "4928 TUL".....	4,928.236
La Roche cabin, 2.8 miles south of, west bank of river, 75 feet north of first tributary on west, in root of balsam tree; spike.....	4,904.49
La Roche cabin, 0.8 mile south of, in root of spruce tree; spike.....	4,788.51
La Roche cabin, 70 feet from, 10 feet from both trails at forks of new and old trails; iron post stamped "4767 TUL".....	4,766.977
La Roche cabin, 0.5 mile north of, 20 feet west of trail, east side of river; corner of large boulder.....	4,706.21
La Roche cabin, 1.3 miles north of, west side of river; point on boulder...	4,647.55
Pasayton River, on west bank of river just above falls, 70 feet west of trail to Barron, in rock; aluminum tablet stamped "4632 TUL".....	4,631.568
La Roche cabin, 2.25 miles north of, ring of paint around point of rock....	4,554.00
La Roche cabin, 3.0 miles north of, 20 feet from west bank of river, in root of balsam tree; spike.....	4,506.60
La Roche cabin, 4.0 miles north of, east bank of river below a goose neck of same; in root of spruce tree; spike.....	4,454.99
La Roche cabin, 4.5 miles north of, 100 feet south of where trail crosses river, on east bank; iron post stamped "4443 TUL".....	4,443.453
La Roche cabin, 5.3 miles north of, on west side of river, 11.0 miles south of international boundary; ring of paint around rock.....	4,373.65
International boundary, 8.6 miles south of, on west side of river, 5 feet just around bend to south of Robinson's upper cabin, in root of dry pine; spike.	4,204.331
International boundary, 8.2 miles south of, on west bank of river, in knuckle of balsam tree; spike.....	4,178.74
International boundary, 6.7 miles south of, 50 feet east of river; point on large boulder.....	4,092.74
International Boundary, 5.9 miles south of, 150 feet south of small creek, on west side of river 50 feet distant and 12 feet higher; iron post stamped "4052 TUL".....	4,051.786
International boundary, 3.5 miles south of, on east side of river, on gravel bar; point on large boulder.....	3,998.20
International boundary, 2.1 miles south of, west bank of river, in root of balsam tree; spike.....	3,943.78
International boundary, 1.5 miles south of, in forks of Barron and Boundary trail, in base of pine tree; spike.....	3,963.69
International boundary, 1.0 mile south of, west side of trail, in root of spruce tree; spike.....	3,912.87
International boundary, 0.5 mile south of, west side of trail, in root of pole pine stump; nail.....	3,879.93
Vista on international boundary, 10 feet east of trail, in root of tree; head of nail.....	3,851.95
International boundary, 300 feet east of Pasayton River, 10 feet east of trail; iron post stamped "3853 TUL".....	3,852.854

WINTHROP NORTHWEST ALONG HIGHWAY AND TRAIL TO SLATE PASS (PORTION OF LINE).

Robinson Creek, 3.0 miles south of, 400 feet north of milepost 3, in root of 12-inch pine tree; nail	Feet. 2,374.56
Robinson Creek, 2.0 miles south of, 5 feet west of milepost 2; top of stone.	2,427.37
Robinson Creek, 4 feet east of southeast corner of Methow Trading Co.'s warehouse, in stone; aluminum bolt stamped "2521 T"	2,521.528
Robinson Creek, 2.5 miles north of, north side of trail; on top of stone.	2,713.47
Slate Creek Pass, summit of, 10 feet south of trail, 4.0 miles south of Slate Creek camp, in top of large stone; bolt.	6,197.56

MAZAMA QUADRANGLE.

WINTHROP NORTHWEST ALONG HIGHWAY AND TRAIL TO SLATE CREEK PASS (PORTION OF LINE).

Milepost 8, about 3,000 feet west of, 27 feet northwest of a fir tree and 30 feet south of a fir tree, 5 feet south of road, in stone; aluminum bolt stamped "2165 T"	2,165.521
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METHOW QUADRANGLE.

VROMAN RANCH NORTHWEST ALONG HIGHWAY VIA METHOW TO TWISP.

Methow post office, at southeast corner of Bolinger's store, 10 feet west of State road; iron post stamped "1158 T"	1,157.912
McFarland Creek, 100 feet east of, east side of road; top of large boulder.	1,253.64
Gold Creek, 1,000 feet north of, east side of road; top of stone	1,324.13
Peterson ranch, 300 feet south of gate and 300 feet southwest of barn; on top of stone	1,358.83
T. 32 N., R. 22 E., NW. $\frac{1}{4}$ sec. 29, 100 feet west of house at Ferris ranch, 250 feet northeast of barn, east side of road; iron post stamped "1452 T"	1,452.299
Ferris ranch, 2.0 miles north of, 50 feet east of road, 1,000 feet west of Methow River; on top of stone.	1,483.41
Ferris ranch, 3.0 miles north of, 150 feet west of road, at point 1,000 feet north of north end of lane; on top of stone.	1,546.38
Alder Creek crossing, 0.25 mile south of, 10 feet west of road, in root of pine tree; nail	1,810.40
Cushing ranch, 150 feet northwest of house, 10 feet east of road; on top of stone.	1,826.39
Twisp, 2.0 miles south of, on east side of road at north end of small lake; on top of stone	1,807.08
Twisp, at northeast corner of Caldwell's blacksmith shop, 300 feet southwest of post office; iron post stamped "1619 T"	1,618.868

TWISP WEST ALONG HIGHWAY UP TWISP RIVER AND DOWN BEAVER CREEK TO MOUTH (PORTION OF LINE).

Twisp, 1.5 miles west of, 100 feet north of north end of bridge over Twisp River, in top of stump; nail	1,666.45
Elbow Coulee, mouth of, 10 feet north of road at S. M. Newby ranch; iron post stamped "1994 T"	1,994.045
Newby ranch, 1.0 mile west of, 4 feet south of road, at foot of pine tree; on top of boulder.	2,025.35
Newby ranch, 2.0 miles west of, 10 feet south of road; on top of stone.	2,091.80
Newby ranch, 4.5 miles west of, 500 feet north of cabin, on north side of road, in root of 12-inch tree; nail.	2,221.49
Old Scaffold camp ground, at south side of road; iron post stamped "2329 T"	2,328.957

Old Scaffold camp ground, 1.0 mile west of, at south side of road; on top of stone.....	Feet. 2, 396. 25
War Creek, 1.0 mile west of mouth of, in center of road; on top of stone...	2, 459. 73
War Creek, 3.0 miles west of mouth of, 20-feet south of road at foot of pine tree; on top of stone.....	2, 667. 63
War Creek, 4.0 miles west of mouth of, in top of stump in center of road; nail.....	2, 799. 11
Gilbert camp, 8.0 miles east of, 10 feet south of road; iron post stamped "2806 T".....	2, 806. 110

TWISP NORTH ALONG STATE ROAD TO WINTHROP.

T. 34 N., R. 21 E., sec. 25, 4.0 miles north of Twisp, 200 feet south of Hartle ranch house, 150 feet west of road; iron post stamped "1688 T".....	1, 687. 903
Twisp, 6.0 miles north of, 50 feet west of road; on top of stone.....	1, 750. 20
Twisp, 7.0 miles north of, 100 feet east of road; on top of stone.....	1, 747. 07
Winthrop, 0.5 mile west of, south side of road; on stone.....	1, 803. 45
Schumber ranch, 800 feet north of house, 150 feet west of road, in root of pine tree; nail.....	1, 796. 42
Schumber ranch, 1.0 mile north of, 150 feet west of road, 300 feet from Methow River, in root of pine tree; nail.....	1, 811. 56
Methow River, surface of water.....	1, 787. 0
Winthrop, at town pump, 100 feet south of Methow Trading Co.'s store and 100 feet north of hotel; iron post stamped "1765 T".....	1, 765. 499

FROM MOUTH OF LIBBY CREEK NORTH ALONG TRAIL UP LIBBY CREEK AND SMITHS CANYON TO TWISP.

Lookout Mountain, summit of pass east of, between Libby Creek and Twisp Creek, on west side of trail; on top of rock 4 by 5 by 9 feet.....	3, 533. 99
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NEWBY RANCH NORTH ALONG TRAIL UP ELBOW COULEE TO WINTHROP.

Summit between Elbow Coulee and Rader Lake, 50 feet east of trail; on top of white rock.....	2, 629. 67
Rader Lake (Moccasin Lake), water surface.....	2, 193. 3
Schumber ranch, 800 feet north of house, 150 feet west of road, in root of pine tree; nail.....	1, 796. 42

WINTHROP EAST ALONG HIGHWAY UP BEAR CREEK TO MOUTH OF PIPESTONE CANYON.

Winthrop, 4.0 miles southeast of, 0.5 mile southwest of mouth of Pipestone Canyon, 1,000 feet north of cabin, south side of trail; iron post stamped "2398 T".....	2, 398. 708
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SILVER NORTHEAST ALONG HIGHWAY TO RED SHIRT STAMP MILL.

Silver, 25 feet south of southeast corner of post office, west side of street; iron post stamped "1513 T".....	1, 513. 012
Silver, 1.0 mile north of, 250 feet southwest of schoolhouse, 50 feet west of road, in root of double pine tree; nail.....	1, 556. 78
Silver, 4 miles northeast of, 500 feet northwest of Red Shirt Mining & Milling Co.'s stamp mill, 100 feet south of Beaver Creek, north side of road; iron post stamped "1912 T".....	1, 911. 960

RED SHIRT SOUTH TO OGLESBY RANCH.

Oglesby ranch house, opposite road 30 feet northeast of, group of bowlders, in granite bowlder; tablet stamped "1967".....	1, 966. 360
Oglesby ranch gate, 0.25 mile west of, 15 feet north of road, top of bowlder; marked "1899".....	1, 899

Boyles ranch, 0.25 mile west of, 20 feet south of road, east end of line of bowlders, rock; marked "1774"	Feet. 1, 773. 60
Red Shirt stamp mill, 600 feet northwest of, 100 feet south of Beaver Creek, at fence corner, north side of road; iron post stamped "1912"	1, 911. 960

UP LIBBY CREEK ALONG HIGHWAY AND TRAIL TO J. E. SMITH RANCH.

J. E. Smith ranch, 100 feet west of, where trail up Libby Creek enters ranch; iron post stamped "2500 T"	2, 500. 683
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UP M'FARLAND CREEK ALONG HIGHWAY AND TRAIL TO LAMBERT RANCH.

T. 31 N., R. 22 E., sec. 32, 25 feet west of gate at Lambert ranch, 10 feet east of trail, 4 miles up McFarland Creek; iron post stamped "2282 T"	2, 282. 505
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UP SQUAW CREEK ALONG HIGHWAY AND TRAIL TO SQUAW CREEK CAMP.

Squaw Creek camp, 1.0 mile north of, 3.0 miles from mouth of Squaw Creek, 8 feet north of road; iron post stamped "1983 T"	1, 983. 721
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STEHEKIN QUADRANGLE.

HEAD OF LAKE CHELAN UP STEHEKIN RIVER TO BRIDGE CREEK.

Log cabin; on rock in trail near head of Lake Chelan	1, 086. 0
Cabin on trail, 0.2 mile south of, on large cottonwood tree 3 feet in diameter	1, 202. 7
Pine tree 2 feet in diameter, 25 feet to right of trail, on top of stone 5 feet north of tree	1, 285. 96
Side of ravine, top of stone, 2 cubic yards, on right side of trail; elevation marked on stake	1, 414. 01
Junction of Agnes and Stehekin rivers, 105 feet north of river bank, in an open space about 1,000 feet east of junction of rivers, in root of pine tree 2 feet in diameter; nail; elevation marked on a board nailed to a tree ..	1, 488. 3
Twin Lake, between two pine trees each 4 feet in diameter; these trees are 20 feet apart and near dry outlet of lake; on highest point of rock 5 by 4 by 3 feet	2, 152. 40
Narrow bridge on small stream, at corner of; top of rock 6 by 5 by 3 feet ..	2, 001. 00
Cabin, 155 feet north of, in root of 5-foot cedar tree; nail	2, 059. 79
Bridge Creek, 225 feet south of new bridge, in root of 2½-foot fir tree; nail ..	2, 174. 58
NOTE.—The remainder of this line is unadjusted and closes 3 feet high.	
Park Creek bridge, at west end of bridge, in fir stump 1½ feet in diameter; nail	2, 255. 72
State road camp on Stehekin River, 125 feet west of trail leading to, on top of rock 8 by 6 by 6 feet, 22 feet south from tree 3 feet in diameter	2, 689. 18
Pershall cabin, 25 feet from northeast corner of, in root of 2-foot cottonwood tree; nail	3, 101. 67
Pass, at first summit of, in root of hemlock tree; nail	4, 900. 93
Summit; iron post stamped "5423"	5, 393. 286

TWISP WEST ALONG HIGHWAY AND TRAIL UP TWISP AND DOWN BRIDGE CREEKS TO MOUTH OF BRIDGE CREEK.

South Creek, 3.0 miles east of crossing, in top of stump in center of road; nail ..	2, 890. 07
South Creek crossing, 300 feet west of, south side of road, in root of fir tree; nail	3, 120. 10
Gilbert camp, 50 feet east of assay office, south side of street; iron post stamped "3527 T"	3, 527. 567
Gilbert, 2.0 miles west of, north side of trail, at foot of fir tree 45 inches in diameter; on top of stone	4, 251. 89
Gilbert, 3.0 miles west of, 4 feet east of north end of bridge over Twisp River; cross on top of large flat bowlder	4, 485. 04

Feet.

Twisp Pass, summit of, 10 feet south of trail; iron post stamped "6066 T" .	6,066. 274
Twisp Pass, 2.5 miles west of, south side of trail; on top of stone.....	5,063. 72
Twisp Pass, 5.0 miles west of, 5 feet south of trail, in root of tree; nail....	3,802. 68
Twisp Pass, 11 miles west of, west side of trail; on top of stone.....	3,473. 90
Twisp Pass, 12 miles west of, 0.2 mile east of Maple Creek, south side of trail, in root of tree; nail.....	3,190. 23
Bridge Creek, 0.5 mile east of mouth of, 10 feet south of trail, in root of cedar tree 6.5 feet in diameter; nail.....	2,556. 32
Bridge Creek, mouth of, 225 feet south of new bridge, in root of fir tree 2.5 feet in diameter; nail.....	2,174. 58

UP CHEWAWA AND BUCK CREEKS NORTHWEST ALONG HIGHWAY TO BUCK CREEK PASS (PORTION
OF SPUR LINE FROM LEAVENWORTH).

Rock Creek, 4.5 miles northwest of, 6 feet east of trail in middle of open bushy west slope about 200 feet south of little stream, in rock about 6 feet square and 3 feet high; bronze tablet stamped "2637 T".....	2,637. 818
Rock Creek, 6.5 miles north west of, 2 feet east of trail, 300 feet north of small stream, in root of big fir tree; nail marked "2660".....	2,660. 54
Phelps Creek, 125 feet south of, 36 feet northeast of trail, in big rock; bronze tablet stamped "2782 T".....	2,782. 595
Phelps Creek, 0.8 mile northwest of, 60 feet north of little creek, 6 feet west of trail, in root of hemlock tree; nail marked "2914".....	2,914. 87
Phelps Creek, 1.5 miles northwest of, near north edge of big open burn, east of trail, in root of big fir tree; nail marked "3044".....	3,044. 74
Buck Creek, 900 feet southeast of, 2 feet east of Chewawa Creek, top of quartz-crowned projection on bedrock about water level (high); marked "3217".....	3,217. 87
Chewawa Creek, 2 feet east of, 1,125 feet north of Buck Creek, 12 feet north of trail, in bedrock about high-water level; bronze tablet stamped "3373 T".....	3,373. 208
Forks of Buck and Chewawa Creeks, 1.0 mile northwest of, about 200 feet northwest of little creek in meadow, 12 feet west of trail, in root of fir tree; nail marked "3840".....	3,840. 67
Forks of Buck and Chewawa Creeks, 2.0 miles north west of, 11 feet west of trail, in root of spruce tree; nail marked "4254".....	4,254. 34
Forks of Buck and Chewawa Creeks, 3.0 miles north west of, 675 feet south- east of Buck Creek ford, 4 feet west of trail; top of big rock marked "4471".....	4,471. 48
Buck Creek, surface of water at trail crossing, September 20, 1901.....	4,494. 8
Forks of Buck and Chewawa Creeks, 4.0 miles north west of, 135 feet west of Buck Creek, 9 feet east of trail, in top of big plane-topped slaty rock about 15 inches in diameter; bronze tablet stamped "4885 T".....	4,885. 200
Buck Creek, at extreme headwaters of, 5.0 miles north west of forks of Buck and Chewawa Creeks, 600 feet north of trail, 500 feet south of lowest sag in saddle at summit of Cascade Divide; in large rock; tablet stamped "5796".....	5,796. 586
Summit of pass at headwaters of Buck Creek; ground at lowest sag in saddle.	5,785. 83

Bellingham and Mount Vernon 30' Quadrangles, Blaine and Sumas 15'
Quadrangles.

SKAGIT, SNOHOMISH, AND WHATCOM COUNTIES.

The elevations in the following list were determined by primary leveling extended from tidal-gage bench marks established by the Coast and Geodetic Survey at Fairhaven and Tulalip.

The leveling was done as follows: Blaine, Sumas, and Bellingham quadrangles in 1905 by G. C. Jacobs; Bellingham quadrangle by W. S. Wheeler in 1898; Mount Vernon quadrangle in 1898 by L. D. Ryus and Wheeler, and in 1909 by W. A. Gelbach. The work of 1909 was done in cooperation with the State.

MOUNT VERNON QUADRANGLE.

BELLEVILLE SOUTH ALONG GREAT NORTHERN RAILWAY TO MARYSVILLE.

	Feet.
Belleville, 75 feet north of track west of main street, 125 feet northwest of station; iron post stamped "29 B"	30.058
Burlington, 0.5 mile north of; 30 feet west of railroad, 300 feet north of railroad switch, 1,260 feet south of yard-line signboard for Burlington, in base of 8-foot cedar stump 15 feet high; nail in notch; marked "29"	30.008
Burlington, southeast corner of school yard, at northwest corner of Fairhaven and Regent avenues, 24 feet north of fence; iron post stamped "35 B"	35.753
Burlington, south of, bridge over Skagit River	48.4
Mount Vernon, 150 feet southwest of station, 50 feet east of Hotel Mount Vernon, 12 feet north of sidewalk, east side of woven-wire fence; iron post stamped "Prim. Trav. Sta. No. 17, 23 WASH 1909"	23.669
Mount Vernon, 2.4 miles south of, at crossing, 100 feet west of tracks, on south side of road; iron post stamped "9 WASH 1909"	8.978
Fir, 75 feet southwest of station, southeast corner of crossroads, 3 feet east of telephone pole; iron post stamped "Prim. Trav. Sta. No. 1, 5 WASH 1909"	5.466
Milltown, 200 feet north of station sign, 100 feet east of tracks, on east side of road, 3 feet west of Milltown pool room, 5 feet north of telephone pole; iron post stamped "4 1909 WASH"	4.209
Stanwood, 50 feet west of station, 6 feet north of sidewalk; iron post stamped "Prim. Trav. Sta. No. 2, 5 WASH 1909"	5.390
Stanwood station, 2.0 miles southeast of, 100 feet south of track, on east side of road at crossing; iron post stamped "10 WASH 1909"	10.039
Norman, in front of platform; top of rail	33.6
Silvana, 70 feet south of station, 70 feet east of tracks, on east side of fence; iron post stamped "Prim. Trav. Sta. No. 3, 28 1909 WASH"	27.929
English, 300 feet north of platform, 100 feet east of tracks, on east side of road by rail fence; iron post stamped "121 WASH 1909"	119.795
Stimpson Crossing, at; top of rail	96.7
Marysville, 3.4 miles north of, at crossing, 60 feet east of tracks, on north and west side of roads; iron post stamped "70 WASH 1909"	69.158

WOOLLEY SOUTH ALONG NORTHERN PACIFIC RAILWAY TO HARTFORD JUNCTION.

Woolley, 20 feet northeast of northeast corner of station; iron post stamped "50 T. U. L."	50.204
Seattle & International Railway and Seattle & Northern Railway; crossing, top of rail	55.38
Clear Lake, 36 feet north of station, 12 feet east of northeast corner of platform; iron post stamped "44 T. U. L."	44.050
Clear Lake, in front of station; top of rail	43.5
Parker, in front of station; top of rail	91.9
Montborn, in front of station; top of rail	115.7
McMurray, about 1,000 feet north of station, 25 feet east of track, about 300 feet north of seventieth milepost, in colored rock; copper bolt stamped "246 T. U. L."	246.210

	Feet.
McMurray, in front of station; top of rail.....	246. 4
Lake Cavanaugh road crossing, about 1,080 feet north of sixty-ninth mile-post, 480 feet east of, in dark-colored rock, 8 feet north of road; copper bolt stamped "259 T. U. L.".....	259. 255
Bryant, 270 feet south of station, 25 feet west of tracks; iron post stamped "171 T. U. L.".....	170. 015
Arlington, in front of State bank; hydrant.....	112. 408
Arlington, 1.5 miles south of, 40 feet west of track, in root of 36-inch cedar tree; nail.....	131. 20
Arlington, 3.0 miles south of, 100 feet north of slide guard to west of track, in root of 30-inch cedar stump 3 feet high, 5 feet west of track; nail.....	145. 22
Seattle & International Railway bridge over Stimson Logging Railroad, 500 feet south of, 10 feet east of track, 20 feet south of half-mile board, in 42-inch cedar stump 4 feet high; nail.....	159. 80
Getchell, 0.8 mile south of, 6 feet east of track, at top of divide, in 84-inch cedar stump 9 feet high; nail.....	342. 42
Hartford Junction, 1.0 mile north of, 15 feet west of track, in 108-inch cedar stump; nail.....	292. 40
Hartford Junction, in front of station; top of rail.....	232. 0
Hartford Junction, junction of Seattle & International Railway and Everett & Monte Cristo Railroad, switch; top of rail.....	229. 84
Hartford Junction, 25 feet northeast of station, midway between tracks of Seattle & International Railway and Everett & Monte Cristo Railroad; iron post stamped "232 T. U. L.".....	230. 816
Lake Stevens; surface of water November 9, 1909.....	210. 9
TULALIP EAST ALONG HIGHWAY TO MARYSVILLE, THENCE NORTHEAST ALONG STIMSON LOGGING RAILROAD TO NORTHERN PACIFIC RAILWAY.	
Tulalip, about 275 feet southeast of clayey bluff on which Madrona triangulation station stands, on southeast face of large flat granite boulder below mean sea level; cross mark.....	-3. 540
Tulalip Indian Reservation Agency, 125 feet north of corner of picket fence, 75 feet south of road and about 225 feet north of west of northwest corner of fence around agency, in gray granite rock which stands one foot out of ground; copper bolt stamped "65 T. U. L.".....	64. 715
Marysville, 50 feet south of southeast corner of station, about 50 feet east of track; iron post stamped "16 T. U. L.".....	14. 972
HARTFORD JUNCTION EAST ALONG NORTHERN PACIFIC RAILWAY TO GRANITE FALLS, THENCE NORTHWEST ALONG HIGHWAY TO ARLINGTON.	
Lochsloy, 70 feet south of Lochsloy saloon, south side of road, 8 feet southeast of large stump; iron post stamped "248 WASH 1909".....	246. 716
Granite Falls, 3.0 miles northwest of, 0.5 mile southwest of Anderson's shingle mill, in fork of road; iron post stamped "309 WASH 1909".....	307. 774
Granite Falls, 4.0 miles northwest of, on Arlington road on east side of river, crossing of skid road to Anderson's mill, in root of tree on south side of road; copper temporary bench mark.....	296. 52
Granite Falls, 7.0 miles northwest of, west side of road, north of Hans Lund's gate, 7.5 miles southeast of Arlington; iron post stamped "Prim. Trav. Sta. No. 7, 156 WASH 1909".....	154. 836
Arlington, 4.0 miles southeast of, on east side of river on Granite Falls road, west side of road, 30 feet north of T road east; iron post stamped "98 WASH 1909".....	96. 272
Arlington, hydrant in front of Arlington State Bank; on letter "R".....	112. 41

Arlington, Haller schoolhouse, 5 feet east and 3 feet north of northwest corner; iron post stamped "104 T. U. L."	Feet. 102. 579
ARLINGTON WEST ALONG HIGHWAY TO SILVANA.	
Silvana, 3.0 miles east of, 3.5 miles west of Arlington, southwest corner of crossroads, northeast corner of school yard, 15 feet west of corner of fence, school district No. 22; iron post stamped "46 WASH 1909"	44. 658
M'MURRAY WEST ALONG HIGHWAY TO MILLTOWN.	
McMurray, 0.8 mile south of, 480 feet east of crossing, 8 feet north of road, in rock; copper bolt.....	259. 255
McMurray, opposite station, 60 feet east of same on east side of tracks, 3 feet south of gate; iron post stamped "Prim. Trav. Sta. No. 11, 246 WASH 1909"	246. 664
Milltown, 2.8 miles east of, 5 feet south of school yard gate, outside of fence; iron post stamped "353 WASH 1909"	353. 774
WOOLLEY WEST ALONG GREAT NORTHERN RAILWAY TO WHITNEY, THENCE SOUTH AND EAST ALONG HIGHWAY TO FIR.	
Woolley, 0.7 mile west of, 2,700 feet east of milepost 20, 2.7 miles east of county road crossing, on north side of railway, in notch in base of cedar stump 6 feet high and 6 feet in diameter; nail	48. 891
Woolley, 1.3 miles west of, at northwest corner of intersection of Woolley and Burlington County road and railroad right of way, across track from Hansen place, in base of cedar stump 15 feet high and 7 feet in diameter, in notch; spike.....	46. 07
Woolley, 2.2 miles west of, at northeast corner of intersection of county road and railroad right of way, in line of fence on east side of north-south county road, between secs. 33 and 34, T. 35 N., R. 4 E., 185 feet south of section corner of secs. 27, 28, 33, and 34, 2 feet north of line of fence on north edge of railroad right of way, 345 feet east of station of Sterling shingle mill; iron post stamped "39"	40. 445
Burlington, 1.0 mile east of, 20 feet north of railroad, 105 feet west of county road crossing, 1,180 feet west of railroad trestle No. 25, 250 feet northwest of W. H. Joyce house, south of railroad and east of county road, in notch in base of cedar stump 7 feet high and 4½ feet in diameter; spike marked "33"	34. 292
Avon, 100 feet east of station, 50 feet north of track, 6 feet south of store building; iron post stamped "21 WASH 1909"	20. 816
Fredonia, 60 feet northeast of platform, north side of road, 30 feet west of door of Mrs. E. Brown house, in corner of picket fence; iron post stamped "8 WASH 1909"	8. 764
Whitney, 60 feet west of station, 10 feet south of track, 3 feet east of crossing post; iron post stamped "Prim. Trav. Sta. No. 18, 3 WASH 1909"	3. 339
Whitney, 2.0 miles south of, northeast corner of crossroads, southwest corner of school yard, 6 feet north of steps; iron post stamped "4 WASH 1909"	4. 304
La Conner, 1.0 mile east by 0.5 mile south of, northeast corner of T. road north (private road leading west), 0.25 mile west of northeast corner sec. 6, T. 33 N., R. 3 E.; iron post stamped "5 WASH 1909"	5. 154
La Conner, about 5.0 miles southeast of, bridge over north fork of Skagit River, west end of south approach to bridge, 4 feet west of gate, on south side of road; iron post stamped "9 WASH 1909"	9. 559
T. 33 N., R. 3 E., quarter corner between secs. 14 and 23, 2.25 miles west of Fir station, northeast corner of crossroads; iron post stamped "7 WASH 1909"	6. 961

MOUNT VERNON EAST ALONG HIGHWAY TO BIG LAKE AND CLEAR LAKE.

Mount Vernon, 3.8 miles east of, junction of road from Mount Vernon with Big Lake-Clear Lake road, in a V formed by the roads; iron post stamped "146 WASH 1909".....	Feet. 147.004
Big Lake, 40 feet south of station, east side of picket fence; iron post stamped "Prim. Trav. Sta. No. 13, 95 WASH 1909".....	95.266

MOUNT VERNON WEST ALONG HIGHWAY TO A POINT 2 MILES SOUTH OF WHITNEY.

Mount Vernon, First National Bank, 2 blocks west and 1 block north of station, south side of entrance to vestibule, 6 inches north and 8 inches east of outside edge of brick wall, in cement sidewalk; aluminum tablet stamped "24 WASH 1909".....	24.076
Mount Vernon, 3.0 miles west of, corner of secs. 33, 34, 3, and 4, Ts. 34 and 33 N., R. 3 E., southeast corner of crossroads; iron post stamped "17 WASH 1909".....	16.883

ARLINGTON EAST ALONG NORTHERN PACIFIC RAILWAY TO BRIDGE OVER STILAGUAMISH RIVER.

Arlington, 3.5 miles northeast of, in root of 30-inch maple tree, south of road; nail.....	170.17
Oso, 7.5 miles west of, old trail to shack, south side of road, in 72-inch cedar stump 7 feet high; nail.....	208.72
Oso, 5.0 miles west of, 100 feet from bridge east, in root of 9-inch fir tree on north side of road; nail.....	106.46
Stilaguamish River, 0.5 mile west of iron bridge over, 150 feet southeast of road, opposite house, in sandstone ledge projecting from hill; copper bolt stamped "164 T. U. L.".....	162.787

MCMURRAY EAST ALONG HIGHWAY AND TRAIL VIA LAKE CAVANAUGH AND DAY LAKE TO LYMAN FERRY.

Lake Cavanaugh road crossing of Northern Pacific Railway, 0.8 mile south of McMurray, 1,200 feet east of, 30 feet north of trail crossing road, in root of tree; copper temporary bench mark.....	312.66
Northern Pacific Railway crossing, 3.1 miles east of, turn of road to north, 50 feet east of corduroy bridge, junction of skid roads from south and east; iron post stamped "539 WASH 1909".....	539.409
Grandstrom's, 0.5 mile west of, 100 feet east of road fork to farmhouse, north side of road, in root of tree; copper temporary bench mark.....	561.29
Grandstrom's, south side of road east of gate, 4.25 miles east of Northern Pacific Railway crossing; iron post stamped "Prim. Trav. Sta. No. 12, 548 WASH 1909".....	548.085
T. 33 N., Rs. 5 and 6 E., just north of corner of secs. 13, 18, 19, and 24, crossing of Lake Cavanaugh road with range line, south of road, 17 feet east of 6-foot cedar with blazes of township line; iron post stamped "825 WASH 1909".....	825.140
Grandstrom's, 4.6 miles east of, junction of Deer Creek trail and Lake Cavanaugh road, 350 feet east of bridge over north fork of Pilchuck, south side of road; iron post stamped "903 WASH 1909".....	903.304
Deer Creek trail, 2 miles from Lake Cavanaugh road, 75 feet north of creek where trail branches to cabin, 155 feet east by southeast of cabin, about 0.5 mile southeast of high, round, rocky knob; iron post stamped "1150 WASH 1909".....	1,150.615
Day Lake trail, 3.3 miles from where trail leaves public road along skid road near Lyman Ferry, east edge of trail, on higher of two boulders; aluminum tablet stamped "1352 WASH 1909".....	1,352.407

	Feet.
Day Lake trail, 2.2 miles from road at Lyman Ferry, fork of trail to south-west, in root of tree; copper temporary bench mark.....	504. 05
Day Lake trail, 1.3 miles from public road near ferry, at point where trail leaves skid road, east edge of trail, 40 feet north of cloth forest fire warning signs on trees; iron post stamped "291 WASH 1909".....	291. 468
JUNCTION OF JIM CROW ROAD WITH ARLINGTON AND OSO ROAD TO NORTHWEST CORNER OF T. 31 N., R. 5 E.	
T. 31 N., R. 6 E., 35 feet south of northwest corner of, south of forks of road, in 60-inch cedar tree; nail.....	199. 00
T. 31 N., R. 6 E., 25 feet south of northwest corner of, south of forks of road; iron post stamped "196 T. U. L.".....	198. 321

BLAINE QUADRANGLE.

FAIRHAVEN ALONG GREAT NORTHERN RAILWAY TO BLAINE, THENCE EAST ALONG HIGHWAY TO DELTA.

T. 38 N., R. 2 E., sec. 13, on north side of road east of Great Northern Railway at intersection of rights of way; iron post stamped "107 B".....	107. 414
Ferndale, north of road, 15 feet east of wooden approach to bridge over Nooksack River, sec. 29, T. 39 N., R. 2 E.; iron post stamped "26 B".....	26. 675
Enterprise, sec. 7, T. 39 N., R. 2 E., in road crossing west of track, 480 feet north of platform; iron post stamped "70 B".....	70. 772
Custer, 1.0 mile south of, in northeast angle of road opposite Brown barn; iron post stamped "64 B".....	64. 933
T. 40 N., R. 1 E., secs. 26 and 27, 1.1 miles northwest of Custer, west of road, 50 feet north of track, road between sections; iron post stamped "48 B".....	49. 110
Blaine, sec. 6, T. 40 N., R. 1 E., in stone step on north side of main entrance to Blaine Hotel; aluminum tablet stamped "41 B".....	41. 499
T. 40 N., R. 1 E., sec. 3, 750 feet east of entrance to J. McGrath place, in southwest angle of forks of road; iron post stamped "452 B".....	452. 909
T. 40 N., R. 2 E., secs. 5 and 6, 1,000 feet west of entrance to Crawford place, on south side of road, 1 foot north of east-west fence, 38 feet east of center of road between sections; iron post stamped "180 B".....	180. 465
Delta, at end of north road, in southwest angle of forks; iron post stamped "124 B".....	124. 555

FERNDALE ALONG ROAD TO POINT 2 MILES WEST.

Ferndale, 1.1 miles west of, Pearson triangulation station; bronze tablet stamped "276 B".....	276. 596
Ferndale, 2.0 miles west of, in southwest angle of crossroads; iron post stamped "188 B".....	188. 439

SUMAS QUADRANGLE (BELLINGHAM QUADRANGLE).

DELTA SOUTH ALONG MERIDIAN ROAD TO BELLINGHAM.

T. 40 N., R. 3 E., sec. 19, 2 feet east of fence corner, in northwest angle of crossroads; iron post stamped "93 B".....	93. 412
T. 40 N., R. 2 E., sec. 36, at southeast corner of Lamont place, 125 feet north of north end of bridge, in northwest angle of crossroads; iron post stamped "72 B".....	73. 154
Laurel school yard, T. 39 N., R. 3 E., sec. 19, 250 feet north of crossroads, in northwest corner of school yard; iron post stamped "82 B".....	82. 654
T. 38 N., R. 2 E., northeast corner of sec. 1, west of road; iron post stamped "187 B".....	187. 821

BELLINGHAM NORTH ALONG BELLINGHAM BAY & BRITISH COLUMBIA RAILROAD TO SUMAS.

	Feet.
Van Wyck, T. 38 N., R. 3 E., sec. 3, 50 feet north of station; iron post stamped "186 B".....	186. 298
Wahl, northeast angle of road crossing; iron post stamped "251 B".....	251. 685
Central, southwest angle of road crossing, 40 feet southwest of station; iron post stamped "133 B".....	133. 900
Everson, 150 feet south of station, west of track, east of road; iron post stamped "83 B".....	83. 750
Clearbrook, 150 feet southeast of station, at northeast angle of road crossing; iron post stamped "66 B".....	66. 714
Sumas, 10 feet south of international boundary, west of Seattle & International Ry., at northeast corner of United States Immigration building; iron post stamped "48 B".....	48. 310
Sumas, 9.8 feet east of international boundary line monument, in granite boulder, triangulation station "Sumas;" bronze tablet stamped "202 B".....	202. 646

HAMPTON WEST ALONG COUNTY ROAD TO MERIDIAN ROAD.

Lynden, in wall of Lynden Bank building, between large front window and main entrance, 4 feet above sidewalk; aluminum tablet stamped "95 B".	95. 046
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CLEARBROOK WEST ALONG COUNTY ROAD TO MERIDIAN ROAD.

Northwood, T. 40 N., R. 3 E., secs. 3 and 10, 15 feet north and 30 feet east of quarter-section corner, southeast angle of crossroads; iron post stamped "132 B".....	132. 793
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BELLINGHAM EAST ALONG NORTHERN PACIFIC RAILWAY TO WOODLAWN.

Silver Beach, 25 feet north of track, 2 feet east of northeast corner of station; iron post stamped "313".....	313. 476
Woodlawn, 40 feet north of entrance to Iverson place, 75 feet east of track, 100 feet east of edge of lake, 250 feet north of signboard; iron post stamped "319 B".....	320. 019

DEMING WEST ALONG HIGHWAY TO GOSHEN.

Nugent, 650 feet northeast of bridge, 53 feet southeast of entrance to Nugent bridge saloon, in south angle of forks of road; iron post stamped "156 B".	156. 286
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BELLINGHAM QUADRANGLE.

SUMAS SOUTHEAST ALONG BELLINGHAM BAY & BRITISH COLUMBIA RAILROAD TO MAPLE FALLS, THENCE BY HIGHWAY VIA LEMOLO TO COLUMBIA.

Lamberton, at road crossing, northeast of station; iron post stamped "43 B".	43. 173
Columbia, 150 feet southeast of station; iron post stamped "546 B".....	546. 480
Kendall, 250 feet east of station, 200 feet north of track at road crossing, 40 feet west of post office; iron post stamped "446 B".....	446. 680
Maple Falls, in yard 120 feet northeast of northeast corner of schoolhouse; iron post stamped "665 B".....	665. 301
Silver Lake, 300 feet east of road forks, 3 feet north of gate to Gerdrum house; iron post stamped "818 B".....	818. 496
Warner schoolhouse, 1,650 feet west of, 2 feet west of fence corner, 1 foot north of fence, 200 feet west of trail to Lemolo post office; iron post stamped "547 B".....	547. 107

WOODLAWN SOUTH ALONG NORTHERN PACIFIC RAILWAY TO WICKERSHAM, THENCE NORTH TO DEMING, THENCE NORTHEAST ALONG HIGHWAY TO KENDALL.

Sunnyside, 150 feet west of milepost 9, 30 feet east of station, 10 feet south of track, in top of granite rock; aluminum tablet stamped "312 B".....	312. 524
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Blue Canyon, 800 feet east of coal company's bumper, 30 feet south of track, 1,200 feet east of milepost 5, in 6 by 6 by 3 foot sandstone rock; aluminum tablet stamped "318 B".....	Feet. 318. 177
Wickersham, 2.0 miles northwest of, 185 feet west of shingle mill switch stand, 2,400 feet east of milepost 3; iron post stamped "356 B".....	357. 096
Wickersham, at Wickersham Avenue crossing, 2.5 feet north of telegraph pole, east of track; iron post stamped "312 B".....	312. 909
Saxon switch, 0.3 mile north of, 0.25 mile north of milepost 100, southeast angle of road crossing, near fence; iron post stamped "319 B".....	319. 941
Green spur, 970 feet south of switch stand, west of track and south of road crossing, 950 feet south of milepost 104; iron post stamped "268 B".....	268. 753
Van Zandt, at southeast corner of schoolhouse yard; iron post stamped "239 B".....	239. 182
Deming, 200 feet west of Deming livery stable, 500 feet west of station, north of road and track, at southeast corner of schoolhouse yard; iron post stamped "202 B".....	202. 686
Welcome schoolhouse, 2.0 miles north of, 1 foot west of fence, east side of road, 10 feet south of blazed cottonwood tree, T. 39 N., R. 5 E., secs. 15 and 22, on section line; iron post stamped "332 B".....	332. 447

FAIRHAVEN ALONG GREAT NORTHERN RAILWAY TO BELLEVILLE.

Chuckanut Creek, 0.25 mile west of, south of track, 275 feet west of bridge over slough, 500 feet west of Neff green house; iron post stamped "186 B".....	186. 590
A. C. Milne house, 2.3 miles northwest of, 625 feet east of road to American lumber and shingle mill, 1,610 feet east of bridge over Chuckanut Creek, south of road; iron post stamped "554 B".....	554. 789
A. C. Milne house, 1.1 miles southeast of, southwest of Lake Samish, 1,450 feet east of Manly shingle mill, 10 feet east of bridge over small stream; iron post stamped "343 B".....	343. 591
Alger, 725 feet east of track, 260 feet south of Clear Creek bridge, 50 feet north of road forks; iron post stamped "270 B".....	270. 262
Belfast, 1.8 miles north of, 28 feet east of track, 24 feet west of Friday Creek, 120 feet south of section tool house; iron post stamped "123 B".....	124. 016
Moody, 90 feet west of store, 45 feet west of track, 340 feet south of trestle 5, over Samish River; iron post stamped "53 B".....	53. 578
Belleville, 75 feet north of track, west of main street, 125 feet west of station; iron post stamped "29 B".....	30. 058

FAIRHAVEN ALONG GREAT NORTHERN RAILWAY TO BELLEVILLE.

Chuckanut switch, 2,750 feet south of Chuckanut salmon cannery, 135 feet south of watchman's cabin, 540 feet north of station, west of track; iron post stamped "44 B".....	44. 273
Samish, 2.6 miles north of, 300 feet north of milepost 86, 60 feet north of emergency rail stand, 15 feet east of track, in top of flat sandstone rock; aluminum tablet stamped "38 B".....	39. 025
Samish switch, 18 feet east of, east of track, 930 feet south of trestle 18, 60 feet south of house; iron post stamped "10 B".....	10. 467
Bow, west of track, opposite station, 420 feet north of road crossing; iron post stamped "14 B".....	14. 613
Bow, 2.2 miles south of, west of track, 250 feet west of E. Shumway's gate, in southwest angle of road crossing; iron post stamped "19 B".....	19. 668

BELLEVILLE NORTHEAST ALONG HIGHWAY TO PRAIRIE.

Moody's abandoned logging camp, 1.0 mile northeast of, Samish River bridge, in line of fence north of road opposite old blacksmith shop; iron post stamped "142 B".....	Feet. 142. 347
Prairie schoolhouse, 0.25 mile south of, northeast angle of crossroads, north of fence corner, 1,500 feet east of Samish River bridge, 2 feet north of fence corner; iron post stamped "205 B".....	205. 569

WICKERSHAM SOUTH ALONG NORTHERN PACIFIC RAILWAY TO WOOLLEY.

Kane switch, 20 feet south of signboard, west of track, 10 feet south of northeast corner of Kane shingle mill office; iron post stamped "269 B" ..	269. 633
Thornwood, 75 feet south of station, west of track, 1,000 feet north of Kane water tank; iron post stamped "361 B"	362. 127
Sedro Woolley, 2.6 miles north of, 390 feet south of trestle No. 52, 450 feet north of milepost 88; iron post stamped "150 B"	151. 220

WOOLLEY EAST ALONG GREAT NORTHERN RAILWAY TO LYMAN, THENCE SOUTH ALONG HIGHWAY TO LYMAN FERRY.

Minkler & Son's shingle mill, 700 feet west of bridge 37, 125 feet east of switch, south of track, between platform and cook house; iron post stamped "65 T.U.L.".....	63. 828
Lyman, 61.6 feet north of track and about 15 feet east of crossing at station, north side of wagon road; iron post stamped "96 WASH 1909" (probably destroyed by railroad company).....	95. 497
Lyman, 1.0 mile east of, front of T road south of north end of bridge; iron post stamped "80 WASH 1909".....	80. 123
Lyman Ferry, 450 feet south of, south side of main road at junction of road to ferry; iron post stamped "99 WASH 1909".....	99. 244

Eatonville and Mount Rainier Quadrangles.

LEWIS AND PIERCE COUNTIES.

The elevations in the following list are based on a checked spur line based on the elevation at Orting, which is in turn based on a double-rodged line run eastward from Tacoma through the State of Washington, checked by precise leveling of the Coast and Geodetic Survey.

The leveling was done by E. M. Bandli in 1910.

EATONVILLE QUADRANGLE.

KAPOWSIN ALONG TACOMA EASTERN RAILROAD TO ASHFORD.

Kapowsin, in northeast corner of intersection of Trewella Avenue and street opposite Presbyterian Church, 0.5 foot west of northeast corner of fence post, 0.5 foot north of corner; iron post stamped "630".....	Feet. 629.723
Holz, 13 feet northeast of station, 13 feet northwest of track; iron post stamped "564".....	563. 679
Holz, 1.3 miles southwest of, 15 feet southwest of private road, 2 feet southwest of railroad signpost, 10 feet southeast of track; iron post stamped "554".....	554. 100
Eatonville, 20 feet north of road crossing at station, 18 feet northwest of railroad, 2 feet east of railroad crossing signpost; iron post stamped "800".....	800. 393

Lagrande, 18 feet east of railroad, 15 feet north of road in front of post office and Hotel Lagrande; aluminum tablet stamped "942".....	Feet. 941. 806
Alder, 35 feet west of first road crossing west of station, 18 feet south of railroad, 2 feet northwest of first telegraph pole west of road crossing at station; iron post stamped "1148".....	1, 147. 667
Alder, 2.2 miles east of, 9 feet south of track; copper bench mark nail in large stump, marked "1266.1".....	1, 266. 05
Alder, 3.3 miles east of, 10 feet north of track, 15 feet west of road at crossing, 120 feet south of new county road; iron post stamped "1207".....	1, 207. 208
Alder, 5.4 miles east of, at road crossing, 50 feet northeast of track, 15 feet north of road, copper bench mark nail in stump, marked "1173.3".....	1, 173. 30
Elbe, 50 feet east of track, 18 feet north of road crossing just north of station, 2 feet north of railroad signpost; iron post stamped "1210".....	1, 210. 442
Elbe, 2.6 miles east of, 18 feet north of track, east of park junction opposite switch; copper bench mark nail in stump, marked "1344.7".....	1, 344. 74
Elbe, 4.5 miles southeast of, 15 feet south of track, 3 feet northwest of telegraph pole near logging camp; iron post stamped "1439".....	1, 438. 684
Ashford, 0.25 mile west of, at road crossing, 60 feet southeast of road crossing; copper bench mark nail in stump, marked "1737.6".....	1, 737. 58
Ashford, 12 feet south by 20 feet west of T road intersection to south, in southwest corner; iron post stamped "1771".....	1, 771. 346
Ashford, 1.5 miles northeast of, south side of road at curve to north, 6 feet south of road; copper bench mark nail in stump, marked "1839.3".....	1, 839. 29

. MOUNT RAINIER QUADRANGLE.

POINT NEAR ASHFORD EAST ALONG ROAD AND TRAIL TO M'CLURE ROCK.

Ashford, 2.7 miles northeast of, 20 feet northwest of intersection of crossroads of road to Lewis and road to National Park, 3.5 miles from Mount Rainier National Park entrance, in northwest corner of crossroads; iron post stamped "1839".....	1, 839. 046
Ashford, 3.8 miles northeast of, 12 feet west of bridge north of road, 4 feet from road; copper bench mark nail in stump, marked "1852.2".....	1, 852. 22
Ashford, 6.4 miles northeast of, at Mount Rainier National Park entrance, at side of flagpole, 36 feet in front of park entrance building, 15 feet from road southeast; iron post stamped "2003".....	2, 003. 175
Ashford, 7.4 miles northeast of, 1 mile in Mount Rainier National Park, 10 feet north of road; copper bench mark nail in root of tree, marked "2106".....	2, 105. 695
Ashford, 9 miles from toward Longmire Springs, 4 feet north of road, at curve of road opposite railing along south side of road, in ledge of rock; aluminum tablet stamped "2275".....	2, 274. 771
Ashford, 9.9 miles from toward Longmire Springs, 10 feet south of road near bridge at Rainier Forks; copper bench mark nail in large stump, marked "2378.7".....	2, 378. 65
Ashford, 11.1 miles from toward Longmire Springs, 20 feet south of road near intersection of old and new roads; iron post stamped "2499".....	2, 498. 740
Longmire Springs, in front of Foresters' building, beside flagpole, 3 feet west and north of flagpole; iron post stamped "2762".....	2, 761. 857
Longmire Springs, 0.4 mile northeast of, along road to Mount Rainier, opposite Indian Henry trail, 20 feet south of road; copper bench mark nail in large stump, marked "2824.3".....	2, 824. 30
Longmire Springs, 2 miles northeast of, 100 feet east of Paradise trail, 10 feet southeast of road; iron post stamped "3160".....	3, 159. 639

Longmire Springs, 5 miles from along road to Mount Rainier, at Nisqually Glacier, 60 feet east of road at bridge, in large boulder on north bank of Nisqually River; aluminum tablet stamped "3909".....	Feet. 3, 908. 628
Longmire Springs, 6.7 miles from along road to Mount Rainier, at Gap Point, 4 feet east of road; bench mark on point on rock, marked "4212.3".....	4, 212. 31
Nerada Falls, 15 feet south of road, 15 feet southwest of bridge, 3 feet east of two trees at curve of road to east; iron post stamped "4572".....	4, 572. 242
Reese camp, 15 feet south of road, 5 feet east of last tree nearest road; iron post stamped "5557".....	5, 557. 481
McClure Rock, 2 miles from Reese camp on route to mountain, in large rock in top near large pile of rock at signal station, on highest ledge some few rods from edge of rock ledge; aluminum tablet stamped "7385".....	7, 385. 127

Cedar Lake, Seattle, Sultan, and Tacoma Quadrangles.

KING, KITTITAS, AND PIERCE COUNTIES.

The elevations in the following list are based on the Coast and Geodetic Survey precise line.

The leveling was done in cooperation with the State by D. S. Birkett during 1910. The standard bench marks are stamped "WASH" in addition to the figures of elevation. A few bench marks were established in the Tacoma quadrangle in 1910 by E. M. Bandli.

CEDAR LAKE QUADRANGLE.

POINT NEAR KANASKAT NORTH ALONG NORTHERN PACIFIC RAILWAY TO POINT NEAR BARNESTON, THENCE EAST ALONG CHICAGO, MILWAUKEE & PUGET SOUND RAILWAY TO POINT 1 MILE EAST OF RAINY CREEK.

Kanaskat and Palmer Junction, between, about 50 meters east of milepost 211, at west end of Northern Pacific Railway bridge over Green River, 0.2 meter from east edge and 0.1 meter from south edge, 1.5 meters from nearest rail, in top of concrete abutment for approach; copper bolt (Coast and Geodetic Survey bench mark).....	Feet. 847. 924
Kangley Junction, 50 feet west of Northern Pacific Railway tracks, 40 feet north of intersection of tracks; spike in 2-foot maple tree.....	943. 90
Kangley, on Kerriston branch of Northern Pacific Railway, 35 feet north by 50 feet east of railroad station, corner of fence north side of wagon road crossing railroad; iron post stamped "958 WASH".....	957. 517
Cedar River bridge on Kerriston branch of Northern Pacific Railway, 1.2 miles south of, 1.6 miles south of Barneston, 10 feet east of track; point on top of 2½ by 2½ by 2 foot granite boulder; marked "U. S. 893 B. M."...	892. 57
Iolanthe siding, 1,000 feet east of east end of, 4.3 miles west of Moncton, east end and on north side of track, in concrete abutment of steel bridge FF 124; aluminum tablet stamped "Prim. Trav. Sta. No. 9 1910 799 WASH".....	798. 990
Moncton, 1 mile west of, Chicago, Milwaukee & Puget Sound steel bridge FF 120 over Cedar River, north side of track, 5 inches from north and west edges, in top of concrete abutment; aluminum tablet stamped "920 WASH".....	920. 353
Moncton, 1.3 miles east of, point where county road from North Bend to Cedar Lake crosses the Chicago, Milwaukee & Puget Sound Railway (main line), 20 feet east of road and 30 feet south of railroad track; iron post stamped "1041 WASH".....	1, 041. 480

Chenge Creek bridge, 2.4 miles west of Garcia (bridge FF 112), east end of, on concrete abutment north side of track, at west end of the long abutment near where the steel structure of the bridge joins on; bronze tablet stamped "1455 WASH"	Feet. 1, 455. 241
Garcia, 740 feet east of station, wall of rock through cut, 15 feet north of track; aluminum tablet (placed nearly vertical), stamped "Prim. Trav. Sta. No. 10 1910, 1669 WASH"	1, 669. 168
Rock Creek, 2.8 miles east of Garcia, west end of filled trestle over creek, at end of cut, 50 feet south of railroad track; iron post stamped "1884 WASH"	1, 884. 152
Bandera, 20 feet west of telephone booth (no station house), 30 feet south of track, in knuckle at base of 2½-foot cedar stump 6 feet high; copper bench-mark nail; aluminum tag stamped "2123"	2, 123. 46
Hanson Creek bridge (steel) FF 88, 0.6 mile east of Bandera, east end of bridge, in concrete abutment north side of track and at west end, 2 feet from point where steel structure joins on top of concrete; aluminum tablet stamped "2167 WASH"	2, 167. 666
POINT NEAR BARNESTON NORTH ALONG KERRISTON BRANCH OF NORTHERN PACIFIC RAILWAY VIA KERRISTON TO POINT 2 MILES SOUTHEAST OF PRESTON.	
Barneston, 3 miles north of, 0.4 mile east of milepost 9, 40 feet west of south end of trestle No. 8; iron post stamped "1074 WASH"	1, 073. 733
Taylor, 1.5 miles east of, 5.1 miles north of Barneston, junction of old skid road (trail to Taylor) with Northern Pacific Railway, 30 feet west of railroad, south side of skid road; iron post stamped "1327 WASH"	1, 327. 036
Kerriston, 0.3 mile south of station, 420 feet south of point where switch-back of Northwest Lumber Co.'s logging railroad leaves the Northern Pacific Railway, 10 feet west of Northern Pacific tracks, 25 feet east of logging railroad, in knuckle at base of 5-foot cedar stump 10 feet high; copper bench-mark nail; aluminum tag stamped "1374"	1, 374. 00
Kerriston, 650 feet north of Northwest Lumber Co.'s mill, 70 feet south of head office, 100 feet east of logging railroad, 25 feet northeast of blacksmith shop, in niche on granite boulder 15 feet high and 18 feet in diameter, 3 feet above ground; aluminum tablet stamped "1214 WASH"	1, 213. 832
Kerriston, 2.8 miles north of, 15 feet west of Northern Pacific Railway, at base of 3½-foot cedar stump 10 feet high; spike; aluminum tag stamped "1094"	1, 093. 87
Kerriston, 3.3 miles north of Northwest Lumber Co.'s mill, 250 feet north of junction of logging road with Northern Pacific Railway, 25 feet west of Northern Pacific tracks, 18 feet east of logging tracks; iron post stamped "1045 WASH"	1, 044. 778
Kerriston, 4 miles northwest of, point where logging railroad divides, one spur leads to northwest and main line turns to south to logging camp, 30 feet west of junction and 20 feet north, 120 feet west of tool house, spike in base of hemlock tree; aluminum tag stamped "936"	935. 95
POINT 1.5 MILES EAST OF TAYLOR WEST ALONG SKID ROAD AND COLUMBIA & PUGET SOUND RAILROAD TO POINT 1.4 MILES WEST OF HOBART.	
Taylor, 50 feet east of Columbia & Puget Sound Railroad station, 50 feet north of railroad, 5 feet west of fence about hotel lawn; iron post stamped "1159 WASH"	1, 158. 666
Walsh, southeast corner of school yard, 50 feet east of Columbia & Puget Sound Railroad, 50 feet north of county road; iron post stamped "767 WASH"	766. 998
Hobart, 90 feet west of Columbia & Puget Sound station, 40 feet north of saloon, 45 feet south of railroad track, west edge of county road; iron post stamped "549 WASH"	549. 319

HENRYS SWITCH ON NORTHERN PACIFIC RAILWAY TO POINT ABOUT 1 MILE WEST OF RAVENSDALE.

Henrys switch, 900 feet west of, 2 miles west of Ravensdale, in top of concrete pier for steel bridge of Columbia & Puget Sound Railroad crossing Northern Pacific Railway, south side of latter and west side of former tracks, northwest corner of pier; point marked by circle inclosing cross, and "U. S. 564 B. M.".....	Fect. 564. 65
Ravensdale, 1.9 kilometers west of, north side of Northern Pacific Railway in top of concrete arch of culvert at northeast corner; copper bolt (Coast and Geodetic Survey bench mark).....	576. 586

POINT 1.3 MILES EAST OF MONCTON ALONG ROAD TO CEDAR LAKE AND RETURN (CHECKED SPUR LINE).

Moncton, 1 mile east of, on wagon road from Moncton to new dam site, Cedar Lake, junction with North Bend road, 90 feet west of, north side of road, in base of hemlock tree, nail marked with ring of red paint; aluminum tag stamped "1237" (city of Seattle bench mark).....	1, 237. 02
Cedar Lake, 150 feet east of north side of new dam site, 50 feet south of wagon road from new dam to old dam, 65 feet east of bunkhouse 1, embedded in concrete block, a truncated pyramid in shape, 4 feet square at base and 1 foot square at top, 4 feet high, buried level with surface of ground, post extends 1 foot above concrete; iron post stamped "1605".....	1, 604. 884
Cedar Lake, surface of water, November 11, 1910.....	1, 558. 2

SULTAN QUADRANGLE.

POINT 2 MILES SOUTHEAST OF PRESTON WEST ALONG NORTHERN PACIFIC RAILWAY TO GRAND RIDGE COAL MINE.

Preston Lumber Co.'s upper mill, northwest corner of school yard (district 90), 70 feet north by 25 feet west of schoolhouse, copper bench-mark nail in notch at base of 3½-foot cedar stump 8 feet high; aluminum tag stamped "595".....	595. 23
Preston Lumber Co.'s upper mill (2 miles southeast of town of Preston), southeast corner of school yard, 60 feet south of schoolhouse, 5 feet west of school (district 90); iron post stamped "597 WASH".....	596. 479
Preston, 500 feet east of Northern Pacific Railway station, east side of road crossing railroad track, 30 feet south of track, northwest corner of shipping shed for Preston Lumber Co.; iron post stamped "508 WASH".....	507. 717
High Point, 50 feet west of county road crossing, 50 feet south of railroad, 7 feet north of northeast corner of post office; iron post stamped "487 WASH".....	487. 103

SEATTLE QUADRANGLE.

GRAND RIDGE COAL MINE ALONG NORTHERN PACIFIC RAILWAY TO ISSAQUAH, THENCE SOUTHWEST ALONG WAGON ROAD TO POINT ABOUT 5 MILES SOUTHWEST OF ISSAQUAH.

Issaquah, 360 feet south of Northern Pacific Railway station, 45 feet east of railroad, north side of Mill Street, 5 feet west of southeast corner of feed stable; iron post stamped "97 WASH".....	96. 522
Issaquah, in front of Northern Pacific Railway station; top of rail.....	96. 9
Issaquah, 1.5 miles northwest of Renton-Snoqualmie road, 0.9 mile west of Northern Pacific Railway, north side of road, 200 feet west of schoolhouse, copper bench-mark nail in notch at base of cedar stump 6 feet in diameter and 8 feet high; aluminum tag stamped "76".....	74. 26
Superior Mines, 3.8 miles southwest of Issaquah, west side of road, 10 feet north of northeast corner of mining company barn; iron post stamped "366".....	365. 377

Issaquah, 4.9 miles southwest of, 0.5 mile south of shingle mill, 10 feet west of road, copper bench-mark nail in notch at base of 1½-foot cedar stump 2 feet high; aluminum tag stamped "387"	Feet. 386.89
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TACOMA QUADRANGLE.

POINT 5 MILES SOUTHWEST OF ISSAQUAH ALONG WAGON ROAD TO RENTON, THENCE WEST ALONG NORTHERN PACIFIC RAILWAY TO BLACK RIVER JUNCTION.

Issaquah, 6 miles southwest of, 6.5 miles northeast of Renton, point where road forks, one branch leading to "Cedar Mountain," and the other to Issaquah, 0.5 mile east of Michael Walsh's house, 100 feet east of road intersection, 25 feet from each road and in forks; copper bench-mark nail in notch at base of 2-foot cedar stump 8 feet high; aluminum tag stamped "336"	335.99
T. 23 N., R. 5 E., in NE. ¼ sec. 12, 5.4 miles northeast of Renton city hall, at May Creek schoolhouse, in southwest corner of school yard, 60 feet north of county road, 40 feet south by 40 feet west of southwest corner of schoolhouse; iron post stamped "328 WASH"	328.054
Renton, 4.8 miles east of, on Issaquah road, 30 feet west of T in roads where Issaquah road leads north to May Creek schoolhouse, 1 mile distant, projection on top of 8 by 5 by 8 foot granite bowlder marked with red paint; marked "U. S. 442 B. M."	441.71
Renton, 2.5 miles east of, northeast corner of sec. 16, T. 23 N., R. 5 E., south side of road, in line with high-power transmission line, 200 feet southwest of slaughterhouse; iron post stamped "401 WASH"	400.165
T. 23 N., R. 5 E., southwest corner of sec. 9, 1.5 miles east of Renton, point where road joins Issaquah road, 175 feet southwest of section corner, 20 feet south of road; copper bench-mark nail in notch at base of 2-foot cedar stump 4 feet high; aluminum tag stamped "268"	267.19
Renton, 0.7 mile east of, at T in roads where road turns south to Elliot, north side of road, 40 feet west of signboard "Seattle 14.5 miles; Snoqualmie Falls 26 miles;" copper bench mark nail in notch at base of 5-foot cedar stump 10 feet high; aluminum tag stamped "44"	43.57
Renton, city fire hall, concrete approach to hose-cart stalls at south end, 15 feet west of sidewalk, 1 foot east of building and 0.5 foot from south edge of approach; aluminum tablet stamped "40 WASH"	39.546
Black River, opposite Northern Pacific Railway station, 11.6 meters east of nearest Columbia & Puget Sound Railroad rail, 1.92 meters west of right-of-way fence; bottom of square hole cut in top of granite post, marked "U. S. □ B. M." (Coast and Geodetic Survey bench mark)...	20.540

POINT 1.4 MILES WEST OF HOBART ALONG COLUMBIA & PUGET SOUND RAILROAD TO MAPLE VALLEY, THENCE SOUTH ALONG SAME RAILROAD TO POINT NEAR SUMMIT.

Maple Valley, 300 feet east of Columbia & Puget Sound Railroad station, 45 feet north of Black Diamond branch of same railroad, 30 feet east of county road, 5 feet south of a saloon; iron post stamped "343 WASH"	343.125
Wilderness (2 miles east of Maple Valley), 60 feet east of station platform, 50 feet south of railroad, just south of road past station; iron post stamped "475 WASH"	475.135
Summit (4 miles southeast of Maple Valley), 20 feet south of old station platform, 45 feet west of railroad, near fence, 16 feet south of road crossing railroad; iron post stamped "565 WASH"	565.180

ORTING SOUTH ALONG LOGGING RAILROAD TO KAPOWSIN.

NOTE.—The following bench marks were established by E. M. Bandli in 1910 in connection with leveling in the Eatonville and Mount Rainier quadrangles. The work was not done in cooperation.

Orting, 150 feet west of water tank, 34.2 feet from track on south side, 3 feet west of telegraph pole, 53 feet west of Bridge street; iron post stamped "198 T"	Feet. 198. 088
Orting, 2.5 miles southeast of, about 20 feet east of track, 5 feet south by 1 foot west of northwest corner of fence at private road crossing; iron post stamped "281"	281. 303
Orting, 5.9 miles southeast of, 40 feet west of Northern Pacific Railway track, 2 feet east of fence, in front of Gipple's house, 10 feet south of gate to house; iron post stamped "420"	419. 699
Orting, 7.9 miles southeast of, 40 feet south of railroad, in base of 5 foot stump painted "544.7 B. M."; copper bench-mark nail.....	544. 74
Ts. 17 and 18 N., R. 5 E., 4 feet west of section corner common to secs. 5 and 32, 8.7 miles southeast of Orting, 0.5 mile west of Electron, 9 feet south of road, 20 feet east of railroad; iron post stamped "583"	582. 858

Fort Simcoe and Mount Adams Quadrangles.

YAKIMA AND KLICKITAT COUNTIES.

The elevations in the following list are based upon an iron post at Parker siding, stamped "937 T" on a double primary level line of the Geological Survey run in 1898 along the Northern Pacific Railway and later re-covered by the Coast and Geodetic Survey transcontinental level party. The elevation of this bench mark is now accepted as 937.665 feet.

The leveling was done in 1903 by C. E. Hill and R. B. Shaw.

FORT SIMCOE QUADRANGLE.

PARKER SIDING VIA COUNTY ROAD TO FORT SIMCOE.

Parker siding, 100 feet west of cattle guard of Northern Pacific Railway, 100 feet north of intersection of Toppenish and Fort Simcoe roads; iron post stamped "937 T"	Feet. 937. 665
Parker siding, 3 miles southwest of, 6 feet south of road; iron post stamped "923 T"	923. 696
Parker siding, 6 miles southwest of, 8 feet south of road; iron post stamped "912 T"	912. 513
Parker siding, 9 miles southwest of; in road, between two wagon tracks; iron post stamped "867 T"	867. 613
Bur Lake, 200 feet north of, 6 feet south of road, at turn in fence; iron post stamped "844 T"	844. 438
Bur Lake, water level, April 14, 1903.....	839
Luke ranch, corner of fence 10 feet north of road; iron post stamped "892 T"	892. 102
Luke ranch, 3 miles southwest of, 10 feet south of road at fence corner; iron post stamped "988 T"	988. 356
Simcoe Creek, water level under bridge, April 20, 1903	991. 59
Simcoe Creek bridge, 2 miles southwest of, at forks of road, 30 feet west of fence corner; iron post stamped "1075 T"	1, 075. 455
Fort Simcoe, in yard of Indian agent's residence, at northeast corner of fence; iron post stamped "1427 T"	1, 427. 449

FORT SIMCOE BY COUNTY ROAD AND TRAIL TO BUSH CREEK.

	Feet.
Abraham Lincoln's ditch, at road crossing, water level, April 27, 1903.....	1, 296
Harbaugh ranch, 1.3 miles south of, 60 feet south of bridge over Toppenish River, in forks of road; iron post stamped "1312 T".....	1, 312. 896
Bridge over Toppenish River, 5 miles south of; 150 feet east of edge of first pine timber, 10 feet north of road; iron post stamped "2716 T".....	2, 716. 504
Reservation sawmill (abandoned), 0.6 mile southwest of; 4 feet west of road; iron post stamped "3077 T".....	3, 077. 766
Reservation boundary, 1.9 miles southwest of; in forks of road to block-house and Hopper mill, 8 feet north of, bearing signboard; iron post stamped "3416 T".....	3, 416. 844
Bush Creek, at road crossing; water surface, May 12, 1903.....	3, 077. 9

FORT SIMCOE BY COUNTY ROAD AND TRAIL TO RATTLESNAKE RIDGE.

Fort Simcoe, 3.4 miles north of, 60 feet west of road, on summit; iron post stamped "1437 T".....	1, 437. 403
Simcoe Creek, at road crossing, water surface, May 25, 1903.....	1, 236. 82
Sam Abraham house, 15 feet southwest of southwest corner of, 7 feet west of road, at turn; iron post stamped "1351 T".....	1, 351. 367
Tzapass Creek ford, 0.3 mile northwest of, 450 feet north of Tzapass Creek, 110 feet south of road, on small road 60 feet in width; iron post stamped "1615 T".....	1, 615. 445
Mouth of Idleat Creek, 1 mile west of; 100 feet south of trail up ridge, on scab rock slope; small mound 80 feet in diameter; iron post stamped "2580 T".....	2, 580. 478

NOTE.—The following are United States Reclamation Service bench marks in Tps. 10 and 11 N., R. 18 E.:

T. 10 N., R. 18 E., northeast corner of sec. 22, nail in fence corner post...	785. 9
T. 10 N., R. 18 E., northeast corner of sec. 22, 1 foot south of fence, 6 feet east of apex of jog to west in north and south fence; iron post stamped "785"...	786. 004
T. 10 N., R. 18 E., northeast corner of sec. 15 (Castile's bench mark 794.29)...	793. 7
T. 10 N., R. 18 E., northeast corner of sec. 10 (Castile's bench mark 795.94)...	796. 7
T. 10 N., R. 18 E., northeast corner of sec. 21.....	796. 2
T. 10 N., R. 18 E., quarter corner east side of sec. 16.....	794. 6
T. 10 N., R. 18 E., northeast corner of sec. 4; iron post stamped "808".....	808. 853
T. 11 N., R. 18 E., northeast corner of sec. 21; iron post stamped "868"...	869. 052
T. 12 N., R. 18 E., southeast closing corner of sec. 33; iron post stamped "970".....	971. 350

MOUNT ADAMS QUADRANGLE.

BUSH CREEK WEST TO PARROT'S BRIDGE.

Hopper mill, fork road 7 miles north of, 72 feet south of small stream flowing into White Creek, 12 feet south of road; iron post stamped "2884 T"...	2, 884. 819
White Creek ford, 90 feet west of, 7 feet south of road; iron post stamped "2554 T".....	2, 554. 525
White Creek ford, 3 miles west of, 1,600 feet southwest of open marsh, 15 feet south of road; iron post stamped "2693 T".....	2, 693. 474
Parrot ranch, 4 miles northeast of, 50 feet northeast of junction of Parrot's road and new country road; iron post stamped "2217 T".....	2, 217. 399
Trout Creek, water surface at road crossing, August 27, 1903.....	1, 868. 79
Parrot ranch, just outside of yard at northwest corner; iron post stamped "1757 T".....	1, 757. 457
Bear Creek, water level at road, August 26, 1903.....	1, 889. 87

Klickitat River, under Parrot's cable sheep bridge; water surface, August 24, 1903.....	Feet. 1, 653. 59
Bacon Creek, 0.7 mile northwest of, 100 feet southeast of Parrot's cable sheep bridge, 4 feet north of trail, in basalt outcrop on top of south bank of river; bronze tablet stamped "1741 T".....	1, 741. 314

RATTLESNAKE RIDGE SOUTHWEST AND SOUTH TO GLENWOOD.

T. 11 N., R. 14 E., sec. 24, on Rattlesnake Ridge, Idleat Creek, 5 miles west of mouth, in outcrop bedrock 2 feet square and 1 foot high; bronze tablet stamped "4449 T".....	4, 449. 599
T. 11 N., R. 14 E., sec. 32 (unsurveyed section), Piscoe Creek crossing, 0.3 mile west of, 10 feet south of trail, 450 feet west of creek; iron post stamped "4669 T".....	4, 669. 428
T. 10 N., R. 13 E., about sec. 4 (unsurveyed section), Piscoe meadows, 6.1 miles west of, 30 feet west of Little Klickitat River, 300 feet east of Big Klickitat River, 2 feet east of trail up Big Klickitat River, on point of ridge; iron post stamped "3368 T".....	3, 368. 452
Little Klickitat River, water surface at point of ridge, July 2, 1903.....	3, 353. 86

MOUTH OF LITTLE KLICKITAT RIVER VIA TRAIL DOWN KLICKITAT RIVER TO GLENWOOD.

Klickitat River, north of mouth of Piscoe Creek, at trail, just above thicket; water surface July 6, 1903.....	3, 235. 49
T. 10 N., R. 13 E., about sec. 20 (unsurveyed section), Little Klickitat River, 3.9 miles south of mouth, 70 feet northwest of Klickitat River, 250 feet from small creek, on rocky point; iron post stamped "3189 T".....	3, 189. 496
T. 9 N., R. 12 E., sec. 1, Corral Creek, 100 feet north of, 40 feet east of Fish Lake trail, 10 feet west of trail up Klickitat; iron post stamped "2895 T".....	2, 895. 341
Soda Spring, 10 feet west of, 10 feet south of trail; iron post stamped "2680 T".....	2, 681. 586
T. 8 N., R. 12 E., sec. 21, Big Muddy Ford, 1 mile east of, on summit of ridge between Big Muddy and Cunningham Creek, 5 feet southeast of trail, in large flat boulder; bronze tablet stamped "2958 T".....	2, 958. 760
Big Muddy Creek, under bridge; water surface August 1, 1903.....	2, 958. 91
T. 7 N., R. 12 E., sec. 3, Big Muddy Creek, 0.5 mile south of mouth, 15 feet east of trail, 0.3 mile north of old log cabin; iron post stamped "2277 T".....	2, 277. 626
T. 7 N., R. 12 E., NW. $\frac{1}{4}$ sec. 35, Bacon Creek, 1.7 miles south of, 300 feet southeast of two old cabins, at junction of two trails; iron post stamped "2016 T".....	2, 016. 564
Glenwood, 125 feet east of Bowen, Bertchi & Co. store, 50 feet west of Shaw's hotel, in northwest corner of Shaw's lot; iron post stamped "1896 T".....	1, 896. 553

Zillah Quadrangle.

KLICKITAT AND YAKIMA COUNTIES.

The elevations in the following list are based on a precise-level line of the Coast and Geodetic Survey along the Northern Pacific Railway within this area.

The leveling here given includes elevations on the precise-level line and also the work of 1898 by H. S. Crowe along the Northern Pacific Railway, the work of 1906 by G. Neuner, jr., and F. E. Fellows, and some by the United States Reclamation Service.

ZILLAH QUADRANGLE.

United States Reclamation Service levels.

LINE FROM HEADWORKS SUNNYSIDE CANAL ALONG LOWER SIDE CANAL TO PROSSER.

	Feet.
Parker bottom, 1.5 miles northeast of, along canal fence, lower side canal, 200 feet west of corner made by fence intersecting canal fence, near center of sec. 8, T. 11 N., R. 20 E.; iron post stamped "896 T".....	896.295
T. 11 N., R. 20 E., sec. 16, along canal fence, 200 feet west of intersection of section line fence between secs. 15 and 16 and canal line fence at Crook place; iron post stamped "887 T".....	887.321
T. 11 N., R. 20 E., sec. 23, along lower side canal along canal fence, 2.5 miles northwest of Zillah, 900 feet north of road intersecting canal road, at Rowland place; iron post stamped "883 T".....	883.226
T. 11 N., R. 20 E., northeast corner of sec. 25, 1.5 miles north of Zillah, 0.25 mile east of Mason's hop house, corner of fence made by cross fence and canal fence; iron post stamped "890 T".....	890.268
T. 11 N., R. 21 E., on line between secs. 30 and 31, 1.5 miles east of Zillah, at point where section line intersects canal fence 200 feet up canal from wagon bridge, across canal; iron post stamped "887 T".....	887.187
T. 11 N., R. 21 E., sec. 33, 3 miles east of Zillah, 800 feet north along fence from corner in front of Foults house, at intersection of fence with canal fence; iron post stamped "872 T".....	872.237
T. 10 N., R. 21 E., 2.4 feet east of section line of secs. 2 and 3, 5 miles east of Zillah, 800 feet west of R. W. Moor house, along canal fence, road intersects canal road at this point; iron post stamped "862 T".....	862.175
T. 10 N., R. 21 E., sec. 1, 2.5 miles west of patrol house 3, 1,000 feet north of fence on section line between secs. 1 and 2 at intersection of road with canal road, 50 feet from canal bank; iron post stamped "864 T".....	864.184
T. 10 N., R. 22 E., 400 feet west of line between secs. 8 and 9, patrol house 3, Snipe's Mountain lateral 50 feet from canal on right-hand side gate, 100 feet west of patrol house; iron post stamped "852 T".....	852.115
T. 10 N., R. 22 E., 100 feet east of half-mile line in sec. 14, 3 miles northwest of Sunnyside, at Mrs. Schlosser place, 60 feet north of house; iron post stamped "851 T".....	851.171

ALFALFA ON MAIN LINE NORTHERN PACIFIC RAILWAY TO SUNNYSIDE VIA SUNNYSIDE BRANCH, THENCE ALONG RANGE LINE BETWEEN RANGES 22 AND 23 TO MABTON.

T. 10 N., Rs. 21 and 22 E., sec. 24, 25 feet west of range line, 3.25 miles east of Granger, along Sunnyside branch Northern Pacific Railway, 18 feet west of nearest rail, 3 feet east of corner of right-of-way fence, 6 feet west of signboard, 25 feet east of north-south road; iron post stamped "756"...	755.825
Outlook, 1.2 miles east of, 260 feet east of center of Snipe's Mountain lateral where lateral siphons under Northern Pacific Railway, 18 feet south of nearest rail, 5 feet west of second telephone pole east of Snipe's Mountain lateral where it siphons under Northern Pacific Railway; iron post stamped "781".....	781.284
Sunnyside, 11 feet northeast of northeast corner of Northern Pacific Railway station, 11 feet south of northeast rail, main track, 5 feet from corner of platform; iron post stamped "747".....	747.068

ALFALFA WEST TO RANGE 18 EAST.

T. 10 N., R. 20 E., southwest corner of sec. 23, about 150 feet northwest of Meyer place, 4 feet east of northeast corner fence post, 34 feet east of slough, inside fence corner; iron post stamped "729".....	728.748
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T. 10 N., R. 20 E., quarter corner west side of sec. 29, 2½ feet north of fence north side of road, 5 feet east of fence post, 225 feet west of dry ditch crossing road; southwest of P. L. Jensen place; iron post stamped "741".....	Feet. 741. 235
T. 10 N., R. 1 ^o E., southwest corner of sec. 23, inside northeast fence corner; iron post stamped "757".....	757. 022
T. 10 N., R. 19 E., 64 feet southwest of northeast corner of sec. 19, 63 feet southwest of bridge over lateral "A", 54 feet west of lateral, 54 feet south of road; iron post stamped "778".....	778. 323

UNITED STATES GEOLOGICAL SURVEY AND COAST AND GEODETIC SURVEY BENCH MARKS ALONG
NORTHERN PACIFIC RAILWAY.

Wapato, 1,600 feet west of Northern Pacific Railway station, 150 feet north of railroad track, 6 feet west of corner northern boundary railroad company's right-of-way fence, south of wagon road, 1 foot south of northern boundary railroad company's fence; iron post stamped "861".....	861. 130
Wapato, in Alexander E. McCredy's yard, 9.05 meters west of house, 8.6 meters south of front fence, about 19 meters east of his store; iron bench-mark post (Coast and Geodetic Survey bench mark E-2).....	853. 658
Wapato, about 4.5 kilometers east of, in upper surface of south end of east concrete abutment for Northern Pacific Railway bridge 77 over irrigation ditch, 0.2 meter from west and south edge of abutment, 1.5 meters south of nearest rail; tablet (Coast and Geodetic Survey bench mark F-2).....	812. 594
Toppenish, 32.9 meters east of Northern Pacific Railway station, 6.85 meters south of nearest rail of main track, very near northeast corner of little park east of station; iron post stamped "755 T".....	755. 427
Toppenish, 21.07 meters west of northwest corner of section house, about 1 meter inside fence inclosing yard, 11.34 meters south of nearest rail of main track; iron bench-mark post (Coast and Geodetic Survey bench mark G-2).....	754. 101
Toppenish, in upper surface of concrete foundation supporting pillars for Northern Pacific Railway water tank, under northern one of two western pillars, 0.3 meter north of south edge, 0.25 meter from east edge, 7 meters north of nearest rail of main track; copper bolt set without lead marked $\frac{U S}{B M}$ (Coast and Geodetic Survey bench mark H-2).....	756. 027
Alfalfa, at first wagon road crossing over railroad west of siding; about 0.8 kilometer west of milepost 66, 0.9 meter east of fence for road crossing, 13 meters south of nearest rail; iron post stamped "717 T".....	716. 689
Alfalfa, 6.2 meters west of milepost 66, 1.75 meters east of telegraph pole, in line with telegraph poles, 14.67 meters south of nearest rail of main track; iron bench-mark post (Coast and Geodetic Survey bench mark I-2).....	714. 462
Satus, 14 meters west of northwest corner of station, 9.85 meters south of nearest rail of main track; iron post stamped "674 T".....	673. 995
Satus, about 0.9 kilometer east of, 1.78 meters west of second telegraph pole east of milepost 60, 10.89 meters south of nearest rail in line with telegraph poles; iron bench-mark post (Coast and Geodetic Survey bench mark J-2).....	668. 774
Mabton, near, nearly opposite milepost 56, 36 meters south of nearest rail, 2.8 meters north of railway fence; iron post stamped "717 T".....	716. 361
Mabton, 16.5 meters east of southeast corner of Northern Pacific Railway section house, just outside of section house yard fence, 9.75 meters north of nearest rail of main track; iron post stamped "715 T".....	715. 206

HEADWORKS OF SUNNYSIDE CANAL EAST VIA MOUNTAIN ROAD TO POINT NEAR SUNNYSIDE.

T. 12 N., R. 19 E., sec. 28, 150 feet east of gatehouse of head works of Sunnyside Canal; iron post stamped "914 T" (United States Reclamation Service bench mark)	Feet. 914. 489
T. 11 N., R. 19 E., northeast corner of Dunn's bridge and weir; iron post stamped "891 T" (United States Reclamation Service bench mark)	891. 344
T. 12 N., R. 20 E., 3 miles northeast of, on summit, highest part in saddle of junction of Yakima and Moxee wagon road; in rock 4 feet east of 3-foot cairn; aluminum tablet stamped "1324 T"	1, 324. 183
T. 12 N., R. 20 E., sec. 35, highest ridge on route, about 1 mile south of divide between Yakima and Moxee road; iron post stamped "1596 T" ..	1, 595. 933
T. 11 N., R. 21 E., northeast quarter of, 600 feet east of Zillah and Moxee road, about 1 mile north of and on same ridge as Hovis ranch, probably section line; iron post stamped "1335 T"	1, 335. 058
T. 11 N., R. 22 E., southwest corner of sec. 21, 15 feet north of old State road, 20 feet east of corner of fence; top of rock in road; iron post stamped "1068"	1, 068. 205
T. 11 N., R. 22 E., SW. $\frac{1}{4}$ sec. 35, about 3 miles north of Mrs. Schlosser place on Sunnyside Canal, 30 feet north of old State road; iron post stamped "1089"	1, 089. 080
Old State road, 0.8 mile south of, about 0.5 mile northeast of small blue house, conical rock; marked "1037"	1, 037. 17

HOVIS RANCH NORTHEAST OVER RATTLESNAKE MOUNTAIN TO MOXEE-RATTLESNAKE DIVIDE.

Yakima and Moxee road junction, on summit 11.12 miles east of, 600 feet east of Zillah and Moxee road, about 1 mile north and on same ridge as Hovis ranch, probably section line; iron post stamped "1335 T"	1, 335. 058
T. 11 N., R. 21 E., sec. 2, summit of saddle Rattlesnake Mountain, 30 feet west of road; iron post stamped "2118"	2, 118. 078
T. 12 N., R. 22 E., SW. $\frac{1}{4}$ sec. 20, Moxee and Rattlesnake divide, 0.2 mile southwest of white house, 0.3 mile northwest of new house, 160 feet north of road, top of small hill; iron post stamped "1803"	1, 803. 056

SATUS WEST TO R 19 E., THENCE SOUTH INTO T. 6 N., THENCE EAST TO BICKLETON.

Satus, 26 feet southwest of southwest corner of platform of station, 30 feet south of center of track, 2.5 feet north of first telegraph pole south of station (station has been moved about 800 feet north); iron post stamped "674 T"	673. 995
T. 9 N., R. 21 E., east of center of sec. 9, on Satus Creek road, about 0.5 mile west of house, in corner of fence, road turns around corner; iron post stamped "697"	697. 009
T. 9 N., R. 20 E., 0.25 mile north by 150 feet east of southwest corner of sec. 11, 0.5 mile north of Indian Tulee house, 150 feet south of junction of roads, 3-foot monument at base of rock, in rock; aluminum tablet stamped "847"	846. 773
T. 9 N., R. 20 E., 500 feet south of quarter corner north side of sec. 20, 150 feet above water on north cliff, 1,000 feet south of trail, in large flat rock; aluminum tablet stamped "996"	996. 116
Satus station, 13.4 miles west of, near rock monument, probably township line, 100 feet south of trail, on rock marked "1090 B. M."	1, 089. 87
T. 9 N., R. 19 E., sec. 23, Goldendale wagon road crossing Dry Creek, 200 feet north by 20 feet west of junction of roads; iron post stamped "961" ..	960. 931
Goldendale road crossing Satus Creek, 20 feet east of, 6-inch spike in knuckle of willow tree; marked "977 U. S."	976. 77
T. 9 N., R. 19 E., SW. $\frac{1}{4}$ sec. 34, Goldendale road crossing Satus Creek, 1.5 miles west of, 30 feet south of road, 100 feet southeast of gate to Billy Shannon place, in rock; aluminum tablet stamped "1054"	1, 053. 527

	Feet.
T. 8 N., R. 19 E., SE. $\frac{1}{4}$ sec. 6, 3.8 miles west of, Satus Creek road crossing, junction of Goldendale and Bickleton roads, junction of Satus and Logy creeks, 50 feet south of road, 200 feet south of green house; iron post stamped "1145".....	1, 144. 755
T. 8 N., R. 19 E., sec. 20, 100 feet east of road, in solid rock, 4-foot monument at base; aluminum tablet stamped "2039".....	2, 038. 659
T. 7 N., R. 19 E., sec. 4 (unsurveyed section), 40 feet west of road, edge of long draw; iron post stamped "2840".....	2, 840. 159
T. 7 N., R. 19 E., sec. 21, in junction of Alfalfa and Satus roads, about 1 mile northeast of pinespring, set on bed rock; iron post stamped "3170".....	3, 170. 024
Alfalfa and Satus roads, junction of, 0.9 mile south of, 50 feet west of road, top of three-cornered rock; marked "U. S. 3268 B. M.".....	3, 268. 00
Alfalfa and Satus roads, junction of, 2.1 miles south of, 10 feet east of road, 6-inch spike in root of pine tree 3 feet in diameter; marked "U. S. 3477 B. M.".....	3, 477. 08
T. 6 N., R. 19 E., SW. $\frac{1}{4}$ sec. 5, on main divide, 15 feet west of road, in rock; aluminum tablet stamped "3901".....	3, 900. 939
T. 6 N., R. 19 E., sec. 16, McCreedy sawmill, 0.3 mile west of, 20 feet north of road in small open glade; iron post stamped "3627".....	3, 626. 754
T. 6 N., R. 19 E., near west side of sec. 12, McCreedy sawmill, 2.5 miles east of, 20 feet south of road, 30 feet southeast of box culvert, east side of drain, top of rock ledge; aluminum tablet stamped "3544".....	3, 543. 779
T. 6 N., R. 20 E., near quarter corner east side of sec. 8, 0.4 mile southeast of ranch house, 80 feet west of forks of road, south side of road, top of boulder 2 by 4 by 1 feet; aluminum tablet stamped "3212".....	3, 211. 642

BICKLETON NORTHEAST TO MABTON.

T. 6 N., R. 20 E., south side of SW. $\frac{1}{4}$ sec. 2, 0.5 mile west of forks of road, northwest corner, Ostrick ranch house; iron post stamped "3017".....	3, 016. 741
T. 7 N., R. 21 E., north side of NW. $\frac{1}{4}$ sec. 31, Donoho ranch house, 1.6 miles southwest of, 70 feet south of forks of road, east side of road, 4 feet south of signpost, at top of ridge; iron post stamped "2996".....	2, 995. 578
T. 7 N., R. 21 E., east side of sec. 20, 0.8 mile northeast of Donoho ranch house, at southern boundary of Yakima Indian Reservation, top of ridge, 40 feet west of wagon road; iron post stamped "2806".....	2, 805. 756
T. 7 N., R. 21 E., about sec. 21 (unsurveyed section), 3.9 miles northeast of Donoho ranch house, 0.4 mile north of cabin, 200 feet east of road near top of rocky hill, in top of boulder 5 by 2 by 2 feet; aluminum tablet stamped "1878".....	1, 877. 480
T. 8 N., R. 21 E., about sec. 34 (unsurveyed section), 10.1 miles southwest of Mabton, 20 feet west of road, 500 feet west of ravine, 300 feet east of ravine, north point of ridge; iron post stamped "1281".....	1, 280. 633
T. 8 N., R. 22 E., SW. $\frac{1}{4}$ sec. 18, 6.5 miles southwest of Mabton, 20 feet east of road, 70 feet east of drain; iron post stamped "879".....	879. 077
T. 8 N., R. 22 E., in SE. $\frac{1}{4}$ sec. 9, 3.3 miles southwest of Mabton, 30 feet north of road; iron post stamped "794".....	793. 584
Mabton, at water tank, 2 feet east of fence around railroad section house, 35 feet north of center of track; 45 feet west of center line of wagon road at railroad crossing; iron post stamped "715 T".....	715. 206

CAMPBELL RANCH EAST TO SEC. 4, T. 6 N., R. 22 E., THENCE NORTH 3 MILES, THENCE WEST TO DONOHO RANCH.

T. 6 N., R. 21 E., center of sec. 5, 1.8 miles southwest of forks of road, Bluelight, 30 feet east of gate, south side of wire fence, in field; iron post stamped "2809".....	2, 808. 644
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T. 6 N., R. 21 E., near east side of sec. 2, 2.2 miles east of Bluelight, 0.4 mile south of road and county line, 0.1 mile north of house, wire fence 300 feet west of canyon; iron post stamped "2585"	Feet. 2,584.619
T. 6 N., R. 22 E., 0.4 mile southeast of northwest corner of sec. 5, 0.3 mile southeast of Kimball ranch house, 150 feet east of bottom of canyon, 1,000 feet east of cabin, east side of canyon, top of ledge of rock; aluminum tablet stamped "2218"	2,217.560
T. 6 N., R. 22 E., 25 feet northwest of SE. $\frac{1}{4}$ sec. 3, 8 feet east of road, L. E. Roberts ranch house, near wire fence; iron post stamped "1945" ..	1,944.551
T. 7 N., R. 22 E., 50 feet northwest of southeast corner of sec. 21, 0.8 mile northwest of Franklin ranch house, west side of road, near wire fence; iron post stamped "2247"	2,246.541
T. 7 N., R. 21 E., near northeast corner of sec. 25, 0.8 mile east of C. Muller ranch house, 50 feet west of forks of road, south side of road, 10 feet west of wire fence corner; iron post stamped "2587"	2,586.489
T. 7 N., R. 21 E., SW. $\frac{1}{4}$ sec. 22, 350 feet northeast of L. Spencer ranch house, 80 feet south of road, 10 feet south of wire fence, in top of rock ledge; aluminum tablet stamped "2619"	2,618.386

SEC. 4, T. 6 N., R. 22 E., SOUTHEAST TO SAPPENFIELD RANCH AND RETURN.

T. 6 N., R. 22 E., 3 feet north of southeast corner of sec. 11, 0.3 mile southeast of W. B. Sappenfield ranch house, 20 feet north of road; iron post stamped "1637"	1,636.308
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Blalock Island, Prosser, and Umatilla Quadrangles.**BENTON AND KLICKITAT COUNTIES.**

The elevations are based upon corrected heights along the Oregon Railroad & Navigation Co.'s railroad on a double-rodged line, run in 1899 by H. S. Crowe. The original results of that line were published in the appendix to the Twenty-first Annual Report, and the new adjustment consisted, first, in applying a mean rod correction of 0.001 foot per vertical foot increasing differences of elevation, a correction determined by comparison with the Coast and Geodetic Survey elevations south of Pendleton, Oreg.; second, in adjusting a remaining closure error of 1.4 foot from Wallula, Wash., via Umatilla to Pendleton, Oreg., and third, in raising the line between Arlington and Umatilla to an agreement without additional adjustment.

A tie is made to a bench mark in the Zillah list given as 1,636.308, a value determined by leveling based upon the Coast and Geodetic Survey precise line which crosses the Zillah quadrangle. The corrected value obtained from the south is 1,635.299 feet, a discrepancy of 1.009 feet.

The leveling in the Blalock Island and Prosser quadrangles was done in 1906 by John R. Evans, and that in the Umatilla quadrangle in 1907 by T. J. McClain.

BLALOCK ISLAND QUADRANGLE.

MILEPOST 177 NORTH BY ROAD CROSSING RIVER TO PATERSON, AND THENCE TO MOUTH OF GLADE CREEK AND NORTHWEST TO DEAD CANYON 9 MILES NORTH OF CARLEY, SOUTH TO CARLEY, THENCE ACROSS RIVER TO CASTLEROCK.

T. 5 N., R. 26 E., sec. 10, southwest corner of, 1.7 miles east of Paterson, 160 feet south of railroad embankment, east edge of road; iron post stamped "263".....	Feet. 263. 923
T. 5 N., R. 25 E., sec. 13, in NE. $\frac{1}{4}$, unsurveyed, 1.77 miles west of Paterson, 100 feet south of center of railroad embankment, 250 feet north of road, in firm rock on rocky point; aluminum tablet stamped "267".....	267. 748
T. 5 N., R. 25 E., about sec. 21, unsurveyed, 5.21 miles west of Paterson, 100 feet south of railroad cut, 30 feet north of road, in firm rock; aluminum tablet stamped "260".....	261. 169
T. 5 N., R. 25 E., about sec. 30, unsurveyed, 8.41 miles west of Paterson, 0.3 mile east of high hill, on ridge, in large bowlder; aluminum tablet stamped "622".....	623. 365
T. 5 N., R. 24 E., about sec. 16, unsurveyed, 6.04 miles east of Carley and Prosser road, on flat; iron post stamped "483".....	483. 865
T. 5 N., R. 24 E., about northeast corner sec. 18, unsurveyed, 4 miles east of Carley and Prosser roads, on round knoll, 600 feet north of Dead Canyon, in firm granite rock, near a rock mound; aluminum tablet stamped "576".....	576. 872
T. 5 N., R. 23 E., east side of SE. $\frac{1}{4}$ sec. 10, 6.94 miles north of Carley, 500 feet north of Hansen's store, 25 feet west of road; iron post stamped "734".....	734. 955
T. 5 N., R. 23 E., north side of NW. $\frac{1}{4}$ sec. 26, 4.6 miles north of Carley, 2.3 miles south of Hansen's store, 20 feet west of road, on fence line; iron post stamped "656".....	657. 044
T. 4 N., R. 23 E., W. $\frac{1}{2}$ sec. 1, 1.77 miles northwest of Carley; east of summit, 20 feet north of road; iron post stamped "705".....	706. 044
Castlerock, T. 4 N., R. 24 E., NW. $\frac{1}{4}$ sec. 8, north bank of river, opposite rock, 100 feet north of river, 30 feet north of shack at ferry landing; aluminum tablet stamped "247".....	248. 049

MOUTH OF GLADE CREEK NORTH AND EAST BY ROAD TO POINT 3.6 MILES NORTHWEST OF IRRIGON TRIANGULATION STATION, THENCE EAST AND SOUTH TO POINT 1.7 MILES EAST OF PATERSON.

T. 5 N., R. 25 E., sec. 9, unsurveyed, 3.3 miles northeast of, 20 feet east of Prosser Glade road, in east fork of Glade Canyon; iron post stamped "362".....	362. 997
T. 6 N., R. 25 E., about sec. 35, unsurveyed, 5.92 miles northeast of Glade, 20 feet east of Prosser and Glade road; iron post stamped "511".....	512. 086
Irrigon triangulation station, T. 6 N., R. 26 E., NW. $\frac{1}{4}$ sec. 34, 3 miles north of Holmes ranch, on high ridge 0.25 mile east of Prosser and Irrigon road; iron post stamped "738".....	739. 477

POINT 9 MILES NORTH OF CARLEY NORTH 1 MILE, THENCE NORTH 2 MILES TO SOUTHWEST CORNER OF SEC. 7, T. 6 N., R. 24 E.

T. 6 N., R. 23 E., northwest corner of sec. 35, 30 feet southeast of, 13 miles north of Carley, at crossroads; iron post stamped "793".....	793. 972
T. 6 N., R. 23 E., northeast corner of sec. 25, 10.1 miles north of Carley, 500 feet west of intersection of two roads, 30 feet west of section corner west edge of road; iron post stamped "865".....	866. 028

POINT 9 MILES NORTH OF CARLEY NORTHWEST TO SOUTHEAST CORNER OF SEC. 11, T. 6 N., R. 22 E.

T. 6 N., R. 23 E., north side of sec. 29, 3 miles west of Carley Prosser road at intersection of two gulches, 500 feet west of schoolhouse, in rocky point, in firm rock; aluminum tablet stamped "990".....	990. 519
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PROSSER QUADRANGLE.

T. 6 N., R. 26 E., SEC. 18.

T. 6 N., R. 26 E., sec. 18, 9.6 miles northeast of Glade, 15 feet north of bend in road, at line fence; iron post stamped "716".....	Feet. 717. 074
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SAPPENFIELD RANCH EAST 7 MILES TO CROSSROADS.

T. 6 N., R. 23 E., sec. 9, 30 feet northwest of quarter corner, south side of, 3.5 miles east of Sappenfield ranch house, at intersection of two roads; iron post stamped "1231".....	1, 231. 954
T. 6 N., R. 24 E., 30 feet northeast of southwest corner of sec. 7, 7 miles east of Sappenfield ranch house; at crossroads iron post stamped "897"...	897. 911

UMATILLA QUADRANGLE.

COLD SPRINGS, OREG., ACROSS COLUMBIA RIVER NORTH TO SEC. 26, T. 6 N., R. 29 E., THENCE WEST TO IRRIGON TRIANGULATION STATION, T. 6 N., R. 26 E.

T. 5 N., R. 29 E., near quarter corner of secs. 2 and 11, 0.25 mile east of Mottinger ranch, in road forks at mouth of canyon; iron post stamped "329".....	329. 758
T. 6 N., R. 29 E., northwest part of sec. 26, 2.4 miles northwest of Mottinger ranch, on west side of road; iron post stamped "869".....	869. 618
T. 6 N., R. 29 E., near quarter corner secs. 29 and 30, 6.6 miles northwest of Mottinger ranch, east side of road to Siding; iron post stamped "859"...	859. 232
Expansion triangulation station, 3 miles northeast of Umatilla, T. 6 N., R. 28 E., center of sec. 33, in rock; tablet stamped "1016".....	1, 016. 512
T. 6 N., R. 28 E., 2.5 miles northeast of Plymouth, 0.85 mile west of road; iron post stamped "589".....	589. 662
T. 6 N., R. 27 E., corner of secs. 26, 27, 34, and 35, 3.5 miles northwest of Plymouth, 20 feet east of Umatilla and Prosser road; iron post stamped "570".....	570. 252
Kings ranch, 4 miles northwest of, 20 feet west of old wood road; iron post stamped "608".....	608. 270

Portland Quadrangle (Oreg.-Wash.).

CLARKE COUNTY.

The elevations in the following list were determined by primary leveling connected at Portland, Oreg., with a double-rodged line from Astoria, Oreg. Elevations in Oregon in this quadrangle are not included.

The leveling was done in 1896 by C. C. Ward.

PORTLAND QUADRANGLE.

UNITED STATES MILITARY RESERVATION AT VANCOUVER.

Columbia River, north bank, in Chinese vegetable garden east of Vancouver, cottonwood stump 14 inches in diameter; head of nail.....	Feet. 17. 7
Reservation, northwest corner of; top of stone post 8 by 8 inches and 3 feet high.....	28. 3
Quartermaster and commissary buildings, 6.9 feet south of hexagonal building and 70 feet from adjoined front corner of; iron post stamped "26"...	28. 376
VANCOUVER NORTHEAST ALONG VANCOUVER, KLICKITAT & NORTHERN RAILROAD TO BRUSH PRAIRIE.	
Vancouver, in base of stone column at right of main entrance to Clarke County courthouse; bronze tablet stamped "73".....	75. 009

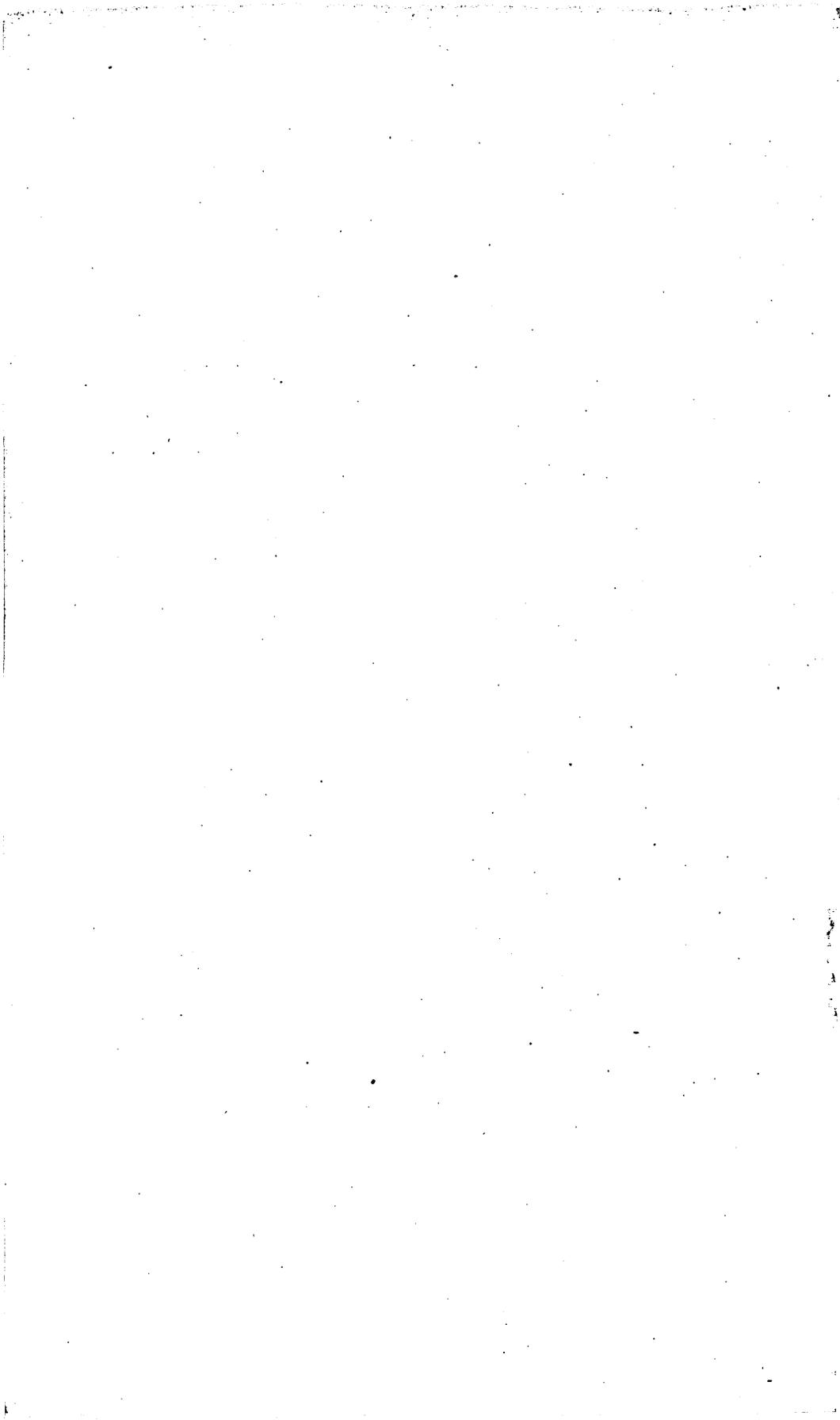
Minnehaha siding, about 60 feet west of, 8 feet west of railroad track and 8 feet north of wagon road crossing, in root of fir stump 27 inches in diameter; head of nail.....	Feet. 249. 7
T. 2 N., R. 2 E., sec. 6, road crossing in, 10 feet southeast of railroad at road crossing, in fir stump 36 inches in diameter; head of nail.....	283. 5
Thornton ranch, in sec. 32, T. 3 N., R. 2 E., in northeast corner of cattle guard at road crossing; head of spike.....	206
Brush Prairie post office, 40 feet north of railroad and 100 feet west of Battle Ground road, in fir stump 36 inches in diameter; head of nail.....	294. 8

BRUSH PRAIRIE SOUTH TO FISHERS LANDING, THENCE WEST TO VANCOUVER.

T. 3 N., R. 2 E., corner of secs. 13, 14, 23, and 24, 50 feet from, in fence corner at southeast angle of road intersection; iron post stamped "299" ..	300. 639
T. 3 N., R. 2 E., corner of secs. 25, 26, 35, and 36, 10 feet west of road and 40 feet south of Union schoolhouse road, in root of fir stump; head of nail.	278.
T. 2 N., R. 2 E., sec. 11, at northwest angle of road intersection near west side, 21 feet west of Donation Claim corner; iron post stamped "218" ...	219. 865
T. 2 N., R. 2 E., near center of sec. 12, 10 feet north of forks of road, in fir tree 28 inches in diameter; head of nail.....	212. 3
T. 2 N., R. 2 E., quarter corner between secs. 24 and 25, 102 feet from house, in fence corner at southwest angle of crossroads; iron post stamped "303" .	305. 314
T. 2 N., R. 2 E., in sec. 19, at southeast angle of intersection with La Camas road; iron post stamped "206"	207. 736
T. 2 N., R. 2 E., on north side of road, 75 feet west of crossroads, in top of fir stump 16 inches in diameter; head of nail.....	179. 7
United States water tank, at southwest corner of forks of road, in root of fir stump 2 feet in diameter; head of nail.....	177

VANCOUVER NORTH ALONG RIVER ROAD TO SALMON CREEK, THENCE EAST TO BRUSH PRAIRIE.

Burntbridge Creek, near quarter corner on line between secs. 4 and 9, T. 2 N., R. 1 E., in southwest angle of first crossroads north of creek, in root of fir stump 36 inches in diameter; head of nail.....	39. 4
Secrist schoolhouse, sec. 4, T. 2 N., R. 1 E., in corner of yard, 2.5 feet from fence and 60 feet from corner of schoolhouse, at forks of road; iron post stamped "212"	213. 796
T. 3 N., R. 1 E., corner of secs. 28, 29, 32, and 33, north of road forks, in fir stump 36 inches in diameter; head of nail.....	200. 9
Felida post office, 1 mile north of, near southeast corner of sec. 20, T. 3 N., R. 1 E., 25 feet from mudsill at north end of trestle over Salmon Creek and 10 feet from mudsill at west end of short trestle, east of road at north end of trestle; iron post stamped "36"	38. 339
Salmon Creek schoolhouse, 160 feet from, in sec. 26, T. 3 N., R. 1 E., in orchard, 2 feet from fence and 18 feet from fence corner, at southeast angle of crossroads; iron post stamped "194"	196. 173
St. John's Church, 0.75 mile west of, at fence corner near forks of road, in root of fir tree 3 feet in diameter; head of nail.....	261. 03
St. John's Church, east of road and north of second-class road turning off to east through gate, in root of partially decayed stump; head of nail.....	262. 37
T. 3 N., R. 2 E., corner of secs. 29, 30, 31, and 32, in Curtin's yard, 150 feet from fence corner and 6.2 feet from fence, 4 feet east of walk, and 116 feet from door of house, in northeast angle of forks of road; iron post stamped "232"	233. 753
T. 3 N., R. 2 E., northeast corner of sec. 32, north of road, 100 feet south of crossroads, in root of oak tree 14 inches in diameter; head of nail.....	201. 076



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