

DEPARTMENT OF THE INTERIOR

FRANKLIN K. LANE, Secretary

UNITED STATES GEOLOGICAL SURVEY

GEORGE OTIS SMITH, Director

BULLETIN 674

SPIRIT LEVELING

IN THE

STATE OF WASHINGTON

1896 TO 1917, INCLUSIVE

R. B. MARSHALL, CHIEF GEOGRAPHER

Work done in cooperation with the State of Washington from
1909 to 1916, inclusive
Henry Landes, State Geologist



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ELEVATION OF MOUNT RAINIER.

The elevation of the highest snow-capped summit of Mount Rainier was determined by C. H. Birdseye in 1913 from carefully checked vertical angles based on spirit-level elevation of McClure Rock. The distance between McClure Rock and Crater, a station marked by a rock cairn on the bare south rim of the mountain, was computed from triangulation data. The distance from Crater to the summit, which is 980 feet, was measured by stadia and checked by plane-table intersections.

The elevation of Crater is 14,267 feet and that of the summit 14,408 feet.

Mount Rainier is, so far as known, the second highest point in the United States.



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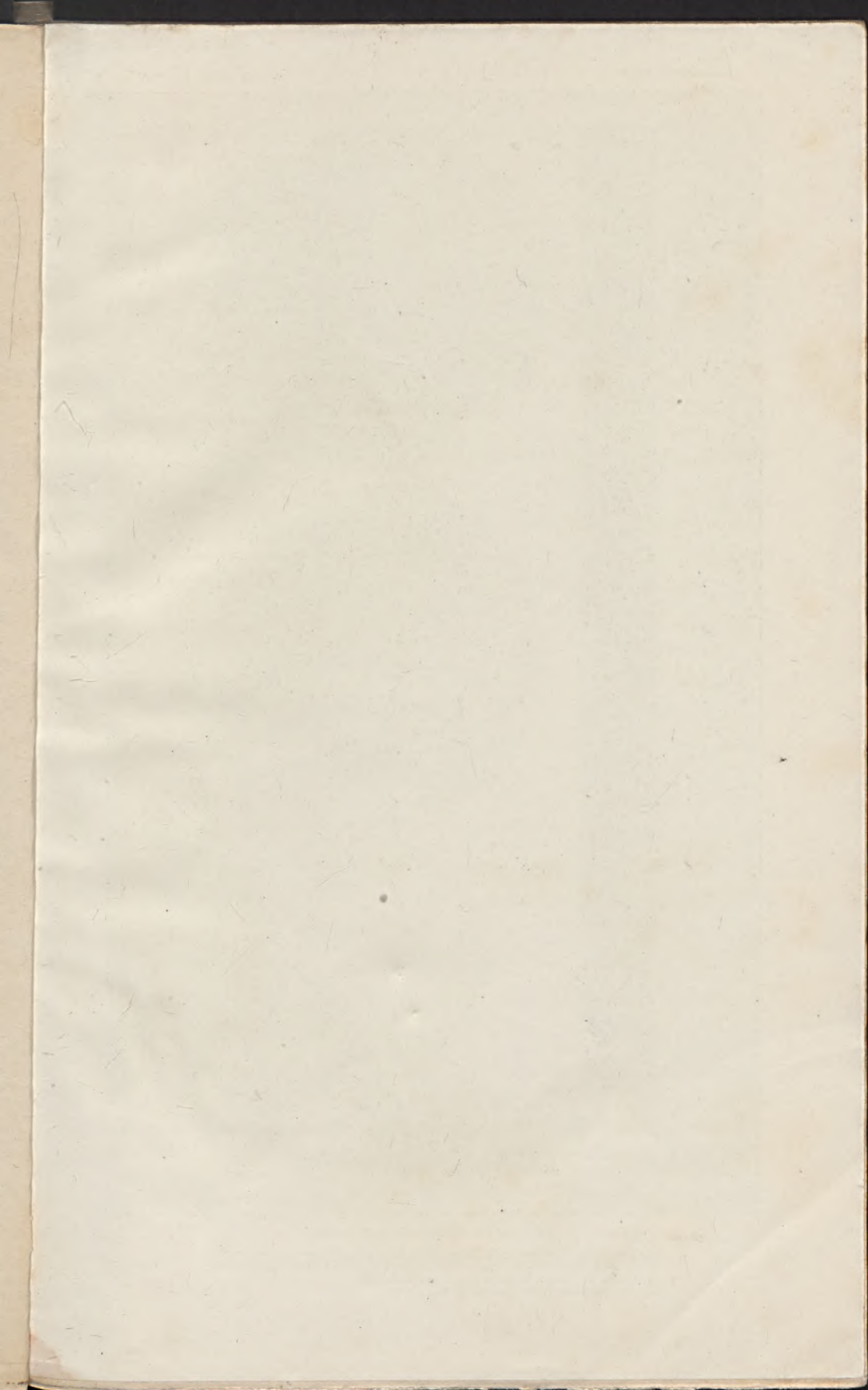
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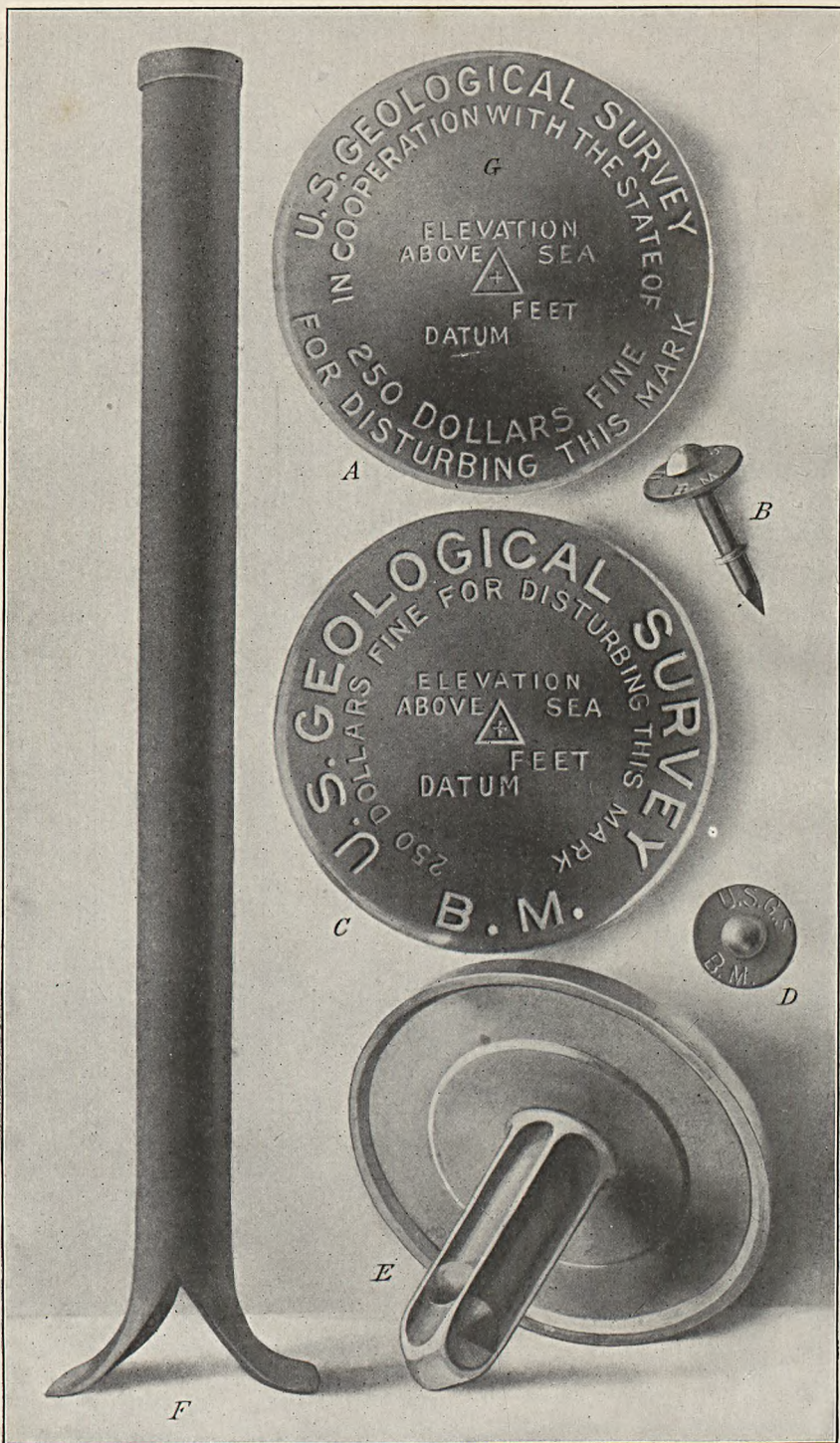
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GEOLOGICAL SURVEY BENCH MARKS.

- 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.

SPIRIT LEVELING IN THE STATE OF WASHINGTON, 1896 TO 1917, INCLUSIVE.

R. B. MARSHALL, *Chief Geographer.*



INTRODUCTION.

Cooperation.—The State of Washington contributed financially to the work from 1909 to 1916, inclusive.

Previous publications.—All results of spirit leveling in Washington previously published by the United States Geological Survey in Bulletins 457 and 557 and all results of later work in the State are included in this report. All elevations are based on mean sea level datum and are in accord with the precise-level lines of the United States Coast and Geodetic Survey from Seattle to Wallula and from Pasco to Spokane.

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 in preparation of lists was done mainly by S. S. Gannett, geographer, 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), $3\frac{1}{2}$ inches in diameter and one-quarter inch thick, having a 3-inch stem, which is cemented into a drill hole in solid rock in the wall of some public building, a bridge abutment, or other substantial masonry structure. The second form (*F*, Pl. I), used where masonry or rock is not available, consists of a hollow wrought-iron post $3\frac{1}{2}$ inches in outer diameter and 4 feet in length, which is set about 3 feet in the ground. The bottom is spread out to a width of 10 inches in order to give a firm bearing on the earth. A bronze or aluminum-bronze cap is riveted upon the top of the post. 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 $1\frac{1}{2}$ inches in length driven through a copper washer seven-eighths inch in diameter. The tablets as well as the caps on the iron posts are appropriately lettered, and cooperation by States 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 elevations determined by the United States Geological Survey and the United States Coast and Geodetic Survey are referred to mean sea level, which is the level that the sea would assume if the influence of winds and tides was 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 the mean of all the low tides, which is called the 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 accuracy is desired they must extend over several years. At ocean stations the half-tide level and the mean sea level usually differ but little. It is assumed that there is no difference between the mean sea levels determined from observations in the Atlantic Ocean, the Gulf of Mexico, and the Pacific Ocean.

The connection with tidal stations for bench marks in certain areas that lie at some distance from the sea coast, when still uncertain, is indicated by the addition of a letter or word to the right of the word "DATUM" on tablets or posts. For such areas corrections for published results will be made from time to time as the precise-level lines of the United States Geological Survey, the United States Coast and Geodetic Survey, or other Government organizations are extended.

Topographic maps.—Maps of the following quadrangles, wholly or partly in Washington, have been published by the United States Geological Survey up to January 15, 1918. They may be obtained for 10 cents each, or (except as noted) \$3 for 50, on application to the Director of the Survey at Washington, D. C.

Arlington (Oreg.-Wash.).
Beverly.
Blaine.
Blalock Island.
Cedar Lake.
Chehalis.
Chelan.
Chiwaukum.
Chopaka.
Coyote Rapids.
Ellensburg.
Glacier Peak.
Gray Harbor.
Methow.
Moses Lake.
Mount Adams.
Mount Aix.
Mount Baker district.
Mount Hood (Oreg.-Wash.).
Mount Ranier.
Mount Stuart.
Mount Vernon.
Oakesdale.

Okanogan.
Osoyoos.
Portland.
Priest Rapids.
Pullman.
Quincy.
Red Rock.
Republic.
Seattle.
Seattle land classification.¹
Skykomish.
Snohomish.
Snoqualmie.
Spokane.
Stehekin.
Stilaguamish.
Sumas.
Tacoma.
Tacoma land classification.¹
Umatilla.
Wenatchee.
Winchester.
Zillah.

PRECISE AND PRIMARY LEVELING.

ANDERSON QUADRANGLE.

[Latitude 47°-47° 15'; longitude 122° 30'-122° 45'.]

From Lakeview southwest along Northern Pacific Ry. to point 1.9 miles southwest of Sherlock

Primary leveling by E. M. Bandli in 1912-13.

Lakeview, 1.8 miles south of, 40 feet west of track near road crossing, in telegraph pole; copper nail marked "271.8".....	Feet. 272.24
Country Club station, 60 feet north of, 6 feet north of track; iron post stamped "Prim. Trav. Sta. No. 18, 277".....	277.720
Dupont, 4 miles northeast of, 10 feet east of track at road crossing, in rail-road crossing signpost; copper nail marked "277.3".....	277.81

¹ Shows wooded areas. No wholesale rate.

Dupont, 3.6 miles northeast of, 10 feet east of track at road crossing, in railroad crossing signpost; copper nail marked "265.0".....	265.46
Dupont, 2.9 miles northeast of, at road crossing, 10 feet east of track, in railroad crossing signpost; copper nail marked "275.8".....	276.29
Dupont, 1.8 miles northeast of, 30 feet north of track at road crossing, in telegraph pole; copper nail marked "257.5".....	257.98
Dupont, 0.7 mile northeast of, 6 feet northwest of track, 2 feet south of railroad crossing sign; iron post stamped "Prim. Trav. Sta. No. 17, 284, 1912".....	284.612
Dupont, in front of station, 50 feet southeast of track, in telegraph pole; copper nail marked "252.9".....	253.38
Dupont, 0.9 mile southwest of, 12 feet east of track, in railroad crossing post; copper nail marked "252.6".....	253.00
Dupont, 2.3 miles southwest of, 4 feet south of track, in foundation of bridge crossing above track; copper nail marked "189.4".....	189.81
Sherlock, 1 mile northwest of, 6 feet from track, in foundation of road-crossing electric-bell signpost; copper nail marked "73.3".....	73.75
Sherlock, road bridge over Nisqually River, in southeast corner of concrete pier; aluminum tablet stamped "26.8".....	27.213
Sherlock, 0.3 mile southwest of, 6 feet southeast of track, 10 feet southeast of road intersection; iron post stamped "Prim. Trav. Sta. No. 16, 23".....	23.338
Sherlock, 1.2 miles southwest of, in 1-mile post southwest of Sherlock station; copper nail marked "46.8".....	47.21
Sherlock, 1.9 miles southwest of, in support in west end of bridge (No. 9) crossing over private road; copper nail marked "78.1".....	78.52

**From point 2.1 miles south of Lakeview southwest along Northern Pacific Ry. to Roy.
(Leveld twice.)**

Lakeview, 3.4 miles south of, 50 feet west of track, in telephone pole No. 38-18; copper nail marked "305.3".....	305.65
Lakeview, 4.6 miles south of, 3 feet northeast of railroad-crossing sign, 6 feet west of track, 10 feet north of road; iron post stamped "Prim. Trav. Sta. No. 3, 329, 1912".....	329.806
Lakeview, 6 miles south of, 150 feet south of private-road crossing, 30 feet east of track, in telegraph pole; copper nail marked "338.0".....	338.30
Lakeview, 7.1 miles south of, 42 feet west of track, 30 feet north of telegraph pole No. 34-29, in telephone pole not numbered; copper nail marked "350.1".....	350.42
Lakeview, 8.2 miles south of, 10 feet east of track, 15 feet southeast of track and road intersection; iron post stamped "Prim. Trav. Sta. No. 4, 345, 1912".....	344.917
Roy, 1 mile north of, 40 feet west of track, south of road crossing, in telegraph pole; copper nail marked "327.2".....	327.52
Roy, 0.4 mile north of, at southeast corner of first road crossing north of Roy, in foundation of cattle guard; copper nail marked "319.8".....	320.15

ARLINGTON QUADRANGLE.

[Latitude 45° 30'-46°; longitude 120°-120° 30'.]

From McCredie southwest along Spokane, Portland & Seattle Ry. to Rock Creek canyon.

Primary leveling in 1913 by D. S. Birkett.

McCredie, 200 feet west of station, 80 feet south of track, 0.1 mile east of section house, in boulder 2 feet high; aluminum tablet stamped "243 Wash 1913".....	243.505
McCredie, 0.8 mile west of, 175 feet east of milepost 157, 30 feet north of track, in base of telegraph pole; spike marked "U. S. 248 B. M.".....	248.50

	Feet.
McCredie, 1.8 miles west of, 20 feet north of track, in base of telegraph-pole milepost 156; spike marked "U. S. 232 B. M.".....	231.75
McCredie, 2.9 miles west of, 55 feet east of milepost, 155, 100 feet north of track, in top of large boulder; aluminum tablet stamped "236 Wash 1913".....	236.276
Moonax, 1.7 miles east of, 0.1 mile west of "S. 1 mile" sign, 25 feet north of track, south of pole, on top of basalt boulder; circle of paint marked "U. S. 237 B. M.".....	236.98
Moonax, 1.2 miles east of, on north side of west end of railroad bridge 153-8 over Pine Creek, in top of concrete abutment; aluminum tablet stamped "236 Wash 1913".....	235.876
Columbia River, at mouth of Pine Creek; surface of water June 10, 1913 (water very high).....	218.5
Moonax, 0.3 mile east of, 175 feet east of milepost 153; spike in base of telegraph pole marked "U. S. 231 B. M.".....	230.64
Moonax, on southeast side of concrete foundation to railroad water tank; chiseled square marked "U. S. 238 B. M.".....	238.23
Moonax, 1.5 miles west of, 525 feet east of milepost 151, in base of telegraph pole; spike marked "U. S. 235 B. M.".....	234.57
Roosevelt, 3.2 miles east of, 45 feet west of milepost 150, 8 feet south of track on level with rail, in rock cut, in solid basalt; aluminum tablet stamped "238 Wash 1913".....	237.577
Columbia River, near milepost 150; surface of water June 12, 1913 (water very high).....	214.9
Roosevelt, 2.2 miles east of, 450 feet east of milepost 149, 10 feet north of track, on level with rail, in small cut in solid basalt; circle of paint marked "U. S. 238 B. M.".....	238.04
Roosevelt, 1.4 miles east of, 100 feet east of road crossing, 10 feet south of track, on top of large basalt boulder; circle of paint marked "U. S. 235 B. M.".....	234.68
Roosevelt, 0.7 mile east of west end on north side of railroad bridge 147-5 over Wood Creek, in top of concrete abutment; aluminum tablet stamped "234 Wash 1913".....	233.921
Roosevelt, on southwest corner of foundation to water tank; copper tag in top of beam, marked "U. S. 236 B. M.".....	235.76
Roosevelt, 1 mile west of, 1,200 feet west of milepost 146, 15 feet south of track; top of large boulder at level of rail, marked "U. S. 236 B. M."..	235.86
Roosevelt, 2 miles west of, 1,400 feet west of milepost 145, 20 feet north of track, on top of large rock; circle of paint marked "U. S. 235 B. M."....	235.14
Roosevelt, 3.1 miles west of, 0.4 mile west of milepost 144, 10 feet north of track, on vertical face of rock; circle of paint marked "U. S. 234 B. M."..	233.90
Roosevelt, 4.1 miles west of, 12 feet south of track, east end on south side of concrete culvert over Lady Creek, 3 feet below rail; aluminum tablet stamped "224 Wash 1913".....	223.630
Sundale, 1 mile east of, 0.4 mile west of milepost 142, 20 feet north of track, on top of large basalt boulder; circle of paint marked "U. S. 226 B. M."..	225.58
Sundale, 300 feet east of milepost 141, on north side of track, in concrete abutment at east end of railroad bridge 141-0; aluminum tablet stamped "221 Wash 1913".....	220.686
Sundale, in front of station, top of rail.....	221.7
Sundale, 1 mile west of, 235 feet east of milepost 140, 12 feet north of track in top of columnar boulder in face of cut; circle of paint marked "U. S. 225 B. M.".....	224.88

	Feet.
Sundale, 2.1 miles west of, 0.3 mile west of milepost 139, 10 feet south of track, in face of cut, on top of basalt boulder; circle of paint marked "U. S. 223 B. M.".....	222. 79
Sundale, 3 miles west of, 1,200 feet west of milepost 138, 35 feet north of track, on top of large boulder; circle of paint marked "U. S. 222 B. M."..	221.76
Fountain, 1.7 miles east of, 1,200 feet east of milepost 137, 150 feet into rock cut from west end, 8 feet south of track, in face of cut in solid rock; aluminum tablet stamped "223 Wash 1913".....	222. 374
Fountain, 0.7 mile east of, 80 feet north of track, on boulder in line of old rock fence; circle of paint marked "U. S. 223 B. M.".....	222. 28
Fountain, on center of southern of two east concrete foundation piers of water tank; aluminum tablet stamped "219 Wash 1913".....	218. 496
Fountain, 0.8 mile west of, 8 feet south of track, at east end of first cut; top of rock marked "U. S. 220 B. M.".....	220. 10
Fountain, 1.2 miles west of, 200 feet west of milepost 134, 35 feet north of track, on top of boulder, circle of paint marked "U. S. 217 B. M.".....	216.63
Fountain, 2 miles west of, on north side of east end of concrete abutment to railroad bridge 133-5 over Rock Creek; aluminum tablet stamped "214 Wash 1913".....	213. 391

From Roosevelt west and north along highways to Bickleton.

Roosevelt, inside and 40 feet east of southwest corner of schoolhouse yard, in solid rock; aluminum tablet stamped "265 Wash 1913" (stamped incorrectly).....	254. 489
Roosevelt, 1 mile northwest of, 60 feet east of point where road turns into lane between fences, 40 feet south of road, in base of fence post; spike marked "U. S. 368 B. M.".....	368. 23
Roosevelt, 2 miles northwest of, 60 feet north of road, on stony alluvial fan, on top of large basalt boulder; circle of paint marked "U. S. 442 B. M."..	442. 08
Roosevelt, 2.6 miles northwest of, at road fork, base of hill on south side of road, 200 feet south of road, in base of fence post; spike marked "U. S. 453 B. M.".....	452. 54
Roosevelt, 4 miles northwest of, southwest corner of SE. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec 14, T. 3 N., R. 20 E., inside corner of fence on east where road turns north, on Perry McKown's ranch; iron post stamped "663 Wash 1913".....	663. 005
Perry McKown's house, opposite, at crest of hill, on west side of road: top of rock marked "715".....	715. 15
Roosevelt, 5.3 miles northwest of, south end of gate to private road to Luginbuhl's ranch, in gate post; spike marked "U. S. 628 B. M.".....	628. 04
Luginbuhl's ranch, 0.6 mile north of, northwest corner of field, in base of gate post; spike marked "U. S. 798 B. M.".....	797. 93
White's ranch, 5 feet south of fence corner on east side of lane, T. 3 N., R. 20 E., about in center of sec. 4, 500 feet west of house at R. D. White's ranch; iron post stamped "994 Wash 1913".....	993. 758
White's ranch, 0.5 mile north of, first bridge uphill (in gulch), in foundation; spike marked "U. S. 1203 B. M.".....	1, 206. 94
White's ranch, 1.6 miles north of, in gulch, 20 feet east of road, on top of basalt boulder; circle of paint marked "U. S. 1405 B. M.".....	1, 404. 76
White's ranch, 2.2 miles north of, in canyon, in brace on northwest corner of bridge over stream; spike marked "U. S. 1720 B. M.".....	1, 719. 39
Dot, 4.5 miles south of, 350 feet east of G. Binn's ranch house, 15 feet north of road, on top of large basalt boulder: circle of paint marked "U. S. 2215 B. M.".....	2, 214. 80
Dot, 3.6 miles south of, southwest corner of NW. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 20 T. 4 N., R. 20 E., in base of corner fence post; spike marked "U. S. 2416 B. M."..	2, 415. 60

T. 4 N., R. 20 E., southeast corner of NE. $\frac{1}{4}$ sec. 19, 3.4 miles south of Dot, 35 feet north of corner in line of fence; iron post stamped "2446 Wash 1913"	Feet. 2, 445. 743
T. 4 N., R. 20 E., southeast corner of sec. 18, in base of corner fence post; spike marked "U. S. 2429 B. M."	2, 428. 74
Dot, northwest corner of church building, at base	2, 201. 02
Dot, 200 feet east of schoolhouse, 40 feet west of road, in base of telephone pole; spike marked "U. S. 2184 B. M."	2, 183. 90
Dot, 15 feet north of, southwest corner of sec. 32, in line of fence, T. 5 N., R. 20 E.; iron post stamped "2276 Wash 1913"	2, 275. 951
T. 5 N., R. 20 E., northeast corner of sec. 31, in base of telephone pole; spike marked "U. S. 2387 B. M."	2, 387. 14
T. 5 N., R. 20 E., between secs. 29 and 30, near telephone pole; surface of ground, pole painted "U. S. 2461 B. M."	2, 460. 50
T. 5 N., R. 20 E., 0.5 mile south of northeast corner of sec. 19, 40 feet north of gate in fence, in post; spike marked "U. S. 2550 B. M."	2, 549. 74
T. 5 N., R. 20 E., northwest corner of NE. $\frac{1}{4}$ sec. 19, 4.3 miles south of Cleveland, at turn of road, south side within fence; iron post stamped "2623 Wash 1913"	2, 622. 976
Mason's place, opposite; surface of ground, painted on telephone pole at top of hill "2812"	2, 812. 04
T. 5 N., R. 20 E., northwest corner of NE. $\frac{1}{4}$ sec. 7, 40 feet east of road, in base of telephone pole; spike marked "U. S. 2922 B. M."	2, 922. 18
Cleveland, 1 mile south of, 150 feet north of east-west fence, 40 feet west of road, in base of telephone pole; spike marked "U. S. 3009 B. M."	3, 008. 46
Cleveland, 0.2 mile west of, quarter corner between secs. 31 and 30, T. 6 N., R. 20 E., northwest of four corners, 10 feet west of road, in line of poles; iron post stamped "3071 Wash 1913"	3, 071. 180
Cleveland, at intersection of streets at corner of Hotel McCready, in base of telephone pole; spike marked "U. S. 3032 B. M."	3, 031. 90
Cleveland, 1.1 miles east of, northeast corner of Van Nostern's ranch barnyard, at corner of fence, in base of telephone pole; spike marked "U. S. 3072 B. M."	3, 071. 51
Cleveland, 1.5 miles east of, 10 feet south of road at junction of roads, in base of telephone pole; spike marked "U. S. 3033 B. M."	3, 032. 97
Bickleton, 1.3 miles west of, northwest corner of bridge over Pine Creek, in top of beam; spike marked "U. S. 2980 B. M."	2, 979. 38

From Bickleton southeast along highways to McCredie.

Bickleton, in school yard, in line of fence due south of building; iron post stamped "3002"	3, 001. 896
Bickleton, 1.2 miles southeast of, at northeast corner of intersection of roads, at fence corner, on top of large rock: circle of paint marked "U. S. 2925 B. M."	2, 924. 58
Bickleton, 2.1 miles southeast of, at turn in road, 30 feet west of road, in corner of fence, on top of large boulder; circle of paint marked "U. S. 2887 B. M."	2, 886. 32
Bickleton, 3 miles southeast of, northwest corner of NE. $\frac{1}{4}$ sec. 35, T. 6 N., R. 20 E., inside of fence corner and 5 feet south; iron post stamped "2853 Wash 1913"	2, 852. 184
Bickleton, 4.5 miles southeast of, at oblique turn of road to southeast, 40 feet west of road, in corner of fence, in lower end of brace against post; spike marked "U. S. 2765 B. M."	2, 764. 36
Bickleton, 5.5 miles southeast of, 10 feet west of road where it turns south, in base of corner fence post; spike marked "U. S. 2682 B. M."	2, 681. 73

	Feet.
Bickleton, 6 miles southeast of, about center of NW. $\frac{1}{4}$ sec. 7, T. 5 N., R. 21 E., at junction of roads, just inside of fence corner south and west of junction; iron post stamped "2638 Wash 1913".....	2, 637. 959
Bickleton, 7.6 miles southeast of, at center of sec. 8, T. 5 N., R. 21 E., in base of corner fence post on west side of road; spike marked "U. S. 2498 B. M.".....	2, 497. 33
Bickleton, 8.6 miles southeast of, in line of last fence out, in base of corner fence post east of road; spike marked "U. S. 2395 B. M.".....	2, 394. 22
Bickleton, 9.3 miles southeast of, 10 feet north of east fork, at slight diversion of roads, on top of large angular boulder: circle of paint marked "U. S. 2294 B. M.".....	2, 293. 81
T. 5 N., R. 21 E., near quarter corner between secs. 15 and 22, 10.4 miles southeast of Bickleton, at bend in road, 30 feet north of east-west fence, north side of gate; iron post stamped "2134 Wash 1913".....	2, 133. 689
T. 5 N., R. 21 E., northeast corner of sec. 22, south side of road at intersection of road to south, at fence corner, in base of post; spike marked "U. S. 2085 B. M.".....	2, 084. 78
T. 5 N., R. 21 E., southeast corner of sec. 14, 15 feet north of road, in base of fence post near corner; spike marked "U. S. 1921 B. M.".....	1, 920. 41
T. 5 N., R. 22 E., 50 feet east of southwest corner of sec. 18 (pile of rocks), in line of fence; iron post stamped "1795 Wash 1913".....	1, 795. 106
T. 5 N., R. 22 E., 25 feet west of northeast corner of sec. 19, in base of fence post; spike marked "U. S. 1631 B. M.".....	1, 630. 67
Sixprong, 5.6 miles northwest of, east edge of sec. 20 T. 5 N., R. 22 E., where road passes corner of fence, in base of corner fence post; spike marked "U. S. 1488 B. M.".....	1, 487. 78
Sixprong, 4.5 miles north of, 25 feet east of northwest corner of sec. 22, T. 5 N., R. 22 E., in line of fence, 6 feet south of road; iron post stamped "1364 Wash 1913".....	1, 363. 712
T. 5 N., R. 22 E., near center of sec. 22, 4 miles north of Sixprong, at corner of fence, in base of post; spike marked "U. S. 1251 B. M.".....	1, 250. 26
Sixprong, 2.5 miles north of, opposite Comstock's ranch house, at intersection of roads, 50 feet west of corner and in line of eastward fence, in base of telephone pole; spike marked "U. S. 1107 B. M.".....	1, 106. 18
Sixprong, southwest corner of school yard, northwest corner of sec. 35, T. 5 N., R. 22 E., inside of fence corner; iron post stamped "1018 Wash 1913".....	1, 017. 956
Sixprong, 1 mile south of, northwest corner of sec. 2, T. 4 N., R. 22 E., 15 feet south of east-west fence, 30 feet east of road, in base of telephone pole; spike marked "U. S. 972 B. M.".....	971. 43
Sixprong, 1,000 feet south of store, on top of bench; painted on telephone pole "899".....	898. 72
Sixprong store, 0.3 mile south of, on east side of road at intersection, in base of telephone pole; spike marked "U. S. 873 B. M.".....	872. 95
Sixprong, 2 miles south of, near northwest corner of sec. 14, T. 4 N., R. 22 E., at extreme top of hill, 30 feet east of road, in line of fence near old gate; iron post stamped "1369 Wash 1913".....	1, 368. 393
McCredie, 0.5 mile north of, on bench, 300 feet south of road, on north side of deep canyon, on top of very large basalt boulder; circle of paint marked "U. S. 899 B. M.".....	899. 09
McCredie, 0.3 mile north of, on lower bench, 8 feet east of road, on top of very large angular boulder; circle of paint marked "U. S. 665 B. M.".....	664. 34

From Rock Creek canyon north and east along highways to point 3.4 miles south of Dot.

	Feet.
Rock Creek canyon, 0.9 mile north of railroad at mouth, 40 feet south of road ford, in line of fence on east side of creek, opposite Indian shacks, on top of minor basalt cliff; circle of paint marked "U. S. 246 B. M.".....	245. 18
Rock Creek canyon, 2.3 miles north of railroad bridge, 0.2 mile downstream from Indian Charley's ranch cabin, 20 feet east of road, 200 feet south of fence corner, on top of large rock; circle of paint marked "U. S. 321 B. M.".....	320. 91
T. 3 N., R. 19 E., near center of sec. 16, 2.6 miles north of mouth of Rock Creek canyon, at bend, 0.2 mile north of Indian Charley's cabin, 150 feet east of road, in line of east-west fence; iron post stamped "364 Wash 1913".....	363. 468
Rock Creek canyon, point where Walker Grade leaves Creek road, 30 feet west of intersection, in base of fence post; spike marked "U. S. 433 B. M.".....	432. 63
Rock Creek canyon, 4.5 miles from mouth, where Walker Grade crosses stream bed, leading to Goodnoe Hills, west side of Rock Creek, 40 feet west of road, at northeast corner of small Indian barn; iron post stamped "423 Wash 1913".....	423. 104
Rock Creek canyon, 1.5 miles above Walker Grade crossing, at corner of small fenced grain field, west side of road, in base of fence post; spike marked "U. S. 502 B. M.".....	501. 30
Rock Creek canyon, 1.5 miles below Squaw Creek bridge, at foot of upgrade to north, 160 feet west of road, on top of large boulder; circle of paint marked "U. S. 593 B. M.".....	592. 59
Rock Creek canyon, junction of Rock and Squaw creeks, 800 feet south of Squaw Creek bridge, 700 feet north of Moser's ranch house, adjacent to northeast corner of field, 5 feet west of road; iron post stamped "641 Wash 1913".....	640. 98
Squaw Creek canyon, 1 mile above Goldendale Road bridge, middistance of fenced pasture, 15 feet west of road, on top of large boulder, marked "U. S. 769 B. M.".....	769.03
Newell's ranch house, 0.4 mile west of, in gully, where dim road turns off to north up Squaw Creek, 15 feet north of road; top of rock marked "832".....	831. 73
Newell's ranch house, 300 feet south of, on hillside, 50 feet above, 30 feet south of turn in Dot road, in base of large corner fence post; spike marked "U. S. 1110 B. M.".....	1, 109. 97
T. 4 N., R. 19 E., near center of NW. $\frac{1}{4}$ sec. 16, on Dot-Goldendale road, top of first hill east of Newell's ranch, 1.7 miles west of Wood's ranch, 15 feet north of road, in line of wire fence; iron post stamped "1713 Wash 1913".....	1, 712. 253
Wood's ranch, 0.6 mile west of, at turn in road. 8 feet south of road, on side of hill, in base of corner fence post; spike marked "U. S. 2037 B. M.".....	2, 036. 31
Oak Grove School, 400 feet east of, opposite Wood's ranch orchard, 10 feet north of road, on top of sawed-off butt on south side of large oak tree; spike marked "U. S. 2347 B. M.".....	2, 346. 88
T. 4 N., R. 19 E. near northwest corner of sec. 23, 0.5 mile east of Oak Grove School, 20 feet west of fence corner and section line, on north side of road; iron post stamped "2548 Wash 1913".....	2, 547. 325
T. 4 N., R. 19 E., northwest corner of sec. 24, on south side of road, in base of corner fence post; spike marked "U. S. 2597 B. M.".....	2, 596. 46
T. 4 N., R. 20 E., southwest corner of sec. 18, 10 feet east of corner, in base of fence post; spike marked "U. S. 2504 B. M.".....	2, 503. 28

ASOTIN QUADRANGLE.

[Latitude 46°-46° 30'; longitude 117°-117° 30'.]

From Pullman along highway southwest to Wawawai, thence southeast via Steptoe Canyon to Uniontown (part of line).

Primary leveling in 1903 by E. M. Fry.

Quast ranch, 200 feet north of house, 0.2 mile east of Snake River, 100 feet east of county road, in large boulder; bronze tablet stamped "748 S".... Feet. 746.714

From Wawawai along highway by circuitous route via Offield Canyon, Kirby School, and Alpowa to Steptoe Canyon (part of line). (Readjusted with 1915 levels.)

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, inside fence corner; highest point of stone 10 by 8 by 6 inches..... 2,516.19

Fanning ranch, 0.5 mile west of, at summit of divide between Alpowa and Pataha creeks, 50 feet south of forks of Pomeroy and Watertine roads, south side of road near mail box; iron post stamped "2610 S." (Recovered 1915 by D. S. Birkett, value by Birkett=2610.474)..... 2,608.232

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"..... 1,320.277

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..... 1,067.0

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"..... 718.048

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"..... 1,207.351

From point 2.2 miles east of Pataha City east along highway to point near Fanning ranch (Unadjusted line; see next page.)

Primary leveling in 1915 by D. S. Birkett.

Pataha City, 2.9 miles east of, 300 feet east of fork of Lewiston road and road leading up Pataha Valley, south edge of former road near fence corner; iron post stamped "2284 Wash. 1915" (P.B.M. 45)..... 2,284.043

Fork of Lewiston road and road up Pataha Valley, 840 feet east of top of south side of concrete stock subway under road; chiseled square..... 2,311.08

T. 11 N., R. 43 E., sec. 6, almost opposite James Kern place, concrete bridge, south side of, top of balustrade; chiseled square..... 2,488.82

T. 11 N., R. 43 E., near quarter corner between secs. 5 and 6, T road to northwest, south side of road, telephone pole; spike marked "2554".... 2,554.63

T. 11 N., R. 43 E., near quarter corner between secs. 4 and 5, T road south, east side of road, telephone pole; spike marked "U.S. 2652 B.M."..... 2,651.91

T. 11 N., R. 43 E., near quarter corner between secs. 3 and 4, forks of Lewiston road and Deadman Gulch road, 40 feet northeast of telephone pole; spike marked "U.S. 2520 B.M."..... 2,520.53

Summit of divide between Alpowa and Pataha creeks, on Lewiston-Pomeroy road, 0.5 mile west of, T road south, southwest corner telephone pole; spike marked "U.S. 2580 B.M."..... 2,579.84

Fanning ranch, 0.5 mile west of, at summit of divide between Alpowa and Pataha creeks, 50 feet south of forks of Pomeroy and Valentine roads, south side of road, near mail box; post stamped "2610 S" (Bull. 557, value 2,611.033 discarded)..... 2,610.474

From point 2 miles west of Fanning ranch north to point near Kirby School. (Based upon unadjusted line from west.)¹

T. 12 N., R. 43 E., near the southwest corner of sec. 34, 250 feet south of gate leading to house on Mrs. Thomas McKearnan's place, west side of road, telephone pole; spike marked "U.S. 2453 B.M."	Feet. 2, 453. 41
T. 12 N., R. 43 E., near southwest corner of sec. 27, concrete bridge over Deadman Creek, east side of, top of guardrail; bronze tablet stamped "2406 Wash. 1915" P.B.M. No. 46	2, 405. 937

BACON QUADRANGLE

[Latitude 47° 15'-47° 30'; longitude 119° 15'-119° 30'.]

From Moses Lake west along highway to Ephrata.

Primary leveling in 1903 by R. A. Farmer and R. B. Shaw and in 1909 by C. H. Semper.

Moses Lake, 2.9 miles north of, 10 feet west of road, in granite outcrop; tablet stamped "1089 T"	1, 089. 199
Moses Lake, 6.0 miles north of, 8 feet southwest of road, in 2 by 2 foot boulder 1 foot above ground; tablet stamped "1274 T"	1, 274. 199

From point 4 miles southeast of Ephrata southeast and north along highway to Great Northern Ry. (part 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, 130. 15
T. 21 N., R. 27 E., southwest corner of sec. 33, 7.0 miles south of Ephrata; iron post stamped "1066"	1, 066. 625
Gibbons ranch, 1.0 mile north of, on west margin of road; top of rock marked "U. S. □ B. M. 1069"	1, 069. 38
Crab Creek, Joe Ogen ranch, about 800 feet northwest of house, at corner of wire fence; iron post stamped "1071"	1, 070. 933
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. 93
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. 30
Milepost 1596, 4 feet east of; iron post stamped "1251 T"	1, 251. 974

From Adrian south along highway toward Moses Lake (spur line; elevations unreliable).

Milepost 1590, 4 feet east of; iron post stamped "1188 T"	1, 188. 534
Adrian, 2.8 miles south of, 30 feet south of Cowell ranch house at corner of chicken yard; iron post stamped "1210"	1, 210. 478
Adrian, 3.6 miles south of, at north end of small coulee on west side; top of rock marked "U. S. □ B. M. 1173"	1, 174. 38
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, 165. 01

From point near Ephrata northeast along Great Northern Ry. to Adrian.

Milepost 1596, 4 feet east of; iron post stamped "1251 T"	1, 251. 974
Milepost 1593, 4 feet east of; iron post stamped "1233 T"	1, 233. 300
Milepost 1590, 4 feet east of; iron post stamped "1188 T"	1, 188. 534

From Adrian east along Great Northern Ry to Stratford.

Milepost 1587, 4 feet east of; iron post stamped "1252 T"	1, 252. 438
Stratford, 5 feet west of milepost 1584; iron post stamped "1277 T"	1, 277. 453

¹The old line from Fanning's ranch to Kirby School was leveled three times and a foot error found, and from Kirby School to Richardson ranch was leveled twice and 0.5 foot error found. This necessitated readjustment of an old circuit on Asotin and Pullman quadrangles.

From Adrian north along Northern Pacific Ry. to Coulee City (part of line).

Milepost 18, 12 feet north of, 20 feet west of track; iron post stamped "1351 T".....	Feet. 1,352.145
Milepost 15, 100 feet north of, east of track; iron post stamped "1489 T" ..	1,489.714
Sunbath, 400 feet south of section house, 30 feet west of track; iron post stamped "1522 T".....	1,522.811

BEVERLY QUADRANGLE.

[Latitude 46° 45'-47°; longitude 119° 45'-120°.]

From southwest corner of sec. 32, T. 18 N., R. 24 E., south along highway to Beverly.

Primary leveling in 1909 by C. H. Semper and in 1913 by D. S. Birkett.

T. 17 N., R. 24 E., northwest corner of sec. 20; iron post.....	1,326.684
T. 17 N., R. 24 E., southwest corner of sec. 32; iron post.....	1,072.183
T. 16 N., R. 24 E., center of east side of SW. $\frac{1}{4}$ sec. 6, in fence post; spike marked "1210".....	1,210.89
T. 16 N., R. 24 E., northwest corner of sec. 18; iron post.....	1,174.823

From 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.....	1,274.470
T. 17 N., R. 25 E., southwest corner of sec. 6; iron post stamped "1209" ..	1,209.680
T. 17 N., R. 24 E., southwest corner of sec. 24; iron post stamped "1170" ..	1,169.952
T. 17 N., R. 24 E., southeast corner of sec. 28; iron post stamped "1076" ..	1,076.290

From near Jericho west along Chicago, Milwaukee & St. Paul Ry. to Cohasset.

Jericho, 1.0 mile east of, 30 feet north of track, 7 feet west of telegraph pole; iron post stamped "522".....	522.295
Jericho, in front of station; top of rail.....	526.1
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".....	527.41
Jericho, 2.0 miles west of, 170 feet west and north of cabin, 10 feet north of track; iron post stamped "528".....	528.604
Beverly, at Chicago, Milwaukee & St. Paul Ry. station, 20 feet west of water tank, 12 feet south of main track; iron post.....	546.790
Beverly, at extreme west end of railroad trestle over Columbia River, top of bent, south side of track; railroad spike marked "561".....	561.81
Cohasset, 300 feet east of west end of sidetrack, 30 feet south of track; iron post.....	770.117

From Bend north along road to Beverly.

Bend, 1.4 miles northeast of, 30 feet north of road; spike in base of corner fence post, marked "U. S. 519 B. M.".....	518.80
T. 15 N., R. 23 E., 60 feet south of northwest corner of NE. $\frac{1}{4}$ sec. 22, in line of fence of Rush ranch, 300 feet west of ranch house; iron post stamped "515 Wash 1913".....	515.137
Beverly, 3 miles downstream from, on roadway cut in side of rock cliff, opposite and 0.3 mile downstream from concrete power house; point in circle of paint on solid rock, marked "U. S. 506 B. M.".....	505.90
Beverly, 1.7 miles south of, north approach to bridge over Crab Creek, east side and in top of concrete pier; aluminum tablet stamped "510 Wash 1913".....	509.278
Beverly, at Chicago, Milwaukee & St. Paul Ry. station, 20 feet west of water tank, 12 feet south of main track; iron post stamped "546" (Engineers' elevation 546.87).....	546.790

United States Engineers' bench mark.

Beverly, 1.7 miles south of, 300 feet north of mouth of Crab Creek, 150 feet west of Steal's house; spike in base of pile (U. S. Engineers' b. m.)..... 493.79 Feet.

BLAINE QUADRANGLE

[Latitude 48° 45'-49°; longitude 122° 30'-122° 45'.]

From Fairhaven along Great Northern Ry. to Blaine, thence east along highway to Delta.

Primary leveling in 1905 by G. C. Jacobs.

T. 38 N., R. 2 E., sec. 13, on north side of road east of Great Northern Ry., 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's 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

From 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

BLALOCK ISLAND QUADRANGLE.

[Latitude 45° 30'-46°; longitude 119° 30'-120°.]

From Castlerock west along Spokane, Portland & Seattle Ry. to McCredie (2 lines).

Primary leveling in 1906 by John R. Evans and in 1913 by D. S. Birkett.

Castlerock, in NW. $\frac{1}{4}$ sec. 8, T. 4 N., R. 24 E., north bank of river, opposite rock 100 feet north of river, 30 feet north of shack at ferry landing; aluminum tablet stamped "247".....	248.299
Carley, 1 mile east of station, 8 feet south of track, in base of mail crane; bolthead marked "U. S. 251 B. M.".....	251.59
Klickitat-Benton county line, at intersection of; top of rail.....	251.4
Carley, 0.7 mile west of, 175 feet east of milepost 163, 80 feet north of railroad track, 8 feet north of road, in large basalt boulder in through cut; aluminum tablet stamped "252 Wash 1913".....	252.207
Alderdale, 200 feet east of warehouse, north side of track, in base of telegraph pole; spike marked "U. S. 249 B. M.".....	249.33
Alderdale, 0.2 mile west of, west end on north side of bridge 162 O, on top of concrete abutment; chiseled square.....	246.15

Alderdale, 1.4 miles west of, 450 feet east of milepost 161, 35 feet north of track, on top of large basalt boulder; circle of paint marked "U. S. 248 B. M."	Feet. 248. 65
Alderdale, 2.1 miles west of, 0.2 mile east of milepost 160, opposite track from steep rocky draw in hillside, 30 feet south of track, in large basalt boulder 2 feet high; aluminum tablet stamped "248 Wash 1913"	248. 376
McCredie, 1.1 miles east of, 15 feet due west of milepost 159, 20 feet north of track, on top of basalt boulder; circle of paint marked "U. S. 248 B. M."	248. 09
McCredie, 0.4 mile east of, 30 feet north of track and 15 feet east of road at road crossing, on top of large boulder; circle of paint marked "U. S. 246 B. M."	246. 40
From Milepost 177 north by road crossing river to Paterson, thence to mouth of Glade Creek and northwest to Dead Canyon 9 miles north of Carley, thence south to Carley, thence across river to Castlerock.	
T. 5 N., R. 26 E., southwest corner of sec. 10, 1.7 miles east of Paterson, 160 feet south of railroad embankment, east edge of road; iron post stamped "263"	264. 173
T. 5 N., R. 25 E., NE. $\frac{1}{4}$ sec. 13, 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. 998
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. 419
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 boulder; aluminum tablet stamped "622"	623. 615
T. 5 N., R. 24 E., about sec. 16, unsurveyed, 6.04 miles east of Carley-Prosser road, on flat; iron post stamped "483"	484. 115
T. 5 N., R. 24 E., about northeast corner of sec. 18, unsurveyed, 4 miles east of Carley-Prosser road, on round knoll, 600 feet north of Dead Canyon, in firm granite rock, near a rock mound; aluminum tablet stamped "576" ..	577. 122
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" ..	735. 205
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. 294
T. 4 N., R. 23 E., W. $\frac{1}{4}$ sec. 1, 1.77 miles northwest of Carley; east of summit, 20 feet north of road; iron post stamped "705"	706. 294
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. 299
From 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., 3.3 miles northeast of sec. 9, unsurveyed, 20 feet east of Prosser-Glade road, in east fork of Glade Canyon; iron post stamped "362" ..	363. 247
T. 6 N., R. 25 E., about sec. 35, unsurveyed, 5.92 miles northeast of Glade, 20 feet east of Prosser-Glade road; iron post stamped "511"	512. 336
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-Irrigon road; iron post stamped "738"	739. 727

From 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., 30 feet southeast of northwest corner of sec. 35, 13 miles north of Carley, at crossroads; iron post stamped "793".....	Feet. 794.222
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".....	866.278

From 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 school-house, in rocky point, in firm rock; aluminum tablet stamped "990".....	990.769
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CAPE ELIZABETH QUADRANGLE (INCLUDES PART OF OCOSTA 15' QUADRANGLE.)

[Latitude 47°-47° 30'; longitude 124°-124° 30']

From point 2.8 miles west of Grays Harbor City north along Northern Pacific Ry., thence south along highways to point 3 miles north of Damon Point.

Primary leveling in 1911 by G. L. Hagman.

Grays Harbor City, 2.8 miles northwest of, opposite milepost 13, on east side of railroad; spike in base of telephone pole, aluminum tag stamped "9 13".....	8.61
Grays Harbor City, 3.9 miles northwest of, 180 feet south of milepost 14, 320 feet north of end of bridge over Grass Creek, at east edge of right of way, in fence corner; iron post stamped "6 Wa 1911".....	6.297
Gray Gables, in front of station; top of rail.....	12.34
Chenois Creek, 1 mile south of, opposite milepost 15; spike in base of telephone pole, aluminum tag stamped "15 14".....	15.12
Chenois Creek, 120 feet south of station, opposite milepost 16; spike in base of telephone pole, aluminum tag stamped "11 15".....	11.40
Chenois Creek, 1 mile north of; spike in milepost 17, 1 foot above ground, aluminum tag stamped "7 16".....	7.04
Burrows, 30 feet south of station, 12 feet west of center of track, on station fill; iron post stamped "17 Wa 1911".....	17.402
Tulips, opposite station; spike in base of telephone pole, painted and scribed "U. S. B. M. 17".....	16.74
Tulips, at railroad crossing; top of rail.....	20.13
Newton, at railroad crossing; top of rail.....	23.19
Newton, 0.3 mile north of, where road bends west; spike in base of fence post, painted and scribed "U. S. B. M. 19".....	18.59
Wilderness, at railroad crossing; top of rail.....	39.42
Wilderness, 0.4 mile north of, bridge over Humptulips River, in top of southeast pier; aluminum tablet stamped "37 Wa 1911".....	37.130
Copalis Crossing, 0.6 mile east of station, on south side of road, at T road north; spike in base of stump, painted and scribed "U. S. B. M. 75".....	75.47
Copalis Crossing, 0.5 mile west of where abandoned road turns off south, on north side of road; spike in base of stump, painted and scribed "U. S. B. M. 71".....	70.93
Copalis Crossing, 1.4 miles west of, on south side of road; spike in base of stump, painted and scribed "U. S. B. M. 176".....	175.60
Copalis Crossing, 1.7 miles west of, north side of road, near top of Langley Hill; spike in base of short stump, painted and scribed "U. S. B. M. 203".....	202.63

Copalis Crossing, 1.7 miles west of, about 250 feet south of road, on top of wooded hill on which is situated Coast and Geodetic Survey triangulation station "Langley." in rock about 2 inches above ground under observation tower; brass tablet, stamped "257" (C. & G. S. triangulation point)...	Feet. 256.666
NOTE.—Bench mark is set on checked spur line.	
Copalis, 2.2 miles east of, on north side of road; spike in base of stump, painted and scribed "U. S. B. M. 54".....	53.66
Copalis, 1.2 miles east of, 0.2 mile west of place where road bends south and private road goes north, north side of road; spike in base of stump, painted and scribed "U. S. B. M. 40".....	40.00
Copalis, 0.25 mile east of, near top of rise, south side of road; spike in base of large stump, painted and scribed "U. S. B. M. 42".....	41.58
Copalis School, in northwest corner of yard; iron post stamped "24 Wa 1911".....	23.621
Copalis, 1 mile south of, on beach, near first shack south of Copalis; spike in base of corner fence post, painted and scribed "U. S. B. M. 16".....	16.14
Copalis, 2.1 miles south of, on beach among drift; spike in base of big stump, painted and scribed "U. S. B. M. 9".....	9.46
Copalis, 2.5 miles south of, north end of gate to private road leaving beach, near new shed; spike in base of fence post, painted and scribed "U. S. B. M. 17".....	16.75
Copalis, 3.6 miles south of, on high bank where beach is crossed by Thompson Creek, marked by camp site; spike in base of small spruce tree near temporary shack, painted and scribed "U. S. B. M. 28".....	28.49
Copalis, 4.9 miles south of, on small knoll, at brush line opposite two hunting tripods on beach, 160 feet south of Axtell cabin, 45 feet south of blazed spruce tree (site marked by black and white flag on pole); iron post stamped "20 Wa 1911".....	20.116
Copalis, 6.1 miles south of, on beach opposite house; spike in base of 10 by 10 inch post, painted and scribed "U. S. B. M. 7".....	6.86
Copalis, 7.6 miles south of, on beach; copper nail in root of big tree stump, painted and scribed "U. S. B. M. 9".....	8.58
Copalis, 8.1 miles south of, on Oyhut road, about 1,400 feet east of beach, north side of road, 9 feet west of blazed spruce tree, painted and scribed "B. M. (—→)"; iron post stamped "19 Wa 1911".....	18.676
Copalis, 9.1 miles south of, just inside of drift line, the third from one farthest south of a line of fence posts; spike in base of fence post, painted and scribed "U. S. B. M. 12".....	12.25
Copalis, 9.9 miles south of, just inside of drift line; spike in base of northeast corner of white hunting tower, painted and scribed "U. S. B. M. 11".....	11.41
Copalis, 11.2 miles south of, about 0.9 mile north of Walker cabin, about 1 mile northeast of hunting tripod on beach; spike in base of small spruce tree, painted and scribed "B. M. 11" (to spruce tree is nailed a tall pole with black and white flag).....	10.73

CEDAR LAKE QUADRANGLE.

[Latitude 47°-47° 30'; longitude 121° 30'-122°.]

From Ravensdale along Northern Pacific Ry. to Hot Springs.

Precise leveling by the U. S. Coast and Geodetic Survey.

Ravensdale, 1.9 kilometers west of, on Northern Pacific Ry. concrete arch culvert 1 A, 3 meters north of track, in upper surface at northeast corner, 0.35 meter from east and 0.1 meter from north edge of culvert; copper bolt (C. & G. S. "R").....	576.602
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Ravensdale, 60 meters west of station, 20 meters south of main track, 0.6 meter east of railway section house; bottom of square hole in top of granite post, marked "U. S. \square B. M." (C. & G. S. "S").....	Feet. 618.611
Ravensdale, 1.7 kilometers east of, on Northern Pacific Ry. concrete arch culvert 1 L over Beaver Creek, 4.3 meters south of railway track, in upper surface of culvert, 0.157 meter from east and 0.15 meter from south edge; copper bolt marked " $\frac{U|S}{B|M}$ " (C. & G. S. "T").....	651.160
Ravensdale, 3.2 kilometers east of, on concrete arch culvert near mile pole 215, 2.5 meters north of Northern Pacific Ry. track, in upper surface of culvert, 0.15 meter from west and 0.15 meter from north edge; copper bolt marked " $\frac{U|S}{B|M}$ " (C. & G. S. "U").....	705.372
Kanaskat and Palmer Junction, between, about 50 meters east of milepole 211, in top of concrete abutment for approach at west end of Northern Pacific Ry. bridge over Green River, the tenth crossing over that stream, 0.17 meter from east and 0.11 meter from south edge, 1.5 meters south of nearest rail; copper bolt marked " $\frac{U|S}{B|M}$ " (C. & G. S. "V").....	847.944
Palmer Junction, 90 meters west of station, 2 meters south of line of telegraph poles, 9.19 meters south of nearest rail on Tacoma branch of Northern Pacific Ry.; bottom of square hole in top of granite post marked "U. S. \square B. M." (C. & G. S. "W").....	858.230
Palmer Junction, 4 kilometers east of, 6 meters east of tunnel 8, 3 meters north of bridge 211 over Green River, in natural rock; copper bolt (C. & G. S. "X").....	932.268
Eagle Gorge, 0.8 kilometer west of, on south end of east concrete abutment of bridge 209 over Green River, in top of abutment, 0.15 meter from its west edge, 1.55 meters from rail; copper bolt marked " $\frac{U|S}{B|M}$ " (C. & G. S. "Y").....	1,080.224
Canton, 60 meters east of station, in section-house yard, 12.2 meters south of section house, 9.7 meters north of nearest main track rail; bottom of square hole in top of granite post, marked "U. S. \square B. M.".....	1,204.604
Hot Springs, in lawn of Kloeber Hotel, 10 meters east of walk leading to station, 3 meters south of south porch of hotel; bottom of square hole in top of granite post, marked "U. S. \square B. M." (C. & G. S. "A ₁ ").....	1,518.291
Hot Springs, 1.85 kilometers east of, in top of retaining wall for east concrete abutment of bridge 201, 0.3 meter from east, and 1.65 meters from north edge, 1.3 meters north of rail; red metal disk (C. & G. S. "B ₁ ")....	1,573.474

From Buckley along Northern Pacific Ry. to Palmer Junction.

Precise leveling by H. S. Crowe in 1898.

Enumclaw, 77.9 feet west of southwest corner of station, 3.1 feet east of mail crane, 31 feet west of center line of Griffin Avenue; iron post stamped "742 T".....	742.144
Enumclaw, in front of station; top of rail.....	742.0
Veazie, 76.6 feet from main track, 15 feet from center of side track, on north side of main line, 50 feet east of road crossing; iron post ¹ 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".....	882.328

¹ Could not be found in 1911.

From Palmer southeast along Northern Pacific Ry. to Hot Springs.

	Feet.
Green River, sixth crossing, 25 feet west of tunnel 7, on north corner of east bulkhead pier of steel bridge 210; copper bolt stamped "1046 T".....	1,046.721
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".....	1,206.113
Maywood, 2.2 feet east of southeast corner of section house, 4.1 miles east of Canton; iron post stamped "1335 T".....	1,336.031
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".....	1,532.139
Hot Springs, in front of station; top of rail.....	1,930.6

From point near Kanaskat north along Northern Pacific Ry. to point near Barneston, thence along Chicago, Milwaukee & St. Paul Ry. to point 1 mile east of Rainy Creek.

Primary leveling in 1910 by D. S. Birkett.

Kanaskat and Palmer Junction, between, about 50 meters east of milepost 211, at west end of Northern Pacific Ry. 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 (C. & G. S. b. m.).....	847.944
Kangley Junction, 50 feet west of Northern Pacific Ry. tracks, 40 feet north of intersection of tracks; spike in 2-foot maple tree.....	943.90
Kangley, on Kerriston branch of Northern Pacific Ry., 35 feet north by 50 feet east of railroad station, corner of fence on north side of wagon road crossing railroad; iron post stamped "958 Wash".....	957.517
Cedar River bridge on Kerriston branch of Northern Pacific Ry., 1.2 miles southwest of, 1.6 miles southwest of Barneston, 10 feet east of track, on top of 2½ by 2½ by 2 foot granite boulder; point 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, 799, Wash, 1910".....	798.990
Moncton, 1 mile west of, Chicago, Milwaukee & St. Paul Ry. 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 & St. Paul Ry. (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".....	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, 1669, Wash., 1910".....	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

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

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 nail, aluminum tag stamped "2123"	Feet. 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

From point near Barneston north along Kerriston branch of Northern Pacific Ry. 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 Ry., 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 Ry., 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 nail, aluminum tag stamped "1374"	1, 374. 00
Kerriston, 650 feet north of Northwest Lumber Co.'s mill, 700 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 Ry., 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 Ry., 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 and 20 feet north of junction, 120 feet west of tool house, in base of hemlock tree; spike, aluminum tag stamped "936"	935. 95

From point 1.5 miles east of Taylor west along skid road and Pacific Coast R. R. to point 1.4 miles west of Hobart.

Taylor, 50 feet east of Pacific Coast R. R. 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 Pacific Coast R. R., 50 feet north of county road; iron post stamped "767 Wash"	766. 998
Hobart, 90 feet west of Pacific Coast R. R. station, 4) feet north of saloon, 45 feet south of railroad track, west edge of county road; iron post stamped "549 Wash"	549. 319

From Henrys switch on Northern Pacific Ry. 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 R. R. over Northern Pacific Ry., 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."	564. 65
Ravensdale, 1.9 kilometers west of, north side of Northern Pacific Ry., in top of concrete arch of culvert, at northeast corner; copper bolt (C. & G. S. B. M.)	576. 586

From 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).....	Feet. 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 bunk house 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

CHEHALIS QUADRANGLE.

[Latitude 46° 30'-47°; longitude 122° 30'-123°.]

From Roy southwest along Northern Pacific Ry. to Tenino, thence north along Northern Pacific Ry. to Tumwater Bridge.

Primary leveling in 1912-13 by E. M. Bandli.

Roy, 540 feet south of station, 21 feet east of track, 10 feet north of road at road crossing; iron post stamped "Prim. Trav. Sta. No. 5, 315, 1912" ...	315. 123
Roy, 1.3 miles south of, 40 feet west of track at private road crossing, in telegraph pole; copper nail marked "316.2".....	316. 58
Roy, 2.7 miles south of, 5 feet northeast of track, in top of concrete pier at north end of railroad bridge over Nisqually River; aluminum tablet stamped "288, 1912".....	288. 095
Roy, 3.7 miles south of, 36 feet southeast of track, in telegraph pole; copper nail marked "313.0".....	312. 83
Yelm, 0.6 mile north of, 34 feet northwest of track, in telegraph pole; copper nail marked "336.1".....	336. 00
Yelm, 276 feet north of station, 10 feet northwest of track at first road crossing north of station, 3 feet from railroad signpost; iron post stamped "Prim. Trav. Sta. No. 6, 350, 1912".....	350. 011
Yelm, 1 mile south of, 9 feet southeast of track, in 1-mile post; copper nail marked "366.4".....	366. 30
Yelm, 2.2 miles south of, 35 feet northwest of track, in telegraph pole; copper nail marked "383.7".....	383. 60
Yelm, 3.8 miles south of, 40 feet north of track, in telegraph pole; copper nail marked "428.0".....	427. 90
Rainier, 174 feet east of station, 10 feet north of track, at first road crossing east of station, near railroad signpost; iron post stamped "Prim. Trav. Sta. No. 7, 431, 1912".....	429. 727
Rainier, 0.6 mile southwest of station, 10 feet southeast of track, in railroad crossing signpost; copper nail marked "403.8".....	403. 71
Rainier, 1.4 miles south of, 40 feet north of track, in telegraph pole No. 17-19; copper nail marked "343.7".....	343. 60
McIntosh, 1 mile northeast of, 40 feet south of track, in telephone pole; copper nail marked "364.9".....	364. 68
McIntosh, 7 feet south of track, in post supporting railroad water tank; copper nail marked "344.0" (not found in 1914).....	343. 83
McIntosh, 0.7 mile south of, 3 feet north of track at crossroads, 6 feet south of electric bell; iron post stamped "Prim. Trav. Sta. No. 8, 352, 1912" ..	351. 678
McIntosh, 1.6 miles south of, 8 feet south of track, in telegraph pole; copper nail marked "300.7".....	300. 57

Tenino, 1.9 miles north of, at road crossing 40 feet north of track, in telegraph pole; copper nail marked "296.8".....	Feet. 296.54
Tenino, 0.8 mile north of, 20 feet north of track, in telegraph pole; copper nail marked "290.0".....	289.87
Tenino, 42 feet in front of station; iron post stamped "Prim. Trav. Sta. No. 19, 280, 1912".....	279.532
Tenino, 1 mile north of, 8 feet south of track, in foundation of switchboard; copper nail marked "300.3" (not found in 1914).....	300.09
Tenino, 2.2 miles north of, 45 feet south of road crossing, 8 feet east of track, in telegraph pole; copper nail marked "292.6".....	292.46
Tenino, 2.9 miles north of, 5 feet northeast of track at road crossing, in post; copper nail marked "245.5".....	245.32
Tenino, 3.9 miles north of, 8 feet east of track, in telegraph pole; copper nail marked "252.4" (not found in 1914).....	252.18
Tenino, 5.4 miles north of, 30 feet northeast of track, in telegraph pole; copper nail marked "263.1" (not found in 1914).....	262.84
Tenino, 5.4 miles north of, in front of first house south of Plumb station, east of road at corner of garden fence, private road to house; iron post stamped "263 Wash 1912".....	262.581
Tenino, 6.8 miles northwest of, 3 feet west of track, in railroad switch; copper nail marked "241.3" (not found in 1914).....	241.05
Tenino, 7.6 miles northwest of, 15 feet northeast of track, in telegraph pole; copper nail marked "213.6" (not found in 1914).....	213.44
Tenino, 7.8 miles northwest of, 30 feet east of track, in telegraph pole; copper nail (not found in 1914).....	211.41
Tenino, 7.8 miles northwest of, at first road crossing north of Plumb, 40 feet east of track, near telegraph pole; iron post stamped "212 Wash 1912" (not found in 1914).....	211.807
Tenino, 9.1 miles northwest of, 30 feet southwest of track and road crossing, in telegraph pole; copper nail marked "186.0".....	185.91
Tenino, 10 miles northwest of, 30 feet southwest of track, in telegraph pole; copper nail marked "188.5" (not found in 1914).....	189.01
Tenino, 10.4 miles northwest of, 30 feet west of track at T road west, in telegraph pole; copper nail marked "191.2".....	191.03
Tenino, 10.9 miles northwest of, 5 feet east of track at road crossing; iron post stamped "Prim. Trav. Sta. No. 11, 184, 1912".....	183.820
Tenino, 11.6 miles northwest of, 60 feet west of track at T road, southwest corner of intersection, in telegraph pole; copper nail marked "174.5"....	174.24

From Tenino south along Northern Pacific Ry. to Winlock.

Tenino, 0.7 mile southwest of, in southwest corner fence post of Northern Pacific right of way, 30 feet northwest of track; copper nail marked "277.0" (not found in 1914).....	276.94
Tenino, 1.4 miles southwest of, 15 feet southwest of track at road crossing, in Northern Pacific crossing signpost; copper nail marked "270.3".....	270.29
Bucoda, 0.6 mile northeast of, 10 feet east of track; copper nail in post marked "252.7".....	252.68
Bucoda, 420 feet southwest of station, 30 feet west of track; iron post stamped "Prim. Trav. Sta. No. 20, 254".....	253.683
Bucoda, 0.5 mile southwest of, 15 feet northwest of track at road crossing, in telegraph pole; copper nail marked "250.6".....	250.56
Bucoda, 1.6 miles southwest of, 30 feet southwest of track, in telegraph pole; copper nail marked "241.1".....	241.04
Bucoda, 2.4 miles southwest of, 60 feet southwest of track, in tree stump; copper nail marked "223.5".....	223.46

Bucoda, 3.9 miles southwest of, 15 feet northeast of private road crossing, 25 feet northwest of track; iron post stamped "Prim. Trav. Sta. No. 21, 207, 1912"	Feet. 206.817
Bucoda, 4.5 miles south of, 20 feet west of track at road crossing, in telegraph pole; copper nail marked "207.4"	207.34
Centralia, 1 mile north of, 15 feet east of track, in telegraph pole; copper nail marked "194.4"	194.37
Centralia, 420 feet northwest of station, 8 feet west of track, 30 feet northwest of Maple Street; iron post stamped "Prim. Trav. Sta. No. 33, 184, 1912" (reported in 1914; removed)	184.380
Centralia, 0.6 mile south of, at Nut Street road crossing, 8 feet east of track; circle of paint on electric bell signal post (not found in 1914)	182.00
Chehalis, 0.5 mile north of station, 12 feet northeast of track at road crossing, in telegraph pole; copper nail marked "177.8" (not found in 1914)	177.70
Chehalis, 240 feet north of track, 30 feet north of West Street crossing, 9 feet north of signal tower; iron post stamped "188" (=Prim. Trav. Sta. No. 34)	187.696
Chehalis, 0.9 mile south of station, 6 feet west of track, in north end of trestle; copper nail marked "178.3"	178.19
Chehalis, 2.1 miles southeast of, in southwest end of bridge (No. 60) foundation; copper nail marked "196.3"	196.17
Chehalis, 2.7 miles southeast of, 6 feet northwest of track, 30 feet southeast of road crossing; iron post stamped "Prim. Trav. Sta. No. 35, 233, 1912" (reported in 1914; removed)	232.547
Chehalis, 4.1 miles southeast of, 10 feet east of track, on cement foundation of battery tank of Northern Pacific electric signal tower; circle of paint marked "314.3"	314.17
Chehalis, 5.5 miles southeast of, 5 feet southwest of track at road crossing; iron post stamped "Prim. Trav. Sta. No. 36, 392, 1912" (reported in 1914; covered up)	391.982
Napavine, at first road crossing north of station, 10 feet east of track, in telegraph pole; copper nail marked "440.7" (not found in 1914)	440.62
Napavine, 1 mile south of, 10 feet west of track, 15 feet south of road crossing; iron post stamped "Prim. Trav. Sta. No. 37, 442.6, 1912"	442.546
Napavine, 2.1 miles southwest of, 15 feet north of road crossing, 3 feet northwest of track, in southwest side of cattle guard; copper nail marked "441.4"	441.65
Napavine, 3 miles southwest of, near Evaline flag station, in northwest end of Northern Pacific bridge crossing over roadway, 8 feet west of track; copper nail marked "437.5"	437.45
Napavine, 4.3 miles southwest of, 40 feet west of track, in telephone pole; copper nail marked "383.2"	383.17
Winlock, 0.8 mile northeast of, 1 foot west of track, in northwest end of bridge over creek; copper nail marked "343.1"	343.03
From point 2 miles northeast of Cowlitz northeast to point near Cinebar.	
Cowlitz, 3.8 miles northeast of, 15 feet northwest of T road intersection, in telegraph pole; copper nail marked "374.4"	374.34
Cowlitz, 4.8 miles northeast of, 2 feet east of road, in telephone pole; copper nail marked "394.5" (not found in 1914)	394.50
Cowlitz, 5.8 miles northeast of, 8 feet east of road, in telephone pole; copper nail marked "423.2"	423.74
Cowlitz, 6.7 miles northeast of, 20 feet west of road, 112 feet south of walk leading to schoolhouse, in southeast corner of school yard; iron post stamped "Prim. Trav. Sta. No. 51, 451, 1912"	451.242

	Feet.
Cowlitz, 7.9 miles northeast of, 20 feet west of road at T road south, in tree stump; copper nail marked "471.7".....	471.65
Cowlitz, 8.9 miles northeast of, 1 mile east of Ethel, 7 feet north of northwest corner of school yard; iron post stamped "Prim. Trav. Sta. No. 50, 1912".....	510.521
Cowlitz, 10 miles northeast of, north side of road, in tree stump; copper nail marked "546.5".....	546.47
Cowlitz, 11.1 miles northeast of, north side of road, in tree; copper nail marked "591.8".....	591.77
Cowlitz, 12 miles northeast of, 4 feet south of road, 20 feet southwest of crossroads; iron post stamped "Prim. Trav. Sta. No. 49, 622, 1912".....	622.363
Cowlitz, 12.4 miles northeast of, north side of road, 38 feet from road intersection, in tree; copper nail marked "648.5" (not found in 1914).....	648.44
Cowlitz, 13.3 miles northeast of, 20 feet north of road at T road south, in telephone pole; copper nail marked "551.0".....	550.99
Cowlitz, 13.5 miles northeast of, 15 feet south of road at T road intersection, in telephone pole; copper nail marked "561.8".....	561.74
Cowlitz, 14.8 miles northeast of, 10 feet south of road, in telephone pole; copper nail marked "668.9" (not found in 1914).....	668.90
Silver Creek, 840 feet south of, 30 feet northwest of crossroads; iron post stamped "Prim. Trav. Sta. No. 48, 678, 1912".....	678.415
Silver Creek, 1.2 miles northeast of, 10 feet west of road, in tree stump; copper nail marked "611.4".....	611.40
Silver Creek, 1.9 miles northeast of, 165 feet north of crossroads, 8 feet east of road, in tree stump; copper nail marked "585.4".....	585.45
Silver Creek, 3.7 miles northeast of, northeast side of road, in tree stump; copper nail marked "682.6".....	682.57
Silver Creek, 4.5 miles northeast of, 10 feet north of road at Y road; iron post stamped "Prim. Trav. Sta. No. 47, 731, 1912".....	730.853
Silver Creek, 5.7 miles northeast of, on east side of road, 30 feet from gate leading to house, in tree; copper nail marked "763.5" (not found in 1914).....	763.51

From Cinebar west to Chehalls.

Cinebar, 1.8 miles southwest of, 3 feet north of road, in telegraph pole; copper nail marked "806.7" (not found in 1914).....	806.70
Alpha, 3.6 miles east of, 9 feet east of gate to school yard, 45 feet north of road; iron post stamped "Prim. Trav. Sta. No. 45, 750, 1912".....	749.902
Alpha, 2.5 miles east of, south side of road, in telephone pole; copper nail marked "704.7" (not found in 1914).....	704.74
Alpha, 1.4 miles east of, opposite T road north, in telephone pole; copper nail marked "706.8".....	706.80
Alpha, 0.3 mile west of, 30 feet south of road, in telephone pole; copper nail marked "821.8".....	821.86
Alpha, 0.8 mile west of, 10 feet north of road, northwest corner of T road north; iron post stamped "Prim. Trav. Sta. No. 44, 785, 1912".....	785.044
Alpha, 2.1 miles northwest of, west side of road, in tree stump; copper nail marked "877.2" (not found in 1914).....	877.23
Alpha, 3 miles northwest of, northeast of road, in tree stump; copper nail marked "766.0" (not found in 1914).....	766.01
Alpha, 3.6 miles northwest of, southwest side of road, in tree stump; copper nail marked "594.6" (not found in 1914).....	594.67
Alpha, 4.4 miles northwest of, 12 feet west of road, opposite private gate to farmhouse; iron post stamped "Prim. Trav. Sta. No. 43, 607, 1912".....	606.598

Alpha, 5.8 miles northwest of, 10 feet east of road, 234 feet northwest of private gate to house, in tree stump; copper nail marked "425.3" (not found in 1914).....	Feet. 425. 32
Alpha, 6.9 miles northwest of, east side of road on edge, in tree stump; copper nail marked "388.8" (not found in 1914).....	388. 88
Agate, 1 mile east of schoolhouse, 10 feet east of road, 75 feet southeast of T road intersection, in tree stump; copper nail marked "351.4".....	351. 48
Agate School (district No. 205), 6 feet southwest of flagpole in school yard, 40 feet northwest of schoolhouse; iron post stamped "Prim. Trav. Sta. No. 42, 328, 1912".....	328. 552
Agate, 1.2 miles west of, 6 feet south of road, 25 feet east of Shaver's gate, in tree stump; copper nail marked "312.0" (not found in 1914).....	312. 07
Agate, 1.9 miles west of, 15 feet south of T road north, in root of tree; copper nail marked "300.5".....	300. 61
Agate, 3.5 miles west of, in southeast corner of bridge near Forest; copper nail marked "274.6".....	274. 69
Forest, opposite side of road from store and post office, 1 foot south of fence corner, 30 feet north of T road intersection; iron post stamped "Prim. Trav. Sta. No. 41, 299, 1912".....	298. 801
Forest, 0.9 mile northwest of, 30 feet southwest of road, in front of Phillip's house near bridge over Newaukum River, in post; copper nail marked "261.4".....	261. 46
Forest, 2 miles northwest of, 12 feet northeast of road intersection, in post; copper nail marked "289.8".....	289. 89
Forest, 3.4 miles northwest of, 12 feet northeast of road, 15 feet northwest of bridge over creek, north of concrete road; iron post stamped "Prim. Trav. Sta. No. 40, 241, 1912".....	241. 210
Forest, 4.6 miles northwest of, 15 feet southwest of road, in telephone pole; copper nail marked "231.5" (not found in 1914).....	231. 56
Forest, 5.5 miles northwest of, 15 feet southeast of T road intersection, in pole; copper nail marked "224.8" (not found in 1914).....	224. 84
Chehalis, 15 feet east of road, 54 feet northeast of intersection of Market and Sixth streets, in telephone pole; copper nail marked "216.4" (not found in 1914).....	216. 49

From Centralia northwest 3 miles.

Centralia, 1.2 miles northwest of, 30 feet north of track, at road crossing, 50 feet northeast of railroad-crossing sign, in telegraph pole; copper nail marked "181.1" (not found in 1914).....	181. 0
Centralia, 2 miles northwest of, 75 feet south of road, 50 feet west of track at road crossing, in telegraph pole; copper nail marked "181.6" (not found in 1914).....	181. 55
Centralia, 3.1 miles northwest of, 30 feet east of track, in circle of paint on telegraph pole; nail marked "166.9" (not found in 1914).....	166. 86

From Littlerock northeast along Northern Pacific Ry. to point 0.7 mile northeast of Belmore.

Littlerock, 2.3 miles north of, 10 feet east of track and 6 feet south of road, in crossing signpost; copper nail marked "156.5".....	156. 35
Littlerock, 3.3 miles north of, at road crossing, 5 feet west of track, 6 feet south of road; iron post stamped "Prim. Trav. Sta. No. 28, 159, 1912".....	158. 831
Littlerock, 4.3 miles north of, 30 feet west of track, on telegraph pole, in circle of paint; nail marked "166.6" (not found in 1914).....	166. 45
Littlerock 4.9 miles north of, 5 feet south of road at road crossing, 8 feet east of track, in crossing signpost; copper nail marked "167.0".....	166. 90

Littlerock, 5.9 miles north of, 30 feet west of track, on tree stump; nail in center of circle of paint, marked "162.6" (not found in 1914).....	Feet. 162.45
Belmore station, 9 feet west of track, south of station; iron post stamped "Prim. Trav. Sta. No. 29, 162, 1912".....	161.523
Belmore, 0.7 mile northeast of, 10 feet west of track at road crossing, on railroad-crossing signpost; nail in circle of paint, marked "170.5" (Olympia quadrangle).....	170.33
From Silver Creek east along highway to point near Mossyrock (leveled twice).	
Silver Creek, 840 feet south of, 30 feet northwest of crossroads; iron post stamped "Prim. Trav. Sta. No. 48, 678, 1912".....	678.415
Silver Creek, 0.9 mile east of, 20 feet west of road, 100 yards southwest of house, in bottom of telephone pole; copper nail marked "558.6".....	557.49
Mayfield, 100 feet south of post office, at southwest corner of store, 40 feet southeast of road; iron post stamped "375".....	373.621
Mayfield, 1.4 miles east of, 20 feet west of road, 200 yards northwest of house, in bottom of telephone pole; copper nail marked "386.6".....	385.60
Mayfield, 2.2 miles east of, 10 feet southwest of road opposite clearing, in base of telephone pole; copper nail marked "522.3".....	521.26
Mossyrock, 2.8 miles west of, 20 feet south of road near G. E. Hendrick's mail box; iron post stamped "577".....	575.632
Mossyrock, 1.9 miles west of, 50 yards northeast of Klickitat School (district 206, ward 6), 20 feet north of road, in telephone pole; copper nail marked "592.6".....	591.67

CHELAN QUADRANGLE.

[Latitude 47° 30'-48'; longitude 120°-120° 30']

From point about 7 miles north of Wenatchee north along road up west side of Columbia River and up Knapp Coulee to Chelan.

Primary leveling in 1897 by P. F. Byrne, in 1898 by E. M. Fry, in 1903 by R. A. Farmer, and in 1912 by R. I. Thomas.

T. 24 N., R. 20 E., sec. 26, near mouth of Swakane Creek, 10 feet west of State road and 10 feet north of road up Swakane Valley; iron post stamped "696 T".....	696.474
O'Connor's ferry, 100 feet southwest of ferry derrick, on west side of road, top of granite boulder.....	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
Knapp Coulee, near northwest corner of cornfield, on top of large boulder (5 cubic yards), on stage road.....	1,209.13
Tps. 26 and 27 N., and Rs. 21 and 22 E., in Knapp Coulee, 710 feet west of corner; iron post stamped "1370".....	1,340.000
Navarre's east fence, about 400 feet east of and about 60 feet south of road, top of 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, at wharf; water level 4 p. m. Aug. 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.....	Feet. 1,207.98
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
From Columbia River along highway north up Navarre Coulees to summit of ridge (spur line; elevations unreliable).	
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".....	1,664.130
From Columbia River northwest along highway up Entiat Valley (spur line; elevations unreliable).	
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
From 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, summit of divide between Swakane and Nehockum canyons, 10 feet west of trail, in granite boulder; aluminum bolt stamped "3255".....	3,255.847
Mission, in front of Great Northern Ry. 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
From 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".....	2,771.510
T. 25 N., R. 22 E., corner of secs. 19, 20, 29, and 30, top of stone set for corner.....	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, 2 feet from sidewalk and 2 feet north of entrance door; aluminum tablet stamped "2624 T".....	2,624.087
T. 26 N., R. 22 E., southeast corner of sec. 28, on front or south side of foundation of schoolhouse, 1.5 feet from ground and 2 feet from southeast corner; 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

From 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; iron post stamped "4145".....	Feet. 4, 144. 954
T. 25 N., R. 22 E., southeast corner of sec. 33, 150 feet southeast of schoolhouse (district 3), on north side of road; iron post stamped "2736 T".....	2, 736. 151

From road summit on Badger Mountain south along highways to sec. 11, T. 23 N., R. 21 E. (checked spur line).

T. 24 N., R. 21 E., sec. 12, across first culvert south of summit, on west side of road, 0.4 mile south of summit; copper nail in small pine stump, painted "U. S. 4091".....	4, 091. 95
T. 24 N., R. 21 E., sec. 13, 1.5 miles north of old sawmill, 0.8 mile south of summit, 50 feet west of fence on west side of road; copper nail in stump, painted "4036".....	4, 035. 63
T. 24 N., R. 21 E., sec. 14, on west side of canyon, about 400 feet north of road; nail in top of stump.....	3, 940. 30
T. 24 N., R. 21 E., sec. 23, 0.2 mile south of Pine Grove schoolhouse, on west side of road, on top of first ridge south of schoolhouse; copper nail in stump, painted "U. S. 3691".....	3, 691. 24
Pine Grove schoolhouse, 1.2 miles south of, in center of sec. 26, T. 24 N., R. 21 E., 30 feet east of road; iron post stamped "3619".....	3, 618. 389
T. 24 N., R. 21 E., sec. 26, 400 feet south of above permanent bench mark; nail in telephone post, painted "3593".....	3, 592. 48
T. 24 N., R. 21 E., on north line of sec. 35, 0.9 mile north of road to west, west side of road; nail in telephone post, painted "U. S. 3421".....	3, 421. 33
T. 24 N., R. 21 E., south line of sec. 35, on first road to west, at foot of Badger Mountain, 300 feet from junction; nail in fence post, painted "U. S. 3258".....	3, 257. 76
T. 23 N., R. 21 E., sec. 2, 500 feet north of crossroads; nail with washer in fence post, painted "U. S. 3103".....	3, 103. 24

CHEWELAH QUADRANGLE.

[Latitude 48°-48° 30'; longitude 117° 30'-118°.]

From Clayton northwest along Spokane Falls & Northern (Great Northern) Ry. to Ardon spur. (Part of unadjusted line from Deer Park to Meyers Falls closing -3.89 feet.)

Primary leveling in 1901 by R. A. Farmer.

Loon Lake, 50 feet west of northwest corner of station; iron post stamped "2416 S".....	2, 414. 058
Springdale, at west end of station platform; iron post stamped "2086 S".....	2, 083. 344
Valley, 60 feet west of mail catch; iron post stamped "1670 S".....	1, 667. 175
Chewelah, 300 feet north of station, 150 feet south of milepost 65; iron post stamped "1668 S".....	1, 665. 600
Blue Creek, at northeast corner of post office; iron post stamped "1639 S".....	1, 633. 163
Addy, at road crossing, 150 feet south of milepost 74; iron post stamped "1635 S".....	1, 628. 995
Ardon Spur, north of Ayer's barn, 15 feet east of track; iron post stamped "1605 S".....	1, 598. 713

CHIWAUKUM QUADRANGLE.

[Latitude 47° 30'-48°; longitude 120° 30'-121°.]

From Camas Creek north to Peshastin.

Primary leveling in 1898 by R. A. Farmer and H. K. Kallock, in 1900 by E. M. Fry, and in 1901 by C. E. Hill.

County road south side of Wenatchee River, at junction of Peshastin road, 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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From Wenatchee northwest along Great Northern Ry. to Index (spur line; elevations unreliable).

	Feet.
Peshastin station, 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, 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 signpost, 975 feet east of switch at west end of sidetrack 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".....	2, 186. 306
Merritt, 3 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 Dec. 13, 1904, by order of superintendent of railroad, as it interfered with and endangered lives of trainmen, and the elevation was corrected).....	2, 918. 170

From 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 "1350 T".....	1, 360. 374
Smith ranch, 1,000 feet west of house, 50 feet west of large entrance gate, 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

Northwest up Strombergs Canyon to divide between Strawberry Creek and Wenatchee River (spur line; elevation unreliable).

Strombergs Canyon, 0.1 mile east of, on north side and 150 feet west from mouth of summit, in large boulder; aluminum tablet stamped "1767 T".....	1, 768. 133
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From 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".....	Feet. 1, 631. 897
Chumstick schoolhouse, 2 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

From Chiwaukum west up Chiwaukum Creek to Brown Bear mining camp (spur line; elevation unreliable).

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 "2374T".....	2, 374. 846
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Up Chumstick, Little Chumstick, and Wenatchee rivers to Wenatchee Lake, thence south to Chiwaukum Summit.

Chumstick Canyon, mouth of, 5 feet east of trail, 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 landing, 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., Aug. 20, 1900.....	1, 870

From Martin north along highway to Snoqualmie Pass (spur line; elevations unreliable).

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

From Leavenworth (Shugart ranch) north along highway and Chiwawa Creek trail to Buck Creek Pass (part of single spur line; elevations unreliable).

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
Cross Creek, 0.5 mile northwest of, 4 feet northeast of trail, in root of big fir tree; nail marked "2174".....	2, 175. 59
Alder Creek, 28 feet south of bridge over, 10 feet east of trail; iron post stamped "2137 T".....	2, 138. 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, 558. 60
Twin Creek, 8 feet north of, 2 feet west of trail, in root of black pine tree; nail marked "2348".....	2, 339. 12
Grouse Creek, 500 feet south of, 6 feet east of trail, in root of black pine tree; nail marked "2501".....	2, 492. 36
Chickman Creek, 70 feet southeast of trail crossing (ford), in base of large pine tree; nail.....	2, 429. 97
Chickman Creek, 60 feet southeast of trail crossing (ford), 12 feet northwest of large pine tree; iron post stamped "2438 T".....	2, 429. 588
Chickman Creek, at trail crossing; surface of water Aug. 17, 1901.....	2, 422. 9

Chickman Creek, 2.7 miles northwest of, 3 feet east of trail, 780 feet north-west of small stream, in root of tall pine tree; nail marked "2489"	2, 480. 81
Rock Creek, 1.0 mile southeast of, 3 feet west of trail, on rock 9 feet square and 6 feet high, in south face; bronze tablet stamped "2512 T"	2, 503. 652
Rock Creek, at trail crossing; surface of water Aug. 23, 1901	2, 490. 1
Rock Creek, 1.3 miles northwest of, 8 feet west of trail, in root of big fir tree; nail marked "2502"	2, 493. 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, 539. 46

CHOPAKA QUADRANGLE.

[Latitude 48° 30'-49°; longitude 119° 30'-120°.]

From Snolden ranch along highway northeast to Boone ranch, thence northwest to Conconully, thence southwest to Snolden ranch.

Primary leveling in 1902 by E. M. Fry and in 1903 by F. E. Fellows.

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 miles southeast of, at northeast corner of Boone ranch, 25 feet west of road forks at Conconully-Riverside and Conconully-Brewster stage roads, in corner of fence; iron post stamped "2036"	2, 033. 32
Conconully, 0.8 mile east of, top of steep grade on Brewster road, north side of road, in root of fir tree; nail marked "2382"	2, 379. 28
Conconully, 600 feet north of schoolhouse at forks of Brewster stage road and Loop Loop road, in cottonwood tree; nail marked "2294"	2, 291. 26
Conconully, 2 miles south of, 50 feet west of West Fork of Salmon Creek, 4 feet south of road; top of boulder 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 boulder in road, marked "3236"	3, 233. 44

From 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 junction of road up Fish Lake and 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 No. 20, 1902	2, 116. 5

Reed's store, 50 feet south of, 125 feet north of road, 0.25 mile east of junction of roads up north fork and south or main fork of Pine Creek; iron post stamped "2119".....	Feet. 2, 116. 395
Fate ranch, 150 feet south of east gate to, at northwest corner of log school-house; top of corner stone marked "2024".....	2, 021. 85
Wagonroad Coulee, 4 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

From 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 mile south of, 10 feet east of road, 200 feet east of creek, on large boulder; 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, Oct. 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 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 Nov. 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

From Riley ranch (east of Loomis) along highway southeast to point near Tonasket.

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

From Loyd Beal ranch southwest to Aeneas Creek and Lake (single-spur line elevations unreliable).

Aeneas Creek, crossing of county road (Tonaskett-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 Dec. 2, 1902.....	1, 358. 0

From Loomis along highway northwest up Similkameen River to Canadian boundary (spur line, elevations unreliable).

Loomis, 2 miles north of, 50 feet east of road, on high point, in root of lone pine tree; nailed 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

	Feet.
Palmer Lake; surface of water at south end Oct. 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 junction 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
From 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 Nov. 13, 1901.....	1, 764. 7
Blue Lake, 0.25 mile south of, 4 feet east of road; top of boulder.....	1, 852. 47

CLALLAM QUADRANGLE.

[Latitude 48° 15'-48° 30'; longitude 124° 15'-124° 30'.]

Near East Clallam. Leveled twice (preliminary).

Primary leveling by R. C. Seitz in 1917.

East Clallam, 1.51 miles south of, at lane west to barn, in base of telephone pole; spike, painted "U. S. 38 B. M.".....	38. 678
East Clallam, in front of hotel, at southeast corner of approach to wharf; iron post stamped "Prim. Trav. Sta. No. 31 15 1917".....	15. 201
NOTE.—U. S. C. & G. S. b. m. at West Clallam was destroyed by railroad construction.	
East Clallam, 1 mile west of, in base of telegraph pole; spike, painted "U. S. 14 B. M.".....	14. 859

COLVILLE QUADRANGLE.

[Latitude 48° 30'-49°; longitude 117° 30'-118°.]

From Ardon spur northwest along Spokane Falls & Northern (Great Northern) Ry. to Meyers Falls. (Part of line from Deer Park to Meyers Falls, unadjusted, closing -3.88 feet.)

Primary leveling in 1901 by R. A. Farmer and in 1905 by J. G. Hefly.

Colville, 120 feet west of station; iron post stamped "1582".....	1, 575. 543
From Ryan northeast along Spokane Falls & Northern (Great Northern) Ry. 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"	Feet. 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"	1,326.819
Milepost 136, 6 feet from; iron post stamped "1338 T"	1,336.632
Boundary, Wash., 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

CONNELL QUADRANGLE.

[Latitude 46° 30'-47°; longitude 118° 30'-119°.]

Along Northern Pacific Ry.

Precise leveling by the U. S. Coast and Geodetic Survey.

Lind, 3 miles east of station, 35 meters north of highway crossing, 20 meters west of track, 2 meters from telegraph pole; iron post (U. S. C. & G. S. b. m. J ₅)	1,418.081
Lind, under water tank of Northern Pacific Ry., 75 meters southeast of station; U. S. G. S. iron post stamped "1,362" (U. S. C. & G. S. b. m. K ₅)	1,361.014
Lind, 1.25 miles west of station, in concrete pillar to Chicago, Milwaukee & St. Paul Ry. crossover; disk (U. S. C. & G. S. b. m. L ₅)	1,337.504
Akron, at east end of siding, 10 meters north of track; iron post (U. S. C. & G. S. b. m. M ₅)	1,402.195
Providence, 0.25 mile east of milepost 173, 25 meters south of track; U. S. G. S. iron post stamped "1,476" (U. S. C. & G. S. b. m. N ₅)	1,476.014
Providence, 300 meters west of milepost 175, 75 meters east of track; iron post (U. S. C. & G. S. b. m. O ₅)	1,534.990
Beatrice, 40 meters south of station, 10 meters east of track at mile 178; U. S. G. S. iron post stamped "1,394" (U. S. C. & G. S. b. m. P ₅)	1,393.501
Cunningham, 3 miles east of station, 75 meters east of milepost 180, 15 meters south of track; iron post (U. S. C. & G. S. b. m. Q ₅)	1,293.948
Cunningham, 50 meters north of station, 25 meters east of track; U. S. G. S. iron post (U. S. C. & G. S. b. m. R ₅)	1,165.913
Hatton, 100 meter northeast of station 75 meters north of track, at edge of highway to rear of lumber sheds; U. S. G. S. iron post stamped "1,077" (U. S. C. & G. S. b. m. S ₅)	1,076.940

Emery, 2 miles east of station in concrete abutment of bridge 185; disk (U. S. C. & G. S. b. m. T ₅).....	Feet. 986.081
Emery, 25 meters south of Bridge 194, 10 meters east of track; U. S. G. S. iron post stamped "924" (U. S. C. & G. S. b. m. U ₆).....	923.889
Cactus, 300 meters east of east end siding, 50 meters east of milepost 200, 15 meters south of track; U. S. G. S. iron post stamped "715" (U. S. C. & G. S. b. m. V ₅).....	714.887
From Mesa northeast along Northern Pacific Ry. to Lind (double line).	
Double line by H. G. Crowe, in 1898, redetermined by U. S. Coast and Geodetic Survey. Primary leveling in 1903 by R. B. Shaw.	
Connell station, 0.33 mile southwest of new Northern Pacific Ry. station at former station site, 16 feet southeast of center of track; iron post stamped "838 T".....	837.806
Hatton, in front of telegraph office; top of rail.....	1,063.6
Scott, in front of telegraph office; top of south rail.....	1,165.9
Providence, in front of section house; top of rail.....	1,537.4
From Lind west along highway to Adams-Grant county line. (Readjusted.)	
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".....	1,315.681
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".....	1,296.624
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 and 6 inches above ground; tablet stamped "1325 T".....	1,324.082
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".....	1,246.932
T. 17 N. R. 31 E., center of east of sec. 14, 10 feet west of Lind Coulee road, 1 foot east of Knottingham's east fence, in rock 3 feet long set 25 feet in ground; tablet stamped "1202 T".....	1,201.428
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".....	1,197.486
T. 17 N., R. 31 E., 350 feet west of center line in SW. $\frac{1}{4}$ sec. 6, 0.25 mile north of county road, 900 feet north of windmill; iron post stamped "1204 T" (recovered in 1916 by D. S. Birkett).....	1,203.467
From south border of quadrangle northeast along Spokane, Portland & Seattle Ry. to Kahlotus, thence west along Oregon-Washington R. R. & Navigation Co. tracks to Connell.	
Leveling in 1916 by D. S. Birkett.	
Burr Canyon, southwest end of Southern Pacific & Seattle steel bridge No. 265-8, east side of track, in concrete abutment; aluminum tablet stamped "675 Wash. 1916".....	674.671
Tunnel 15, at road crossing 1,050 feet northeast of; top of rail.....	693.7
Farrington, 1.23 miles southwest of, south end of steel bridge No. 267-6, east side track, top of concrete abutment; chiseled square, marked "U. S. B. M. 713".....	712.43
Farrington, top of nearest rail opposite signboard.....	739.1
Farrington, 0.28 mile northeast of signboard, south end of steel bridge No. 269-1, east side track, concrete abutment; aluminum tablet stamped stamped "Wash. 1916 744".....	743.181

Farrington; 1.17 miles northeast of, southwest end steel bridge No. 270-0, east side track, concrete abutment: chiseled "U. S. B. M. 761".....	Feet. 760.56
Milepost 271; top of nearest rail opposite.....	784.5
Farrington; 2.62 miles northeast of, 0.2 mile southwest of south portal of tunnel 16, east side track, emergency rail stand; copper nail marked "U. S. 793 B. M.".....	792.36
Milepost 272, top nearest rail opposite.....	805.0
Kahlotus, 3.58 miles south of, 1 mile north of tunnel 16, 110 feet south of milepost 273, east side track, on large basalt boulder; aluminum tablet stamped "818 Wash. 1916" (face of boulder chiseled "B. M.").....	818.12
Monument siding, 120 feet south of signboard, east side of track, top emergency rail stand; copper nail, marked "U. S. 840 B. M.".....	839.69
Monument siding, top of nearest rail opposite signboard.....	840.3
Kahlotus, 1.8 miles south of, 10 feet north of milepost 275, east side of track, top of emergency rail stand; copper nail marked "U. S. 858 B. M.".....	857.58
Kahlotus, 0.9 mile south of, 900 feet south of south portal tunnel 17, west side of track, top of emergency rail stand; copper nail, marked "U. S. 877 B. M.".....	876.18
Kahlotus, 0.8 mile southeast of, south portal of tunnel 17, west side of, top of concrete floor; chiseled square, marked "U. S. 877 B. M.".....	877.00
Kahlotus, 0.4 mile southeast of, north portal tunnel 17, west side of, top of concrete floor; aluminum tablet stamped "884 Wash. 1916".....	883.621
Kahlotus, Oregon-Washington R. R. & Navigation Co. passenger depot, on section line, 13.5 feet due west of the northwest corner of depot, in angle of platform, 9.5 feet south of the nearest main line rail, 50 feet east of center of road, 1 foot below surface of ground; iron post stamped "1901" (U. S. Reclamation b. m., established about 1904).....	900.712
Kahlotus, 0.66 mile west of, 50 feet south of Oregon-Washington R. R. & Navigation Co. track, milepost 38, in base of telegraph pole; railroad spike marked "U. S. 901 B. M.".....	900.78
Kahlotus, 1.57 miles west of, 50 feet south of Oregon-Washington R. R. & Navigation Co. track, 50 feet east of private road crossing; iron post stamped "870 Wash 1916".....	869.989
Kahlotus, 2.66 miles west of, 50 feet south of Oregon-Washington R. R. & Navigation Co. track, milepost 40, in base of telegraph pole; railroad spike marked "U. S. 856 B. M.".....	855.92
Estes siding, 1.3 miles east of, 175 feet east of road crossing, milepost 41, in base of telegraph pole; railroad spike marked "U. S. 846 B. M.".....	845.48
Estes siding, 0.25 mile east of, 30 feet west of road crossing, 70 feet south of track, south side of road; iron post stamped "841 Wash 1916".....	840.393
Estes siding, top of nearest rail opposite signboard.....	834.9
Estes siding, 0.7 mile west of, 50 feet north of track, milepost 43, in base of telegraph pole; railroad spike marked "U. S. 787 B. M.".....	787.12
Estes siding, 1.72 miles west of, 50 feet north of track, milepost 44, in base of telegraph pole; railroad spike, marked "U. S. 760 B. M.".....	759.27
Sulphur Lake, 0.15 mile east of, 35 feet east of milepost 45, 30 feet south of track, on basalt rock; aluminum tablet stamped "741 Wash 1916".....	740.177
Sulphur, 40 feet east of signboard, 40 feet north of track, milepost 46; in base of telegraph pole; railroad spike, marked "U. S. 762 B. M.".....	761.97
Sulphur, top of nearest rail opposite signboard.....	763.5
Sulphur, 1 mile west of, 70 feet east of milepost 47, 20 feet north of track, top of emergency rail stand; copper nail, marked "U. S. 769 B. M.".....	768.65
Sulphur, 2 miles west of, 50 feet north of track, milepost 48, in base of telegraph pole; railroad spike, marked "U. S. 776 B. M.".....	775.15

Sulphur, 3 miles west of, 50 feet south of track, 70 feet south of milepost 49, in line with fence; iron post stamped "785 Wash 1916".....	Feet. 784.395
Curry, 1 mile east of, 50 feet north of track, milepost 50, in base of telegraph pole; railroad spike, marked "U. S. 795 B. M.".....	794.30
Curry, 130 feet east of signboard, 10 feet north of track, top of emergency rail stand; copper nail marked "U. S. 820 B. M.".....	819.49
Curry, top of nearest rail, opposite signboard.....	818.1
Curry, 1 mile west of, 140 feet east of milepost 52, 6 feet north of track, in circle of paint; point on basalt rock, painted "U. S. 855 B. M.".....	855.12
Connell, Oregon-Washington R. R. & Navigation Co. depot, top of nearest rail opposite operator's window.....	840.3
Connell station, 0.33 mile southwest of the new Northern Pacific Ry. depot, at former depot site, 16 feet southeast of center of track; iron post stamped "838 T" (B. 557 p. 28).....	837.806
From Connell north along Northern Pacific Ry. to Emery.	
Connell, Northern Pacific Ry. depot, top of nearest rail opposite operator's window.....	840.4
Connell, 1.37 miles north of, 70 feet south of milepost 109, 6 feet east of Northern Pacific Ry. track, north end of trestle 209; copper nail, painted "U. S. 852 B. M.".....	851.56
Connell, 2.48 miles north of, 470 feet north of milepost 108, 5 feet east of Northern Pacific track, south end of trestle 205; copper nail, painted "U. S. 863 B. M.".....	863.35
Milepost 107, 0.2 mile south of, 330 feet south of whistle post, center of track; copper nail in tie.....	876.16
Emery, 0.59 mile south of, north end of concrete bridge 197, west side of track, top of concrete abutment; chiseled square painted "U. S. 904 B. M.".....	904.48
Emery, 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".....	923.889
From point 1.4 miles south of Emery northwest along Northern Pacific Ry. to west border of quadrangle near Shano Spur.	
Connell, 3 miles northwest of, 180 feet southeast of milepost 3, east of Connell northern track, top of emergency rail stand; copper nail, painted "U. S. 972 B. M.".....	972.47
Connell, 4 miles northwest of, 60 feet east of milepost 4, north of track, top of emergency rail stand; copper nail painted "U. S. 1020 B. M.".....	1,019.94
Connell, 5 miles northwest of, 0.1 mile east of east end of switch, west end of trestle No. 8, north side of track; copper nail in top of abutment painted "U. S. 1070 B. M.".....	1,069.85
Frischneckt Spur, 300 feet south of signboard, 50 feet west of railroad track, south side of road; iron post stamped "1109 Wash 1916".....	1,108.577
Frischneckt Spur, 0.8 mile northwest of, 400 feet northwest of milepost 7, east side of track, top of emergency rail stand; copper nail painted "U. S. 1103 B. M.".....	1,103.10
Frischneckt Spur, 1.73 miles northwest of, 70 feet east of milepost 8, east side of track, top of emergency rail stand; copper nail, painted "U. S. 1113 B. M.".....	1,112.90
Franklin-Adams county line, top of nearest rail, opposite signpost.....	1,137.3
Frischneckt Spur, 2.58 miles northwest of, 0.2 mile southeast of milepost 9, east side of track, top of emergency rail stand; copper nail painted "U. S. 1151 B. M.".....	1,151.32

Shano Spur, 0.7 mile southeast of, 200 feet southeast of milepost 10, west side of track, top of emergency rail stand; copper nail, painted "U. S. 1211 B. M."	Feet. 1, 211. 02
Shano Spur, top of nearest rail opposite signboard.....	1, 227. 1
Shano Spur, 0.34 mile northwest of, 200 feet southeast of milepost 11, east side of track, north side of road; iron post stamped "1226 Wash 1916" ..	1, 225. 708

COULEE CITY QUADRANGLE.

[Latitude 47° 30'-48°; longitude 119°-119° 30'.

From Sprague water tank north along Northern Pacific Ry. to Coulee City, thence west along highway to point near Baird.**Primary leveling in 1903 by R. A. Farmer.**

Milepost 8, 50 feet north of, west of track, iron post stamped "1522 T" ...	1, 523. 032
Milepost 5, 1,200 feet south of, 20 feet east of track; iron post stamped "1647 T"	1, 647. 436
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, 1.0 mile east of Baird; iron post stamped "2452 T"	2, 452. 612

From Elmira west along Northern Pacific Ry. to Coulee City.**Primary leveling by Philo Holbrook, jr., in 1903-4; unadjusted value closing 3.853 feet low.**

Hartline, on Northern Pacific Ry., east of station; iron post stamped "1911 T"	1, 907. 714
Hartline, 5.25 miles west of, at milepost 102; iron post stamped "1821 T" ..	1, 816. 726

COYOTE RAPIDS QUADRANGLE.

[Latitude 46° 30'-46° 45'; longitude 119° 30'-119° 45'.

From Locke School west along highways up left bank of Columbia River to Leslie's ranch.**Primary leveling in 1913 by D. S. Birkett and U. S. Corps of Engineers.**

Locke School, 1 mile west of, southeast corner of sec. 36, T. 15 N., R. 26 E., on north side of road. spike in base of large gate post, marked "U. S. 668 B. M."	667. 34
Wahluke, 1.8 miles down river from, at point where road reaches top of hill, 6 feet north of road; spike in base of mail-box post, marked "U. S. 661 B. M."	660. 64
T. 14 N., R. 26 E., southwest corner of sec. 2, 200 feet east of corner, 15 feet north of gate at private entrance to H. Glanzman's ranch; iron post stamped "441 Wash 1913"	440. 961
Wahluke, southeast corner of sec. 10, T. 14 N., R. 26 E., 10 feet west by 15 feet south of southeast corner of Koppen's ranch house, 200 feet north of river; iron post stamped "413" (U. S. Reclamation Service b. m., value= 413.075). (U. S. Engineers elevation, 412.36).....	412. 247

	Feet.
T. 14, N., R. 26 E., southeast corner of sec. 16; spike in base of corner fence post, marked "U. S. 407 B. M."	407. 26
Wahluke, 3.6 miles up river from, 200 feet north of river, 15 feet north of road, on top of boulder, point in circle of paint, marked "U. S. 403 B. M."	403. 29
Wahluke, 4 miles up river from, 300 feet north of river, 40 feet south of road, on slight rise 0.2 mile upstream from line of east-west fence, witnessed by pile of stone 1.5 feet high; iron post stamped "409 Wash 1913"	408. 408
Coyote Rapids pumping station, across river and a little upstream from nail in top of log, marked "408"	413. 01
Haven, 1.2 miles downstream from, north of road spike in base of gate post, marked "U. S. 404 B. M."	413. 52
Haven, northeast corner of sec. 3, T. 13 N., R. 25 E., on south side of school house steps, on top step; aluminum tablet stamped "469 Wash 1913"	471. 702
T. 13 N., R. 25 E., northwest corner of sec. 3. extreme head of irrigation ditch along pumping plant, on top of concrete wall on south side; chiseled square painted "U. S. 467 B. M."	470. 28
Haven School, 2 miles west of, on river road, 200 feet north of river, on south side of road. spike in base of gate post of corral gate, marked "U. S. 417 B. M."	416. 96
Leslie's ranch, 0.7 mile downstream from, opposite white house, 60 feet north of river, 20 feet south of road, on top of large boulder; point in circle of paint, marked "U. S. 413 B. M."	412. 61
Leslie's ranch house or Pete Reese log cabin, 700 feet east by 500 feet south of, in NE. $\frac{1}{4}$ sec. 6, T. 13 N., R. 25 E., near edge of river, in top of large basalt boulder. aluminum tablet stamped "407, also 406.610" (Reclamation Service b. m.)	406. 209
Leslie's ranch, 0.3 mile up river from, 300 feet north of river, 40 feet south of road, in line of old fence, spike in base of post, marked "U. S. 418 B. M."	417. 30

United States Engineers bench marks.

Jaeger's ranch, right (south) bank of river, on northeast corner of sill of windmill (U. S. Engineers b. m.)	424. 44
Hanford Irrigation & Pumping Co.'s pumping station bench mark on door sill (U. S. Engineers b. m.)	413. 88
Wahluke also Koppen's ranch, at southeast corner of sec. 10, T. 14 N., R. 26 E., 10 feet west by 15 feet south of Koppen's ranch house, 200 feet north of river (U. S. Reclamation Service b. m.) (Engineers elevation 412.36)	412. 247
Wahluke, across river from, in first bend of old wheel pumping plant, west of house; spike (U. S. Engineers b. m.)	396. 85
This bench mark, not shown on topographic map, was established by U. S. Reclamation Service and recovered by D. S. Birkett.	
Leslie's ranch house, 700 feet east by 500 feet south of, in NE $\frac{1}{4}$ sec. 6, T. 13 N., R. 25 E., near edge of river, in top of large basalt boulder: aluminum tablet stamped "407" (also stamped 406.610 by Reclamation Service)	406. 209

DAVENPORT QUADRANGLE.

[Latitude 47° 30'-48°; longitude 118°-118° 30']

From Canyon schoolhouse west down Spokane and Columbia rivers to Creston.

Primary leveling in 1903 by Philo Holbrook, jr.

Canyon schoolhouse, 100 feet from, beside road; iron post stamped "1285 T"	1, 282. 211
Halfway House on country road, 400 feet north of barn, near road to Davenport 15 miles distant; iron post stamped "1553 T"	1, 550. 745

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. 1,236.331
Fort Spokane, 0.5 mile south of, on bench alongside of road running east and west in sec. 29, T. 28 N., R. 36 E.; iron post stamped "1672 T".....	1,669.920
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".....	1,537.735

From Creston east along Northern Pacific Ry. to Mondovi

Fellows station; iron post stamped "2329 T".....	2,326.701
Rocklyn station; iron post stamped "2385 T".....	2,382.941
Davenport; iron post stamped "2408 T".....	2,405.619

DUNGENESS QUADRANGLE.

[Latitude 48°-48° 15'; longitude 123°-123° 15'.]

From Reeveton along highways to Dungeness Lighthouse and return.

Primary leveling by R. C. Seitz in 1917.

Port Angeles, 10.10 miles east of, 0.35 mile west of Reeveton, at T road south; in base of telephone pole; spike, painted "U. S. 169 B. M.".....	169.64
Reeveton station, about 450 feet east of, 30 feet south of railroad crossing; iron post stamped "Prim. Trav. Sta. No. 14 160 1917".....	160.326
Reeveton, in front of station; top of rail.....	159.1
Reeveton, 0.50 mile east of, in base of first telephone pole west of small irrigation ditch; spike, painted "U. S. 172 B. M.".....	172.51
Reeveton, 1.55 miles east of, on south side of road, in base of telephone pole; spike, painted "U. S. 161 B. M.".....	161.37
T road south.....	140.8
Reeveton, 2.55 miles east of, 1,300 feet east of T road south, 1,300 feet west of yellow house, in base of telephone pole; spike, painted "U. S. 131 B. M.".....	131.311
Reeveton, 3.55 miles east of, 6.10 miles southwest of Dungeness, on north side of road, at T road south to Cookburg; iron post stamped "Prim. Trav. Sta. No. 15 125 1917".....	125.386
Reeveton, 3.75 miles east of, 4.90 miles southwest of Dungeness, at bend in road, in base of telephone pole; spike, painted "U. S. 121 B. M.".....	121.477
Dungeness, 3.75 miles southwest of, in front of R. Dickinson's house, in southeast corner of floor of bridge; roofing nail, painted "U. S. 72 B. M.".....	72.86
Dungeness, 2.80 miles south of, 1,200 feet south of junction of roads, about 100 feet above foot of grade, in base of fence post; spike, painted "U. S. 62 B. M.".....	62.07
Dungeness, 2.00 miles south of, in southeast angle at crossroads, in root of 14-inch spruce tree; roofing nail, painted "U. S. 101 B. M.".....	101.11
Dungeness, 1.15 miles south of, in southwest angle at junction of roads, in base of telephone pole; spike, painted "U. S. 48 B. M.".....	48.91
Dungeness, west of (at old town of Dungeness), in southwest angle at junction of roads, in base of telephone pole; spike, painted "U. S. 49 B. M.".....	49.46
Dungeness, about 2 miles north of, on spit, in base of telephone pole; spike, painted "U. S. 20 B. M." (erroneously painted).....	5.54
New Dungeness Lighthouse, on southeast corner, in east side of top stone of foundation; center of a 2.5-inch cross within a 4-inch circle (established by Lieut. Com. A. S. Snow, 1884) (U. S. C. & G. S. b. m. 1). Elevation above mean low water 14.42 ft.; above mean tide level 9.82 ft. based on 52 high and 54 low waters.....	8.78

	Feet.
Dungeness Lighthouse, 1.05 miles west of; nail in log, painted "U. S. Z B. M."	6.38
Dungeness Lighthouse, 2.24 miles west of; nail in log, painted "U. S. Y B. M."	8.14
Dungeness Lighthouse, 3.42 miles west of, nail in log; painted "U. S. X B. M."	7.34
Logging railroad trestle, at west end of; top of rail	8.8
Dungeness Lighthouse, 4.70 miles west of, 450 feet south of west end of logging railroad trestle, 10 feet east of track; top of small stump; roofing nail, painted "U. S. 10 B. M."	8.61
Top of east rail at road crossing	87.2
Dungeness Lighthouse, 5.80 miles west of, Old Port Angeles-Dungeness road crossing, in base of signpost; spike, painted "U. S. 118 B. M."	117.25
Dungeness Lighthouse, 5.80 miles west of, Old Port Angeles-Dungeness road crossing, 10 feet south of road, 30 feet east of railroad; iron post stamped "Prim. Trav. Sta. No. 16 121 1917"	119.981
Reeveton, 3.05 miles east by 0.90 mile north of, 7 miles southwest of Dungeness Lighthouse, 20 feet west of railroad, in base of 36-inch fir tree; roofing nail, painted "U. S. 113 B. M."	111.66

EATONVILLE QUADRANGLE.

[Latitude 46° 30'-47°; longitude 122°-122° 30']

At Cinebar.

Primary leveling in 1910 and 1913 by E. M. Bandli.

Silver Creek, 7.1 miles northeast of, 27 feet southeast of road intersection, on tree stump; copper nail marked "883.7"	883.74
Cinebar, 66 feet northeast of corner of school yard, in northeast corner of crossroads; iron post stamped "Prim. Trav. Sta. No. 46, 910"	910.074
Cinebar, 0.4 mile west from schoolhouse, 27 feet southeast of road intersection, in tree stump; copper nail marked "883.7"	883.76
From point near Mossyrock east along highway to Riffe (leveled twice).	
Mossyrock, 0.9 mile west of, 18 feet south of road, in base of telephone pole; copper nail marked "617.7"	616.75
Mossyrock, 20 feet south of road, near fence, 200 feet southwest of post office; iron post stamped "668"	666.918
Mossyrock, 0.9 mile east of, 18 feet south of road, 25 feet southwest of culvert, in base of telephone pole; copper nail marked "700.4"	699.49
Mossyrock, 1.9 miles east of, 15 feet south of road and 30 feet east of private road intersection, in telephone pole; copper nail marked "738.673"	737.82
Mossyrock, 2.9 miles east of, 100 yards southeast of Y road intersection, 6 feet north of flagpole in yard of Richland school, district 206, ward 8; iron post stamped "793"	792.517
Riffe, 2.8 miles west of, 20 feet south of road, in root of 2-foot maple tree; copper nail marked "789.2"	788.35
Riffe, 2 miles west of, 50 feet northeast of bridge, 8 feet north of road, in top of 4-foot cedar stump; copper nail marked "563.5"	562.62
Riffe, 1.1 miles west of, 5 feet north of road, in top of 3½-foot cedar stump; copper nail marked "506.7"	505.85
Riffe, 220 feet west of post office, 25 feet north of road, 30 feet west of road intersection; iron post stamped "534"	532.889
From Riffe northeast along highway to Morton, thence southeast to Kosmos (part of circuit).	
Riffe, 0.9 mile west of, 10 feet south of road, in root of 10-inch maple tree; copper nail marked "565.2"	564.35

Riffe, 2.1 miles north of, 2 feet from west end of bridge, on north side of road, in root of hemlock tree; copper nail marked "897.4".....	Feet. 878. 60
Morton, 5.3 miles west of, on west edge of road, in root of 6-foot cedar tree; copper nail marked "1173.8".....	1, 173. 09
Morton, 4.4 miles southwest of, at summit, 15 feet west of school and 3 feet north of flagpole, 100 feet south of road; iron post stamped "1329".....	1, 328. 174
Morton, 3.2 miles southwest of, 4 feet northwest of road, on small hill, in bottom of telephone pole; copper nail marked "1045.8".....	1, 045. 03
Morton, 1.9 miles southwest of, 50 feet west of Mrs. Stout's front gate, west of road, in bottom of telephone pole; copper nail marked "1005.9".....	1, 005. 18
Morton, 1 mile southwest of, 6 feet east of T road intersection, southeast of Morton cemetery, in root of B. T. 1 4 S. No. 32; copper nail marked "929.5".....	928. 76
Morton, 18 feet south of railroad and street intersection, 3 feet east of telephone pole, 100 yards east of Morton Hotel; iron post stamped "945.3".....	944. 652
Morton, 1.2 miles east of, 10 feet south of road, 150 feet northeast of residence, in base of telephone pole; copper nail marked "972.5".....	971. 82
Morton, 2.3 miles south of, on northeast edge of road, in root of 18-inch fir tree; copper nail marked "997.5".....	996. 83
Morton, 2.6 miles south of, in angle of T road intersection, in corner of F. Harper's place, 100 feet southwest from house; iron post stamped "988".....	987. 132
Morton, 3.7 miles south of, on west edge of road, in root of 18-inch alder tree; copper nail marked "1020.3".....	1, 019. 62
Morton, 4.4 miles south of, on west edge of road, in root of 4.5-foot hemlock tree, 100 feet south of Y road; copper nail marked "1050.9".....	1, 050. 19
Morton, 5.2 miles south of, on south edge of road, in root of 5-foot cedar tree; copper nail marked "1027.9".....	1, 027. 27
Morton, 6 miles south of, on northwest edge of road, in root of 5.5-foot fir tree; copper nail marked "965.2".....	964. 54

From Morton northeast along Tacoma Eastern R. R. and highway to Park Junction (leveled twice).

Morton, 1 mile north of, 15 feet east of track, in root of 4-foot hemlock tree; copper nail marked "958.5".....	957. 80
Morton, 2.1 miles north of, 15 feet west of road and track intersection, in bottom of railroad crossing sign; copper nail marked "1009.1".....	1, 008. 49
Morton, 3 miles north of, 840 feet north of Lindburg, 15 feet south of west end of bridge GG 98; iron post stamped "1052".....	1, 051. 376
Morton, 3.3 miles north of, 10 feet south of track, in root of 2-foot hemlock stump; copper nail marked "1082.9".....	1, 082. 27
Morton, 4.4 miles north of, at Inland stop, 3 feet west of track, on pier of bridge GG 96 at south end; copper nail marked "1209.1".....	1, 208. 48
Morton, 5.6 miles north of, 3 feet northwest of track, on top of sixth pier from southwest end of bridge GG 94; copper nail marked "1345.7".....	1, 345. 14
Mineral, 7.2 miles south of, 15 feet southwest of center line at road crossing, 45 feet west of bridge GG 92; iron post stamped "1475".....	1, 474. 896
Mineral, 6.5 miles southwest of, 3 feet northwest of track, on stringer of bridge GG 88; copper nail marked "1541.8".....	1, 541. 27
Mineral, 5.6 miles southwest of, 80 feet southwest of cook house, on Peterman's spur, 7 feet west of track and about 4 feet northeast of telephone pole; iron post stamped "1636".....	1, 635. 555
Mineral, 5.1 miles southwest of, 3 feet east of track, in top of low 16-inch stump, in circle of paint; copper nail marked "1664.8".....	1, 664. 36

	Feet.
Mineral, 4.1 miles southwest of, 15 feet west of track, 4 feet south of telephone pole, 60 feet south of Pennsylvania Coal Co.'s office; iron post stamped "1681".....	1, 680. 546
Mineral, 3.1 miles south of, 6 feet west of track, on timber pier of bridge GG 82; copper nail marked "1595.9".....	1, 595. 46
Mineral, 2 miles southwest of, at T-road crossing, 35 feet west of track near sawmill, in root of 2.5-foot fir stump; copper nail marked "1537.8"....	1, 537. 37
Mineral, 1.2 miles southwest of, 10 feet west of track, 12 feet north of road, in root of 2.5-foot hemlock tree; copper nail marked "1467.7".....	1, 467. 32
Mineral, 15 feet south of track, 50 feet southeast of station, 3 feet west of crossing sign opposite water tank; iron post stamped "1439".....	1, 438. 934
Mineral, 1 mile west of, 15 feet east of track, in top of 16-inch hemlock stump; copper nail in circle of paint marked "1373.1".....	1, 372. 63
Park Junction, 1.9 miles east of, 6 feet from crossing sign and 6 feet from track, in top of pile near river; copper nail marked "1333.3".....	1, 332. 88
Park Junction, 0.3 mile south of, 3 feet north of telephone pole 0-31, 30 feet south of road, 30 feet northeast of Nisqually River railroad bridge, 18 feet east of track; iron post stamped "1337".....	1, 336. 033
From Kapowsin south and east along Tacoma Eastern R. R. to Elbe (double-rodged line).	
Electron, 0.5 mile west of, 20 feet east of track, 9 feet south of road, 4 feet west of corner between secs. 5 and 32, Tps. 17 and 18 N., R. 5 E.; iron post stamped "583".....	582. 768
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".....	629. 610
Holz, 18 feet northeast of station, 13 feet northwest of track; iron post stamped "564".....	563. 530
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".....	553. 938
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. 179
Lagrande, 18 feet east of railroad, 15 feet north of road in front of post office and Hotel Lagrande; aluminum tablet stamped "942".....	941. 554
Lagrande, 3.2 miles southeast of, west of track, in stump; copper nail....	994. 64
Lagrande, 3.6 miles southeast of, southwest end of trestle; copper nail....	1, 014. 16
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. 387
Alder, 1 mile east of, 4 feet south of track, in stump; copper nail.....	1, 246. 02
Alder, 2.2 miles east of, 9 feet south of track, in large stump; copper nail marked "1266.1".....	1, 265. 73
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, 206. 873
Alder, 4 miles east of, 4 feet northeast of track, in stump at curve; copper nail.....	1, 174. 02
Alder, 5.4 miles east of, at road crossing, 50 feet northeast of track, 15 feet north of road, in stump; copper nail marked "1173.3".....	1, 172. 95
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. 077

From Elbe east along Tacoma Eastern R. R. to Ashford (from a double-rodged line redetermined by a single line).

Elbe, 1 mile east of, 30 feet north of track, in root of 3.5-foot fir stump; copper nail.....	Feet. 1,363.34
Park Junction, 0.25 mile east of, 20 feet east of switch, 10 feet north of track, in root of cedar stump; iron spike marked "1344.1".....	1,343.69
Elbe, 3.6 miles east of, 15 feet north of track, in top of stump; copper nail marked "1386.2".....	1,385.84
Elbe, 4.5 miles southeast of, 15 feet south of track, 3 feet northwest of telegraph pole near logging camp; iron post stamped "1439".....	1,438.254
Elbe, 5.6 miles east of, 6 feet south of track, in top of stump; copper nail marked "1514.2".....	1,513.79
Ashford, 1.5 miles west of, 10 feet northwest of track, in top of 3-foot black stump; copper nail marked "1599.2".....	1,597.28
Ashford, 0.25 mile west of, at road crossing, in stump; copper nail marked "1737.58".....	1,737.11
Ashford, 12 feet south by 20 feet west of T-road intersection to south; iron post stamped "1771".....	1,770.869

ELLENSBURG QUADRANGLE.

[Latitude 46° 30'-47°; longitude 120° 30'-121°.]

From Ellensburg along Northern Pacific Ry. to Thrall and from Wenas to Yakima.

Precise leveling by the U. S. Coast and Geodetic Survey.

Ellensburg, in stone foundation of Northern Pacific roundhouse, on west side of building, 8 meters south of northwest door; bottom of square hole, lettered "U. S. B. M." (C. & G. S. "Q ₁ ").....	1,516.116
Ellensburg, in north stone front of Washington State Bank, 1.25 meters above sidewalk; red metal disk (C. & G. S. "R ₁ ").....	1,536.841
Ellensburg, in yard surrounding residence of Ernest Maddux, 1.33 meters from east fence, 1.15 meters north of south fence; red metal cap on iron pipe (C. & G. S. "S ₁ ").....	1,514.974
Thrall, opposite mile pole 122, 20 meters south of nearest rail, 10 meters north of wagon road; red metal cap on iron pipe (C. & G. S. "T ₁ ").....	1,428.324
Wenas, 75 meters west of station, opposite mile pole 94, 10 meters north of nearest rail; red metal cap on iron pipe (C. & G. S. "Y ₁ ").....	1,097.734
Yakima, in east Northern Pacific Ry. park, 6.1 meters east of west fence inclosing the park; red metal disk on top of iron pipe (C. & G. S. "Z ₁ ").....	1,065.198
Yakima, in vertical face of stone wall at northeast corner of Sloan's drug store, 0.32 meter east of door, 0.33 meter from edge of wall, 1.2 meters above sidewalk; red metal disk (C. & G. S. "A ₂ ").....	1,067.730
Yakima, on east side of First National Bank building, in upper surface of stone doorsill of stairway entrance, 0.18 meter from outer edge of doorsill; copper bolt lettered "U. S. B. M." (C. & G. S. "B ₂ ").....	1,062.701
Yakima, in surface of cement walk leading from residence of Mrs. Moore, 222 North Second Street, to sidewalk, 2.7 meters west of sidewalk, 0.61 meter south of north edge of cement walk; red metal disk (C. & G. S. "C ₂ ").....	1,068.761

From Ellensburg southeast along Northern Pacific Ry. to Thrall.

Precise leveling in 1898 by H. S. Crowe.

Ellensburg, in front of telegraph office, top of rail.....	1,510.6
Ellensburg, in top of brick pier with stone coping in State Normal School grounds; bronze tablet stamped "1571 T".....	1,571.604
Thrall siding; base of rail center of main line.....	1,442.2

From Elah southwest along Northern Pacific Ry. to Yakima, thence southeast to Old Yakima.

	Feet.
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".....	1,090.493
Yakima, opposite station, in pilaster of northwest corner of entrance to city hall on Front Street; aluminum tablet stamped "1067 T".....	1,067.392
Yakima, in front of station; top of rail.....	1,067.5

From Ellensburg west along road through Manastash Canyon to T. 17 N., R. 16 E.

Primary leveling in 1899 by H. K. Kalloch.

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".....	1,546.648
T. 17 N., R. 17 E., sec. 15, first ranch in Manastash Canyon, 350 feet southwest of house, 35 feet southwest of gate, 15 feet north of road; iron post stamped "2135 T".....	2,134.880
T. 17 N., R. 16 E., sec. 13, 3 feet east of northeast corner of 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".....	2,731.196

From 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".....	2,387.339
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".....	2,837.264
T. 16 N., R. 17 E., sec. 5, summit of pass between Umptanum and Wenas creeks, 12 feet south of road; iron post stamped "3128 T".....	3,128.084
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".....	2,266.550
T. 16 N., R. 17 E., sec. 32, 65 feet north of east gate to barn of Burge's ranch, 500 feet northwest of house, 5 feet south of road, in small group of young trees; iron post stamped "2008 T".....	2,008.589
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".....	1,883.841
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 Yakima via Selah Valley, 2 feet north of fence and 15 feet south of Naches River road; iron post stamped "1622 T".....	1,622.206
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".....	1,318.315

From Quinn's Road on Wenas Creek southwest across bridge to Naches River, thence southeast to Yakima.

T. 14 N., R. 17 E., north side of sec. 2, summit of pass between Wenas Creek and Naches River, 25 feet southwest of road; iron post stamped "1917 T".....	1,917.321
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".....	1,502.421

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".....	Feet. 1, 331. 316
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, 181. 009

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. 676
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. 242
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, 855. 049
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. 304
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. 328

Southwest up Tieton River from mouth to T. 14 N., R. 15 E.

T. 14 N., R. 16 E., 258 feet S. 12° 30' E. of quarter corner between secs. 2 and 3; iron post stamped "1681 T". (Reset by W. C. Richings, engineer of Yakima, Wash.).....	1, 704. 819
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. 904

From Naches River west up Cowiche Creek and east down Atanum Creek to Old Yakima.

T. 13 N., R. 17 E., sec. 3, 60 feet northeast of low point of divide between North and South forks of Cowiche Creek, outside of wire fence, 30 feet northwest of main road; iron post stamped "1570 T".....	1, 570. 362
T. 14 N., R. 17 E., sec. 31, lane leading to Oak Grove creamery, 10 feet west of gate, 3 feet south of fence; iron post stamped "1824 T".....	1, 823. 734
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, 204. 008
T. 13 N., R. 16 E., in northwest corner of sec. 18, 100 feet west of forks of main road with road to Louis Christensen ranch, 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. 913
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. 485

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"	Feet. 2, 462. 335
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. 367
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. 202
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. 725
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. 295

From 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 steeple rock about 75 feet wide and 250 feet high; iron post stamped "2236 T" ..	2, 237. 180
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Bench marks established by the United States Reclamation Service.

T. 13 N., Rs. 17 and 18 E., quarter corner between secs. 19 and 24, 8 miles west of 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. 210
T. 14 N., R. 16 E., 30 feet southwest of northeast corner of 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 ranch house, 0.5 mile north of North Fork schoolhouse; iron post stamped "1971"	1, 971. 128
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. 208
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 inside southeast corner of fence; iron post stamped "1957 T"	1, 957. 111
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" ..	1, 872. 163
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. 231

EPHRATA QUADRANGLE.

[Latitude 47° 15'–47° 30'; longitude 119° 30'–119° 45'.

From Winchester northeast along Great Northern Ry. to milepost 1593.

Primary leveling in 1903 by R. A. Farmer and in 1909 by C. H. Semper.

Milepost 1605, 200 feet east of, south of track, in base of west post of emergency rail support; spike	1, 320. 03
Milepost 1603, 1,100 feet east of, 30 feet north of track, in top of boulder; aluminum tablet stamped "1261 T"	1, 262. 035

	Feet.
Milepost 1601, top of stake at foot of (railroad engineers' bench mark).....	1, 246. 66
Ephrata, southwest corner of Mercantile Co.'s store, 6 feet west of; iron post stamped "1273 T"	1, 272. 715

From 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, 274. 199
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. 547

From Ephrata south along road 5 miles.

Ephrata, 3.7 miles south of, at curve in road to south, about half way uphill, 5 feet east of road, in top of large granite boulder; aluminum tablet....	1, 283. 102
Ephrata, 4.9 miles south of, on west margin of road, on large rock; marked "U. S. □ B. M. 1270"	1, 270. 53

FORDNAH QUADRANGLE.

[Latitude 46° 30'-46° 45'; longitude 119° 15'-119° 30'.]

From Ringold northwest along highway up left bank of Columbia River to Locke School.

Primary leveling in 1913 by D. S. Birkett and U. S. Corps of Engineers.

Ringold schoolhouse, 0.6 mile south of, at junction of river and post-office roads, southwest corner; spike in base of fence post, marked "U. S. 433 B. M."	433. 09
T. 12 N., R. 28 E., in sec. 24, at northwest corner of Ringold schoolhouse yard, 15 feet east of corner; iron post stamped "392 Wash 1913"	391. 987
Ringold School, 0.9 mile northwest of, 0.5 mile south of Nagel's house, on private road down river, on east side of entrance to alfalfa field; spike in gate post, marked "U. S. 374 B. M."	374. 50
Ringold School, 1.5 miles northwest of, 300 feet south of house on Nagel's ranch, on power-line pole in front of pumping plant; spike in base of pole, marked "U. S. 380 B. M."	379. 75
Ringold School, 2.5 miles north of, 200 feet east of river road, at intersection of river road and road to east; spike in base of line pole, marked "U. S. 406 B. M."	405. 75
Hanford, 4.9 miles south of, on east side of river, 40 feet west of river road, 40 feet east of pumping plant on Pioneer ranch; iron post stamped "388 Wash 1913"	388. 273
Hanford, 3.6 miles south of, on east side of river, at intersection of river road with road from west, 15 feet east of road; spike in base of telephone pole, marked "U. S. 423 B. M."	422. 70
Pioneer ranch, 1.9 miles north of, at mouth of deep ravine, 15 feet west of road; spike in base of gate post, marked "U. S. 418 B. M."	418. 18
Hanford, 2 miles south of, 2,000 feet east of river, on line between secs. 32 and 33, near northwest corner of sec. 33, T. 13 N., R. 29 E., near corner of O. G. Hall's field, 150 feet west of present road, 30 feet north of fence corner; iron post stamped "438 Wash 1913"	438. 297
Hanford, 0.6 mile south of, 0.7 mile east of river, northwest corner fence post at private road intersection; spike in base, marked "U. S. 428 B. M."	427. 95
Hanford Ferry, 0.5 mile east of, at intersection of Ferry road with road up river, in southwest corner; spike in base of large fence post, marked "U. S. 421 B. M."	421. 31



T. 13 N., R. 28 E., SE. $\frac{1}{4}$ sec. 19, 1 mile east of and across river from Hanford, on top of high bluff, 550 feet above river, in line with main street of Hanford, 250 feet east of point where cliff breaks off sharp; iron post stamped "931 Wash 1913".....	Feet. 931.276
T. 13 N., R. 28 E., southwest corner of sec. 18, near Bair's ranch house; spike in base of corner fence post, marked "U. S. 923 B. M.".....	923.22
T. 13 N., R. 27 E., southwest corner of sec. 12; spike in base of corner fence post, marked "U. S. 890 B. M.".....	889.73
T. 13 N.; R. 27 E., northwest corner of sec. 12, 30 feet south of present fence corner; iron post stamped "840 Wash 1913".....	839.386
T. 13 N., R. 27 E., northeast corner of sec. 2; spike in base of large fence post, marked "U. S. 745 B. M.".....	745.34
White Bluffs, 2.9 miles southeast of, 1.5 miles east of river, on west side of road; spike in base of gate post, marked "U. S. 700 B. M.".....	700.15
T. 14 N., R. 27 E., probably southwest corner of sec. 26, 30 feet north by 30 feet east of corner of fence; iron post stamped "684 Wash 1913".....	684.149
White Bluffs, 1 mile southeast of, 0.6 mile east of river, at point where road east from Bluffs reaches top of hill, 300 feet south of homestead shack, fork of roads, one leading up river; spike in base of corner fence post, marked "U. S. 661 B. M.".....	660.93
White Bluffs, southeast corner of Nelson and Almond streets; bench mark on telegraph pole (U. S. Engineers b. m.).....	390.19
White Bluffs, 225 feet northwest of saloon, on Walnut Street; wire pin bent over on top of 4-foot post (U. S. Engineers b. m.).....	391.16
White Bluffs, 3 miles upstream from, 0.3 mile east of edge of bluff, 5 feet south of present wagon road through sand dunes, witnessed by large loose granite boulder on west of road; iron post stamped "662 Wash 1913".....	661.366
T. 14 N., R. 27 E., northwest corner of sec. 9, 75 feet south of homestead shack; spike in base of post, marked "U. S. 678 B. M.".....	678.21
Locke schoolhouse, 0.4 mile south of, in very large gate post; spike in base, marked "U. S. 660 B. M.".....	659.49
Locke schoolhouse (district No. 84), 40 feet north by 30 feet east of school building, in yard, at northeast corner of sec. 6, T. 14 N., R. 27 E.; iron post stamped "674 Wash 1913".....	674.328

Near northwest corner of quadrangle.

Leveling in 1916 by D. S. Birkett.

T. 14 N., R. 27 E., northwest corner of sec. 6, south side of road, corner fence post; copper nail in base of; painted "U. S. 667 B. M.".....	666.27
Locke schoolhouse (district 84), 40 feet north by 30 feet east of school building, in yard, at northeast corner of sec. 6, T. 14 N., R. 27 E.; iron post stamped "674 Wash 1913".....	674.328
Locke schoolhouse (district 84), 0.4 mile south of, in base of very large gatepost; spike marked "U. S. 660 B. M." (the gatepost is leaning badly).....	659.49

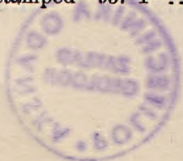
FORT SIMCOE QUADRANGLE.

[Latitude 46°-46° 30'; longitude 120° 30'-121°.]

From Parker siding along county road to Fort Simcoe.

Primary leveling in 1903 by C. E. Hill and R. B. Shaw.

Parker siding, 100 feet west of cattle guard of Northern Pacific Ry., 100 feet north of intersection of Toppenish and Fort Simcoe roads; iron post stamped "937 T".....	937,835
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Parker siding, 3 miles southwest of, 6 feet south of road; iron post stamped "923 T"	Feet. 923.866
Parker siding, 6 miles southwest of, 8 feet south of road; iron post stamped "912 T"	912.683
Parker siding, 9 miles southwest of, in road, between two wagon tracks; iron post stamped "867 T"	867.783
Bur Lake, 200 feet north of, 6 feet south of road, at turn in fence; iron post stamped "844 T"	844.608
Bur Lake: water level, Apr. 14, 1903	839
Luke ranch, corner of fence 10 feet north of road; iron post stamped "892 T"	892.272
Luke ranch, 3 miles southwest of, 10 feet south of road at fence corner; iron post stamped "988 T"	988.526
Simcoe Creek; water level under bridge, Apr. 20, 1903	991.76
Simcoe Creek bridge, 2 miles southwest of, at forks of road, 30 feet west of fence corner; iron post stamped "1075 T"	1,075.625
Fort Simcoe, in yard of Indian agent's residence, at northeast corner of fence; iron post stamped "1427 T"	1,427.619

From Fort Simcoe along county road and trail to Bush Creek.

Abraham Lincoln's ditch, at road crossing; water level, Apr. 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"	1,313.066
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".....	2,716.674
Reservation sawmill (abandoned), 0.6 mile southwest of, 4 feet west of road; iron post stamped "3077 T"	3,077.936
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"	3,417.014
Bush Creek, at road crossing; water surface, May 12, 1903	3,078.1

From Fort Simcoe along 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"	1,437.573
Simcoe Creek, at road crossing; water surface, May 25, 1903	1,236.99
Sam Abraham house, 15 feet southwest of southwest corner of, 7 feet west of road, at turn; iron post stamped "1351 T"	1,351.537
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"	1,615.615
Idleat Creek, 1 mile west of mouth of, 100 feet south of trail up ridge, on scab rock slope, small mound 80 feet in diameter; iron post stamped "2580 T"	2,580.648

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....	786.1
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-south fence; iron post stamped "785" ..	786.174
T. 10 N., R. 18 E., northeast corner of sec. 15 (Castile's bench mark 794.29).	793.9
T. 10 N., R. 18 E., northeast corner of sec. 10 (Castile's bench mark 795.94).	796.9
T. 10 N., R. 18 E., northeast corner of sec. 21	796.4
T. 10 N., R. 18 E., quarter corner east side of sec. 16	794.8
T. 10 N., R. 18 E., northeast corner of sec. 4; iron post stamped "803"	809.023

	Feet.
T. 11 N., R. 18 E., northeast corner of sec. 21; iron post stamped "868" ..	869.222
T. 12 N., R. 18 E., southeast closing corner of sec. 33; iron post stamped "970"	971.520

GATE QUADRANGLE.

[Latitude 46° 30'-47°; longitude 123°-123° 30'.]

From point 3 miles northwest of Centralia northwest along Northern Pacific Ry. to Gate, thence northeast to Littlerock.

Primary leveling in 1912-13 by E. M. Bandli.

Centralia, 4.5 miles northwest of, 9 feet southeast of private-road crossing, 5 feet east of track; iron post stamped "Prim. Trav. Sta. No. 22, 163, 1912"	163.084
Centralia, 5.4 miles northwest of, 10 feet east of track, 12 feet north of road, in railroad-crossing signpost; copper nail marked "161.3"	161.22
Centralia, 6.2 miles northwest of, 6 feet east of track, 25 feet north of road intersection; iron post stamped "Prim. Trav. Sta. No. 23, 162, 1912"	161.553
Centralia, 7 miles northwest of, 40 feet north of track and 30 feet northwest of road at crossing, in telephone pole; copper nail marked "161.7"	161.61
Centralia, 7.9 miles northwest of, in northeast corner of bridge crossing over private road; nail in circle of paint marked "160.8"	160.69
Centralia, 8.9 miles northwest of, 40 feet east of track, on telegraph pole; nail in circle of paint marked "159.2"	159.15
Centralia, 9.9 miles northwest of, 60 feet north of track near first milepost from Rochester, in gatepost of private road; copper nail marked "155.1" ..	155.03
Rochester, 90 feet west of station, 7 feet north of track; iron post stamped "Prim. Trav. Sta. No. 149, 1912"	148.673
Rochester, 0.5 mile west of, 10 feet north of track, 200 feet west of Milwaukee track, in railroad-crossing signpost; copper nail marked "141.9"	141.85
Rochester, 1.8 miles northwest of, 40 feet northeast of track, 10 feet east of private road at crossing, in stump; copper nail marked "113.3"	113.19
Gate, 0.2 mile northeast of, 10 feet north of track at Y; iron post stamped "Prim. Trav. Sta. No. 25, 122, 1912"	120.604
Gate, 1.4 miles northeast of, west of track, in telegraph pole; nail in circle of paint, marked "106.8"	106.66
Gate, 2.5 miles northeast of, 3 feet east of track, on northeast end of bridge; nail in circle of paint, marked "104.6"	104.50
Gate, 3.9 miles northeast of, 8 feet east of track, 20 feet southwest of road at crossing; iron post stamped "Prim. Trav. Sta. No. 26, 126, 1912"	125.736
Gate, 4.4 miles northeast of, on railroad-crossing signpost; copper nail in circle of paint, marked "134.5"	134.39
Gate, 5.7 miles northeast of, 40 feet north of track, on telephone pole; copper nail in circle of paint, marked "162.3"	162.22
Gate, 6.5 miles northeast of, 40 feet west of track, in telegraph pole; copper nail marked "144.6"	144.50
Littlerock, 60 feet north of station, 9 feet east of track at road crossing; iron post stamped "Prim. Trav. Sta. No. 27, 138, 1912"	137.608
Littlerock, 0.7 mile north of, 15 feet east of track, 15 feet south of road at crossing, in railroad-crossing signpost; copper nail marked "163.1"	162.97

GLACIER PEAK QUADRANGLE.

Latitude 48°-48° 30'; longitude 121°-121° 30'.

From Monte Cristo along Northern Pacific Ry. to point near Silverton.

Sauk River bridge, 60 feet west of west end of, 30 feet south of center of track, on 26-inch hemlock stump.	2 302.12
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Barlow Pass station, about 0.5 mile east of, 30 feet north of center of track. on hemlock stump with wide-spreading roots.....	Feet. 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

From 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 10-inch hemlock tree.....	2, 249. 64
Barlow Pass station, about 0.5 mile northeast of, on root of double hemlock tree having 24-inch and 30 inch trunks, 15 feet west of wagon road, at station 37+50 on Goat Lake electric line survey.....	2, 220. 64
Sauk River, junction of road from Barlow Pass with road along river on 28-inch hemlock tree.....	2, 202. 54
Sauk River, junction of road from Barlow Pass with road along river, about 1,600 feet north of, on west edge of wagon road, on 20-inch hemlock tree.....	2, 192. 62
County road milepost 29 about 800 feet south of, on west edge of road, on 30-inch hemlock tree.....	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 tree.....	2, 029. 80
Goat Lake wagon road, intersection with Sauk River road, on 5-foot cedar tree.....	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 tree.....	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 tree.....	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 tree.....	1, 645. 34
Elliott Creek, about 1 mile north of, west side of road, top of steep hill sloping north, on 48-inch hemlock tree.....	1, 578. 61
Milepost 25 about 1 mile south of, 30 feet east of right bank of river, 10 feet west of road, on 36-inch cedar tree.....	1, 498. 39
Milepost 25 50 feet north of, creek crosses under bridge about 12 feet above water, 5 feet west of road, on 15-inch alder tree.....	1, 370. 70
Orient, at junction of north and south forks of Sauk River about 140 feet southeast of meander corner on southwest bank of north fork meander corner is on line between secs. 9 and 16 T. 30 N., R. 11 E., in granite boulder 4 by 6 feet and 2.5 feet above ground, copper bolt stamped "1241".....	1, 243. 31
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 tree.....	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 36-inch hemlock tree.....	1, 098. 96

	Feet.
Milepost 21, about 20 feet north of, west side of road, on 36-inch cedar tree.	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 tree.....	1, 035. 44
Pugh ranch, 500 feet north of, west side of road, on 5-foot cedar tree.....	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, east side of road, on 30-inch hemlock tree.....	980. 81
McClellan ranch, 2,400 feet northwest of, 10 feet west of road, on 5-foot cedar tree.....	940. 9
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, west side of road, on 15-inch hemlock tree.	815. 42

From 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, 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

From 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

HICKSVILLE QUADRANGLE.

[Latitude 47°-47° 15'; longitude 119°-119° 15'.]

From Lind west along road and trail to Moses Lake (part of line).

Primary leveling in 1903 by R. B. Shaw.

T. 18 N., R. 30 E., 800 feet south of corner of sec. 34, 20 feet south of old McMoman trail, edge of Jake Bowers's field; iron post stamped "1144 T".....	1, 143. 466
T. 18 N., R. 30 E., probably 750 feet east of west quarter corner of sec. 21, 27.1 miles west of Lind, 75 feet west of old trail; iron post stamped "1153 T".....	1, 152. 683
T. 18 N., R. 29 E., 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. 806
Lind, 33 miles west of, 20 feet west of road, 100 feet north of forks in road, 600 feet east of north from small shanty; iron post stamped "1225 T" ..	1, 224. 712

¹This line closes 3 feet low and is unadjusted.

T. 19 N., R. 29 E., 20 feet west of center of sec. 22, 50 feet west of road through field; iron post stamped "1270 T".....	Feet. 1,269.872
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".....	1,188.769

In southwest part of quadrangle at end of single-spur line from Moses Lake.

T. 18 N., R. 28 E., southeast corner of sec. 13; iron post stamped "1139 Wash.".....	1,138.870
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From Northern Pacific Ry. east along township line near south border of quadrangle.

Leveling in 1916 by D. S. Birkett.

T. 17 N., R. 30 E., north side of sec. 4, 1.32 miles northwest of West Warden, 120 feet east of track, south side of road; iron post stamped "1172 Wash. 1916".....	1,171.912
T. 18 N., R. 30 E., southwest corner of sec. 34, 20 miles north of Warden crossroads, in base of telephone pole; railroad spike, painted "U. S. 1209 B. M".....	1,209.30
T. 18 N., R. 30 E., south side of sec. 34, road crossing Chicago, Milwaukee & St. Paul Ry.; top of rail.....	1,186.73
T. 17 N., R. 30 E., northwest corner of sec. 2, crossroads, in base of telephone pole; railroad spike, painted "U. S. 1183 B. M".....	1,183.03
T. 18 N., R. 30 E., southeast corner of sec. 35, T road north, corner fence post; railroad spike, painted "U. S. 1165 B. M.".....	1,164.81

From West Warden north along Northern Pacific Ry. 2.3 miles (single-spur line).

West Warden, 2.20 miles northwest of, 0.4 mile north of milepost 29, east side of track, top of emergency rail stand; copper nail, painted "U. S. 1157 B. M.".....	1,157.48
Ritell, 1 mile southeast of, 800 feet north of milepost 30, east side of track, top of emergency rail stand; copper nail, painted "U. S. 1135 B. M."..	1,135.36
Top of rail at road crossing.....	1,126.5

HUMPTULIPS QUADRANGLE. (Includes part of Hoquiam 15' quadrangle).

[Latitude 47°-47° 30'; longitude 123° 30'-124°.]

From point 2.3 miles northwest of Montesano north along highways to Wishkah.

Primary leveling in 1911 by G. L. Hagman.

Montesano, 2.3 miles northwest of, where road is crossed by small stream, on west side of road; spike in base of telephone pole, painted and scribed "U. S. B. M. 25".....	24.61
Montesano, 3.2 miles northwest of, on west side of road; spike in base of telephone pole, painted and scribed "U. S. B. M. 55".....	55.21
Montesano, 4.3 miles northwest of, at Black Creek Ferry, on west side of road, under maple tree; iron post stamped "43 Wa 1911".....	42.755
Montesano, 5.8 miles northwest of, at entrance to Mobray Farm; spike in base of gatepost, painted and scribed "U. S. B. M. 76".....	76.17
Montesano, 7 miles northwest of, opposite Taylor's residence, on west side of road; spike in base of fence post, painted and scribed "U. S. B. M. 58".....	57.73
Montesano, 8.2 miles northwest of, at northwest corner of private T road west; iron post stamped "74 Wa 1911".....	73.690
Montesano, 9.2 miles northwest of, on east side of road; spike in base of gatepost, painted and scribed "U. S. B. M. 77".....	77.06

Montesano, 10 miles northwest of, on west side of road, near small drain crossing; spike in base of burnt stump, painted and scribed "U. S. B. M. 144"	Feet. 143.86
Montesano, 10.5 miles northwest of, northwest corner of T road west; iron post stamped "154 Wa 1911"	154.174
Wishkah, 5.3 miles east of, at gate to Armstrong ranch; spike in base of gatepost, painted and scribed "U. S. B. M. 107"	106.85
Wishkah, 4 miles east of, south side of road; spike in base of hemlock tree, painted and scribed "U. S. B. M. 427"	427.54
Wishkah, 3 miles east of, north side of road near ridge top; copper nail in base of big fir stump, painted and scribed "U. S. B. M. 439"	439.34
Wishkah, 1.9 miles east of, on east side of road, where it makes sharp bend; spike in base of burnt stump, painted and scribed "U. S. B. M. 267"	266.67
Wishkah, 150 feet west of bridge over east fork of Wishkah River, at southwest corner of road forks; spike near top of stump, painted and scribed "U. S. B. M. 26"	25.83
Wishkah, steel bridge over Wishkah River, in top of southwest pier; aluminum tablet stamped "26, 1911"	26.389

From Aberdeen northeast along highways to Wishkah.

Aberdeen, 1 mile north of, south of road forks, on west side of road; spike in base of telephone pole, painted and scribed "U. S. B. M. 31"	30.66
Aberdeen, 2 miles north of, on east side of road; spike in base of telephone pole, painted and scribed "U. S. B. M. 21"	21.37
Aberdeen, 3 miles north of, 45 feet northeast of district school No. 10, on west side of road; iron post stamped "13 Wa 1911"	12.686
Aberdeen, 4 miles north of, on east side of road, at edge of river; spike in base of telephone pole, painted and scribed "U. S. B. M. 6"	5.65
Aberdeen, 5.2 miles north of, on east side of road; spike in base of telephone pole, painted and scribed "U. S. B. M. 8"	8.25
Aberdeen, 6.2 miles north of, 200 feet north of road leading to A. F. Coates Logging Co., 15 feet west of edge of planked road; iron post stamped "24 Wa 1911"	24.065
Aberdeen, 6.8 miles north of, on northeast corner of road forks; copper nail in root of big stump, painted and scribed "U. S. B. M. 67"	67.35
Aberdeen, 8 miles north of, 1,000 feet north of Monarch Co.'s log chute crossing road, on east side of road; spike in base of alder tree, painted and scribed "U. S. B. M. 16"	15.69
Wishkah, steel bridge over Wishkah River, in top of southwest pier; aluminum tablet stamped "26 1911"	26.389

From Hoquiam north along highways 11 miles (single-spur line).

Hoquiam, bridge over Hoquiam River, on west side of bridge, at north end, in top of pile; copper nail, aluminum tag stamped "13 7"	12.909
Hoquiam, 1 mile north of, at T road west, just south of Lincoln school, east side of road; spike in base of telephone pole, painted and scribed "U. S. B. M. 9"	9.083
Hoquiam, 2 miles north of, at mouth of Little Hoquiam River, at west end of bridge, 15 feet south of edge of road; iron post stamped "16 Wa 1911"	16.123
Hoquiam, 3 miles north of, where road turns slightly west, at east side of road; spike in base of telephone pole, painted and scribed "U. S. B. M. 7"	7.308
Hoquiam, 4 miles north of, west side of road; spike in base of telephone pole, painted and scribed "U. S. B. M. 7"	6.683

	Feet.
Hoquiam, 5 miles north of, south of junction of Humptulips and Moclips roads, in top of southeast pier of steel bridge; aluminum tablet stamped "10 Wa 1911"	9. 723
Hoquiam, 5.9 miles north of, near abandoned barn, east side of road; spike in base of telephone pole, painted and scribed "U. S. B. M. 14"	13. 805
Hoquiam, 6.9 miles north of, west side of road; copper nail in root of burnt stump, painted and scribed "U. S. B. M. 28"	27. 982
Hoquiam, 8 miles north of, 65 feet north of bridge over Hoquiam River, 9 feet east of edge of road; iron post stamped "42 Wa 1911"	42. 066
Hoquiam, 9.8 miles north of, on west side of road; spike near top of stump, painted and scribed "U. S. B. M. 276"	275. 643
Hoquiam, 10.7 miles north of, in southwest corner of road forks; iron post stamped "307 Wa 1911"	306. 900

JAMESON QUADRANGLE.

[Latitude 47° 30'-48°; longitude 119° 30'-120°.

Primary leveling in 1899 by E. M. Fry and in 1903 by R. A. Farmer.**From 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 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 east of northeast corner of fence, at 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

From 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, 2.5 miles west of Baird; 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 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

From Chelan southeast to Chelan Falls (spur line; elevations unreliable).

Coulee, at north end of, 48 feet east from 15-inch pine tree, near rock slide; top of rock 2 by 5 by 2 feet	1, 179. 40
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Chelan River, near head and on left of gulch opening into, near large rock bluff; top of rock.....	Feet. 996
Chelan Falls, at southwest corner of intersection of Chelan Avenue and First Street, near northeast corner of hotel; iron post stamped "764"....	733.702

KALAMA QUADRANGLE.

[Latitude 46°-46° 30'; longitude 122° 30'-123°.]

The elevations in the following list are from primary levels run with a yard rod and checked by side-rod readings in double yards. On account of excessive closure errors with later work, these elevations must be considered preliminary. (See Biggs levels in 1915 on same quadrangles.)

The leveling was done in 1913 by E. M. Bandli.

From Winlock south along Northern Pacific Ry. to Castlerock, thence east along highways to St. Helen.

Winlock, first road crossing north of, 10 feet west of track and 10 feet north of road; iron post stamped "308".....	307.660
Winlock, 0.8 mile southwest of, 50 feet south of railroad crossing, 10 feet west of track, on base of signal tower 68-9; circle of paint marked "278.0".....	278.04
Winlock, 1.8 miles southwest of, at Capital Mill spur, 9 feet west of track, on base of signal block; circle of paint marked "258.5".....	258.44
Winlock, 3.2 miles south of, 12 feet north of road and 15 feet west of track at railroad crossing; iron post stamped "206".....	205.458
Winlock, 4.5 miles south of, 30 feet east of track, in telegraph pole opposite pole 30-36; copper nail marked "183.6".....	183.51
Vader, 1 mile north of, 30 feet east of track, in telephone pole opposite station milepost; copper nail marked "158.3".....	158.25
Vader, in front of station; top of rail.....	141.5
Vader, 200 feet south of, 15 feet north of first road crossing, 30 feet west of main track, near railroad sign; iron post stamped "139".....	139.272
Vader, 1.2 miles south of, 15 feet east of track; tag in pole marked "127.8".....	127.73
Olequa, in front of station; top of rail.....	112.6
Olequa, opposite station at road crossing, 50 feet east from station, in corner fence post; copper nail marked "109.1".....	109.02
Cowlitz River, surface of water under Northern Pacific Ry. bridge; May 29, 1913.....	52.4
Olequa, 1 mile south of, in northeast corner of north pier of Northern Pacific Ry. bridge over Cowlitz River (bridge 9 5), 10 feet east of track, in top of pier; bronze tablet stamped "96".....	96.345
Olequa, 2.1 miles south of, 20 feet east of track, on first pole north of private-road crossing; copper nail marked "84.9".....	84.76
Olequa, 3 miles south of, 25 feet east of track, in telephone pole 22-36; copper nail marked "83.8".....	83.64
Olequa, 4 miles south of, on concrete base of block signal near private-road crossing; circle of paint marked "72.5".....	72.36
Toutle River, under Northern Pacific Ry. bridge; surface of water May 30, 1913.....	38.7
Olequa, 4.5 miles south of, at northeast corner of north pier of bridge 101 over Toutle River, 10 feet east of Northern Pacific Ry. track, in top of pier; bronze tablet stamped "69" (?).....	64.683
Castle Rock, 1.3 miles north of, on east side of track, in signal block foundation; copper nail marked "59.5".....	59.38
Castle Rock, 0.4 mile north of, at fork of road, 11 feet north of telephone pole 1496, 15 feet east of road; iron post stamped "120" (elevation by L. F. Biggs, 1915, from Vancouver=119.277).....	119.973

Castle Rock, 1.7 miles east of, along Silver Lake road, 20 feet from center of road, in telephone pole; copper nail marked "361.1"	Feet. 361.02
Castle Rock, 2 miles east of, 70 feet northeast of T-road intersection, in telephone pole; copper nail marked "448.8"	448.90
Castle Rock, 2.3 miles east of, 25 feet south of Y-road intersection, in telephone pole; copper nail marked "489.9"	489.03
Castle Rock, 4 miles northeast of, 10 feet south of road, 6 feet east of telephone pole; iron post stamped "566"	565.914
Castle Rock, 5 miles east of, 45 feet northeast of road intersection, in telephone pole; copper nail marked "591.0"	591.16
Silver Lake, 0.5 mile west of, 30 feet south of road, in telephone pole; copper nail marked "501.3"	501.42
Silver Lake, at high school, in southwest corner, 1.5 feet south by 1 foot east of corner; iron post stamped "519"	518.991
Silver Lake, 1 mile east of, 10 feet south of road, near Parker's mail box, on telephone pole; copper nail marked "500.5"	500.62
Silver Lake, 2 miles east of, 20 feet north of T-road intersection, at end of long bridge, in root of fir tree; copper nail marked "492.1"	492.19
Silver Lake, 3 miles east of, in front of Mange's house, 20 feet east of road to house, 10 feet south of highway; iron post stamped "491"	490.767
Silver Lake, 3.8 miles east of, at T-road intersection, in root on south side of big fir tree; copper nail marked "495.0"	495.08
Silver Lake, 4.6 miles east of, 30 feet north of T-road intersection, in root of fir tree; copper nail marked "490.6"	490.66
Toutle, 0.9 mile west of, 25 feet east of road at T-road intersection, near three mail boxes; iron post stamped "516"	515.832
Toutle River, near Toutle; surface of water June 6, 1913.	442.6
Toutle, 0.5 mile west of, north side of road fork to west, 30 feet west of county road, in top of cedar stump; copper nail marked "461.9"	461.94
Toutle, 100 feet southwest of post office, in telephone pole; copper nail marked "500.2"	500.24
Toutle, 0.7 mile east of, 20 feet northeast of T road north, in base of maple tree; copper nail marked "546.8"	546.90
Toutle, 0.7 mile east of, 25 feet south of county road, opposite T road north, 15 feet east of fir witness tree; iron post stamped "545"	545.316
Toutle, 1.7 miles east of, 10 feet south of center of county road, 10 feet west of fork of road north, in small alder tree; copper nail	570.43
Toutle, 3.7 miles east of, along county road, 20 feet northwest of crossroads, 3 feet northeast of Kid Valley signpost; iron post stamped "828"	828.099
Toutle, 5 miles east of, 12 feet north of road at curve, in top of 2-foot stump; copper nail marked "833.2"	833.46
Toutle, 6.4 miles east of, 10 feet north of road, near school building, on root of 18-inch fir tree; circle of paint marked "792.2"	792.44
Toutle, 7.7 miles east of, at end of Kid Valley road, at Chism's ranch, northeast of road, in top of 2½-foot fir stump; copper nail marked "721.8"	721.99
Toutle, 8 miles east of, on east bank of North Fork of Toutle River, at Chism's boat crossing, in vertical face of ledge of rock, 8 feet above surface of water; bronze tablet stamped "673"	672.714
Toutle River, at Chism's Crossing; surface of water June 11, 1913.	665
Toutle, 8.4 miles east of, 0.25 mile east of North Fork of Toutle River at intersection of private road and trail, in circle of paint on 2-foot fir tree; copper nail marked "879.6"	879.94
St. Helen, 4.7 miles northwest of, 20 feet southeast of junction of road with T road northeast, in cedar stub 8 feet in diameter; copper nail marked "893.1"	893.45

St. Helen, 3 miles west of, on south side of county road, in root of 5-foot fir tree; copper nail marked "1074.1".....	Feet. 1, 074. 45
St. Helen, 3 miles west of, 5 feet north of county road; iron post stamped "1078".....	1, 078. 150
St. Helen, 1.9 miles northwest of, northeast of road, in root of fir tree 6 feet in diameter; copper nail marked "1109.8".....	1, 110. 15
St. Helen, 0.7 mile northwest of, 15 feet east of road, 20 feet north of stream near Pullen's barn, in root of 18-inch cedar stump; copper nail marked "1018.3".....	1. 018. 70
St. Helen, 0.2 mile west of, 10 feet north of road, northwest of road intersection; iron post stamped "952".....	952. 407
St. Helen, 1.3 miles east of, on county road to Spirit Lake, 10 feet north-east of road, in root of 6-foot fir tree; copper nail marked "990.4".....	990. 77

From Winlock southeast to Cowlitz, thence northeast 2.3 miles.

Primary leveling in 1912-13 by E. M. Bandli.

Winlock, 10 feet north of first road north of station, 10 feet west of track; iron post stamped "Prim. Trav. Sta. No. 39, 308, 1912".....	307. 660
Winlock, 1.4 miles east of, on north side of road, in telephone pole; copper nail marked "468.7".....	468. 60
Winlock, 1.8 miles east of, on south side of road, in tree stump; copper nail marked "460.8".....	460. 71
Winlock, 2.5 miles east of, in southeast corner of crossroads, in telephone pole; copper nail marked "448.4".....	448. 33
Winlock, 2.8 miles east of, southeast corner of T road, in telephone pole; copper nail marked "471.9".....	471. 87
Winlock, 3.5 miles southeast of, 500 feet west of bridge over Camas Creek, 12 feet south of road, beside telephone pole 3-10, opposite J. B. Woodward's garden; iron post stamped "Prim. Trav. Sta. No. 53, 301, 1912".....	301. 184
Winlock, 5 miles southeast of, 9 feet south of road, in telephone pole 4-24; copper nail marked "325.8".....	325. 71
Cowlitz, opposite county road from west at T road intersection near Pacific Highway post, in telephone pole; copper nail marked "323.3".....	323. 24
Cowlitz, 1.2 miles northeast of, at crossroads near group of R. F. D. mail boxes, in telephone pole; copper nail marked "340.9".....	340. 88
Cowlitz, 1.8 miles northeast of, 3 feet west of road opposite private-road crossing, in telephone pole; copper nail marked "347.8".....	347. 72
Cowlitz, 2.3 miles northeast of, 30 feet east of road forks; iron post stamped "Prim. Trav. Sta. No. 52, 352, 1912".....	351. 923

From Kalama north along Northern Pacific Ry. to Castle Rock.

Primary leveling in 1914-15, by L. F. Biggs.

Kalama, at corner of sidewalk at southeast corner of intersection of First and Fir streets; chiseled cross marked "U. S. 23".....	21. 647
Kalama, northeast side of First Street between Fir and Elm streets, in west foundation of Kockeitz Hotel; bronze tablet stamped "23 1914 B 7".....	22. 250
Kalama, 1 mile north of, on west side of track in northeast corner of base of semaphore 104.3; chiseled cross marked "U. S. 25".....	24. 348
Kalama, 1.9 miles north of, top of pier, southwest corner of Kalama River Bridge; chiseled cross marked "U. S. 28".....	26. 945

	Feet.
Kalama, 2.4 miles north of, on northeast corner of base of semaphore 102.7; chiseled cross marked "U. S. 31".....	30. 062
Carrollton, 0.5 mile south of, 30 feet south of semaphore 101.0, east side of track, in rock cliff; bronze tablet stamped "32 1914 B. 6".....	31. 199
Carrollton, 30 feet north of crossing, in northwest corner of concrete base of bell signal; chiseled cross marked "U. S. 29".....	28. 344
Kelso, 3.8 miles south of, on east side of track, in concrete base of signal; chiseled cross marked "U. S. 30".....	28. 457
Kelso, 2.7 miles south of, at north end of bridge over Cowerman River, in concrete abutment; bronze tablet stamped "28 1914 B. 5".....	27. 539
Kelso, 1.3 miles south of, 150 feet north of railroad crossing, in northwest corner of base of semaphore; chiseled cross marked "U. S. 30".....	28. 901
Kelso, 0.2 mile south of, on northeast corner of base of signal; chiseled cross marked "U. S. 30".....	28. 879
Kelso, 20 feet south of, northwest corner of post office building, in corner of west hall of building; bronze tablet stamped "22 1914 B. 4".....	21. 410
Kelso, 1.5 miles north of, on east side of track, on northeast corner of concrete base of semaphore; chiseled cross marked "U. S. 31".....	30. 462
Ostranger, 1.2 miles south of, at north end of tunnel and east side of track, 4 feet above ground, in concrete wall; bronze tablet stamped "38 1914 B 3".....	37. 258
Ostranger, 6 feet north of station, 10 feet south of bridge, in base of concrete signal; chiseled cross marked "U. S. 41".....	39. 601
Castle Rock, 5.3 miles south of, at semaphore 90.1, on northeast corner of foundation; chiseled point marked "U. S. 41".....	40. 376
Castle Rock, 3.8 miles south of, at semaphore 88.6, on northeast corner of concrete base; chiseled cross marked "U. S. 48".....	46. 620
Castle Rock, 2.8 miles south of, on west side of track, 20 feet north of railroad crossing, in west end of culvert; bronze tablet stamped "30 1914 B. 2".....	28. 972
Castle Rock, 2.2 miles south of, at semaphore 86.9, on southeast corner of concrete base; chiseled cross marked "U. S. 53".....	52. 004
Castle Rock, 0.8 mile south of, at semaphore 85.4, northwest corner of concrete base; chiseled cross marked "U. S. 57".....	55. 845
Castle Rock, in front of station, top of rail.....	59. 48
Castle Rock, at railroad station in step at entrance to ladies' waiting room; bronze tablet stamped "60 1914 B. 1".....	59. 706
Castle Rock, 0.4 mile north of, 15 feet east of road forks, 11 feet north of telephone pole 1496; iron post stamped "120" (Bull. 557, value, p. 144; adjusted value May, 1917; Tacoma datum=119.973).....	119. 277

KELLER QUADRANGLE.

[Latitude 48°-48° 30'; longitude 118° 30'-119°.]

From Alkire via trail up first west fork of Sanpoil River to county line (part of spur line; elevations unreliable).

Primary leveling in 1901 by E. M. Fry.

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
Tps. 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

LAKE CRESCENT QUADRANGLE

[Latitude 48°-48° 15'; longitude 123° 45'-124°.]

From point near Joyce along highways southwest to Piedmont thence across Lake Crescent to East Beach.

Primary leveling by R. C. Seitz in 1917.

Joyce, 1.56 miles southwest of, projecting floor plank at northwest corner of bridge; roofing nail, painted "U. S. 463 B. M."	Feet. 463.52
Joyce, 2.48 miles southwest of, 2.56 miles north of Piedmont, end of floor guard at northwest corner of bridge; roofing nail, painted "U. S. 649 B. M."	649.12
Piedmont, 1.12 miles north of, summit of road, opposite sulphur spring, on east side of road: iron post stamped "Prim. Trav. Sta. No. 7, 910 1917"	910.882
Piedmont, 0.18 miles north of, at junction of roads, in base of stump on east side of road; spike, painted "U. S. 644 B. M."	644.11
Piedmont, southwest corner of ferry landing; roofing nail, painted "U. S. 581 B. M."	581.372
Piedmont, in front of Mitchells Hotel, about 150 feet east of ferry landing, at water's edge; iron post stamped "579 1917"	580.490
Piedmont, water level of Lake Crescent, September 17, 1917, 3.20 P.M.	579.03
Elevations of triangulation stations on shore of Lake Crescent determined by water leveling.	
First point southwest of Devils Point, north side of lake; iron post stamped "578 1917"	580.270
Rocky Point, north side of lake; iron post stamped "579 1917"	579.476
Idlewild Cottage, 60 feet east of, north side of lake; iron post stamped "578 1917"	579.340
Cedar Point, 100 feet west of cottage, north side of lake; iron post stamped "580 1917"	580.694
Madrona Point, south side of lake; iron post stamped "579 1917"	579.880
Maple Point, south side of lake; iron post stamped "580 1917"	580.905
Rosemary and Lake Crescent taverns, point between, south side of lake; iron post stamped "581"	581.541
Sledgehammer Point, south side of lake; iron post stamped "582 1917"	582.640
From Fairholm, on Lake Crescent, along highways west to point near west border of quadrangle, thence southeast to south border. Leveled twice.	
Lake Crescent; water level, November 5, 1917	578.93
Fairholm, west side of ferry landing, 35 feet from south end of guard rail; roofing nail	584.141
Fairholm, 650 feet south of ferry landing, on north side of road, top of large rock; bronze tablet stamped "Prim. Trav. Sta. No. 47, 619 1917"	619.808
Fairholm, 1 mile west of, opposite 1-mile post, in root of 36-inch hemlock tree; roofing nail, painted "U. S. 837 B. M."	837.622
Fairholm, 2 miles west of, 60 feet west of spring, 55 feet east of 2-mile post, in stump on north side of road; roofing nail, painted "U. S. 1111 B. M."	1,112.129
Fairholm, 2.30 miles west of, at road south to Solduc Hot Springs, in southwest angle; iron post stamped "Prim. Trav. Sta. No. 1150, 1917"	1,150.456
Fairholm, 3.75 miles southwest of, at southeast corner of bridge, on guard rail; roofing nail, painted "U. S. 1,114 B. M."	1,114.727
Fairholm, 3.60 miles southwest of, 130 feet south of 4-mile post, on west side of road, in base of 24-inch hemlock tree; spike, painted "U. S. 1,204 B. M."	1,204.126

Fairholm, 4.85 miles south of, 140 feet south of stream crossing, 65 feet south of 5-mile post, on west side of road, in root of 18-inch hemlock tree; roofing nail, painted "U. S. 1,130 B. M.".....	Feet. 1, 130. 334
Fairholm, 5.50 miles south of, about 300 feet west of Oscar Moore's house, on east side of T road south; iron post stamped "Prim. Trav. Sta. No. 42, 1032 1917".....	1, 032. 993
Fairholm, 6.90 miles south of, 7.13 miles north of Solduc Hot Springs, 230 feet south of 7-mile post, on west edge of road, in top of stump; roofing nail, painted "U. S. 1120 B. M.".....	1, 120. 771
Solduc Hot Springs, 5.97 miles north of, on west edge of road, in top of stump; roofing nail, painted "U. S. 1,215 B. M.".....	1, 215. 284
Solduc Hot Springs, 4.74 miles north of, 0.44 mile south of 9-mile post, on west edge of road; iron post stamped "Prim. Trav. Sta. No. 44, 1,300 1917".....	1, 300. 267
Solduc Hot Springs, 3.75 miles north of, in base of tall dead snag; roofing nail, painted "U. S. 1,477 B. M.".....	1, 477. 735

From Fairholm west along highways to west border of quadrangle. (Preliminary unadjusted elevations.)

Primary leveling by R. C. Seitz in 1917.

Fairholm, 4.60 miles west of, 2.30 miles west of Solduc Hot Springs road, 25 feet north of road, in root of 24-inch hemlock tree; roofing nail, painted "U. S. 97 B. M.".....	971. 079
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From Joyce west along Seattle, Port Angeles & Western Ry. to west border of quadrangle.

Joyce, 0.52 mile west of, 100 feet south of railroad, 10 feet east of road; iron post stamped "Prim. Trav. Sta. No. 6, 359, 1917".....	359 191
Joyce, 1.56 miles west of, 1,015 feet west of west end of bridge P A. 174, in base of telegraph pole; spike, painted "U. S. 353 B. M.".....	353. 219
Hilda, opposite signboard top of rail.....	317. 22
Joyce, 2.64 miles west of, at west end of switch, 950 feet west of Hilda, in base of telephone pole; spike, painted "U. S. 303 B. M.".....	303. 371
Joyce, 3.80 miles west of, 100 feet east of bridge P. A. 178, in base of telephone pole; spike, painted "U. S. 225 B. M.".....	225. 147
Joyce, 4.50 miles west of, about 75 feet south of Lyre School, near flagstaff; iron post stamped "Prim. Trav. Sta. No. 48, 186 1917".....	185. 557
Lyre station, opposite signboard; top of rail.....	164. 39
Joyce, 5.50 miles west of, 1,550 feet west of Lyre station, in base of telephone pole; spike, painted "U. S. 143 B. M.".....	143. 812
Shadow station; top of rail.....	195. 43
Joyce, 6.73 miles west of, at Shadow station, in base of telephone pole; spike, painted "U. S. 200 B. M.".....	200. 484
Majestic, in front of station; top of rail.....	226. 40
Joyce, 7.91 miles west of, 2,310 feet west of Majestic station, at west end of switch, in base of telephone pole; spike, painted "U. S. 264 B. M."..	264. 841
Joyce, 9.13 miles west of, 3 miles east of Twin Rivers, in spur-ridge cut, in base of telephone pole; spike, painted "U. S. 284 B. M.".....	284. 610
Twin Rivers, 1.96 miles east of, 100 feet east of east end of switch, in base of telephone pole; spike, painted "U. S. 214 B. M.".....	214. 452
Twin Rivers, 0.90 mile east of, in base of telephone pole; spike, painted "U. S. 127 B. M.".....	127. 857
Twin Rivers, about 300 feet east of station, 50 feet east of Poor Hall, 30 feet north of track; iron post, stamped "Prim. Trav. Sta. No. 50,159 1917".....	159. 122

Twin Rivers, 1.04 miles west of, in base of telephone pole; spike, painted "U. S. 117 B. M."	Feet. 117. 144
Twin Rivers, 2.18 miles west of, 615 feet west of east end of switch, in base of telephone pole; spike, painted "U. S. 232 B. M."	232. 964
Twin Rivers, 2.47 miles west of, 175 feet east of bridge, 270 feet west of west end of switch, 50 feet north of railroad; iron post stamped "Prim. Trav. Sta. No. 51, 231 1917"	231. 671

LAKE PLEASANT QUADRANGLE.

[Latitude 48°-48° 15'; longitude 124° 15'-124° 30'.]

Along highways near northeast corner of quadrangle. Leveled twice. (Preliminary elevations, unadjusted.)

Primary leveling by R. C. Seitz in 1917.

East Clallam, 2.63 miles south of, top of large stump between road and Clallam River; roofing nail, painted "U. S. 117 B. M."	117. 390
East Clallam, 2.55 miles south of, 500 feet north of railroad crossing, at southeast corner of bridge, in floor; roofing nail, painted "U. S. 56 B. M."	56. 628

Near Sapho.

Fairholm, 17.06 miles west of, 150 feet west of 17-mile post, on north side of road, in root of 24-inch hemlock tree; roofing nail, painted "U. S. 519 B. M."	519. 577
Fairholm, 17.75 miles west of, 0.74 mile south of Sapho, at junction of roads, in northwest angle; iron post, stamped "Prim. Trav. Sta. No. 37, 458 1917"	458. 064
Sapho, 0.26 mile north of, 100 feet north of bridge, on east edge of road, in root of 60-inch hemlock tree; roofing nail, painted "U. S. 493 B. M." ..	493. 473
Sapho, 1.30 miles north of, 500 feet north of Beaver Creek, at bend in road, in base of telephone pole; spike, painted "U. S. 465 B. M."	465. 437
Sapho, 2.35 miles north of, on east edge of road, in root of stump; roofing nail, painted "U. S. 563 B. M."	563. 484
Sapho, 2.79 miles north of, on west edge of road, 75 feet north of bridge; iron post stamped "Prim. Trav. Sta. No. 30, 574 1917"	575. 292

MALAGA QUADRANGLE.

[Latitude 47° 15'-47° 30'; longitude 120°-120° 15'.]

From Malaga east along Great Northern Ry. to Hammond, thence south to milepost 1630.

Primary leveling in 1903 by R. A. Farmer and in 1909 by C. H. Semper.

Malaga, 6 feet southwest 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. 578
Rock Island, opposite station, 30 feet south of rock, 6 feet north of milepost 1639; iron post stamped "615 T"	615. 267
Milepost 1635, 10 feet west of; iron post stamped "591 T"	591. 227
Columbia River station, opposite signpost; top of rail	606. 2
Moses Coulee, bridge over, 600 feet east of east end of, 30 feet south of track; iron post stamped "630 T"	630. 699
Milepost 1630, 40 feet southwest of; iron post stamped "782 T"	782. 630

From 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 north-east 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".....	Feet. 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
From 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
From Milepost 1635 on Great Northern Ry. near Columbia River east via highways to Moses Coulee, thence northeast along Great Northern Ry. to Milepost 16 (part of a single unchecked spur line).	
Columbia River, 1 mile north of, at milepost 1635 on Great Northern Ry.; iron post stamped "591".....	591.277
Columbia River, 1 mile east of, north side of county road; boulder marked "833".....	833.55
Moses Coulee, 0.2 mile south of station, at milepost 5; iron post stamped "794".....	794.493
Moses Coulee, 0.6 mile north of, at road crossing; copper nail in tie, painted "806".....	806.16
Moses Coulee, 1 mile north of, at road crossing; copper nail in tie, painted "830".....	830.01
Moses Coulee, 1.8 miles north of, at milepost 7; copper nail in tie, painted "830".....	830.31

In sec. 11, T. 23 N., R. 21 E.

T. 23 N., R. 21 E., sec. 11, 155 feet west of road, 55 feet west by 6 feet south of fence corner; iron post stamped "3044".....	3,043.729
From south border of quadrangle north along highway to Malaga.	
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".....	1,881.61
Summit, 7.8 miles north of, on Colocham Creek, opposite schoolhouse, at west margin of fence; iron post stamped "1767".....	1,766.938
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".....	971.258
Summit, 12.9 miles north of, 0.4 mile south of Boland ranch, on east margin of road, on large rock; marked "U. S. □ B. M. 789".....	789.40
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".....	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

MARBLEMOUNT QUADRANGLE.

[Latitude 48° 30'–49°; longitude 121°–121° 30'.]

From Sauk City northeast along highway and trail to Panther Creek.

Primary leveling in 1898 by L. D. Ryus and in 1900 by E. M. Fry.

Knude 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 erroneously "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 erroneously "1372 T. U. L.".....	1, 274. 091
Panther Creek, at mouth of; surface of water.....	1, 644. 5

From Marblemount east along highway 16 miles.¹

Marblemount, junction of main road and Ruby Creek trail, 200 feet west of hotel, in 42-inch fir stump; nail.....	322. 37
Skagit River at ferry; surface of water.....	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
Marble Creek at ford; surface of water.....	977. 9
Marblemount, 11 miles east of, west end of corduroy road 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 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

MARCUS QUADRANGLE.

[Latitude 48° 30'-49°; longitude 118°-118° 30'.]

From Meyers Falls north along Spokane Falls & Northern (Great Northern) Ry. to Ryan (double line).

Primary leveling in 1901 by E. M. Fry and R. A. Farmer and in 1905 by J. G. Hesty.

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.....	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 75; bolt head.....	1, 355
Marcus, 200 feet south of station, east side of track, in root of pine; spike..	1, 260. 23
Marcus, 1 mile north of, opposite milepost 102, 50 feet east of track, in root of pine tree; spike.....	1, 292. 12

¹ This line closes 3 feet low and is unadjusted.

Marcus, 2 miles north of, 100 feet north of milepost 103, on bank next river; top of quartz boulder.....	Feet. 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 miles north of, 7 feet east of track, 200 feet north of milepost 112; point on granite boulder.....	1, 293. 89
Bossburg, 3 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

From 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 Mar. 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".....	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

MAZAMA QUADRANGLE.

[Latitude 48° 30'–49°; longitude 120°–120° 30'.]

From Winthrop northwest along highway and trail to Slate Creek Pass (part of line).

Primary leveling in 1899 by E. M. Fry.

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.

[Latitude 48°–48° 30'; longitude 120°–120° 30'.]

Primary leveling by E. M. Fry in 1899 and 1902.

From 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.....	Feet. 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

From Twisp west along highway up Twisp River and down Beaver Creek to mouth (part 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.....	2,396.25
War Creek, 1 mile west of mouth of, in center of road, on top of stone....	2,459.73
War Creek, 3 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 miles west of mouth of, in top of stump in center of road; nail.....	2,799.11
Gilbert camp, 8 miles east of, 10 feet south of road; iron post stamped "2806 T".....	2,806.110

From Twisp north along State road to Winthrop.

T. 34 N., R. 21 E., sec. 25, 4 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 miles north of, 50 feet west of road, on top of stone.....	1,750.20
Twisp, 7 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
Winthrop, at town pump, 100 feet south of Methow Trading Co.'s store, 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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From 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
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	Feet.
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

From 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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From 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

From Red Shirt south to Oglesby ranch.

Oglesby ranch house, opposite road 30 feet northeast of, in granite boulder in group; tablet stamped "1967".....	1, 966. 360
Oglesby ranch gate, 0.25 mile west of, 15 feet north of road; top of boulder, marked "1899".....	1, 899
Boyle's ranch, 0.25 mile west of, 20 feet south of road, east end of line of boulders; rock marked "1774".....	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 McFarland 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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MONTESANO QUADRANGLE. (Includes part of Hoquiam 15' quadrangle.)

[Latitude 46° 30'-47°; longitude 123° 30'-124°.]

From West Aberdeen west along electric railway through Hoquiam to point 1.9 miles west of Grays Harbor City.

Primary leveling in 1911 by G. L. Hagman.

West Aberdeen, about 110 feet from end of wharf, in road which formerly led directly away from it, in cemet monument 9 inches square and 3 feet long and projecting about 2 inches above ground, N. 3° E. distant 57 feet and 4 inches is southwest corner of small house on shore just above end of wharf; copper bolt (C. & G. S. b. m. 1).....	6. 260
West Aberdeen, 1 mile east of, at milepost C 54, in base of signboard; spike, aluminum tag stamped "8 1".....	8. 120

South Aberdeen, 0.8 mile west of station, where railroad is crossed by planked road, on south side of railroad, in base of telegraph pole; spike, aluminum tag stamped "7 2".....	Feet. 6. 56
South Aberdeen, south end of toll bridge at northwest corner of railroad crossing, in base of telegraph pole; spike, aluminum tag stamped "7 3".	7. 062
North Aberdeen, about 200 feet north of end of toll bridge, at northwest street corner, in base of telephone pole; spike, aluminum tag stamped "8 4".....	7. 79
Aberdeen, west side of main entrance to city hall, in top of corner stone; aluminum tablet stamped "10 Wa 1911".....	9. 768
Aberdeen, 1 mile west of, where road turns west, at west side of electric railway, in base of telegraph pole; spike, aluminum tag stamped "6 5".	6. 36
Aberdeen, 1.6 miles west of, southeast corner of railway crossing, 25 feet south of railway, on east side of road, on top of plank; painted ring, aluminum tag stamped "7 6".....	6. 83
Hoquiam, in top of step east of front entrance to Washington School; aluminum tablet stamped "8 Wa 1911".....	7. 507
Hoquiam, at north end of bridge over Hoquiam River, on west side of bridge pile; copper nail in top, aluminum tag stamped "13 7".....	12. 91
Hoquiam, at northwest corner of M and Emerson streets, in base of telephone pole; spike, aluminum tag stamped "5 8".....	5. 47
Hoquiam, 2.2 miles west of, on Northern Pacific Ry., 1,150 feet west of milepost 8, 20 feet west of shooting platform, 25 feet south of center of railroad; iron post stamped "10 Wa 1911".....	10. 369
Grays Harbor City, 1.1 miles east of, opposite milepost 9, in base of telegraph pole; spike, aluminum tag stamped "9 9".....	8. 65
Grays Harbor City, on south side of railroad, in base of telegraph pole; spike, aluminum tag stamped "12 10".....	12. 04
Grays Harbor City, 1 mile west of, 27 feet north of milepost 11; iron post stamped "13 Wa 1911".....	13. 136
Grays Harbor City, 1.9 miles west of, 200 feet west of milepost 12, south side of railroad, in base of telegraph pole; spike, aluminum tag stamped "12 12".....	12. 06
From West Aberdeen west to Markham (part of double-spur line).	
West Aberdeen, 1.1 miles west of; spike in base of milepost C 56, painted and scribed "U. S. B. M. 9".....	8. 576
West Aberdeen 2.1 miles west of; spike in base of milepost C 57, painted and scribed "U. S. B. M. 8".....	7. 87
Markham, 6 miles east of, at bottom of west slope of small hill, 80 feet west of good spring, 6 feet south of edge of plank road; iron post stamped "12 Wa 1911".....	12. 532
Markham, 5.5 miles east of; spike in base of milepost C 58, painted and scribed "U. S. B. M. 8".....	8. 14
Markham, 4.5 miles east of; spike in base of milepost C 59, painted and scribed "U. S. B. M. 8".....	7. 86
Markham, 3.5 miles east of; spike in base of milepost C 60, painted and scribed "U. S. B. M. 11".....	11. 12
Markham, 2.5 miles east of, 65 feet west of milepost 61 C, 18 feet south of center of railroad; iron post stamped "13 Wa 1911".....	13. 400
Markham, 1.5 miles east of; spike in base of milepost C 62, painted and scribed "U. S. B. M. 11".....	10. 56
Markham, 0.5 mile east of, 115 feet west of milepost C 63; spike in base of telephone pole, painted and scribed "U. S. B. M. 9".....	9. 01

Markham, in southwest corner of front yard of the Watson residence, in top of rock set 2 feet in ground and projecting 2 inches above surface; aluminum tablet stamped "9 Wa 1911".....	Feet. 8.575
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From West Aberdeen south to Newskah (double-spur line).

West Aberdeen, 1.8 miles south of, at bend in road, near shack, on west side of road; spike in base of alder tree, painted and scribed "U. S. B. M. 24".....	23.844
West Aberdeen, 3 miles south of, on south side of road; spike in base of stump, painted and scribed "U. S. B. M. 51".....	50.70
West Aberdeen, 3.5 miles south of, about 480 feet southeast of house, on west side of road; spike in base of hemlock tree, painted and scribed "U. S. B. M. 55".....	54.83
Newskah School, 0.7 mile south of, north side of road; copper nail in stump of big dead tree, painted and scribed "U. S. B. M. 102".....	101.93
West Aberdeen, 5 miles south of, at old Newskah post office, 50 feet northeast of Powell's residence, in fence corner; iron post stamped "75 Wa 1911".....	75.259

From West Aberdeen southeast along highway to Arctic (double-spur line).

South Aberdeen, at south end of toll bridge, northwest corner of railroad crossing; spike in base of telephone pole, aluminum tag stamped "7 3".....	7.062
Cosmopolis, 0.8 mile west of, about 200 feet south of slough crossing, at end of plank road, on west side of railway; spike in base of telephone pole, painted and scribed "U. S. B. M. 7".....	6.84
Cosmopolis, in northeast corner of school lot; iron post stamped "9 Wa 1911".....	8.568
Cosmopolis, 0.95 mile east of, on south side of road; spike in base of stump, painted and scribed "U. S. B. M. 16".....	15.50
Cosmopolis, 2 miles east of, south side of railroad; spike in base of big burnt stump, painted and scribed "U. S. B. M. 18".....	18.29
Cosmopolis, 2.8 miles east of, 75 feet south of center of track; iron post stamped "65 Wa 1911".....	64.647
Cosmopolis, 3.9 miles east of, north side of railroad; spike in base of large cedar stump, painted and scribed "U. S. B. M. 117".....	116.58
Cosmopolis, 4.9 miles east of, on south side of railroad; spike in base of big stump, painted and scribed "U. S. B. M. 145".....	145.26
Cosmopolis, 5.8 miles southwest of, at east side of railroad, near north end of siding; copper nail in top of stump, painted and scribed "U. S. B. M. 128".....	128.38
Cosmopolis, 6.8 miles southeast of, east side of railroad; spike in base of stump, painted and scribed "U. S. B. M. 115".....	115.28
Arctic, at southeast corner of road forks; iron post stamped "104 Wa 1911".....	104.077

From West Aberdeen east along highways to Montesano.

Aberdeen, 1 mile east of toll bridge, at end of planked road, north side of road; spike in base of telephone pole, painted and scribed "U. S. B. M. 10".....	10.28
Junction City, 15 feet north of bridge over slough, 8 feet east of edge of road; iron post stamped "10 Wa 1911".....	9.836
Junction City, 1 mile east of, 55 feet east of bridge over slough, at south side of road; copper nail in root of stump, painted and scribed "U. S. B. M. 8".....	7.94
Junction City, 2 miles east of, 30 feet west of bridge over slough; copper nail in root of big stump, painted and scribed "U. S. B. M. 9".....	9.18

	Feet.
Junction City, 3 miles east of, 100 feet north of track, on north side of highway at railroad crossing; iron post stamped "13 Wa 1911".....	13. 297
Montesano, 5.8 miles west of, west side of road; spike in base of tall burnt stump, painted and scribed "U. S. B. M. 105".....	104. 93
Montesano, 4.8 miles west of, south side of railroad, east side of road at railroad crossing; spike in base of telephone pole, painted and scribed "U. S. B. M. 9".....	9. 26
Montesano, 3.8 miles west of, south side of road; spike in base of fence post, painted and scribed "U. S. B. M. 8".....	7. 76
Montesano, 2.8 miles west of, 200 feet southeast of milepost 44, 0.25 mile west of Alder Grove School, southeast corner of second-class crossroads; iron post stamped "12 Wa 1911".....	11. 598
Montesano, 1.7 miles west of, wagon bridge over Wynooche River, in top of southeast abutment; chisel mark "U. S. B. M.".....	24. 92
Montesano, 1.2 miles west of, near Fairview School, at southeast corner of road forks; spike in base of fence post, painted and scribed "U. S. B. M. 51".....	51. 54
Montesano, at front entrance to Chehalis County courthouse, in top of southwest corner of lower granite step; aluminum tablet stamped "65 Wa 1911." (On spur line.).....	64. 958

MOSES LAKE QUADRANGLE.

[Latitude 47°-47° 15'; longitude 119° 15'-119° 30'.]

From Lind west along road and trail to Moses Lake (part of line).

Primary leveling in 1899 by E. M. Fry, in 1903 by R. A. Farmer, and in 1910 by D. S. Birkett.

T. 19 N., R. 28 E., sec. 14, 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. 878
Moses Lake, surface of water Sept. 28, 1903.....	1, 046. 100

Moses Lake, bench marks in vicinity established from water surface.

Moses Lake, foot of, 50 feet east of edge, 40 feet south of dim road, in 2 by 4 foot rock, 1 foot out of ground; tablet stamped "1070 T".....	1, 069. 902
Moses Lake, east side of, in T. 20 N., R. 28 E., a trifle east of triangulation station Lewis, in large loose boulder by water's edge; tablet stamped "1049 T".....	1, 049. 483

From 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 boulder (granite) 6 by 8 by 3 feet high; tablet stamped "1049 T".....	1, 049. 331
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From 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. 625
Moses Lake, 2.9 miles north of, 10 feet west of road, in granite outcrop; aluminum tablet stamped "1089 T".....	1, 089. 199
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 boulder marked "U. S. 1065.6 B. M.".....	1, 065. 80

Moses Lake, 1.5 miles north by 0.5 mile west of head of, 2 miles south of Drumhiller ranch house, 1.8 miles north of J. Sargent ranch house, 175 feet east of road, 175 feet south of fence corner, in granite boulder 4 by 4½ by 4 feet; aluminum tablet stamped "1092 Wash".....	Feet. 1, 092. 644
Moses Lake, 0.25 mile west of, 500 feet south of intersection of roads on bench, on east fork and 0.6 mile south of head of lake; point on basalt boulder 2½ by 1½ by 1½ feet marked "U. S. 1117 B. M.".....	1, 117. 57
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. 451
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 boulder marked "U. S. 1154. B. M.".....	1, 154. 87
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 boulder marked "U. S. 1101 B. M.".....	1, 101. 29
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, 107. 081
Mae, 3.2 miles west of, 5 feet north of road, on edge of bench, 1,000 feet east of Maxwell's pumping plant; on low-lying basalt boulder 2 by 1 foot; point marked "U. S. 1091 B. M.".....	1, 090. 66
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 boulder 2 by 1½ feet; aluminum tablet stamped "1075 Wash".....	1, 075. 492
T. 19 N., R. 27 E., southwest corner of sec. 18; iron post stamped "1235 Wash".....	1, 235. 053
From 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".....	1, 066. 730
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. 580
Moses Lake; surface of water August 3, 1910.....	1, 038. 29
From Mae south via south end of Moses Lake to sec. 28, T. 18 N., R. 26 E.	
T. 18 N., R. 28 E., about 200 feet east of southwest corner of NE. ¼ NE. ¼ 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. 725
T. 18 N., R. 27 E., on south line of NE. ¼ 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. 302
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. 67
T. 18 N., R. 27 E., NW. ¼ 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. 865

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.. Feet. 1, 161. 55

From 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. 23 E. (unchecked spur line).

Moses Lake; surface of water Aug. 5, 1910..... 1, 038. 725
 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. 902
 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, 104. 101

From north end of Moses Lake to McConhie's ranch (checked spur line).

Moses Lake; surface of water Aug. 15, 1910..... 1, 038. 16
 Moses Lake, 1.25 miles south of head of, near southwest corner of NE. $\frac{1}{4}$ sec. 34, 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. 260

MOUNT ADAMS QUADRANGLE.

[Latitude $46^{\circ}-46^{\circ} 30'$; longitude $121^{\circ}-121^{\circ} 30'$.

From Bush Creek west to Parrot's Bridge.

Primary leveling in 1903 by C. E. Hill and R. B. Shaw.

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. 989
 White Creek ford, 90 feet west of, 7 feet south of road; iron post stamped "2554 T"..... 2, 554. 695
 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. 644
 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. 569
 Trout Creek, at road crossing; water surface, Aug. 27, 1903..... 1, 868. 96
 Parrot ranch, just outside of yard at northwest corner; iron post stamped "1757 T"..... 1, 757. 627
 Bear Creek, at road; water level, Aug. 26, 1903..... 1, 890. 04
 Klickitat River, under Parrot's cable sheep bridge; water surface, Aug. 24, 1903..... 1, 653. 76
 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. 484

From Rattlesnake Ridge southwest and south to Glenwood.

T. 11 N., R. 14 E., sec. 24, on Rattlesnake Ridge, 5 miles west of mouth of Idleat Creek, in outcrop bedrock 2 feet square and 1 foot high; bronze tablet stamped "4449 T"..... 4, 449. 769
 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. 598

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"	Feet. 3,368.622
Little Klickitat River, at point of ridge; water surface, July 2, 1903.....	3,354.03
From 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.....	3,235.66
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".....	3,189.666
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 River; iron post stamped "2895 T".....	2,895.511
Soda Spring, 10 feet west of, 10 feet south of trail; iron post stamped "2680 T".....	2,681.756
T. 8 N., R. 12 E., sec. 21, Big Muddy Ford, 1 mile east of, on summit of ridge between Big Muddy and Cunningham creeks, 5 feet southeast of trail, in large flat boulder; bronze tablet stamped "2958 T".....	2,958.930
Big Muddy Creek, under bridge; water surface, Aug. 1, 1903.....	2,959.08
T. 7 N., R. 12 E., sec. 3, 0.5 mile south of mouth of Big Muddy Creek, 15 feet east of trail, 0.3 mile north of old log cabin; iron post stamped "2277 T".....	2,277.796
T. 7 N., R. 12 E., NW. $\frac{1}{4}$ sec. 35, 1.7 miles south of Bacon Creek, 300 feet southeast of two old cabins, at junction of two trails; iron post stamped "2016 T".....	2,016.734
Glenwood, 125 feet east of Bowen, Bertchi & Co.'s store, 50 feet west of Shaw's hotel, in northwest corner of Shaw's lot; iron post stamped "1896 T".....	1,896.723

MOUNT AIX QUADRANGLE.

[Latitude 46° 30'-47°; longitude 121°-121° 30'.]

From east side of Tieton Basin west along Tieton River and Indian Creek to Cowlitz Pass.

Primary leveling in 1900 by C. J. Hutchinson and in 1901 by Sidnev Arnold.

Tieton Basin, east side of, at ford, 40 feet south of Tieton River, in rocky ground between two pine trees; iron post stamped "2452 T".....	2,452.536
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".....	2,785.708
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".....	2,932.491
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".....	3,719.908
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".....	5,191.701
From 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".....	5,744.993

From 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"	Feet. 2, 437. 689
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. 386
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. 114
Pleasant Valley, 20 feet north of northeast corner of old cabin, 54 feet north of American River, 8 feet west of flagpole; iron post stamped "3337 T"	3, 337. 010
Bear Gap, summit of Cascade Mountains, 10 feet east of Buckley trail; iron post stamped "5882 T"	5, 882. 309
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. 633

From 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. 936
Bumping Lake, 120 feet northeast of lower northeast end of, at head of Bumping River, 10 feet north of trail, 30 feet north of old fence; iron post stamped "3407 T"	3, 407. 864

MOUNT BAKER QUADRANGLE.

[Latitude 48° 30'-49°; longitude 121° 30'-122°.]

From Kendall east along highway to Glacier.**Primary leveling in 1898 by L. D. Ryus and G. C. Jacobs and in 1907 by H. M. Hadley.**

Glacier, 1,400 feet north of station, 115 feet east of Glacier Creek bridge; iron post stamped "880 B"	880. 725
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From Hamilton east along Great Northern Ry.

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"	141. 856
Baker, about 4.5 miles west of, on bench opposite orchard on river bank, north of road; in 16-inch fir tree; 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

From Baker to Grasmere, thence north on west side of Baker River to Park Creek and to Morovitz ranch.

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
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Grasmere, road crossing, 0.6 mile north of, 2 feet east of road, in base of 18-inch fir tree; nail marked "570".....	Feet. 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 water June 19, 1908.....	1,059.5
Frank Edgar ranch, 300 feet north of house, 5 feet west of road, 60 feet south of corner of secs. 14, 15, 21, and 22, at foot of cedar snag, 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 18-inch soft maple tree; 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; painted "748," nail and aluminum tag stamped "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
From Morovitz ranch north to point 0.8 mile north of Swift Creek (single-spur line).	
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 erroneously "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"	1,999.895
From 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".....	Feet. 901.19
Board marked "Hatchery 10 miles," 100 feet south of, east of trail, in base of 48-inch tall dead cedar tree; 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

MOUNT OLYMPUS QUADRANGLE.

[Latitude 47° 30'-48°; longitude 123° 30'-124°.]

From north border of quadrangle southeast along highways to Solduc Hot Springs.

Primary leveling by R. C. Seitz in 1917.

Solduc Hot Springs, 2.75 miles north of, on east edge of road (in top of large rock); bronze tablet stamped "Prim. Trav. Sta. No. 45, 1646 1917".....	1, 647.065
Solduc Hot Springs, 2 miles north of, in root of tree at Solduc 2-mile post; roofing nail, painted "U. S. 1,669 B. M.".....	1, 669.828
Solduc Hot Springs, 1 mile north of, on west side of road at Solduc 1-mile post (in root of large fir tree); roofing nail, painted "U. S. 1,660 B. M." ..	1, 660.892
Solduc Hot Springs, at northwest corner of bridge over Solduc River; iron post stamped "Prim. Trav. Sta. No. 46, 1917".....	1, 642.011

From Elwha post office south along highways to Mount Olympus quadrangle. (End of line.)

Elwha post office, 5.07 miles south of, 150 feet south of creek crossing, 200 feet west of Kennedy's Cabin, 2 feet south of U. S. Forest Service fire tool house, in root of 48-inch fir tree; roofing nail, painted erroneously "U. S. 1140 B. M.".....	1, 118.45
Elwha post office, 6.09 miles south of, on west edge of trail in top of small fir stump; roofing nail, painted erroneously "U. S. 1,387 B. M.".....	1, 365.84
Elwha post office, 6.31 miles south of, on west edge of trail, at point of Smoky Bottom trail; iron post stamped "Prim. Trav. Sta. No. 30, 1408 1917" (stamped erroneously).....	1, 386.851

MOUNT RAINIER QUADRANGLE.

[Latitude 46° 30'-47°; longitude 121° 30'-122°.]

From Ashford east along highway to McClure Rock (leveled twice; a double and a single rodged line).

Primary leveling in 1910 and 1913 by E. M. Bandli.

Ashford, 1.5 miles northeast of, along automobile road to Mount Rainier National Park, 6 feet south of road, 100 yards east of log house, in top of 1-foot fir stump; copper nail marked "1840.7".....	1, 838.80
Ashford, 2.7 miles northeast of, 20 feet northwest of intersection of Lewiston and National Park roads, 3.5 miles from Mount Rainier National Park entrance; iron post stamped "1839".....	1, 838.621
Ashford, 3.8 miles northeast of, 12 feet west of bridge north of road, 4 feet from road, in stump; copper nail marked "1852.2".....	1, 851.81
Ashford, 4.6 miles northeast of, on south edge of automobile road to Mount Rainier, in bottom of telephone pole; copper nail marked "1887.5".....	1, 885.62

	Feet.
Ashford, 6.4 miles northeast of, at Mount Rainier National Park entrance, at side of flagpole, 33 feet in front of park entrance to building, 15 feet from road entrance to building, 15 feet from road southeast; iron post stamped "2003".....	2, 002. 704
Ashford, 7.4 miles northeast of, 1 mile in Mount Rainier National Park, 10 feet north of road, in root of tree; copper nail marked "2106".....	2, 105. 20
Ashford, 9 miles from, 4 feet north of road to Longmire Springs, at curve of road opposite railing along south side of road, in ledge of rock; aluminum tablet stamped "2275".....	2, 274. 283
Ashford, 9.9 miles from, 10 feet south of road to Longmire Springs, near bridge at Rainier Forks, in large stump: copper nail marked "2378.7"....	2, 378. 15
Ashford, 10.5 miles east of, 4 feet south of road, 2.5 miles west of Longmire, in small stump; copper nail marked "2421".....	2, 420. 77
Ashford, 11.1 miles from, 20 feet south of road to Longmire Springs, near intersection of old and new roads; iron post stamped "2499".....	2, 498. 262
Ashford, 12.1 miles east of, 1 mile from Longmire, 10 feet south of road, in small stump; copper nail marked "2617.7".....	2, 617. 10
Longmire Springs, in front of Forester's building, 3 feet west and north of flagpole; iron post stamped "2732".....	2, 761. 386
Longmire Springs, 0.4 mile northeast of, 20 feet south of road to Mount Rainier, opposite Indian Henry's trail, in large stump; copper nail marked "2824.3".....	2; 823. 89
Longmire Springs, 2 miles northeast of, 100 feet east of Paradise trail, 10 feet southeast of road; iron post stamped "3130".....	3, 159. 175
Longmire Springs, 3 miles northeast of, 21 feet west of curve to west, in stump; copper nail marked "3381.9".....	3, 381. 42
Longmire Springs, 4.2 miles from, on road to Mount Rainier, 6 feet south of road, near bridge at Christine Falls; copper nail marked "3668.4"....	3, 666. 84
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".....	3, 907. 973
Longmire Springs, 8 miles from, 10 feet northwest of road to Mount Rainier, in top of large stump; copper nail marked "4464".....	4, 463. 43
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, 571. 701
Reese's camp, 0.8 mile south of, along pony trail, 4 feet south of trail, in root of 12-inch hemlock tree; copper nail marked "4867.302".....	4, 865. 73
Nerada Falls, 1.3 miles north of, south of road at top of hill where road leaves Paradise Valley; bench mark on stump, marked "5382".....	5, 381. 09
Reese's camp, 15 feet south of road, 5 feet east of tree nearest road; iron post stamped "5557".....	5, 556. 877
Reese's camp, 0.8 mile northeast of, along tourist's trail up the mountain on large rock; circle of paint marked "6316.0".....	6, 314. 67
McClure Rock, 2 miles from Reese's camp on route to mountain, in top of large rock, near large pile of rock at signal station, on highest ledge, a few rods from edge of rock ledge; aluminum tablet stamped "7385".....	7, 384. 064

MOUNT ST. HELENS QUADRANGLE.

[Latitude 46°-46° 30'; longitude 122°-122° 30'.]

From Kosmos west along highway to Riffe.

Primary leveling in 1913 by E. M. Bandli.

Kosmos, on State road, 18 feet west of road, 45 feet southeast of school-house, 120 feet north of Hopkins's store; iron post stamped "752".....	751. 470
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Kosmos, 1 mile south of, along wagon road, 20 feet southeast of T road intersection, in root of 2-foot fir tree; copper nail marked "677.9".....	Feet. 677.19
Kosmos, 2.1 miles southwest of, along wagon road, 10 feet south of road, in root of 3.8-foot fir tree; copper nail marked "629.6"	628.88
Kosmos, 2.9 miles southwest of, 0.25 mile south of river ferry, 15 feet south of road, 2 feet north of telephone pole, 29.4 feet above surface of water of Cowlitz River, July 31, 1913: iron post stamped "628"	627.690
Kosmos, 4.3 miles southwest of, 30 feet south of Landers Creek, in root of 18-inch cottonwood tree; copper nail marked "592.7"	591.91
Kosmos, 5.5 miles southwest of, on south edge of road, 0.25 mile west of schoolhouse, in root of 2-foot fir tree; copper nail marked "660.4".....	659.70
Nesika, 20 feet south of road, in front of G. W. Collins's place, 6 feet east of his gate; iron post stamped "655"	653.875
Riffe, 4.8 miles east of, 15 feet north of road, in root of 18-inch fir tree; copper nail marked "633.0"	632.29
Riffe, 3.9 miles east of, 30 feet north of road, in root of 16-inch fir tree; copper nail marked "624.9"	624.18
Riffe, 3 miles east of, in schoolhouse yard, 1 foot west of southwest corner of Baugh's school (district 206, ward, 12); iron post stamped "573"	572.004
Riffe, 1.9 miles east of, 12 feet south of road, in Mulligan's front yard, in bottom of telephone pole; copper nail marked "551.6"	550.85
Riffe, 1.1 miles east of, 8 feet west of road, in root of 6-foot cedar snag with small cedar tree growing out of its center; copper nail marked "527.6" ..	526.82

From St. Helen east along highways to Spirit Lake, thence northeast to Green River (part of unadjusted line).

Primary leveling in 1913 by E. M. Bandli. On account of excessive errors of closure with later work, these elevations must be considered preliminary. (See Biggs levels of 1915 in same quadrangle.)

St. Helen, 2.3 miles east of, on country road to Spirit Lake, 6 feet south of road, in root of 2-foot hemlock tree; copper nail marked "1041.1".....	1,041.47
St. Helen, 3 miles east of, 15 feet south of road, 60 feet south of old cabin, 150 feet north of river; iron post stamped "1098"	1,098.222
St. Helen, 3.9 miles east of, at road intersection, in root of 2-foot fir tree; copper nail marked "1131.4"	1,131.83
St. Helen, 5.1 miles east of, at skid road crossing, in root of 18-inch hemlock tree; copper nail marked "1218.6"	1,219.08
St. Helen, 6.3 miles east of, 5 feet south of road near river bank; iron post stamped "1308"	1,308.048
St. Helen, 7.3 miles east of, 3.7 miles west of Elk Creek, on north side of road, in root of 10-inch maple tree; copper nail marked "1381.5"	1,382.07
Elk Creek, 2.7 miles west of, on west side of road, in root of 14-inch fir tree; copper nail marked "1458.3"	1,458.90
Elk Creek, 1.6 miles west of, 10 feet southwest of road, 75 feet in front of log cabin; iron post stamped "1583"	1,583.601
Elk Creek, 1.1 miles west of, on south side of road at private road intersection, in root on north side of 14-inch cedar tree; copper nail marked "1643.0"	1,643.65
Elk Creek, south side of road, at private road intersection, in root on north side of 18-inch hemlock tree; copper nail marked "1740.8"	1,741.50
Elk Creek; surface of water June 20, 1913	1,711
Elk Creek, 1.2 miles east of, on south side of road, in root of 16-inch cedar tree, on circle of paint; copper nail marked "1859.9"	1,860.68
Elk Creek, 1.8 miles east of, 15 feet south of road, near river, in top of large boulder; bronze tablet stamped "1930"	1,931.214

Elk Creek, 2.9 miles east of, on south side of road, in root of 17-inch cottonwood tree; copper nail marked "2060.9".....	Feet. 2,061.80
Elk Creek, 3.8 miles east of, on southwest side of road, in cottonwood tree 2.5 feet in diameter, in root; copper nail marked "2188.3".....	2,189.19
Elk Creek, 4.1 miles east of, 30 feet southwest of road, in top of large boulder; bronze tablet stamped "2228" (recovered in 1915).....	2,228.748
Elk Creek, 5.3 miles east of, 10 feet north of road, in root of 9-inch fir tree; copper nail marked "2405.4" (recovered in 1915).....	2,406.47
Toutle River ranger station, 8 feet north of road, 100 feet northeast of ranger's house, in root of 11-inch pine tree; copper nail marked "2547.9" (Elevation by L. F. Biggs, in 1915, from Woodland=2,548.145 feet.)....	2,548.96
Toutle River ranger station, 0.7 mile east of, 40 feet north of road, 100 feet east of Bright's house, in top of large boulder; bronze tablet stamped "2678".....	2,679.310
Spirit Lake, 2.8 miles west of, 4 feet north of road, in root of 18-inch hemlock tree; copper nail marked "2848.0".....	2,849.29
Spirit Lake, 1.7 miles west of, 15 feet southeast of road, in root of 2-foot fir tree; copper nail marked "3090.0".....	3,091.45
Spirit Lake, 0.8 mile west of, 10 feet north of road, in southeast face of large boulder; bronze tablet stamped "3179".....	3,180.832
Spirit Lake, 0.2 mile west of, on south side of road, at T road intersection in root of 3.5-foot hemlock tree; copper nail marked "3238.8".....	3,240.30
Spirit Lake, near outlet, 10 feet from south shore of lake, in root of 14-inch hemlock tree; copper nail marked "3202.7".....	3,204.20
Spirit Lake; surface of water July 3, 1913.....	3,199.9
Spirit Lake; surface of water July 5, 1913.....	3,199.8
Spirit Lake, 100 yards from northeast end of, at old camp, 50 feet east of log cabin, 80 feet northwest of creek at trail and road intersection; iron post stamped "3204".....	3,206.114
Spirit Lake, 1 mile north of, on trail over Norway Pass, 5 feet east of pass, in root of 2-foot fir tree; copper nail marked "3689.4".....	3,691.09
Spirit Lake, 1.9 miles northeast of, on summit of pass, 6 feet west of trail, in root of 2.5-foot hemlock tree; copper nail marked "4505.1".....	4,507.56
Spirit Lake, 2.7 miles north of, 5 feet east of path, in root of 2.3-foot dead fir tree; copper nail marked "3792.8".....	3,794.66
Spirit Lake, 3.4 miles north of, east side of trail, in face of rock ledge 5 feet above trail; bronze tablet stamped "3542".....	3,543.460
Spirit Lake, 4.5 miles north of, on southeast edge of trail, in root of 1.7-foot fir tree, in circle of paint; copper nail marked "3164.5".....	3,166.08
Spirit Lake, 5.3 miles north of, 15 feet east of trail, in root of 2-foot hemlock tree, in circle of paint; nail marked "2878.575".....	2,880.01
Spirit Lake, 6.3 miles north of, 15 feet west of Green River, near camping place, 9 feet west of cedar tree with painted elevation "2846.6"; iron post stamped "2847" (Recovered 1914 by L. F. Biggs).....	2,848.069
Spirit Lake, 7.2 miles northeast of, 0.8 mile northeast of river, in Box Canyon trail, in root of 2-foot hemlock tree; copper nail marked "3174.4." (This is junction point of line run in 1914 by L. F. Biggs from Nesika. Adjusted.).....	3,176.02

From Nesika along highways southeast and south to Green River.

Primary leveling in 1914 by L. F. Biggs.

Nesika, at G. W. Collins's place, 20 feet south of road; an uncomputed primary traverse station; iron post stamped "Prim. Trav. Sta. No. 7, 1914, B 655".....	653.875
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	Feet.
Nesika, 0.8 mile east of, at junction of road to old ferry, on north side of road, in base of 4-foot fir tree blazed and scribed "U. S. 660"; aluminum tag and copper bolt.....	659. 66
Nesika, 2.2 miles east of, on north edge of road at east edge of clearing, in fir tree 24 inches in diameter blazed and scribed "U. S. 698"; aluminum tag and copper bolt.....	698. 56
T. 11 N., Rs. 4 and 5 E., corner of secs. 12, 1, 6, and 7, 2.8 miles east of Nesika, 100 feet north of bridge over creek, on south side of road, in fir tree blazed and scribed "U. S. 754"; aluminum tag and copper bolt....	753. 77
Nesika, 3.1 miles east of, 400 feet south of south bank of Cowlitz River, on north edge of road, about 600 feet east of field, in ash tree blazed and scribed "U. S. 633"; aluminum tag and copper bolt.....	633. 38
Nesika, 5 miles east of, on south bank of Cowlitz River, in fir tree blazed and scribed "U. S. 653"; aluminum tag and copper bolt.....	653. 19
Nesika, 5.5 miles east of, at west end of horseshoe bend in river, 100 feet south of river bank, in large rock at north edge of road; bronze tablet stamped "No. 8, 1914 B 810".....	810. 404
Nesika, 5.8 miles east of, west of horseshoe bend at south edge of clearing, in fir tree blazed and scribed "U. S. 764"; aluminum tag and copper bolt.....	763. 78
Nesika, 6.5 miles east of, 80 feet north of gate at old Peterson place, on rock; chiseled cross chiseled "726".....	726. 37
Cowlitz River; surface of water September 12, 1914.....	711. 5
Goat Creek, 1 mile west of, in base of small maple tree blazed and scribed "U. S. 773"; aluminum tag and copper bolt.....	773. 44
T. 11 N., R. 5 E., at a corner of sec. 10, 0.3 mile east of Goat Creek, at north edge of trail; cedar tree blazed and scribed "U. S. 749".....	748. 72
Goat Creek, 1 mile east of, on east side of small draw, in fir tree blazed and scribed "U. S. 801"; aluminum tag and copper bolt.....	801. 25
Goat Creek, 1.3 miles east of, at forks of trail, in small fir tree blazed and scribed "U. S. 792"; aluminum tag and copper bolt.....	791. 82
Goat Creek, 1.5 miles east of, 0.6 mile west of trail south to Kelly's ranch, in rock where logs lie over trail; bronze tablet stamped "Prim. Trav. Sta. No. 9, 1914, B 792".....	791. 866
Goat Creek, 2.1 miles east of, at trail forks to Kelly's ranch, on south side of trail, in cedar tree blazed and scribed "U. S. 869"; aluminum tag and copper bolt.....	868. 88
T. 11 N., R. 6 E., 20 feet south of corner of sec. 6, 2.5 miles east of Goat Creek, at northwest corner of field, on small fir tree blazed and scribed "U. S. 925"; aluminum tag and copper bolt.....	924. 83
T. 11 N., R. 6 E., at quarter corner between secs. 6 and 7, 0.5 mile north of Kelley's ranch, on east side of trail, on witness tree blazed and scribed "U. S. 984"; aluminum tag and copper bolt.....	983. 85
Kelley's ranch, 0.5 mile north of, on west side of trail crossing over creek, on fir tree blazed and scribed "U. S. 1216"; aluminum tag and copper bolt.....	1, 215. 84
Kelley's ranch, 1,000 feet west of house, in rock cliff at north side of trail; bronze tablet stamped "Prim. Trav. Sta. No. 10, 1914, B 1192" (triangle blazed on tree at edge of trail south of bench mark).....	1, 191. 694
Kelley's ranch, 0.5 mile east of, at forks of trail to homestead, on fir tree blazed and scribed "U. S. 1155"; aluminum tag and copper bolt.....	1, 155. 40
Kelley's ranch, 1.7 miles east of, at west edge of clearing, on tree blazed and scribed "U. S. 1215"; aluminum tag and copper bolt.....	1, 215. 29

	Feet.
Kelley's ranch, 2.6 miles east of, on north side of trail, about 300 feet east of old cabin, in base of fir tree blazed and scribed "U. S. 1199"; aluminum tag and copper bolt.....	1, 198. 61
Kelley's ranch, 2.8 miles east of, at trail forks at Quartz Creek, on south fork of trail, on small fir tree blazed and scribed "U. S. 1173"; aluminum tag and copper bolt.....	1, 173. 05
Kelley's ranch, 3 miles east of and 1,100 feet south of trail forks, at west side of trail, in large rock; bronze tablet stamped "Prim. Trav. Sta. No. 12, 1914 B 1201".....	1, 200. 799
Sulphur Creek, 0.8 mile north of, at summit of hill, on west side of trail, in base of fir tree blazed and scribed "U. S. 1669"; aluminum tag and copper bolt.....	1, 669. 06
Sulphur Creek, 50 feet south of, 100 feet west of Quartz Creek, by prospector's cabin, in hemlock tree blazed and scribed "U. S. 1233"; aluminum tag and copper bolt.....	1, 232. 64
Moses Creek, 100 feet northwest of mouth, on west edge of trail at point of cliff, 2 feet above ground; bronze tablet stamped "Prim. Trav. Sta. No. 13, 1914, B 1356".....	1, 355. 841
Moses Creek, 0.3 mile south of mouth, at west side of trail, at top of steep grade to small bench, in fir tree blazed and scribed "U. S. 1767"; aluminum tag and copper bolt.....	1, 767. 43
Moses Creek, 1 mile south of, at south edge of clearing containing old cabin, on west side of trail, in base of fir tree blazed and scribed "U. S. 2119"; aluminum tag and copper bolt.....	2, 118. 92
Moses Creek, 1.5 miles south of, on south bank of creek at west edge of trail, in 10-inch cedar tree blazed and scribed "U. S. 1601"; aluminum tag and copper bolt.....	1, 601. 08
Moses Creek, 2.5 miles south of, along Quartz Creek trail, on east side of same, in 10-inch fir tree blazed and scribed "U. S. 1826"; aluminum tag and copper bolt.....	1, 826. 26
Moses Creek, 2.7 miles south of, at ruins of old cabin, 100 feet north of small creek, in 20-inch fir tree blazed and scribed "U. S. 1786"; aluminum tag and copper bolt.....	1, 786. 61
Moses Creek, 3.4 miles south of, on north side of small creek where trail crosses same, in fir tree blazed and scribed "U. S. 1904"; aluminum tag and copper bolt.....	1, 904. 02
Moses Creek, 3.5 miles south of, on south bank of small creek, in base of fir tree 15 feet high, t. b. m.....	1, 881. 36
Quartz Creek, at trail crossing; surface of water October 16, 1914.....	1, 929. 9
Green River, 5 miles north of, at west edge of trail, in base of fir tree; copper bolt marked "2020".....	2, 021. 59
Green River, 4.7 miles north of, on north bank of small creek, 0.4 mile south of Quartz Creek trail crossing, in large fir tree blazed and scribed "U. S. 2086"; aluminum tag and copper bolt.....	2, 086. 73
Green River, 3.9 miles north of, 200 feet east of Quartz Creek, on south edge of large burn on west slope of Strawberry Mountain, in large fir tree blazed and scribed "U. S. 2432"; aluminum tag and copper bolt.....	2, 433. 62
NOTE.—This section between bench marks 2,433.62 and 2,845.58 should be releveled on account of 0.3 foot probable discrepancy in notes. The rejected difference is 0.3 foot more than the one temporarily accepted and would increase the circuit error.	
Green River, 2.7 miles northeast of, 2 miles north of small lake, 60 feet east of small creek, at east side of trail, in 36-inch fir tree blazed and scribed "U. S. 2844"; aluminum tag and copper bolt.....	2, 845. 58

T. 10 N., R. 6 E., corner of secs. 9, 10, 15, and 16, 8.3 miles north of Spirit Lake, 10 feet southwest of section corner, on small fir tree blazed and scribed "U. S. 3291"; aluminum tag and copper bolt.....	Feet. 3, 292. 03
Spirit Lake, 7.6 miles north of, on north shore of small lake at summit of watershed, on small fir tree blazed and scribed "U. S. 3292"; aluminum tag and copper bolt.....	3, 293. 23
Spirit Lake, 7.3 miles north of, 1 mile east of Green River, on south side of trail, on hemlock tree blazed and scribed "U. S. 3175"; aluminum tag and copper bolt (Bull. 557, value=3,174.79).....	3, 176. 02
Spirit Lake, 6.3 miles north of, 15 feet west of Green River, near camping place, 9 feet west of cedar tree with painted elevation 2846.6 thereon; iron post stamped "Prim. Trav. Sta. No. 14, 1914, B 2847" (Bull. 557, value = 2,846.980).....	2, 848. 069

From point near Yale northeast and north along highways to Toutle River Ranger station.

Primary leveling in 1915 by L. F. Biggs.

Yale, 1 mile east of, on south side of road, in root of charred fir; copper nail, tree scribed "U. S. 481".....	480. 944
Spider Creek, in northwest corner of bridge; copper nail.....	516. 852
Yale, 2.7 miles north of, on east edge of road, 150 feet west of Finch's ranch, in rock; bronze tablet stamped "352 8 1915".....	352. 030
Yale, 3.5 miles north of, on west edge of road, in root of 20-inch maple tree; copper nail scribed "U. S. 416".....	415. 601
Yale, 4.9 miles north of, 2.2 miles south of Cougar, on east edge of road, at edge of burning, in root of 46-inch fir tree; copper nail scribed "U. S. 521".....	521. 295
Cougar, 0.8 mile southwest of, at junction of road and Merrill (Trout) Lake trail, 2 feet west of corner fence post, set in rock; bronze tablet stamped "581 9 1915".....	580. 623
Cougar post office, 0.4 mile west of, 80 feet east of bridge over Cougar Creek, on north edge of road, in root of 14-inch fir tree; copper nail scribed "U. S. 506".....	505. 904
Cougar post office, 0.6 mile east of, on north side of road, 1,000 feet southeast of Robbins' ranch, in root of 14-inch fir tree; copper nail scribed "U. S. 480".....	480. 311
Cougar, 1.4 miles northeast of, on north edge of road, 100 feet west of small creek, in root of 27-inch maple tree; copper nail scribed "U. S. 592".....	592. 213
Cougar, 2.8 miles northeast of, at road forks, on south edge of road, in root of 12-inch fir tree; copper nail scribed "U. S. 555".....	554. 731
Cougar, 2.9 miles northeast of, 700 feet northeast of road forks, on new road, at north edge of road; bronze tablet stamped "595 10 1915".....	594. 782
Cougar, 3.6 miles northeast of, 1 mile southwest of Lewis River ranger station, on south edge of trail, in root of 34-inch fir tree; copper nail scribed "U. S. 902".....	901. 883
Lewis River ranger station, 200 feet south of, on north edge of road, in root of 16-inch fir tree bearing sign "National Forest Boundary"; copper nail scribed "U. S. 1265".....	1, 264. 458
Lewis River ranger station, 1 mile north of, 20 feet north of milepost 1, on west edge of trail, in root of 13-inch fir tree; copper nail scribed "U. S. 1470".....	1, 469. 471
Lewis River ranger station, 2 miles north of, 60 feet north of milepost 2, on east edge of trail, in root of 11-inch fir tree; copper nail scribed "U. S. 1762".....	1, 761. 982

Lewis River ranger station, 2.4 miles north of, on east edge of trail, 35 feet northeast of blazed jack pine on which is scribed "B. M. and an arrow," in exposed lava bed; bronze tablet stamped "1892 11 1915".....	Feet. 1, 891. 904
Milepost 3, 80 feet north of, on west edge of trail, in root of 26-inch lodgepole pine; copper nail scribed "U. S. 2019".....	2, 019. 378
Milepost 4, 50 feet north of, at west edge of trail, in root of fir tree; copper nail scribed "U. S. 2278".....	2, 277. 590
Milepost 5, 10 feet east of, on east edge of trail, in root of 12-inch hemlock tree; copper nail scribed "U. S. 2724".....	2, 723. 654
Milepost 6, 20 feet east of, on east edge of trail, in root of 34-inch hemlock tree; copper nail scribed "U. S. 3027".....	3, 027. 581
Milepost 6, 1,340 feet north of, on east edge of trail, set in rock; bronze tablet stamped "3-63 12 1915".....	3, 063. 471
Lewis River ranger station, 6.8 miles north of, at forks of new trail to Butte camp, in root of 21-inch fir tree; copper nail scribed "U. S. 3186".....	3, 185. 859
Lewis River ranger station, 7.8 miles north of, at forks of old trail to Butte camp, end of Merrill Lake trail, in root of 12-inch jack pine; copper nail scribed "U. S. 3216".....	3, 215. 829
Lewis River ranger station, 8.5 miles north of, at junction of trail to Merrill Lake, in root of 8-inch jack pine tree; copper nail scribed "3280".....	3, 280. 632
Lewis River ranger station, 8.6 miles north of, 0.1 mile north of junction of trail to Merrill Lake, on west edge of trail at camp site, in rock; bronze tablet stamped "3286 13 1915".....	3, 285. 688
Toutle River ranger station, 8.1 miles south of Lewis River ranger station, 10 miles north of, at milepost 10, in root of 11-inch fir tree; copper nail scribed "U. S. 3792".....	3, 791. 757
Telephone station (Forest Service) near summit of hill above South Toutle Canyon, in root of 17-inch fir tree, on west edge of trail; copper nail scribed "U. S. 3920".....	3, 920. 119
Milepost 11, about 400 feet north of, at turn in trail above canyon, in root of 40-inch spruce tree; copper nail scribed "U. S. 3668".....	3, 667. 866
Milepost 12, 70 feet north of, on west edge of trail, in root of 16-inch fir tree; copper nail scribed "U. S. 3419".....	3, 418. 967
Toutle River ranger station, 5.8 miles south of, on south side of Toutle Canyon, west edge of trail, at camp site, in root of 38-inch fir tree; copper nail scribed "U. S. 2886".....	2, 885. 604
Toutle River ranger station, 5.1 miles south of, 650 feet above ford, on west bank of small canyon, west edge of trail, 50 feet north of blazed fir tree; scribed "B. M. with an arrow"; bronze tablet in rock stamped "3219 14 1915".....	3, 218. 637
Milepost 14, 100 feet northeast of, on west edge of trail, in root of 12-inch fir tree; copper nail scribed "U. S. 3572".....	3, 572. 210
Toutle River ranger station, 3.4 miles south of, on west edge of trail, in root of 9-inch jack pine tree; copper nail scribed "U. S. 4112".....	4, 112. 489
Milepost 16, 70 feet south of, on east edge of trail, in root of 16-inch forked fir tree; copper nail scribed "U. S. 3613".....	3, 613. 032
Milepost 17, 50 feet north of, on east edge of trail, in root of 14-inch fir tree; copper nail scribed "U. S. 3238".....	3, 238. 286
Milepost 18, 30 feet north of, on west edge of trail, in root of 15-inch fir tree; copper nail scribed "U. S. 2932".....	2, 932. 258
Toutle River ranger station, 15 feet north of, in rock; bronze tablet stamped "2543 1915 15".....	2, 542. 375

Toutle River ranger station, 100 feet northeast of, 8 feet north side of road, in root of 11-inch pine tree marked "2547.9"; copper nail (Bull. 557, p. 146, value =2548.22, adjusted value May, 1915, Tacoma datum =2548.96)	Feet. 2, 548. 145
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MOUNT STUART QUADRANGLE.

[Latitude 47°-47° 30'; longitude 120° 30'-121°.]

From Cle Elum along Northern Pacific Ry. to Ellensburg.

Precise leveling by the U. S. Coast and Geodetic Survey.

Cle Elum, at corner of Pennsylvania Avenue and Railroad Street, 3.17 meters east of southeast corner of D. B. Burcham's building, 17.8 meters northwest of band stand; cross cut in head of southeast bolt holding cap of fire hydrant (C. & G. S. "K ₁ ")	1, 910. 554
Cle Elum, at corner of Pennsylvania Avenue and First Street, in stone wall of Mr. Heckman's store, facing Pennsylvania Avenue, 0.24 meter from northwest corner of building, 0.37 meter north of south edge of stone 1.2 meters above sidewalk; red metal disk (C. & G. S. "L ₁ ")	1, 913. 993
Cle Elum, in northeast corner of Mrs. E. F. Shipman's yard, 2 meters northeast of northeast corner of house, 1.65 meters west of east fence, 2 meters south of north fence; red metal cap on iron pipe (C. & G. S. "M ₁ ")	1, 909. 579
Bristol, 4.4 kilometers east of, 155 meters east of mile pole 141, in upper surface of rock projecting from side of rock cut, 2.41 meters north of nearest rail; copper bolt marked "U. S. B. M." (C. & G. S. "N ₁ ")	1, 751. 460
Thorp, 5.5 kilometers west of, 45 meters east of mile pole 138, on culvert over irrigation ditch, 1.5 meters west of east edge, 0.2 meter north of south edge of abutment, 1.5 meters south of nearest rail; copper bolt marked "U. S. B. M." (C. & G. S. "O ₁ ")	1, 711. 715
Thorp, in southwest corner of A. J. Schele's yard, 0.65 meter east of west fence, 0.65 meter north of south fence, 12.67 meters southwest of southwest corner of house; red metal cap on iron pipe (C. & G. S. "P ₁ ") ..	1, 633. 497

From Cle Elum southeast along Northern Pacific Ry. to Ellensburg.

Precise leveling in 1896 by H. S. Crowe.

Cle Elum, in front of station; top of rail	1, 908. 9
Cle Elum, 84.5 feet west of center of front door of Reed House, 81.5 feet southeast from southeast corner of Cle Elum Mercantile Co.'s store, in SW. $\frac{1}{4}$ sec. 26, T. 20 N., R. 15 E.; iron post stamped "1905" ¹	1, 907. 250
Teanaway, in front of station; top of rail	1, 836. 3
Teanaway, 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. 464
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, under signboard "Bristol," 14.3 feet north of center of track; iron post stamped "1784"	1, 785. 147
Dudley, in front of station; top of rail at joint	1, 703. 9
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. 111
Thorp, in front of station; top of rail	1, 635. 5
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. 354
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. 925
Masons; center of track at road crossing	1, 561. 7

From Cle Elum northwest along Roslyn branch of Northern Pacific Ry. to Roslyn.

Primary leveling in 1896 by Frank Cole.

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" Feet. 2, 218. 374

From Ellensburg northwest along highway to McCallum, thence west to Teanaway River, thence southwest to Teanaway.

Ellensburg, in front of station; top of rail..... 1, 510. 2
 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 schoolhouse; iron post stamped "1576" 1, 571. 002
 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. 276
 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. 469
 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. 635
 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. 389

From McCallum 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, 412. 047
 Swauk and Peshastin creeks, divide between, 20 feet west of road; iron post stamped "4071" 4, 066. 345
 Swauk-Peshastin divide, opposite first cabin north of, east side of road, 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, 779. 048
 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. 166
 Peshastin Creek, about 80 feet south of bridge over, 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. 356
 Peshastin Creek, road down, junction 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. 966

From 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. 719

From 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. 762

Falls and Cascade creeks, ridge between, running north from a high mountain just west of Nigger Creek and Falls Creek divide, about 300 feet south and 25 feet east of highest point of north end of ridge; iron post stamped "6257" Feet. 6, 251. 980

From 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. 690

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 road on first road running from Green Canyon road after leaving Dry Creek, on east side of small ravine; iron post stamped "1967" 1, 961. 580

T. 19 N., R. 18 E., W. $\frac{1}{2}$ sec. 7, at forks of road about 5 miles from Dry Creek 30 feet east of intersection with road running west up a steep hill; iron post stamped "2649" 2, 644. 208

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. 856

From Thorp west up Taneum Creek.

T. 18 N., R. 17 E., near center of sec. 4, intersection of roads; iron post stamped "1837" 1, 831. 617

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, on south side of creek, in a clump of small pines, house is on north bank of creek; iron post stamped "2046" 2, 041. 010

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. 132

Teanaway River, Middle Fork of, about 2 miles above intersection with main fork, 10 feet north of wagon road, about 600 feet southeast from a two-story log house, the first one occupied above junction of forks, in edge of wood; iron post stamped "2333" 2, 328. 128

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, 60 feet east of top of bluff above river; iron post stamped "2376" 2, 370. 936

Teanaway River, North Fork of, junction with Second Creek, 125 feet east by 40 feet south of, 2 miles above Beverly Creek, 5 feet west of trail; iron post stamped "3361" 3, 360. 482

Snow ranch, 8 miles above, opposite high rocky bluff between the upper forks of Teanaway River on trail and 30 feet east of top of river bank, four trees, blazed in vicinity. iron post stamped "4248" 4, 243. 214

From Cle Elum 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 large barn, 43.5 feet north of prominent fence corner; iron post stamped "2070" 2, 065. 587

MOUNT VERNON QUADRANGLE.

[Latitude 48°-48° 30'; longitude 122°-122° 30'.]

From Belleville south along Great Northern Ry. to Marysville.

Primary leveling in 1898 by L. D. Ryus and W. S. Wheeler, and in 1909 by W. A. Gelbach.

	Feet.
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 at northwest corner of Fairhaven and Regent avenues, southeast corner of school yard, 24 feet north of fence, iron post stamped "35 B".....	35.753
Burlington, south of, bridge over Skag,† 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 crossroad, 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 Wash 1909".....	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 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, Wash., 1909".....	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; 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

From Woolley south along Northern Pacific Ry. to Hartford Junction.

Northern Pacific Ry. and Great Northern Ry. 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
McMurray, in front of station; top of rail.....	246.4
Lake Cavanaugh road crossing about 1,080 feet north of sixty-ninth milepost, 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 miles south of, 100 feet north of slide guard west of track, in root of 30-inch cedar stump 3 feet high, 5 feet west of track; nail.....	145.22
Northern Pacific Ry. bridge over Stimson Logging R. R., 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 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 and Everett & Monte Cristo divisions, switch; top of rail.....	229.84
Hartford Junction, 25 feet northeast of station, midway between tracks of Seattle & International Ry. and Everett & Monte Cristo R. R., iron post stamped "232 T. U. L.".....	230.816
Lake Stevens; surface of water Nov. 9, 1909.....	210.9
From Tulalip east along highway to Marysville, thence northeast along Stimson Logging R. R. to Northern Pacific Ry.	
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 1 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
From Hartford Junction east along Northern Pacific Ry. 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 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 miles northwest of, on Arlington road on east side of river, crossing of skid road to Anderson's mill, on south side of road, in root of tree; copper temporary bench mark.....	296.52
Granite Falls, 7 miles northwest of, 7.5 miles southeast of Arlington, west side of road, north of Hans Lund's gate; iron post stamped "Prim. Trav. Sta. No. 7, 156, Wash., 1909".....	154.836
Arlington, 4 miles southeast of, on east side of river, on west side of Granite Falls 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.".....	102.579
From Arlington west along highway to Silvana.	
Silvana, 3 miles east of, 3.5 miles west of Arlington, southwest corner of crossroads, in school yard (district No. 22), 15 feet west of northeast corner of fence; iron post stamped "46 Wash 1909".....	44.658

From McMurray 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.....	Feet. 259. 255
McMurray, 60 feet east of station, 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

From Woolley west along Great Northern Ry. 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 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 mile east of, 20 feet north of railroad, 105 feet west of county road crossing, 1,180 feet west of railroad trestle 25, 250 feet northwest of W. H. Joyce's house, south of railroad and east of county road, in notch in base of 4½-foot cedar stump 7 feet high; 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's 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 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 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 of sec. 6, T. 33 N., R. 3 E.; iron post stamped "5 Wash 1909".....	5. 154
La Conner, about 5 miles southeast of, north fork of Skagit River, west end of south approach to bridge over, 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

From 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".....	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

From Mount Vernon west along highway to 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"	Feet. 24.076
Mount Vernon, 3 miles west of, corner of secs. 33, 34, 3, and 4, Tps. 34 and 33 N., R. 3 E., southeast corner of crossroads; iron post stamped "17 Wash 1909"	16.883

From Arlington east along Northern Pacific Ry. to bridge over Stillaguamish River.

Arlington, 3.5 miles northeast of, south of road, in root of 30-inch maple tree; 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 miles west of, 100 feet from bridge east, on north side of road, in root of 9-inch fir tree; nail	106.46
Stillaguamish 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

From McMurray east along highway and trail via Lake Cavanaugh and Day Lake to Lyman Ferry.

Lake Cavanaugh road crossing on Northern Pacific Ry., 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 Ry. 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 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 Ry. 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 tree 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
Day Lake trail, 2.2 miles from road at Lyman Ferry, fork of trail to southwest, 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

From junction of Jim Crow road with Arlington and Oso road to northwest corner of T. 31 N., R. 6 E.

	Feet.
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

OAKESDALE QUADRANGLE.

[Latitude 47°-47° 30'; longitude 117°-117° 30'.]

From Marshall south along Northern Pacific Ry. to Garfield (part of line).

Primary leveling in 1903 by E. M. Fry.

Davis ranch, 1,500 feet south of, 50 feet west of track, north side of county road crossing; iron post stamped "2381 S".....	2,378.677
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".....	2,429.117
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".....	2,349.220
Rosalia, in southeast corner of Bank of Rosalia building, 2 feet north of entrance door, 2 feet from ground; bronze tablet stamped "2233 S".....	2,233.413
McCoys siding, 100 feet south of milepost 32, on opposite side of road from warehouse, 2 feet from fence; iron post stamped "2402 S".....	2,399.647
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".....	2,461.629
Belmont, 20 feet north of station, 50 feet east of track, near platform; iron post stamped "2502 S".....	2,499.061
Garfield, 100 feet west of station, north side of Fourth Street, 5 feet from sidewalk; iron post stamped "2485 S".....	2,481.920

From Rockford south along track of Oregon-Washington R. R. & 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".....	2,373.342
Fairfield, 100 feet south of station, 5 feet west of platform, near telegraph pole; iron post stamped "2559 S".....	2,555.732
Fairfield, in front of station; top of rail.....	2,558
Latah, 100 feet north of station, west side of platform, 10 feet west of track; iron post stamped "2442 S".....	2,439.069
Latah, in front of station; top of rail.....	2,441
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".....	2,533.855
Seltice, 15 feet south of station, 20 feet north of track; iron post stamped "2528 S".....	2,525.621
Farmington, 50 feet east of station, 20 feet south of track, at northwest corner of small park; iron post stamped "2629 S".....	2,626.482
Garfield, in front of station; top of rail.....	2,470

From Seltice west along track of Oregon-Washington R. R. & Navigation Co. to Sunset.

Thornton, 200 feet southeast of station, 30 feet west of grain warehouse 1, 10 feet east of track, at road crossing; iron post stamped "2297 S".....	2,293.800
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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, 123. 843

From 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 "2503 S"..... 2, 503. 333

From 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-Oakesdale road; iron post stamped "2348 S"..... 2, 345. 604

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, 463. 493

From Thornton north along highway to Rosalia.

Horn 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, 414. 673

From 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 boulder; aluminum tablet stamped "3613 S" 3, 610. 656

OKANOGAN QUADRANGLE.

(Latitude 48°-48° 30'; longitude 119° 30'-120°.)

From Redshirt east along highway to Loop Loop Creek, thence north to Snolden ranch.¹

Primary leveling in 1899, 1901, and 1902, by E. M. Fry, in 1903 by F. E. Fellows and W. R. Hill, and in 1904 by G. H. Kendall.

Burke ranch, 1,000 feet east of house, 5 feet north of road, in root of pine tree; nail marked "2403"..... 2, 403. 70

Ramm ranch, 1,500 feet west of house, 5 feet north of road at junction of Twisp-Conconully road 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

Hannock ranch, 2 miles east of, 400 feet north of Frazier Creek, on south side of road, in root of pine tree; nail marked "3201"..... 3, 201. 19

Summit, 0.5 mile west of, at north side of road, in root of tree; nail marked "3703"..... 3, 703. 01

Summit of divide between Frazier and Loop Loop creeks, 5 feet south of Conconully-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-Methow road), 300 feet east of, south side of road, in root of fir tree; nail marked "3296"..... 3, 295. 95

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"..... 3, 244. 68

Milepost 1, 500 feet east of, 1 mile 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-Methow and Loop Loop-Okano-gan roads, on south side of road, in root of tree; nail marked "2431".... 2, 431. 74

¹This line closed 2.96 feet high and is unadjusted.

Loop Loop Creek, junction of Conconully-Methow and Okanogan-Loop Loop roads, 5 feet west of roads and 50 feet east of creek; iron post stamped "2433".....	Feet. 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 boulder; bronze tablet stamped "3081 T" ..	3, 081. 227

From 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 River 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

From Pateros southwest along wagon road to Alta Lake (spur line; elevations unreliable).

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 Sept. 25, 1903.....	1, 175. 7

From point near Vroman ranch east to near Brewster, thence northeast along wagon road to Riverside.

Pateros, 100 feet southeast of post office, 0.25 mile northwest of mouth of Methow River, 60 feet north of hotel, north side of street; iron post stamped "780".....	780. 120
Columbia River; surface of water Aug. 17, 1901.....	742. 7
Brewster, 1.5 miles south of, north side of road near natural rock cut; top of large stone marked "817".....	816. 97
Brewster, southeast corner of Second and Bruce avenues, southwest corner of Brewster Hotel, in stone foundation; bronze tablet stamped "812" ..	812. 430
Davis ranch, on Okanogan River, 300 feet south of house, in large granite stone at northeast corner of stone wall to basement of barn; bronze tablet stamped "912".....	906. 457
Chiliwist 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, 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".....	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, 50 feet east of road, 0.25 mile south of Salmon River, at corner of fence; 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

	Feet.
Pogue ranch, 1 mile north of, west side of road; on top of 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, 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
From Thompson ranch on Okanogan River east and south by circuitous route to Bridgeport 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
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".....	Feet. 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".....	81 ^c . 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
From Central ferry (west of Brewster) south along wagon road 3 miles (spur line: elevations unreliable).	
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 "1738".....	1, 735. 331
From 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 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 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, 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, 20 feet south of road, in granite boulder; aluminum tablet stamped "3810".....	3, 810. 054
Summit, 1 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 miles northwest of, 0.25 mile south of grassy meadow, 30 feet east of road, on small ridge, in root of pine tree: 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 tree; 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 boulders, in granite rock; aluminum tablet stamped "3174".....	Feet. 3,174.966
Junction of Silver-Brewster stage road and Chiliwist Creek road, 5.5 miles east of Silver in root of fir tree: nail marked "2582".....	2,581.62
Lyde ranch, 1.3 miles east of, north side of road, at granite outcrop; on top of boulder marked "2278".....	2,277.21
Lyde ranch house, 0.25 mile east of, 6 feet north of road, corner of wire fence, in root of pine tree: nail marked "2025".....	2,024.53

From 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 boulder 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 tree: 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 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

From Riverside southeast along road up Johnson Creek to Water ranch.

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 boulder: bronze tablet stamped "1332 T".....	1,331.278
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OLYMPIA QUADRANGLE.

[Latitude 47°-47° 15'; longitude 122° 45'-123°.]

Primary leveling in 1912 and 1913 by E. M. Bandli.

From point 0.7 mile northeast of Belmore northeast along Northern Pacific Ry. to Olympia.

Belmore, 1 mile northeast of, 10 feet west of track, 15 feet south of road crossing, on signpost, in circle of paint; nail marked "176.2".....	176.02
Belmore, 1.6 miles northeast of, 5 feet east of track at switch spur leading to lumber mill south of road; iron post stamped "Prim. Trav. Sta. No. 30, 175, 1912".....	174.940
Belmore, 2.6 miles northeast of, 30 feet west of track near private road crossing, in circle of paint on telephone pole; copper nail marked "147.0".....	146.81
Belmore, 3.4 miles northwest of, 10 feet east of track, 10 feet north of road at road crossing, on signpost; nail in circle of paint, marked "130.9".....	130.74

From Tumwater north to Olympia, thence east along Northern Pacific Ry. to point 2 miles west of Sherlock.

Tumwater bridge over Deschutes River, in foundation of, 4 feet east of track; copper nail marked "86.8".....	86.56
Tumwater bridge over Deschutes River, 600 feet north of, 6 feet east of track; iron post stamped "71".....	70.583

	Feet.
Olympia, 6 feet northeast of Port Townsend Southern division track, 40 feet northwest of Northern Pacific Ry. track, in top of embankment post; copper nail marked "10.4".....	11.02
Olympia, at southwest corner of Main and Fourth streets, at entrance to stairway elevator of McKinney Building; surface of second step (C. & G. S. b. m. No. 2. Coast and Geodetic Survey elevation 13,890 not used)..	12.80
Olympia, southwest corner of Main and Fourth streets: surface of sidewalk (C. & G. S. b. m. No. 1. Coast and Geodetic Survey elevation 12.5 not used).....	11.19
Olympia, 6 feet east of Northern Pacific Ry. track at Eighth Street crossing; iron post stamped "Prim. Trav. Sta. No. 13, 17, 1912".....	17.157
Olympia, where East Side Street crosses Northern Pacific Ry. track, in base of electric track signal; copper nail marked "63.8".....	64.22
Olympia, 1.5 miles east of, 21 feet north of track at road crossing, in telegraph pole; copper nail marked "120.7".....	121.04
Olympia, 2.8 miles southeast of, 10 feet north of track at road crossing, in railroad-crossing sign; copper nail marked "200.7".....	201.06
Lacey, 1 mile northwest of, 6 feet north of track at road crossing; iron post stamped "Prim. Trav. Sta. No. 14, 202, 1912".....	202.566
Lacey, first road crossing east of station, 650 feet from station, 8 feet north of track; iron post stamped "Prim. Trav. Sta. No. 15, 184, 1912".....	184.445
Lacey, second road crossing southeast of station, 0.2 mile east of, in east end of cattle guard, 2 feet northeast of track; copper nail marked "182.6".	183.01
Union Mills, 300 feet southeast of Northern Pacific Ry. ticket office, 60 feet northeast of track, on pole; copper nail marked "175.3".....	175.73
Union Mills, 0.6 mile southeast of, 10 feet north of track at road crossing, in crossing sign; copper nail marked "198.0".....	198.40
Union Mills, 2.8 miles northeast of, 12 feet from track, in track switch; copper nail marked "176.6".....	177.01

OSOYOOS QUADRANGLE.

Latitude 48° 30'-49°; longitude 119°-119° 30'.]

From Tonasket along highway northwest to Bright Spot mining camp.

Primary leveling in 1901-2 by E. M. Fry and in 1903 by F. E. Fellows.

Tonasket, 2 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

From 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, about 0.5 mile west of Okanogan River, southwest of house, 15 feet west of road; 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

From Oroville southwest along highway to Blue Lake.

Monroe ranch, 1 mile west of, 5 feet north of road, in bottom of telephone pole; nail marked "1342".....	1,334.36
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From Riverside northeast along highway to Anglin, thence northwest to Tonasket.

	Feet.
Cutts ranch, 1 mile south of, 20 feet east of road, 50 feet east of small creek, near milepost 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 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 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 on west bank of Okanogan River; iron post stamped "904 T"	895. 875

From Tonasket along highway northeast to Antoine Valley (spur line); elevations unreliable).

Antoine Valley, 1 mile northeast of Duffy ranch, 0.25 mile north of Government sawmill road, at corner of Tps. 37 and 38 N., Rs. 27 and 28 E.; iron post stamped "1499 T"	1, 489. 574
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From 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 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

From Best ranch along highway southeast to Joe Aeneas ranch (spur line; elevations unreliable).

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
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Kayle ranch, 0.25 mile east of house, at crossroads, about 3 miles from mouth of Aeneas Valley; iron post stamped "2541 T"	Feet. 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

From 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 of 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 Co.'s store; iron post stamped "928 T"	920.572

From Chesaw north along highway to Canadian boundary line (spur line; elevations unreliable).

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 Meyers Co.; iron post stamped "2631 T"	2,624.199
Boundary monument 75, top of	2,726.598
Boundary monument 75, base of	2,721.98

From Oroville north along highway to Canadian boundary line (spur line; elevations unreliable).

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 89; iron post stamped "1058 T"	1,050.382

From 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 boulder marked "1224"	1,216.48

Okanogan Free Gold Mining Camp, 1 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".....	Feet. 1,407.697
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OTHELLO QUADRANGLE.

[Latitude 46° 30'-47°; longitude 119°-119° 30'.]

Precise leveling by the U. S. Coast and Geodetic Survey.

Mesa, 25 meters south of station; U. S. G. S. iron post stamped "677" (U. S. C. & G. S. B. M. W ₅).....	676.652
Vale, 1.5 miles west of station, 100 meters northeast of bridge 231, 60 meters east of track; U. S. G. S. iron post stamped "651" (U. S. C. & G. S. B. M. X ₅).....	651.114

From east border of quadrangle near Shano spur northwest along Northern Pacific Ry. to north border of quadrangle.

Leveling in 1916 by D. S. Eirkett.

Shano Spur, 1.33 miles northwest of, 300 feet southeast of milepost 12, east side of track, top of emergency rail stand; copper nail, painted "U. S. 1191 B. M.".....	1,191.14
Hamlet Spur, 0.33 mile southeast of, east side of track, top of emergency rail stand; copper nail painted "U. S. 1201 B. M.".....	1,200.91
Hamlet Spur, T. 15 N., R. 30 E., north side of sec. 14, 100 feet south of switch, west side of track, south side of road; iron post stamped "1214 Wash. 1916".....	1,213.990
Hamlet Spur, 0.73 mile northwest of, 300 feet northwest of milepost 14, east side of track, top of emergency rail stand; copper nail painted "U. S. 1223 B. M.".....	1,223.60
Bruce, 2.14 miles southeast of, east side of track, top of emergency rail stand; copper nail painted "U. S. 1192 B. M.".....	1,192.56
Bruce, 1.13 miles southeast of, 375 feet southeast of milepost 16, east side of track, top of emergency rail stand; copper nail painted "U. S. 1173 B. M.".....	1,172.72
Bruce, west side of water tank, top of concrete foundation; aluminum tablet stamped "1191 Wash. 1916".....	1,190.877
Bruce, 1 mile northeast of, 80 feet east of milepost 18, east side of track, top of emergency rail stand; copper nail, painted "U. S. 1194 B. M.".....	1,193.90
Bruce, 2 miles northeast of, milepost 19, west side of track, in base of telegraph pole; railroad spike painted "U. S. 1190 B. M.".....	1,190.94
Arney Spur, 225 feet north of switch, east side of track, top of emergency rail stand; copper nail painted "U. S. 1221 B. M.".....	1,221.47
Arney Spur, near northeast corner of sec. 17, T. 16 N., R. 30 E., 800 feet north of, west side of track, south side of road; iron post stamped "1219 Wash. 1916".....	1,219.426
Arney Spur, 1.1 miles north of, 425 feet south of milepost 21, east side of track, top of emergency rail stand; copper nail painted "U. S. 1238 B. M.".....	1,237.85
Arney Spur, 2.26 miles north of, 420 feet north of milepost No. 22, 210 feet north of Adams-Grant county line, east side of track, top of emergency rail stand; copper nail painted "U. S. 1263 B. M.".....	1,262.85
Milepost 23, 400 feet south of, east side of track, top of emergency rail stand; copper nail painted "U. S. 1279 B. M.".....	1,279.30
Milepost 24, 200 feet south of, east side of track, top of emergency rail stand; copper nail painted "U. S. 1260 B. M.".....	1,260.19

West Warden, 1.16 miles southwest of, west side of Chicago, Milwaukee & St. Paul Ry. track, in concrete base of semaphore; chiseled square marked "U. S. 1259 B. M.".....	Feet. 1, 259. 03
West Warden, 0.14 mile south of signboard, 60 feet east of milepost 26, east side of track, top of emergency rail stand; copper nail painted "U. S. 1252 B. M.".....	1, 251. 83
West Warden, top of nearest rail opposite signboard.....	1, 247. 0
West Warden, 0.92 mile north of, 300 feet north of milepost 27, east side of track, top of emergency rail stand; copper nail painted "U. S. 1219 B. M.".....	1, 218. 75
West Warden, 1 mile north of, 600 feet north of milepost 28, east side of track, top of emergency rail stand; copper nail painted "U. S. 1187 B. M.".....	1, 186. 93
From point south of West Warden southwest along Chicago, Milwaukee & St. Paul Ry. to center line of quadrangle and east border of Taunton 15' quadrangle.	
Warden, 3 miles southwest of, T. 17 N., R. 30 E., north side of sec. 29, 105 feet east of Chicago, Milwaukee & St. Paul Ry. crossing, south side of road; iron post stamped "1242 Wash. 1916".....	1, 241. 912
Novara, 4.8 miles northeast of, opposite semaphore, concrete base of fuse box; chiseled square painted "U. S. 1213 B. M.".....	1, 213. 36
Novara, 4.1 miles northeast of, east side of track, on concrete base of semaphore; chiseled square painted "U. S. 1199 B. M.".....	1, 198. 96
Novara, 2.7 miles northeast of, north side of Chicago, Milwaukee & St. Paul Ry. track, north side of concrete base of semaphore on vertical base; aluminum tablet stamped "1169 Wash. 1916".....	1, 168. 981
Novara, 1.9 miles northeast of, south side of track, concrete base of semaphore; chiseled square painted "U. S. 1154 B. M.".....	1, 154. 58
Novara, 0.5 mile north of east end of siding, south side of track, concrete base of semaphore; chiseled square painted "U. S. 1126 B. M.".....	1, 125. 90
Novara, top of nearest rail opposite signboard.....	1, 113. 85
Novara, 0.2 mile southwest of, 120 feet south of road crossing, south side of track, on concrete base of semaphore; chiseled square.....	1, 112. 58
Novara, 1.2 miles southwest of, north side of track, on concrete base of semaphore; chiseled square, painted "U. S. 1092 B. M.".....	1, 092. 47
Othello, 2 miles north of, east side of track, east side of concrete base of semaphore, on vertical face; aluminum tablet stamped "1078 Wash. 1916".....	1, 078. 418
Othello, 0.6 mile north of, end of switch, west side of track, on concrete base of semaphore; chiseled square painted "U. S. 1050 B. M.".....	1, 050. 22
Othello, 95 feet north of north end of Chicago, Milwaukee & St. Paul Ry. depot, 35 feet west of nearest rail of main line, south end of grass plot; iron post stamped "1038 Wash. 1916".....	1, 038. 177
Othello, 0.9 mile south of, west side of track, on concrete base of semaphore; chiseled square, painted "U. S. 1021 B. M.".....	1, 021. 32
Othello, 2.1 miles south of, west side of track, on concrete base of semaphore; chiseled square, painted "U. S. 981 B. M.".....	980. 49
Othello, 2.7 miles southwest of, south side of track, on concrete base of semaphore; chiseled square, painted "U. S. 960 B. M.".....	959. 60
Othello, 3.3 miles southwest of, T. 15 N., R. 29 E., near southwest corner of sec. 5, 50 feet east of road crossing, north side of track, north side of concrete base of semaphore, on vertical face; aluminum tablet stamped "938 Wash. 1916".....	937. 938
Othello, 4.1 miles southwest of, south side of track, on concrete base of semaphore; chiseled square, painted "U. S. 903 B. M.".....	902. 89

PACIFIC LAKE QUADRANGLE.

[Latitude 47°-47° 30'; longitude 118° 30'-119°.]

From Lind north along Northern Pacific Ry. to Paha.

Double line by H. S. Crowe in 1898; redetermined by U. S. Coast and Geodetic Survey precise leveling.

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. 1,507.149
Paha, in front of station; top of rail.....	1,563.5

Near southwest corner of quadrangle.

Leveling in 1916 by D. S. Birkett.

T. 18 N., R. 30 E., southeast corner of sec. 36, at crossroads, top of large boulder at fence corner; point in circle of paint, painted "U. S. 1193 B. M.".....	1,193.27
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PALISADES QUADRANGLE.

[Latitude 47° 15'-47° 30'; longitude 119° 45'-120°.]

From Trinidad northeast and southeast along Northern Pacific Ry. to Crater.

Primary leveling in 1903 by R. A. Farmer and in 1911 by H. L. McDonald.

Willow Springs, southeast corner of water tank, in foundation; aluminum tablet stamped "1114 T".....	1,114.383
Crater, 0.5 mile south of, opposite milepost 1620, 10 feet east of track; iron post stamped "1242 T".....	1,242.600

From milepost 1635 on Great Northern Ry. near Columbia River east via highways to Moses Coulee, thence northeast along Great Northern Ry. to milepost 16 (part of a single unchecked spur line).

Moses Coulee, 2.8 miles north of, at milepost 8; iron post stamped "846".....	846.559
Moses Coulee, 3.8 miles north of, opposite milepost 9; copper nail in tie, marked "865".....	864.879
Appledale, 0.4 mile south of, 200 feet north of milepost 10, at private road crossing; copper nail in tie, painted "887".....	886.805
Appledale, 0.6 mile north of, at milepost 11; iron post stamped "896".....	895.740
Appledale, 1.6 miles north of, at milepost 12; copper nail in tie, painted "910".....	910.27
Appledale, 2.6 miles north of, 240 feet north of milepost 13; copper nail in tie, painted "933".....	933.213
Appledale, 3.5 miles north of, 175 feet south of milepost 14; iron post stamped "941".....	940.948
Palisades, north of station, at road crossing; copper nail in tie, painted "978".....	978.055
Palisades, 0.4 mile north of, at milepost 16; copper nail in tie, painted "984".....	983.939

PASCO QUADRANGLE.

[Latitude 46°-46° 30'; longitude 119°-119° 30'.]

From Kiona along Northern Pacific Ry. to point near Pasco.

Precise leveling by the U. S. Coast and Geodetic Survey.

Kiona, in southeast corner of railroad park north of track, 7.48 meters north of nearest rail of main track, 13.40 meters north of northeast corner of station, 1.4 meters northwest of corner post of park fence; bottom of square hole in granite post, marked "U. S. □ B. M." (C. & G. S. "R ₂ ")..	514.143
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Kiona, 1.6 kilometers east of, 1.52 meters east of second telegraph pole west of mile pole 23, 15.5 meters south of track, in line with telegraph poles; iron post (C. & G. S. "S ₂ ").....	Feet. 539. 238
Badger, 21 meters north of mile pole 17, 27.8 meters north of nearest rail of main track, near line of northern Pacific right of way; bottom of square hole in top of granite post, marked "U. S. □ B. M." (C. & G. S. "T ₂ ").	676. 666
Relief, near, 3.9 meters east of first telegraph pole west of mile pole 8, 15.50 meters south of track, in line with telegraph poles; bottom of square hole in top of granite post, marked "U. S. □ B. M." (C. & G. S. "U ₂ ").	563. 359
Kennewick, near building of Northern Pacific Irrigation Co. on Front Street, 38 meters west of Yakima Street, 0.5 meter from north and west walls of an alcove in northwest corner; red metal cap on iron pipe (C. & G. S. "V ₂ ").	367. 745
Kennewick, in yard surrounding residence of L. E. Moore, 5.1 meters southwest of southwest corner of house, 5 meters east of fence inclosing yard in front of house, 70 meters north of main track of Northern Pacific Ry.; bottom of square hole in granite post; marked "U. S. □ B. M." (C. & G. S. "W ₂ ").	355. 176
Kennewick, 2 kilometers east of, at west end of bridge over Columbia River, on south side of track, in top of concrete cap for concrete pier, 0.15 meter from east and west edges, 2.2 meters below level of rack; red metal disk (C. & G. S. "X ₂ ").	352. 303
Pasco, 2 kilometers west of station, at east end of Northern Pacific Ry. bridge over Columbia River, on south side of track, in top of concrete cap, 0.15 meter from east and west edges and about 2.2 meters below level of track; red metal disk (C. & G. S. "Y ₂ ").	352. 060
Pasco, 1 kilometer west of, 83 meters southwest of first switch stand, in line with telegraph poles, 12.2 meters southeast of nearest rail; red metal cap on iron pipe (C. & G. S. "Z ₂ ").	376. 794
Pasco, in yard surrounding Hotel Pasco, on Court Street, 0.7 meter west of sidewalk in front of hotel, 10.35 meters east of east side of hotel, 57.50 meters south of main track; bottom of square hole in top of granite post, marked "U. S. □ B. M." (C. & G. S. "A ₃ ") ¹ .	378. 205
Pasco, near, on Northern Pacific Ry. bridge over Snake River, on top of granite retaining wall for west abutment, 0.3 meter west of east edge of granite capstone, 2.3 meters south of nearest rail; red metal disk (C. & G. S. "B ₃ ") ¹ .	357. 499
Pasco, near, on Northern Pacific Ry. bridge over Snake River, at first pier from west end, 1.25 meters south of nearest rail, in surface of girder at east end of truss; intersection of cross lines, lettered "U. S. B. M." (C. & G. S. "C ₃ ").	357. 637
Pasco, near, on Northern Pacific Ry. bridge over Snake River, on girder at west end of truss at third pier from west end, 1.25 meters south of nearest rail; intersection of cross lines, lettered "U. S. B. M." (C. & G. S. "D ₃ ").	357. 610
Pasco, near, on Northern Pacific Ry. bridge over Snake River, at fourth pier from west end of bridge, 1.25 meters south of nearest rail, on girder at east end of truss, intersection of cross lines, marked "U. S. B. M." (C. & G. S. "E ₃ ").	357. 604
Pasco, near, on Northern Pacific Ry. bridge over Snake River, at fifth pier from west end of bridge, 1.25 meters south of nearest rail, on east end of truss; intersection of cross lines, marked "U. S. B. M." (C. & G. S. "F ₃ ").	357. 637

¹ Connected by precise leveling from Spokane.

Pasco, near, on Northern Pacific Ry. bridge over Snake River, at sixth pier from west end of bridge, 1.25 meters south of nearest rail, on east end of truss; intersection of cross lines, marked "U. S. B. M." (C. & G. S. "G ₃ ").	Feet. 357. 585
Pasco, near, on Northern Pacific Ry. bridge over Snake River, at seventh pier from west end of bridge, 1.25 meters south of nearest rail, on girder at east end of truss; intersection of cross lines, "U. S. B. M." (C. & G. S. "F ₃ ").	357. 633
Walla Walla, near Pasco, on Northern Pacific Ry. bridge over Snake River, on top of granite retaining wall for east abutment, 0.3 meter east of west edge of granite capstone, 1.2 meters south of "U. S. B. M." (C. & G. S. "G ₃ ").	357. 523

From Eltopia southwest along Northern Pacific Ry. to Pasco.

Precise leveling by the U. S. Coast and Geodetic Survey.

Eltopia, 15 meters south of water tank, 10 meters south of track; U. S. G. S. iron post stamped "591" (U. S. C. & G. S. b. m. Y ₅).	590. 793
Eltopia, 3 miles southwest of station, 35 meters northwest of highway crossing, 30 meters west of track, 0.5 miles east of mile pole 116; disk set in iron post filled with concrete (U. S. C. & G. S. b. m. Z ₅).	579. 927
Glade, 3 miles northeast of station, 70 meters east of mile pole 221, 3 meters south of telegraph pole; U. S. G. S. iron post stamped "537" (U. S. C. & G. S. b. m. A ₆).	537. 246
Pasco, 4 miles north of station, 25 meters north of mile pole 226, 5 meters west of track; U. S. G. S. iron post stamped "445" (U. S. C. & G. S. b. m. B ₆).	444. 822
Pasco, 3 miles north of station, 75 meters south of mile pole 227, 10 meters west of track; U. S. G. S. iron post no elevation stamped thereon (U. S. C. & G. S. b. m. C ₆).	423. 142
Pasco, on first pier at east end of Northern Pacific Ry. bridge over Columbia River; U. S. G. S. disk stamped "350".	349. 579
NOTE.—C. & G. S. disk on same pier (U. S. C. & G. S. b. m. D ₆).	

From Klona east along Northern Pacific Ry. to Pasco.

Precise leveling in 1898 by H. S. Crowe.

Klona, 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. 907
Klona, in front of station; base of rail.	514. 9
Milepost 235, 31 feet north of; iron post stamped "640 T".	640. 472
Badger, in front of station; top of rail.	681. 2
Through cut, south end of, 3 feet east of telegraph pole, 120 feet southeast of milepost 240; iron post stamped "605 T".	605. 243
Relief siding, 2 feet east of first telegraph pole southwest of signboard, 920 feet west of mile board 246; iron post stamped "567 T".	567. 067
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. 917
Kennewick, in front of station; top of rail.	362. 0
Pasco, in front of telegraph office; top of rail.	381. 3

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

From Pasco northwest up Columbia River to northwest corner T. 9 N., R. 29 E., thence northeast to milepost 221, Northern Pacific Ry.

T. 9 N., R. 29 E., northwest corner of sec. 28, south side of road, 2 feet from fence; iron post stamped "362 T".....	Feet. 361. 964
Timberman 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".....	387. 059
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".....	463. 083
T. 10 N., R. 28 E., 1,600 feet a little south of west from northeast corner of sec. 25, on ridge 800 feet east of Columbia River (post marks the position of guidepost No. 93); iron post stamped "509 T".....	508. 570
T. 10 N., R. 29 E., 620 feet south by 220 feet east of northwest corner of sec. 27, on top of sand ridge, marks position of guidepost No. 22; iron post stamped "513 T".....	513. 343
T. 10 N., R. 29 E., near center of sec. 23, on highest point of ridge, West Glade triangulation station guidepost No. 18; iron post stamped "607 T".....	606. 507

From 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 Ry. (part 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. 319
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From Pasco north along Northern Pacific Ry. to Eltopia (double line).

Primary leveling in 1898 by H. S. Crowe and in 1913 by D. S. Birkett.

Pasco, on end wall of stall No. 1 of new roundhouse; aluminum tablet stamped "378 T" (reported destroyed).....	378. 025
Pasco, in front of telegraph office; top of rail.....	381. 3
Milepost "Wallula 20, Hope 226," 50 feet south of, 18 feet west of center of main track, 5 miles north of Pasco; iron post stamped "445 T" (=U. S. C. & G. S. b. m. B ₆).....	444. 822
Glade, opposite center of siding; 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" (=U. S. C. & G. S. b. m. A ₆)....	537. 246
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" (=U. S. C. & G. S. b. m. Y ₅).....	590. 793
Eltopia, in front of water tank; top of rail.....	591. 0

From Pasco northwest along highway up left (east) bank of Columbia River to Ringold.

Pasco, in yard surrounding Hotel Pasco, on Court Street, 0.7 meter west of sidewalk in front of hotel, 10.35 meters east of east side of hotel, 57.5 meters south of main track; bottom of square hole in top of granite post, marked "U. S. B. M" (C. & G. S. b. m. A ₃) (reported destroyed)....	378. 204
Pasco, 1.6 miles northwest of, on road up river, at intersection of road with telephone line, west side of road; spike in base of telephone pole, marked "U. S. 381 B. M".....	381. 32
Pasco, 3 miles northwest of, at crossing of road up river and private road, in southwest corner; nail in base of telephone pole, marked "U. S. 370 B. M".....	369. 76

Pasco, 4.1 miles northwest of, on south side of road up Columbia River; spike in base of telephone pole, marked "U. S. 366 B. M."	Feet. 365.63
T. 9 N., R. 29 E., northwest corner of sec. 28, south side of road, 2 feet from fence; iron post stamped "362 T" (Reclamation Service b. m.)	362.044
Pasco, 5 miles northwest of, on south side of road, 200 feet west of cross-road; spike in base of telephone pole, marked "U. S. 358 B. M."	357.78
Pasco, 6 miles northwest of, at point where road meets river, 30 feet west of road; spike in base of telephone pole, marked "U. S. 347 B. M."	346.63
Pasco, 7.1 miles northwest of, 15 feet west of road along river, in front of J. N. Linn farm; spike in base of telephone pole, marked "U. S. 376 B. M."	375.94
Timberman 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" (Reclamation Service b. m.)	387.016
Richland, across river and 0.5 mile south of, on Pasco road, at southwest fence corner; spike in base of telephone pole, marked "U. S. 370 B. M."	369.48
Richland, across river and 1 mile northeast of, 30 feet west of river road, in base of second telephone pole south of J. E. Shorrett's pumping plant; spike marked "U. S. 354 B. M."	353.98
Richland, 1.5 miles northeast of, at gate of Norling's ranch; spike in gate post, marked "U. S. 360 B. M."	360.02
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" (Reclamation Service b. m.) ..	462.816
T. 10 N., R. 29 E., southwest corner of sec. 30, 3.7 miles up river from Richland; spike in base of cedar fence post, marked "U. S. 488 B. M."	487.75
Richland, 4.6 miles up river from northeast corner of sec. 25, T. 10 N., R. 28 E., west side of road, at fence corner where roads intersect at right angles; spike in base of post, marked "U. S. 493 B. M."	493.30
T. 10 N., R. 29 E., southwest corner of sec. 18; spike in base of corner fence post, marked "U. S. 496 B. M."	495.91
T. 10 N., R. 28 E., 0.5 mile west of northwest corner of sec. 13, on east side of road; spike in base of gate post, marked "U. S. 477 B. M."	477.13
Richland, 8 miles north of, on east side of river, 0.8 mile downstream from Byers Landing, on east side of road; spike in base of gate post, marked "U. S. 448 B. M."	447.57
Byers Landing, in sec. 2, T. 10 N., R. 28 E., lot 2, in concrete engine pier of pumping plant foundation; aluminum tablet stamped "359 Wash 1913"	359.273
Byers Landing, 1.2 miles north of, 25 feet west of road; spike in top of pile, marked "U. S. 358 B. M."	358.42
Byers Landing, 2 miles north of, southwest corner of fence, 8 feet east of road; spike in base of fence post, marked "U. S. 370 B. M."	369.51
Byers Landing, 2.3 miles north of, in SW. $\frac{1}{4}$ sec. 24, T. 11 N., R. 28 E., at south end of Taylors Flat, northwest corner of field belonging to J. L. Clearwater's ranch, 12 feet east of road; iron post stamped "375 Wash 1913"	374.712
Byers Landing, 3.1 miles north of, 0.7 mile north of Clearwater's ranch, 80 feet west of road; spike in top of pile, marked "U. S. 364 B. M."	363.63
Taylors Flat, north end of, 1.2 miles north of Clearwater's ranch, 130 feet west of point where river road turns up hill leaving river; spike in base of pile, marked "U. S. 364 B. M."	363.89
Ringold Flat, south end of, in line of fence, 40 feet north of house on G. H. Cooley's ranch, 60 feet west of road; iron post stamped "454 Wash 1913" ..	453.965
Ringold schoolhouse, 1.1 miles south of, 40 feet west of road, in corner of fence; spike in base of fence post, marked "U. S. 467 B. M."	467.15

United States Engineers bench marks.

	Feet.
Hanford, 150 feet west of pumping plant; top of iron pipe.....	384. 76
Pasco, Coast and Geodetic Survey bench mark X ₂ (U. S. Engineers elevation equals 351.98).....	352. 303

From point 6.3 miles north of Benton City south along highways to that place and to Kiona.

Primary leveling in 1915 by D. S. Birkett.

Benton City, 6.3 miles north of, about halfway from Yakima River to level of Iowa Flat, 4 feet north of road; boulder marked "U. S. 789 B. M."...	788. 14
Benton City, 5.3 miles down Yakima River from, 450 feet upstream from point road to Iowa Flat leaves river road, 10 feet east of road, in top of 8-foot basalt boulder; chiseled cross marked "U. S. 470 B. M.".....	469. 16
Benton City, 4.4 miles north of, T. 10 N., R. 26 E., east side of sec. 35, 150 feet north of point road from Benton City joins and follows old railroad right of way, east side of right of way, at angle in fence; iron post stamped "460 Wash. 1915".....	459. 394
Benton City, 3.3 miles north of, east side of road, in small telephone pole; spike marked "U. S. 479 B. M.".....	478. 55
Benton City, 2.7 miles north of, 200 feet north of point where road bridges irrigation ditch, T road to west, east side of road, in telephone pole; spike marked "U. S. 480 B. M.".....	479. 58
T. 9 N., R. 26 E., east side of sec. 1, near northeast corner of tract 21, 120 feet west of Ledbetter ditch, 200 feet due east of Eric Anderson's house, 20 feet west of road; large basalt boulder marked "U. S. 590 B. M.".....	589. 29
T. 9 N., R. 26 E., southeast corner of sec. 1, northwest corner post of fence around peach orchard; spike marked "U. S. 605 B. M.".....	604. 42
T. 9 N., R. 26 E., northeast corner of sec. 13, north edge of Benton City limits, T road north, in corner fence post; spike marked "U. S. 584 B. M.".....	583. 33
Benton City, 0.25 mile west of depot, 400 feet east of railroad crossing, 12 feet north of Oregon-Washington R. R. & Navigation Co. track; boulder marked "U. S. 500 B. M.".....	499. 10
Benton City, 300 feet west of Oregon-Washington R. R. & Navigation Co. depot north of track, in concrete pedestal of water tank; bronze tablet stamped "494 Wash. 1915".....	493. 901
Benton City, in front of middle of Oregon-Washington R. R. & Navigation Co. depot; top of nearest rail.....	493. 4
Kiona, bridge over Yakima River, north end of, on west side of top of concrete approach; chiseled square marked "U. S.".....	474. 41
Kiona, in southeast corner of railroad park north of track, 7.48 meters north of nearest rail of main track, 13.40 meters north of northeast corner of station, 1.4 meters northwest of corner post of park fence; bottom of square hole in granite post marked "U. S. □ B. M." (C. & G. S. "R ₂ ").	514. 143

POINT HANSON QUADRANGLE. (INCLUDES PART OF OCOSTA 15' QUADRANGLE.)

[Latitude 46° 30'-47°; longitude 124°-124° 30'.]

From Markham west along Northern Pacific Ry. to Ocosta.

Primary leveling in 1911 by G. L. Hagman.

Markham, 0.5 mile west of; spike in base of milepost 64, painted and scribed "U. S. B. M. 11".....	11. 14
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Ocosta, 0.7 mile east of; spike in base of first telephone pole west of milepost 65, painted and scribed "U. S. B. M. 9"	Feet. 8.68
Ocosta, about 300 feet south of station, 45 feet south of end of bridge over Redman Creek, 15 feet west of edge of road; iron post stamped "6 Wa 1911"	6.373

From point 3 miles north of Damon Point south to Damon Point.

Copalis, 12.1 miles south of, 40 feet west of Walker cabin (which is east of hunting tripod on beach), south side of poor road, near fence; iron post stamped "12 Wa"	11.887
Copalis, 13.2 miles south of, 1 mile south of Walker cabin, just inside of drift line; spike in base of fence post with white flag, painted and scribed "U. S. B. M. 9"	9.50
Damon Point, in northern end of sand spit, about 450 meters (1,500 feet) from the gage (magnetic bearing N. 66° 45' W.) of water tank on jetty dock, corresponding to 20.43 feet on the fixed tide staff; copper bolt set in concrete pier (C. & G. S. b. m. and triangulation station "North Jetty")	11.830

POMEROY QUADRANGLE.

[Latitude 46°-46° 30'; longitude 117° 30'-118°.]

From Houser southeast and east along Oregon-Washington R. R. & Navigation Co. track and highway to point 2.2 miles east of Pataha City. (Unadjusted line.)

Primary leveling in 1915 by D. S. Birkett.

Milepost 20, north side of track; spike scribed "U. S. 1407 B. M."	1,407.16
Milepost 21, north side of track; spike scribed "U. S. 1452 B. M."	1,451.62
Milepost 22, north side of track; spike scribed "U. S. 1504 B. M."	1,504.41
Milepost 23, opposite; top of rail	1,545.0
Zumwalt, 0.48 mile west of, 425 feet east of schoolhouse, 35 feet north of Oregon-Washington R. R. & Navigation Co. track, west side of Dayton road, south side of Pomeroy-Starbuck road; iron post stamped "1567 Wash. 1915" (p. b. m. 40)	1,567.027
Milepost 24, opposite; top of rail	1,592.9
Zumwalt, 1.23 miles west of, 40 feet west of railroad crossing 20 feet north of track, telegraph pole; spike scribed "U. S. 1604 B. M."	1,604.14
Zumwalt, opposite signboard; top of rail	1,610.1
Milepost 25, 175 feet east of, telegraph pole, north side of track; spike scribed "U. S. 1643 B. M."	1,642.69
Milepost 26, north side of track; spike scribed "U. S. 1686 B. M."	1,685.52
Pomeroy, 2.5 miles west of Oregon-Washington R. R. & Navigation Co. station, 600 feet east of section line, south side of right of way, east side of gate into field; iron post stamped "1713 Wash. 1915" (p. b. m. 41)	1,712.756
Milepost 27, 175 feet east of, telegraph pole, north side of track; spike scribed "U. S. 1747 B. M."	1,747.24
Milepost 28, north side of track; spike scribed "U. S. 1801 B. M."	1,800.92
Pomeroy, Garfield County courtyard, east side of, 30 feet south of building, top of concrete retaining wall of yard; bronze tablet stamped "1863 Wash. 1915" (p. b. m. 42)	1,862.957
Pomeroy School, west side of, 57 feet north of the southwest corner of the building, concrete coping at base of building; bronze tablet stamped "1857 Wash. 1915" (p. b. m. 43)	1,857.318
Pomeroy, 1.5 miles east of station, bridge over Pataha Creek, south side of, top of concrete guardrail; chiseled square	1,922.75

	Feet.
Pataha City, 1 mile west of, on Pomeroy road, south side of concrete culvert; chiseled square marked "U. S. 1965 B. M.".....	1,964.75
Pataha City, 480 feet west of schoolhouse, north side of road, concrete bulkhead extension to culvert; bronze tablet stamped "2059 Wash. 1915" (p. b. m. 44).....	2,058.998
Pataha City, 0.7 mile east of public school, 275 feet south of Pomeroy-Lewiston road, west side of concrete bridge over Pataha Creek, top of middle of concrete guardrail, chiseled square.....	2,100.02
Pataha City, 2.25 miles east of, front of R. A. Fider place, south side of road, northwest corner of barnyard, telephone pole; spike scribed "U. S. 2204 B. M.".....	2,204.37

PORT ANGELES QUADRANGLE.

[Latitude 48°-48° 15'; longitude 123° 15'-123° 30'.]

From Ediz Lighthouse along beach to point near Port Angeles, thence east along Seattle, Port Angeles & Western Ry. and highway to point 5.8 miles east of Port Angeles. Leveled twice.

Primary leveling by R. C. Seitz in 1917.

Ediz Lighthouse, 101.6 meters from center of tower of, in line toward Race Rocks Light, in top of stone marking station East Base (U. S. C. & G. S. B. M. 5, established by Asst. J. J. Gilbert, 1892): Elevation above mean lower low water, 10.30 feet. Elevation above mean tide level, 5.47 feet.....	5.47
(Elevations are based on 86 high waters and 90 low waters.)	
Ediz Lighthouse, 3.18 miles west of, 2 miles west of Port Angeles, at northwest corner of P. S. M. & T. Lumber Co.'s yard, 15 feet east of railroad, 20 feet south of highway crossing; iron post stamped "5 1917 Prim. Trav. Sta. No. 2".....	5.082
Port Angeles, 1 mile west of, 5 feet north of railroad, at southwest corner of road trestle; roofing nail in projecting floor plank, painted.....	8.94
Port Angeles, at corner of Front and Laurel streets, in front of Merchants Hotel, on iron hydrant. (U. S. C. & G. S. b. m. 2, established in 1892 and known as City Engineer B. M. This bench mark has been raised since 1892, and U. S. C. & G. S. elevation, 15.589 ft., has been discarded.).....	16.11
Port Angeles, 1.08 miles east of, at small shipbuilding establishment, in base of telegraph pole; spike, painted "U. S. 1 B. M".....	9.84
Port Angeles, 2.13 miles east of, 250 feet west of railroad bridge P A 142, in base of telephone pole; spike, painted "U. S. 2 B. M.".....	8.03
Port Angeles, 3.07 miles east of, 10 feet west of box culvert under railroad, 10 feet west of railroad, top of piling; roofing nail, painted "U. S. 3 B. M.".....	11.50
Port Angeles, 4.15 miles east of, in Morse Valley, in southwest corner of switch stand; spike, painted "U. S. 4 B. M.".....	39.05
Port Angeles, 4.75 miles east of, about 100 feet east of east end of highway bridge, 30 feet north of highway, top of "cut off" post on old fence line; roofing nail, not painted.....	58.88
Port Angeles, 5.50 miles east of, on north side of road, at top of grade on east side of Moore Creek; iron post stamped "Prim. Trav. Sta. No. 12, 212, 1917".....	212.782
Port Angeles, 5.80 miles east of, at T road south, in northwest angle, top of 8-inch stump; roofing nail, painted "U. S. 235 B. M.".....	235.41

From Port Angeles south along highway to Ennis ranger station. Leveled twice.

	Feet.
Port Angeles, main (First St.) entrance to Fry's drug store, corner of Laurel and First Streets, southeast corner; iron plate under wooden column. . .	23.80
Port Angeles, corner of First and Race streets, in northeast angle; iron post stamped "Prim. Trav. Sta. No. 1, 92 1917"	92.992
Port Angeles, 1.65 miles south of, on Race Street extended, in base of telephone pole; spike, painted "U. S. 274 B. M."	274.42
Port Angeles, 2.30 miles south of, 300 feet north of Ben Chambers's house, opposite watering trough, in base of telephone pole; spike, painted "U. S. 477 B.M."	477.22
Port Angeles, 3.25 miles south of, in base of large burnt stump; roofing nail painted "U. S. 644 B. M."	644.05
Port Angeles, 3.80 miles south of, 840 feet south of Lawrence Lonsdale's house, on east side of road, in top of small stump; roofing nail, painted "U. S. 855 B. M."	855.76
Port Angeles, 4.16 miles south of, 300 feet south of Jones's house, on east edge of road; iron post stamped "Prim. Trav. Sta. No. 27, 1081 1917" . .	1,081.028
Port Angeles, 4.50 miles south of, north of Ennis ranger station, 100 feet north of White Creek, east side of road, in top of 36-inch cedar stump; roofing nail, painted "U. S. 1,255 B. M."	1,255.41
Port Angeles, 5.56 miles south of, north of Ennis ranger station, 900 feet north of creek crossing, on west edge of road, in root of 36-inch fir tree; roofing nail, painted "U. S. 1,571 B. M."	1,571.47
Ennis ranger station, 0.45 mile south of, 30 feet north of north end of clearing, in center of road, top of flat rock; chisel mark, painted "U. S. 1,817 B. M."	1,817.22
Ennis ranger station, 1 mile south of, at junction of Mount Angeles and Little River trails; iron post stamped "Prim. Trav. Sta. No. 28, 1957 1917"	1,956.879

From point 5.8 miles east of Port Angeles east along highway to point near Reeveton, thence south and west to Danzt ranch, thence north to beginning.

Port Angeles, 6.90 miles east of, in base of power-line pole 183; spike, painted "U. S. 7 B. M."	288.51
Port Angeles, 7.87 miles east of, 150 feet west of T road south at Fairview School, in base of power-line pole 198; spike painted "U. S. 8 B. M." . .	335.37
Port Angeles, 8.41 miles east of, 0.54 mile east of Fairview School, on north side of road, at bend; iron post stamped "Prim. Trav. Sta. No. 13, 332 1917"	332.483
Port Angeles, 9 miles east of, 1,300 feet west of Sebert Creek, on south side of road, in base of telephone pole; spike, painted "U. S. 262 B. M." . .	262.44
Port Angeles, 9.4 miles east of, crossroads just east of Sebert Creek; center of road	204.0
Port Angeles, 9.5 miles east by 1.15 miles south of, in front of Charles Lewis's house, on west side of road, in base of 12-inch fir tree; roofing nail, painted "U. S. 302 B. M."	302.51
Port Angeles, 9.5 miles east by 2.25 miles south of, on east side of road, 25 feet north of bridge; iron post stamped "Prim. Trav. Sta. No. 20, 477 1917"	477.598
Port Angeles, 9.5 miles east by 3.25 miles south of, at T road west on section line, in southwest angle, on rock at edge of road; chiseled mark, painted "U. S. 674 B. M."	674.26

Port Angeles, 9.5 miles east by 4.15 miles south of, 125 feet south of Blue Mountain School, in base of telephone pole; spike, painted "U. S. 862 B. M."	Feet. 862.22
Port Angeles, 9.5 miles east by 5 miles south of, on west side of road, at T road east to Sequine; iron post stamped "Prim. Trav. Sta. No. 19, 1128 1917"	1, 123.389
Port Angeles, 9.5 miles east by 5.90 miles south of, about 150 feet north of abandoned school house, in center of road, in root of tree; roofing nail, painted "U. S. 1,589 B. M."	1, 589.52
Port Angeles, 9.5 miles east by 6.20 miles south of, 140 feet west of end of road, in Cameron trail, in root of 30-inch fir tree; roofing nail, painted "U. S. 1,458 B. M."	1, 458.30
Port Angeles, 8.25 miles east by 6.20 miles south of, 0.75 mile west of Blue Mountain road, in root of 30-inch fir tree; roofing nail, painted "U. S. 1,511 B. M."	1, 511.82
Port Angeles, 7.50 miles east by 6.20 miles south of, 2 miles west of Blue Mountain road, 150 feet west of small drain, on edge of trail, in root of burnt snag; roofing nail, painted "U. S. 1,681 B. M."	1, 681.45
Port Angeles, 7 miles east by 7.20 miles south of, 1.50 miles east of Danz ranch house, about 200 feet west of stream, in root of 18-inch hemlock (dead); roofing nail, painted "U. S. 1,657 B. M."	1, 658.24
Port Angeles, 6.50 miles east of by 8.65 miles south of, about 0.5 mile east of Danz ranch house, 50 feet southwest of cabin, on top of rock in trail; chisel mark, painted "U. S. 1,688 B. M."	1, 686.83
Port Angeles, 5.8 miles east by 8.65 miles south of, 55 feet northwest of Fred Danz ranch house, near chicken-yard fence; iron post stamped "Prim. Trav. Sta. 1789, 1917"	1, 787.373
Port Angeles, 5.8 miles east by 7.75 miles south of, 75 feet south of bridge, in root of 60-inch fir tree; roofing nail, marked "U. S. 1668 B. M."	1, 665.88
Port Angeles, 5.8 miles east by 6.75 miles south of, 120 feet south of mile-post 6.6 and Mores Creek trail, in base of 60-inch fir tree; roofing nail, painted "U. S. 1,487 B. M."	1, 473.44
Port Angeles, 5.8 miles east by 5.80 miles north of, 50 feet south of creek crossing, at bend in road, in base of telephone pole; spike, painted "U. S. 1,090 B. M." (erroneously marked)	1, 075.98
Port Angeles, 5.8 miles east by 4.95 miles south of, in front of Earl Cool-edge house, 10 feet west of road; iron post stamped "Prim. Trav. Sta. 936, 1917"	936.544
Port Angeles, 5.8 miles east by 4 miles south of, in front of Tom Gelitch's house, in base of telephone pole; spike, painted "U. S. 779 B. M."	773.67
Port Angeles, 5.8 miles east by 2.75 miles south of, in front of T. Aldwell & Co.'s house, in base of telephone pole; spike, painted "U. S. 568 B. M."	565.77
Port Angeles, 5.8 miles east by 1.85 miles south of, at point where road turns south; iron post stamped "Prim. Trav. Sta. 492, 1917"	492.405
Port Angeles, 5.8 miles east by 1 mile south of, 100 feet south of old school-house, in base of telephone pole; spike, painted "U. S. 340 B. M."	341.11
Port Angeles, 5.8 miles east of, T road south, in northwest angle, in top of 8-inch stump; roofing nail, painted "U. S. 235 B. M."	235.41
From Port Angeles southwest along Little River road to west border of quadrangle.	
Port Angeles, at corner of 8th and Pine streets; top of hydrant.	143.64
Port Angeles, 2.25 miles southwest of, 1.18 miles south of corner at 8th and Pine streets, north end of box culvert at bend in road; large spike, painted "U. S. 366 B. M."	366.81

Port Angeles, 3.25 miles southwest of, just south of Chris. Baker's house, opposite old stone quarry, on outer edge of road at sharp bend; iron post stamped "Prim. Trav. Sta. No. 11, 565 1917"	565.497
Port Angeles, 4.50 miles southwest of, 285 feet north of creek, on west side of road, in large stump; roofing nail, painted "U. S. 726 B. M"	726.44
Port Angeles, 5.50 miles southwest of, 1,570 feet north of railroad trestle, on west edge of road, in top of 36-inch fir stump; roofing nail, painted "U. S. 835 B. M"	836.12
From Port Angeles west along Seattle, Port Angeles & Western Ry. to west border of quadrangle.	
Port Angeles, 2.28 miles west of, near top of railroad grade at point where railroad turns inland, in base of telegraph pole; spike, painted "U. S. 107 B. M"	107.35

PORT CRESCENT QUADRANGLE.

[Latitude 48°-48° 15'; longitude 123° 30'-123° 45'.]

From point near Port Angeles west along Seattle, Port Angeles & Western Ry. to Joyce.**Primary leveling by R. C. Seitz in 1917.**

Port Angeles, 3.25 miles west of, about 800 feet west of small green house, on south side of railroad, in base of "W" post; spike, painted "U. S. 156 B. M"	156.64
Lauridsen station, opposite signboard; top of rail	196.4
Port Angeles, 3.75 miles west of, 25 feet south of track, 15 feet south of electric bell, 15 feet east of road; iron post stamped "Prim. Trav. Sta. 227, 1917"	228.037
Port Angeles, 4.25 miles west of, 200 feet east of switch stand, in base of telephone pole; spike, painted "U. S. 226 B. M"	226.43
Port Angeles, 5.28 miles west of, in base of mile telegraph pole 343; spike, painted "U. S. 206 B. M"	206.87
Port Angeles, 6.29 miles west of, in base of telegraph pole to which a telephone booth is attached; spike, painted "U. S. 24 B. M"	142.71
Port Angeles, 7.18 miles west of, 650 feet west of west end of Elwha River bridge, in base of telephone pole; spike, painted "U. S. 98 B. M"	98.57
Port Angeles, 8.14 miles west of, 400 feet east of east end of switch, in base of telephone pole; spike, painted "U. S. 185 B. M"	185.68
Port Angeles, 9.32 miles west of, 100 feet east of Ranger (railroad) station, in base of telephone pole; spike, painted "U. S. 192 B. M"	192.595
Ranger, in front of station signboard; top of rail	195.3
Port Angeles, 10.33 miles west of, 1.01 miles west of Ranger station, in base of 1-mile signpost; spike, painted "U. S. 247 B. M"	248.20
Port Angeles, 10.81 miles west of, 0.75 mile east of Covill station, 20 feet south of track; iron post stamped "Prim. Trav. Sta. No. 4, 222 1917"	216.84
Covill station, 0.54 mile east of, in base of telephone pole; spike, painted "U. S. 204 B. M"	204.31
Covill, in front of station; top of rail	197.01
Covill station, 0.29 mile west of, in base of telegraph pole; spike, painted "U. S. 203 B. M"	203.2
Covill station, 1.40 miles west of, 0.90 mile east of Ramapo station, in base of telephone pole; spike, painted "U. S. 233 B. M"	233.3
Ramapo, in front of station; top of rail	225.5
Ramapo station, about 600 feet west of, 20 feet south of railroad; iron post stamped "Prim. Trav. Sta. No. 5, 247 1917"	247.94

Ramapo station, 1.25 miles west of, 1.46 miles east of Joyce, in base of telephone pole; spike, painted "U. S. 330 B. M".....	Feet. 330.56
Joyce, 0.29 mile east of, 300 feet west of milepole 377, in base of telephone pole; spike, painted "U. S. 350 B. M".....	350.99
Joyce, in front of station; top of rail.....	356.0
Joyce, 0.52 mile west of, 100 feet south of railroad, 10 feet east of road; iron post stamped "Prim. Trav. Sta. No. 6, 359 1917".....	359.191
From East Beach (Lake Crescent) along highways east and northeast to Ranger.	
East Beach (Lake Crescent), ferry landing, 65 feet from shore, top of guard-rail; roofing nail, painted "U. S. 585 B. M".....	585.49
East Beach, 60 feet west of road forks, on north edge of road, top of sandstone outcrop; bronze tablet stamped "Prim. Trav. Sta. No. 8, 663 1917".....	663.192
East Beach, 0.85 mile east of, in base of telephone pole; spike painted "U. S. 745 B. M".....	745.65
East Beach, 1.86 miles east of, at entrance to E. J. Maywood's yard, top of large stump; roofing nail, painted "U. S. 603 B. M".....	603.73
East Beach, 2.51 miles east of, at T road north, in base of telephone pole; spike, painted, "U. S. 605 B. M.".....	605.86
Lake Sutherland, 1.04 miles northeast of, in root of 36-inch fir tree on west edge of road; roofing nail, painted "U. S. 1,155 B. M.".....	1,156.00
Lake Sutherland, 2.02 miles northeast of, 0.52 mile west of sawmill, in base of telephone pole; spike painted "U. S. 1,116 B. M.".....	1,116.78
Lake Sutherland, 3.07 miles northeast of, 0.51 mile east of sawmill, east side of road forks; iron post stamped "934 1917".....	934.330
Lake Sutherland, 4.10 miles northeast of, on north side of road, in base of fence post; spike painted "U. S. 913 B. M.".....	913.17
Lake Sutherland, 5.06 miles northeast of, 2.86 miles south of Ranger station, in base of telephone pole; spike painted "U. S. 798 B. M.".....	798.60
Ranger station, 1.96 miles south of, at forks, in base of telephone pole; spike painted "U. S. 441 B. M.".....	441.35
Ranger, 1.3 miles south of, forks of Port Angeles-Lake Crescent and Eden Valley roads.....	320.9
Ranger station, 1 mile south of, top of hill just north of swamp, in root of 36-inch fir tree; roofing nail, painted "U. S. 464 B. M.".....	464.12
From east border of quadrangle southwest of Port Angeles west along highway via Elwha to Lake Sutherland.	
Port Angeles, 6.40 miles southwest of, at summit of road, northwest corner of Little River schoolhouse; iron post stamped "Prim. Trav. Sta. No. 10, 1022 1917".....	1,022.238
Port Angeles, 7.50 miles southwest of, 0.90 mile west of Coleman's house, on north side of road in root of 24-inch cedar tree; roofing nail, painted "U. S. 750 B. M.".....	750.20
Port Angeles, 8.55 miles southwest of, on south edge of road in base of 36-inch fir tree; roofing nail, painted "U. S. 591 B. M.".....	591.16
Port Angeles, 9.95 miles southwest of, 75 feet north of Little River bridge in northeast angle at junction of roads; iron post stamped "Prim. Trav. Sta. 222, 1917".....	222.760
Port Angeles, 10.70 miles southwest of, southeast corner of bridge over Elwha River, in floor; roofing nail, painted "U. S. 243 B. M.".....	243.52
Port Angeles, 11.50 miles southwest of, Elwha post-office trail south to Olympic Hot Springs, in root in center of trail; roofing nail, painted "U. S. 426 B. M.".....	426.78

Elwha post office, 1.19 miles west of, 900 feet west of entrance to Culverwells ranch, in root of 60-inch fir tree; roofing nail, painted "U. S. 402 B. M.".....	Feet. 402.82
Elwha post office, 1.64 miles west of, 0.47 mile west of Culverwells ranch, on north edge of road; iron post stamped "Prim. Trav. Sta. No. 26, 427 1917".....	427.812
Elwha post office, 2.70 miles west of, 10 feet north of road, top of stump; roofing nail, painted "U. S. 455 B. M.".....	455.91
Elwha post office, 3.80 miles west of, log support under northwest corner of Indian Creek; roofing nail, painted "U. S. 463 B. M.".....	463.87
Elwha post office, 4.85 miles west of, east of Piedmont, near east end of Lake Sutherland, on south edge of road; iron post stamped "Prim. Trav. Sta. No. 9, 571 1917".....	571.562
Lake Sutherland; water level, September 13, 1917.....	501.0
Lake Sutherland, at southwest corner of Frank Thompson's boat house; nail in post.....	503.28
From Elwha post office south along Olympic Hot Springs trail to south border of quadrangle. Leveled twice.	
Elwha post office, 1.03 miles south of, top of 18-inch fir stump, on east side of road; roofing nail, painted "U. S. 584 B. M.".....	584.70
Elwha post office, 2 miles south of, 650 feet south of creek crossing, on west edge of trail, top of rock; chiseled mark, painted "U. S. 382 B. M."....	361.07
Elwha post office, 3 miles south of, 325 feet south of Hughes Creek, on east side of trail; iron post stamped (erroneously) "Prim. Trav. Sta. No. 29, 1917 364".....	342.582
Elwha post office, 4.04 miles south of, 130 feet north of creek crossing, on edge of trail, in root of maple tree; roofing nail, painted (erroneously) "U. S. 811 B. M.".....	789.43

PORTLAND QUADRANGLE.

[Latitude 45° 30'–45° 45'; longitude 122° 30'–122° 45'.]

United States Military Reservation at Vancouver.

Primary leveling in 1896 by C. C. Ward.

Columbia River, north bank, in Chinese vegetable garden east of Vancouver, in 14-inch cottonwood stump; head of nail.....	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
From Vancouver northeast along Yacolt branch of Northern Pacific Ry. 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 27-inch fir stump; head of nail.....	249.7
T. 2 N., R. 2 E., sec. 6, 10 feet southeast of railroad at road crossing, in 36-inch fir stump; 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 36-inch fir stump; head of nail.....	294.8

From Brush Prairie south to Fishers Landing, thence west to Vancouver.

	Feet.
T. 3 N., R. 2 E., 50 feet from corner of secs. 13, 14, 23, and 24, 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 28-inch fir tree; 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 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 16-inch fir stump; head of nail	179.7
United States water tank, at southwest corner of forks of road, in root of 2-foot fir stump; head of nail	177

From 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 3-foot fir stump; 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 3-foot fir stump; head of nail	200.9
Felida post office, 1 mile north of, near southeast corner of sec. 29, 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 3-foot fir tree; 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 partly 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 14-inch oak tree; head of nail	201.076

PRIEST RAPIDS QUADRANGLE.

[Latitude 46° 30'–46° 45'; longitude 119° 45'–120°.]

From Leslie's ranch west and north along highways up left bank of Columbia River to Bend.

Primary leveling in 1913 by D. S. Birkett and U. S. Corps of Engineers.

Leslie's ranch, 1.2 miles upstream from, 35 feet south of road, top of large basalt boulder; circle of paint marked "U. S. 415 B. M."	414.56
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Richmond Ferry, 1.1 miles downstream from, 30 feet south of road, on river bottom, top of large boulder; circle of paint marked "U. S. 418 B. M."	Feet. 417. 48
Arrowsmith's ranch, in front of present residence; spike in base of power pole, marked "U. S. 467 B. M."	466. 84
This bench mark by Reclamation Service, not shown on atlas sheet.	
T. 13 N., R. 24 E., sec. 10, 0.2 mile north of Knaub's house, on south side of Columbia River, at end of line for cross section for bridge and pipe line; iron post: Elevation by Reclamation Service	468. 994
Interpolated value	468. 250
T. 13 N., R. 24 E., southeast corner of SW. $\frac{1}{4}$ sec. 2,200 feet north by 80 feet west of pumping plant on Arrowsmith's ranch, in line of power poles; iron post stamped "467 Wash 1913"	466. 827
T. 13 N., R. 24 E., northwest corner of sec. 10, at intersection of fence with power line; spike in base of power pole, marked "U. S. 452 B. M."	451. 95
T. 13 N., R. 24 E., northwest corner of sec. 9, 100 feet east of fence corner; spike in base of power pole, marked "U. S. 465 B. M."	464. 97
T. 13 N., R. 24 E., quarter corner between secs. 5 and 8, in line with power poles, 3 feet north of nearest pole, west side of road; iron post stamped "463 Wash 1913"	462. 604
Priest Rapids power plant, opposite and a little downstream from, at point where power line crosses Columbia River, 40 feet south of road; spike in base of fence post, marked "U. S. 437 B. M."	436. 94
T. 14 N., R. 23 E., 0.12 mile northeast of southwest corner of sec. 36, 30 feet north of corner, in line of fence, 0.8 mile north of point where power line crosses river; iron post stamped "457 Wash 1913"	456. 495
Figure 2 ranch, 1 mile south of main residence on, at deserted cabins, at south end of grove below hill, 40 feet west of lower road; spike in high gatepost, marked "U. S. 464 B. M."	464. 20
Figure 2 ranch, 1.3 miles north of, on small hump, 300 feet west of road; circle of paint on top of boulder, marked "U. S. 542 B. M."	541. 32
D. N. Conrad's ranch, 1 mile south of, 100 feet east of road; circle of paint on top of large rock, marked "U. S. 533 B. M."	533. 02
T. 14 N., R. 23 E., 400 feet east of northwest corner of sec. 10, 200 feet north of D. N. Conrad's ranch house, near gatepost in line of fence; iron post stamped "523 Wash 1913"	522. 683
Bend, 0.9 mile south of, 200 feet east of road; spike in base of power pole 183, marked "U. S. 513 B. M."	513. 01
Bend, 100 feet south by 30 feet west of post office; spike in base of power pole No. 205, marked "U. S. 513 B. M."	513. 17
Bend, southeast corner of sec. 28, T. 15 N., R. 23 E., east front of school-house in second concrete step; aluminum tablet stamped "515 Wash 1913"	514. 767
United States Engineers and Reclamation Service bench marks.	
Bend, U. S. Reclamation Service bench mark; iron post stamped "B. M. 503." (The description and Reclamation Service value are not known. Engineers value 503.69)	503. 67
Figure 2 ranch (Reclamation Service b. m. 467.148), iron post stamped "467." (U. S. Engineers elevation 467.29)	467. 313

Filey's ranch, in northwest corner of Filey's house; spike (U. S. Engineers b. m.).....	Feet. 444.60
Filey's ranch, at upper end of small cove opposite, 500 feet south of street landing across river from Filey's house, 10 feet north of road on west bank of river; bench mark on solid rock (U. S. Engineers b. m.).....	425.51

PROSSER QUADRANGLE.

[Latitude 46°-46° 30'; longitude 119° 30'-120°.]

From Byron along Northern Pacific Ry. to Kiona.

Precise leveling by U. S. Coast and Geodetic Survey.

Byron, 1.3 kilometers east of siding, 2.5 meters west of third telegraph pole west of mile pole 45, in line with telegraph poles, 10 meters south of nearest rail; red metal cap on iron pipe (C. & G. S. "L ₂ ").....	691.216
Prosser, in upper surface of concrete foundation supporting pillars of Northern Pacific water tank, at southeast side of southern one of two eastern pillars, 0.45 meter west of edge of foundation, 0.07 meter west of east edge, 7.55 meters south of nearest rail of main track; copper bolt marked "U. S. B. M." (C. & G. S. "M ₂ ").....	661.019
Prosser, in vertical surface of east end of south brick wall of Nelson Rich block, on Sixth Street, 1.51 meters above foundation of building, 0.21 meter from either edge of south wall; red metal disk (C. & G. S. "N ₂ ").	667.342
Prosser, in front of show window of Carl A. Jensen block, on Bennett Avenue, in top of concrete coping, 1 meter west of east edge and 2.95 meters east of entrance to drug store in block; red metal disk (C. & G. S. "O ₂ ")	661.653
Prosser, 0.9 kilometer east of, 116 meters east of mile pole 40, opposite third telegraph pole east of mile pole 40, 5.4 meters north of nearest rail; red metal cap on iron pipe (C. & G. S. "P ₂ ").....	673.656
Kiona, 2. kilometers west of, 0.4 kilometer east of milepost 26, in ledge of natural rock, 3.03 meters south of nearest rail, level with track; copper bolt marked "U. S. B. M." (C. & G. S. "Q ₂ ").....	487.151

From Mabton east along Northern Pacific Ry. to Kiona.

Precise leveling in 1898 by H. S. Crowe.

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".....	696.580
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".....	661.473
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".....	627.467
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".....	534.501

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

Primary leveling in 1906 by John R. Evans.

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".....	717.284
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From Sappenfield ranch east 7 miles to crossroads.

T. 6 N., R. 23 E., south side of sec. 9, 30 feet northwest of quarter corner, 3.5 miles east of Sappenfield ranch house, at intersection of two roads; iron post stamped "1231"	Feet. 1,232.164
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"	898.121

From Prosser along highways north and northeast to sec. 35, T. 12 N., R. 25 E., thence southeast to point 6.3 miles north of Benton City.

Primary leveling in 1915 by D. S. Birkett and U. S. Reclamation Service.

Prosser, in front of show window of Carl H. Jenson Block, on Bennett Avenue, in top of concrete capping, 1 meter west of east edge, and 2.95 meters east of entrance to drug store in block; red metal disk (C. & G. S. B. M. "O ₂ ")	661.653
Prosser, lower bridge over Yakima River; surface of bridge	640.3
Prosser, 0.68 mile north of, 400 feet north of lower bridge over Yakima River, T road to west, northwest corner, telephone pole; spike marked "U. S. 648 B. M."	648.40
Prosser, 1.64 miles north of, crossroads, northeast corner, in power pole; spike marked "U. S. 728 B. M."	728.32
North Prosser railroad crossing, top of rail Oregon-Washington R. R. & Navigation Co. track, 0.3 mile west of depot at	771.0
Prosser, 2.39 miles north of, west side of road, 200 feet south of Sunnyside irrigation canal; iron post stamped "818 T" (U. S. Reclamation Service b. m.)	818.783
T. 9 N., R. 24 E., center of section 24, east side of road, in telephone pole; spike marked "U. S. 868 B. M."	868.17
Prosser, 5.38 miles north of, T. 9 N., R. 24 E., near southeast corner of sec. 12, south side of Gulch, 100 feet due south of wooden bridge, 15 feet above road, in solid basalt rock; aluminum tablet stamped "999 Wash 1915"	999.245
Fork in roads opposite shack, fence corner ground; marked "1088"	1,088.2
T. 9 N., R. 25 E., southwest corner of sec. 6, telephone pole; spike marked "U. S. 1140 B. M."	1,139.87
T. 9 N., R. 25 E., at northwest corner of the township; iron post stamped "1285 Wash 1915"	1,284.798
T. 10 N., R. 25 E., northwest corner of sec. 31, in fence post; spike marked "U. S. 1545 B. M."	1,545.34
Top of hill, in front of old house, in gate post; ground marked "1661"	1,660.8
T. 10 N., R. 25 E., southwest corner of sec. 19, in southwest corner of Kimball school yard; iron post stamped "1703 Wash 1915"	1,703.021
T. 10 N., R. 25 E., southwest corner of sec. 18, in fence post; spike marked "U. S. 1899 B. M."	1,898.92
T. 10 N., R. 25 E., near southwest corner of sec. 7, in corner fence post; spike marked "U. S. 2082 B. M."	2,082.19
T. 10 N., R. 25 E., about 0.3 mile north of the southwest corner of sec. 6, in corner fence post; spike marked "U. S. 2385 B. M."	2,385.17
T. 11 N., R. 25 E., in southwest corner of the township, T road east, in fence post; spike marked "U. S. 2547 B. M."	2,547.44
T. 11 N., R. 25 E., in northwest corner of sec. 31, crossroads. in southeast corner; iron post stamped "2742 Wash 1915"	2,742.787
T. 11 N., R. 25 E., in northwest corner of sec. 30, approximate summit of road, in fence post; spike marked "U. S. 2768 B. M."	2,768.57

	Feet.
Summit on road over Rattlesnake Ridge, 0.88 mile north of, in canyon, 30 feet east of road, in small telephone pole; spike marked "U. S. 2496 B. M.".....	2,496.30
Snively ranch house, 1.58 miles southwest of, in southwest corner of wooden corral, in post; spike marked "U. S. 1889 B. M.".....	1,889.52
Snively ranch house, 0.53 mile southwest of, at gate across road, in small telephone pole; spike marked "U. S. 1656 B. M.".....	1,656.66
T. 11 N., R. 25 E., about center of sec. 8, corner of yard, south of Snively ranch house, east side of road; iron post stamped "1479 Wash. 1915"....	1,478.737
Snively ranch house, 0.87 mlie north of, down canyon, east side of road, in gatepost; spike marked "U. S. 1201 B. M.".....	1,200.90
Snively ranch house, 1.45 miles north of, down canyon, 40 feet east of gate into alfalfa field, in fence post; spike marked "U. S. 1059 B. M.".....	1,059.03
T. 11 N., R. 25 E., near south quarter corner sec. 32, 2.13 miles north of Snively ranch house, in small isolated granite boulder; aluminum tablet stamped "931 Wash. 1915".....	931.062
Benson ranch, 1.56 miles southwest of, east side of road; top of granite boulder marked "U. S. 699 B. M.".....	699.23
Benson ranch, 1.09 miles southwest of, west side of gate, fence post; spike marked "U. S. 651 B. M.".....	650.61
Benson ranch, T. 12 N., R. 25 E., near the west quarter corner of sec. 26, near the southwest corner of inclosure, surrounded by row of poplar trees, 30 feet southwest of nearest tree, on fence line; iron post stamped "610 Wash. 1915".....	609.832
Benson ranch, 30 feet north of ranch house and east of corral, in poplar tree; iron bolt marked "606.98 B. M. on stake" (U. S. R. S. value 608.13) (606.98 is probably by vertical angles by McDonald in 1914).....	607.50
Benson ranch, 1.65 miles south of, 25 feet west of road, pile of boulders; point on rock marked "U. S. 804 B. M.".....	803.86
Benson ranch, 2.6 miles south of, gate in wire fence, post west side of gate; spike marked "U. S. 1049 B. M.".....	1,048.86
Benson ranch, 3.71 miles southeast of, near gate across road, 30 feet east of fence, 20 feet south of road, in basalt boulder; bronze tablet stamped "1074 Wash. 1915".....	1,073.343
T. 11 N., R. 25 E., near center of sec. 18, 5.75 miles southeast of Benson ranch, on road from ranch to gas well, edge of wagon track, north side of road, in 2-foot granite boulder; chiseled cross marked "U. S. 1162 B. M.".....	1,162.26
T. 11 N., R. 26 E., in northwest quarter of sec. 20, 6.81 miles southeast of Benson ranch, on road from ranch to gas well, about 1 mile northwest of the well, in large basalt boulder, 70 feet south of road, east side of small ravine; bronze tablet stamped "1169 Wash. 1915".....	1,168.721
Gas well, 0.3 mile north of, 75 feet south of road; basalt boulder marked "U. S. 1205 B. M.".....	1,204.58
Gas well, 1.5 miles east of, in gatepost, south side of road; spike marked "U. S. 1250 B. M.".....	1,249.84
T. 11 N., R. 26 E., west side of sec. 35, where road to Benson ranch leaves north-south fence, east side of road, in fence post; spike marked "U. S. 1197 B. M.".....	1,196.25
T. 10 N., R. 26 E., northeast corner of sec. 3, 0.75 mile north of Hodges ranch house, west side of road, at fence corner; iron post stamped "1219 Wash. 1915".....	1,218.810
T. 10 N., R. 26 E., in southwest corner of sec. 2, large fence post; spike marked "U. S. 1316 B. M.".....	1,315.61

T. 10 N., R. 26 E., in northwest corner of sec. 12, in corner fence post; spike marked "U. S. 1095 B. M."	Feet. 1,094.19
T. 10 N., R. 26 E., near southeast corner of sec. 11, point where road from Kiona reaches level of Iowa Flat, west side of road; iron post stamped "1109 Wash. 1915"	1,109.445
From sec. 13, T. 10 N., R. 22 E., east, south, and east to sec. 19, T. 10 N., R. 25 E.	
T. 10 N., R. 23 E., in southwest corner of sec. 8, 2 miles north and 1.5 miles east of Sunnyside, T-road north, east side of road; iron post stamped "945 Wash. 1915"	945.289
T. 10 N., R. 23 E., in southwest corner of sec. 9, 20 feet east of, in fence post, north side of road; spike marked "U. S. 950 B. M."	950.36
T. 10 N., R. 23 E., northwest corner of sec. 15, south side of road, in corner fence post; spike marked "U. S. 1018 B. M."	1,018.10
T. 10 N., R. 23 E., in northwest corner of sec. 15, at road intersection, 1 mile north of Wheatland schoolhouse, west side of road; iron post stamped "1102 Wash. 1915"	1,102.069
T. 10 N., R. 23 E., in southeast corner of sec. 15, about 300 feet west of Wheatland schoolhouse, west side of road, in fence post; spike marked "U. S. 1036 B. M."	1,035.50
T. 10 N., R. 23 E., in northwest corner of sec. 26, 4.5 miles east and 0.5 mile north of Sunnyside, south side of road, 15 feet east of fence corner in line of fence; aluminum tablet set in top of 3.5 inch iron post set in concrete, stamped "937" (U. S. Reclamation Service b. m.)	937.298
T. 10 N., R. 23 E., in northwest corner of sec. 25, south side of road, in fence post; spike marked "U. S. 1075 B. M."	1,074.54
T. 10 N., R. 24 E., in northwest corner of sec. 30, 35 feet east of Yakima-Benton county line, on south side of road; iron post stamped "1213 Wash. 1915"	1,212.609
T. 10 N., R. 24 E., in northeast corner of sec. 30, south side of road, in fence post; spike marked "U. S. 1304 B. M."	1,304.26
T. 10 N., R. 24 E., southeast corner of sec. 20, north side of road, in fence post; spike marked "U. S. 1442 B. M."	1,441.94
T. 10 N., R. 24 E., in southwest corner of sec. 22, north side of road, cross-roads, 0.5 mile east of Lone Star schoolhouse; iron post stamped "1510 Wash. 1915"	1,510.153
T. 10 N., R. 24 E., in northeast corner of sec. 27, south side of road, in corner fence post; spike marked "U. S. 1548 B. M."	1,548.06
T. 10 N., R. 24 E., southwest corner of sec. 24, north side of road, in corner fence post; spike marked "U. S. 1639 B. M."	1,639.27
From Prosser south along highway 6.2 miles to southwest corner sec. 36, T. 8 N., R. 24 E. (leveled twice).	
Prosser, in upper surface of concrete foundation supporting pillars of Northern Pacific water tank, at southeast side of southern one of two eastern pillars, 0.45 meter west of edge of foundation, 0.07 meter west of east edge, 7.55 meters south of nearest rail of main track; copper bolt marked "U. S. B. M." (C. & G. S. "M.") (B. 557, p. 161)	661.019
Prosser, 0.77 mile south of Northern Pacific Ry. water tank, 30 feet north-east of small bridge over irrigation ditch, in corner fence post; spike marked "U. S. 716 B. M."	715.89
Prosser, 1.17 miles south of Northern Pacific Ry. water tank, 25 feet east of road; top of granite boulder marked "U. S. 902 B. M."	902.08
Prosser, 1.63 miles south of Northern Pacific Ry. water tank, 4 feet west of road; top of boulder marked "U. S. 1198 B. M."	1,197.59

	Feet.
Ground at fence four-fifths way up hill, south side of road marked "1615" ..	1, 614. 7
Prosser, 2.43 miles south of, about summit of gap, near quarter corner between secs. 13 and 14, 12 feet west of road; iron post stamped "1681 Wash. 1915"	1, 681. 224
Prosser, 3.08 miles south of, 0.65 mile south of summit of road, section line, west side of road in telephone pole; spike marked "U. S. 1527 B. M." ..	1, 527. 21
Prosser, T. 8 N., R. 24 E., in northwest corner of sec. 25, crossroads, east side of road, in fence post; spike marked "U. S. 1467 B. M."	1, 466. 78
Prosser, T. 8 N., R. 24 E., in northeast corner of sec. 35, on fence line, in post; spike marked "U. S. 1354 B. M."	1, 354. 16
Lincoln ranch, in front of; elevation of ground at fence, marked "1300" ..	1, 299. 7
T. 8 N., R. 24 E., at the southwest corner of sec. 36, at fence in southwest corner of Prairie View School yard; iron post stamped "1270 Wash. 1915" ..	1. 269. 944
From southwest corner of sec. 36, T. 8 N., R. 24 E., along highway east 8 miles, thence south to sec. 18, T. 6 N., R. 26 E. (unadjusted line closing +0.790 foot).	
T. 8 N., R. 24 E., in southeast corner of sec. 36, T road south, on north side of road, in fence post; spike marked "U. S. 1157 B. M."	1, 156. 569
T. 8 N., R. 25 E., southwest corner of sec. 32, north side of road, in fence post; spike marked "U. S. 1117 B. M."	1, 117. 495
T. 8 N., R. 25 E., southwest corner of sec. 33, crossroads, 3 miles east of Prairie View schoolhouse, north side of road; iron post stamped "1077 Wash. 1915"	1, 077. 145
T. 8 N., R. 25 E., in southeast corner of sec. 33, north side of road, in fence post; spike marked "U. S. 1056 B. M."	1, 056. 304
T. 8 N., R. 25 E., southeast corner of sec. 34, north side of road, in fence post; spike marked "U. S. 994 B. M."	994. 123
T. 8 N., R. 25 E., in southeast corner of sec. 35, at crossroads, 1 mile west of Fair View schoolhouse, northwest corner; iron post stamped "1030 Wash. 1915"	1, 030. 262
T. 7 N., R. 25 E., in northeast corner of the township, near Fair View schoolhouse, in fence corner; spike marked "U. S. 1036 B. M."	1, 066. 056
T. 7 N., R. 26 E., in northeast corner of sec. 6, 1 mile east of Fair View schoolhouse, on the Patterson road, in southwest corner of road intersection; iron post stamped "1096 Wash. 1915"	1, 095. 824
T. 7 N., R. 26 E., in southeast corner of sec. 6, fence post, west side of road; spike marked "U. S. 1037 B. M."	1, 066. 923
T. 7 N., R. 26 E., in southwest corner of sec. 8, east side of road, in gatepost; spike marked "U. S. 1021 B. M."	1, 020. 687
T. 7 N., R. 26 E., in southwest corner of sec. 17, east side of road; iron post stamped "934 Wash. 1915"	933. 739
T. 7 N., R. 26 E., in southwest corner of sec. 20, 60 feet north of, in small telephone post; spike marked "U. S. 933 B. M."	932. 769
T. 7 N., R. 26 E., in southwest corner of sec. 29, in corner fence post, east side of road; spike marked "U. S. 915 B. M."	915. 270
T. 7 N., R. 26 E., in southeast corner of sec. 31, west side of Patterson road; iron post stamped "879 Wash. 1915"	878. 522
T. 6 N., R. 26 E., in southeast corner of sec. 6, west side of road, in fence post; spike marked "U. S. 880 B. M."	879. 698
T. 6 N., R. 26 E., in southeast corner of sec. 7, west side of road, in fence post; spike marked "U. S. 758 B. M."	758. 111
T. 6 N., R. 26 E., about the middle of NE. $\frac{1}{4}$ sec. 18; 8-foot granite boulder, top marked "724"	723. 46
T. 6 N., R. 26 E., sec. 18, 9.6 miles northeast of Glade, 15 feet north of bend in road, at line of fence; iron post stamped "716"	718. 074

From southwest corner of sec. 36, T. 8 N., R. 24 E., along highways south 6 miles, thence west and south to southwest corner of sec. 7, T. 6 N., R. 24 E. (unadjusted line closing +0.447 foot in error).

	Feet.
T. 7 N., R. 24 E., southeast corner of sec. 2, corner fence post; nail marked "U. S. 1146 B. M.".....	1, 146. 370
T. 7 N., R. 24 E., in southeast corner of sec. 11, corner fence post; nail marked "U. S. 1012 B. M.".....	1, 012. 133
T. 7 N., R. 24 E., in southeast corner of sec. 14, in corner fence post; 20-penny nail marked "U. S. 933 B. M.".....	932. 575
T. 7 N., R. 24 E., in southwest corner of sec. 24, in line of fence, 30 feet north of east-west road, on 14-inch boulder; bronze tablet stamped "863".....	862. 733
T. 7 N., R. 24 E., in southwest corner of sec. 25, in corner fence post; nail marked "U. S. 804 B. M.".....	803. 738
T. 6 N., R. 24 E., in northwest corner of sec. 2, in corner fence post; nail marked "U. S. 790 B. M.".....	790. 227
T. 6 N., R. 24 E., in northeast corner of sec. 4, west side of road in line of fence, 50 feet south of east-west fence, on small granite boulder; bronze tablet stamped "1915-838".....	837. 874
T. 7 N., R. 24 E., in southwest corner of sec. 33, in corner fence post; 20-penny nail marked "U. S. 861 B. M.".....	861. 335
T. 6 N., R. 24 E., 750 feet south of the northeast corner of sec. 6, small telephone pole; 20-penny nail marked "U. S. 934 B. M.".....	933. 923
T. 6 N., R. 24 E., near northeast corner of sec. 7, near bottom of "Glade," east side of road, on platform of well, east side of pump; nail marked "U. S. 774 B. M.".....	773. 879
Glade School (district 25), in front of door, ground.....	859. 4
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" (Bull. 557, p. 131, value 898.121).....	898. 568

From southwest corner of sec. 36, T. 8 N., R. 24 E., along highways west 11 miles, thence along west side of sec. 18, T. 7 N., R. 23 E. (part of an unadjusted line closing +.744 foot in error; see Zillah quadrangle).

T. 7 N., R. 24 E., northwest corner of sec. 2, fence post, south side of road; spike marked "U. S. 1331 B. M.".....	1, 331. 003
T. 7 N., R. 24 E., in northwest corner of sec. 3, in fence post, on south side of road; spike marked "U. S. 1436 B. M.".....	1, 436. 294
T. 7 N., R. 24 E., in northeast corner of sec. 5, 3 miles west of the Prairie View School, on south side of road; iron post stamped "1529 Wash. 1915".....	1, 529. 562
T. 7 N., R. 24 E., in northwest corner of sec. 5, crossroads, in corner fence post, south side of road; spike marked "U. S. 1603 B. M.".....	1, 602. 662
T. 8 N., R. 24 E., at the southwest corner of the township, north side of road, 40 feet west of Yakima-Benton county line; iron post stamped "1689 Wash. 1915".....	1, 688. 969
T. 7 N., R. 23 E., in northeast corner of sec. 2, crossroads, south side of road, in fence post; spike marked "U. S. 1740 B. M.".....	1, 740. 342
T. 7 N., R. 23 E., northeast corner of sec. 3, 300 feet southwest of district 67 schoolhouse, on south side of road; iron post stamped "1739 Wash. 1915".....	1, 739. 442
T. 7 N., R. 23 E., in northeast corner of sec. 4, south side of road, in corner fence post; spike marked "U. S. 1621 B. M.".....	1, 620. 693
T. 7 N., R. 23 E., in northeast corner of sec. 5, south side of road, in fence post; spike marked "1674 B. M.".....	1, 673. 891
T. 8 N., R. 23 E., in southeast corner of sec. 31, 0.25 mile east of road to south, north side of road; iron post stamped "1726 Wash. 1915".....	1, 725. 735

T. 7 N., R. 23 E., in northeast corner of sec. 6, 0.25 mile west of, and 250 feet south of, on west side of road, in corner post; ground marked "1727".....	Feet. 1, 727. 26
T. 7 N., R. 23 E., in southeast quarter of sec. 6, bottom of glade, point where road forks off down glade, in corner fence post, east side of road; spike marked "U. S. 1530 B. M.".....	1, 531. 396
T. 7 N., R. 23 E., at quarter corner between secs. 7 and 18, north side of road, in corner fence post; spike marked "U. S. 1927 B. M.".....	1, 926. 700
T. 7 N., R. 23 E., northwest corner of sec. 18, east side of road, at turn in road; iron post stamped "1983 Wash. 1915".....	1, 983. 006
T. 7 N., R. 23 E., at the quarter corner of the west side of sec. 18, on the township line, about 1,000 feet southeast of George Blanchard's house, east side of road, corner fence post; nail marked "U. S. 1935 B. M.".....	1, 935. 471

From Sunnyside south along range line to Mabton.

Primary leveling in 1915 by D. S. Eirkett and U. S. Reclamation Service.

Sunnyside, 2.5 miles southeast of, on Sunnyside-Mabton stage road, 30 feet north of southeast corner of section 36, T. 10 N., R. 22 E., 5 feet north of corner of fence; iron post stamped "709 T".....	709. 041
Tps. 9 and 10 N., Rs. 22 and 23 E., township corner; U. S. R. S.; iron post No. 35, stamped (?).....	708. 467
Mabton, 3 miles north of, on Mabton-Sunnyside road, in southwest corner of section 18, T. 9 N., R. 23 E., 3 feet north of small telephone pole; iron post stamped "700 T".....	700. 841

From sec. 14, T. 10 N., R. 22 E., southeast along highway to point near Prosser.

Sunnyside, 2.5 miles northeast of, 125 feet south from corner of fence and road interesting canal road, in sec. 19, T. 10 N., R. 23 E., 75 feet from canal; iron post stamped "849 T".....	849. 325
T. 10 N., R. 23 E., east line of sec. 20, south of Sunnyside canal near right of way, at about mile 37.7 of canal; iron post stamped "842.471".....	842. 762
Sunnyside, 3.5 miles east of, southwest corner of sec. 27, T. 10 N., R. 23 E., 11 feet east of patrol house 6, 72 feet west of west bank of canal, 12 feet east of barb-wire fence; iron post stamped "846 T".....	846. 057
T. 10 N., R. 23 E., in northwest corner of sec. 26, on south side of road, 15 feet east of fence corner in line of top of fence; iron post set in concrete, aluminum tablet set on top, stamped "937" (U. S. R. S. B. M.). (This is a section corner post given on U. S. R. S. plat and recovered by U. S. G. S. line in 1915).....	937. 298
Sunnyside, 8 miles southeast of, sec. 11, T. 9 N., R. 23 E., on west bank of canal 2 miles north of patrol house 7, on sec. line 2 and 11, where section line crosses canal; iron post stamped "839 T".....	839. 415
Prosser, 9 miles northwest of, in southwest corner of section 13, T. 9 N., R. 23 E., 90 feet west of canal, 90 feet north of Rockyford lateral, 500 feet east of patrol house 7; iron post stamped "832 T".....	832. 306
Prosser, 5 miles northwest of, on west line of section 28, T. 9 N., R. 24 E., 1,700 feet north of corner of secs. 28, 29, 32, and 33, 90 feet south of sec. 33 lateral headgate, 10 feet west of sec. 33 lateral, 1,650 feet north of John Harris's house; iron post stamped "824 T".....	824. 605
Prosser, 2.7 miles north of, east line of sec. 26, T. 9 N., R. 24 E., about 3,500 feet north of section corner between secs. 25, 26, 35, 36, T. 9 N., R. 24 E., 900 feet west of patrol house 9, 150 feet south of main canal; iron post stamped "819 T".....	818. 783

At Prosser.

	Feet.
Prosser, 300 feet southeast of flour mill, top of water plug.....	661. 38
Prosser, top of dam.....	629. 0
Prosser, near pumping station, top of water plug.....	642. 83
Prosser, on edge of steel pier, south end of bridge 23.92, over Yakima River.	632. 01

At Benson ranch (recovered by U. S. Geological Survey).

Benson ranch, 30 feet north of ranch house, poplar tree; iron bolt "U. S. R. S. B. M." marked "606.98 B. M." (U. S. R. S. value 606.98).....	607. 50
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PULLMAN QUADRANGLE.

[Latitude 46° 30'-47°; longitude 117°-117° 30'.]

From Garfield south along track of Oregon-Washington R. R. & Navigation Co. to Pullman.

Primary leveling in 1903 by E. M. Fry.

Palouse River, under railroad bridge; water surface June 27, 1903.....	2, 412. 5
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, 429. 539
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, 486. 186
Whelan, 3 feet south of southeast corner of station platform, 100 feet northwest of warehouse, at steps; iron post stamped "2510 S".....	2, 507. 752

From Pullman east along Northern Pacific Ry. to Moscow.

Pullman Junction; rail at switch at junction of Lewiston branch and Genesee branch of Northern Pacific Ry.....	2, 369
Washington-Idaho State line, 15 feet north of track, in base of signpost "Washington-Idaho State line;" spike.....	2, 530. 93

From Pullman east along Northern Pacific Ry. to Genesee.

Chambers station, 1,000 feet south of platform, in northeast corner of stone foundation of public-school house; bronze tablet stamped "2561 S"....	2, 559. 284
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, 625. 860

From Garfield southwest along track of Oregon-Washington R. R. & Navigation Co. to Diamond.

Palouse River; water surface June 10, 1903.....	2, 193
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, 185. 640
Elberton, in front of station; top of rail.....	2, 186
Colfax, in front of station; top of rail.....	1, 962
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, 962. 347
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, 038. 657

From Colfax southeast along track of Oregon-Washington R. R. & Navigation Co. to Pullman.

Riverside, 75 feet south of warehouse, 25 feet west of country bridge over South Palouse River, 200 feet east of ranch house, north side of road near railroad; iron post stamped "2164 S".....	2, 161. 903
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	Feet.
Bridge D-9; water surface June 17, 1903.....	2, 161
Guy, in front of station; top of rail	2, 243
Guy, 450 feet south of station, 10 feet west of track, 50 feet west of Bal- four, Guthrie & Co.'s warehouse, 10 feet south of county road; iron post stamped "2250 S".....	2, 247. 505
Pullman, 3 feet north of station platform, 15 feet west of track; iron post stamped "2341 S".....	2, 339. 174
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, 533. 489

From 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, 313. 374
Torrent ranch, 600 feet west of house, bridge over Palouse River (known as Torrent's bridge).....	1, 769. 83
Water surface under bridge July 10, 1903.....	1, 754
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, 766. 772

From 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, 184. 622
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, 809. 554
Dunn ranch, 250 feet west of house, at gate, in root of elm tree; nail.....	1, 855. 23
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, 993. 896
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, 058. 85
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.....	2, 064. 89
T. 15 N., R. 44 E., sec. 31, at north quarter corner of, 2 miles west of Lewis Church; iron post stamped "2374 S".....	2, 372. 222
Spring Flat, Lewis Church, in foundation at northwest corner of, just west of entrance; bronze tablet stamped "2409 S".....	2, 406. 788

**From Pullman southwest along highway to Wawawai, thence southeast via Stepto
Canyon to Uniontown (part 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, 313. 526
Klingard signal, 0.2 mile east of Klingard house, triangulation station on hill in wheat field; iron post stamped "2708 S".....	2, 705. 660
Wawawai, 1.5 miles east of, east side of road; top of large boulder.....	1, 453. 23
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".....	654. 533
Wawawai, 2 miles southeast of, 0.2 mile east of Snake River, west side of road; top of boulder.....	762. 44
O'Dell ranch, 200 feet northeast of house, 50 feet south of small stream, 2 feet inside of wire fence, in large boulder; bronze tablet stamped "719 S".....	716. 555
Bishop ranch, west of house, in root of poplar tree at front gate; spike.....	692. 587

Alex-Indian ranch, 200 feet south of house, 1,000 feet east of river, west side of road; top of boulder.....	Feet. 689. 04
Steptoe Canyon, 150 feet north of old corral, 20 feet east of creek, west side of road; top of large boulder.....	1, 773. 34
Nesterbank ranch, 0.25 mile west of house, 50 feet west of road, 10 feet west of small creek, west side of Steptoe Canyon; in stone wall (natural), in field; bronze tablet stamped "2541 S".....	2, 538. 774
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, 561. 051
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, 571. 446

From Wawawai along highway by circuitous route via Offield Canyon, Kirby schoolhouse, and Alpowa to Steptoe Canyon (part of line).

Locally readjusted with 1915 leveling.

Snake River, at Wawawai; water surface August 22, 1903.....	626
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".....	668. 944
Overherd ranch, 150 feet south of house, 10 feet east of creek, west side of road, in root of cottonwood tree; spike.....	884. 43
Richardson ranch, 250 feet west of house, 350 feet south of barn, near fence on east side of road, 5 feet south of locust tree; iron post stamped "2447 S." (Recovered 1915 by D. S. Birkett).....	2, 444. 908
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." (Recovered 1915 by D. S. Birkett)...	2, 424. 576

From Kirby School north along highway to Richardson ranch. (Based upon unadjusted line from west, releveling of old line.)

Primary leveling in 1915 by D. S. Birkett.

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" (Bull. 557, value 2,428.401 discarded).....	2, 426. 818
T. 12 N., R. 43 E., near south side of sec. 2, east side of road, gate leading to house on Charles Watson place, top of south one of two concrete gateposts; chiseled square.....	2, 464. 71
Richardson ranch, 250 feet west of house, 350 feet south of barn, near fence on east side of road, 5 feet south of locust tree; iron post stamped "2447 S" (Bull. 557, value 2,448.167 discarded).....	2, 447. 150

PYSHT QUADRANGLE.

[Latitude 48°-48° 15'; longitude 124°-124° 15'.]

From point near Fairholm west along highways to point near Sapho. (Preliminary unadjusted elevations.)

Primary leveling by R. C. Seitz in 1917.

Fairholm, 5.86 miles west of, at northwest corner of bridge, top of guard rail; roofing nail, painted "U. S. 939 B. M.".....	939. 757
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Fairholm, 6.23 miles west of, 1,930 feet west of bridge, 15 feet north of road; iron post stamped "Prim. Trav. Sta. No. 41, 935 1917"	Feet. 935. 178
Fairholm, 7.26 miles west of, 20 feet north of road, in root of 48-inch hemlock stump; roofing nail, painted "U. S. 901 B. M."	901. 401
Fairholm, 8.33 miles west of, on north edge of road, in base of burnt stump; spike, painted "U. S. 843 B. M."	843. 658
Fairholm, 9.13 miles west of, 15 feet south of southwest corner of small bridge; iron post stamped "Prim. Trav. Sta. No. 40, 1917, 767"	767. 907
Fairholm, 10.22 miles west of, 660 feet west of 10-mile post, on north side of road, in root of large burnt snag; roofing nail, painted "U. S. 728 B. M." ..	728. 558
Fairholm, 11.25 miles west of, 550 feet west of 11-mile post, 15 feet north of road, in root of 18-inch hemlock tree; roofing nail, painted "U. S. 746 B. M."	746. 577
Fairholm, 12.12 miles west of, 60 feet west of 12-mile post, on south side of road; iron post stamped "Prim. Trav. Sta. No. 39, 734 1917"	734. 394
Fairholm, 13.07 miles west of, on north side of road at 13-mile post, in root of 24-inch hemlock tree; roofing nail, painted "U. S. 680 B. M."	680. 648
Fairholm, 14.05 miles west of, 20 feet east of 14-mile post, 15 feet north of road, in root of 20-inch hemlock tree; roofing nail, painted "U. S. 649 B. M."	649. 872
Fairholm, 15 miles west of, 0.59 mile east of Bear Creek, 275 feet east of 15-mile post, on north edge of road; iron post stamped "Prim. Trav. Sta. No. 38, 618 1917"	618. 512
Fairholm, 16.05 miles west of, 50 feet west of 16-mile post, on south side of road, in root of 48-inch fir tree; roofing nail, painted "U. S. 557 B. M." ..	557. 740

From point near Sapho northeast along highway to point 5.7 miles south of East Clallam, thence east along highway and Seattle, Port Angeles & Western Ry. to Deep Creek.

Sapho, 3.78 miles north of, on east side of road, in root of 30-inch spruce tree; roofing nail, painted "U. S. 584 B. M."	584. 618
Sapho, 4.77 miles north of, about 500 feet north of bridge, on west edge of road, in base of old snag; spike, painted "U. S. 667 B. M."	667. 477
Sapho, 6.07 miles north of, 100 feet south of bridge, on east side of road, in root of stump; spike, painted "U. S. 763 B. M."	763. 718
Sapho, 6.37 miles north of, 9.10 miles south of East Clallam, 1,000 feet south of twin bridges, 20 feet west of road; iron post stamped "Prim. Trav. Sta. No. 35, 761 1917"	761. 290
East Clallam, 8.09 miles south of, on west edge of road, in base of tall dead snag; spike, painted "U. S. 560 B. M."	560. 327
East Clallam, 7.06 miles south of, on west edge of road, in root of stump; roofing nail, painted "U. S. 269 B. M."	269. 845
East Clallam, 6.15 miles south of, northeast corner of bridge over creek; roofing nail, painted "U. S. 112 B. M."	112. 606
East Clallam, 5.73 miles south of, T road east to Pysht, 10 feet west of road; iron post stamped "Prim. Trav. Sta. No. 33, 171 1917"	171. 259
Pysht, 4.94 miles west of, 1.06 miles east of East Clallam-Sapho road, 1,050 feet east of blue house, on north side of road, in root of large spruce tree; roofing nail, painted "U. S. 70 B. M."	70. 184
Pysht, 3.81 miles west of, in foundation at northeast corner of garage; spike, painted "U. S. 53 B. M."	53. 284
Pysht, 2.61 miles west of, 35 feet east of east end of Pysht River bridge, on south edge of road; iron post stamped "Prim. Trav. Sta. No. 34, 37, 1917" ..	37. 617

Pysht, 1.55 miles west of, 20 feet northwest of small bridge, in base of telephone pole; spike, painted "U. S. 25 B. M.".....	25. 608
Pysht, 0.52 mile west of, in base of telephone pole; spike, painted "U. S. 9 B. M.".....	9. 568
Pysht, 30 feet northwest of Weather Bureau telegraph office, north side of road, in root of maple tree; roofing nail, painted "U. S. 9 B. M.".....	9. 944
Pysht, at northwest corner of Weather Bureau yard; iron post stamped "Prim. Trav. Sta. No. 38, 10 1917".....	10. 668
Pysht, 2.04 miles east of, on beach, 200 feet east of house and 40 feet west of shed, in stump; roofing nail, painted "U. S. 8 B. M.".....	8. 645
Pysht, 3.36 miles east of, in bed at mouth of Joe Creek; bronze tablet stamped "Prim. Trav. Sta. No. 52, 5 1917".....	5. 533
Pysht, 4.70 miles east of, 5.20 miles west of Twin Rivers, about 200 feet west of mouth of Deep Creek, in base of small twin cedar tree; spike, painted "U. S. 10 B. M.".....	9. 947

NOTE.—The elevation of this bench mark from the east is 8.472.

East Clallam, 4.68 miles south of, on west side of road, in root of 36-inch hemlock tree; roofing nail, painted "U. S. 186 B. M.".....	186. 051
East Clallam, 3.69 miles south of, at northwest corner of bridge, in guard rail; roofing nail, painted "U. S. 230 B. M.".....	230. 721
East Clallam, 3.6 miles south of, north of small bridge, on east side of road; iron post stamped "Prim. Trav. Sta. No. 32, 234 1917".....	234. 860

QUINCY QUADRANGLE.

[Latitude 47°-47° 15'; longitude 119° 45'-120°.]

From Crater east along Northern Pacific Ry. to milepost 1611.

Primary leveling in 1903 by R. A. Farmer and in 1909 by C. H. Semper.

Milepost 1617, 5 feet east of; iron post stamped "1316 T".....	1, 316. 958
Quincy station, opposite west end of station platform, south of track; iron post stamped "1301 T".....	1, 301. 542
Winchester, 1.5 miles west of, 5 feet east of milepost 1611; iron post stamped "1291 T".....	1, 291. 707

From 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. 958
Quincy, at southeast corner of Bank of Douglas County; iron post.....	1, 301. 912
Quincy, 5 miles south of, southeast corner of sec. 31, T. 20 N., R. 24 E.; iron post.....	1, 259. 839
T. 19 N., R. 24 E., northwest corner of sec. 10; iron post.....	1, 236. 276

From 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. 277
T. 19 N., R. 24 E., southwest corner of sec. 32; iron post.....	1, 213. 117
T. 19 N., R. 24 E., southwest corner of sec. 35; iron post stamped "1219".....	1, 219. 575

From 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, 209. 031
T. 18 N., R. 24 E., southwest corner of sec. 32; iron post.....	1, 323. 569

REARDAN QUADRANGLE.

[Latitude 47° 30'-48°; longitude 117° 30'-118°.]

From Marshall southwest along Northern Pacific Ry. to Cheney.

Precise leveling by the U. S. Coast and Geodetic Survey.

Marshall, 2 miles west of station, 100 meters north of block signal tower	Feet.
95.6, 10 meters east of track; iron post (U. S. C. & G. S. b. m. F ₄).....	2, 141. 679
Cheney, 4.5 miles east of station, 400 meters south of milepole 97, 10 meters north of telegraph pole, 30 meters west of track; U. S. G. S. iron post stamped "2,195" (U. S. C. & G. S. b. m. G ₄).....	2, 193. 611
Cheney, 2.5 miles east of station, 15 meters northwest of milepole 99, 12 meters south of telegraph pole; iron post (U. S. C. & G. S. b. m. H ₄).....	2, 282. 253

From Deer Park northwest along Spokane Falls & Northern (Great Northern) Ry. to Clayton. (Part of unadjusted line from Deer Park to Meyers Falls closing -3.89 feet in error.)

Primary leveling in 1898 by H. S. Crowe, in 1901 by R. A. Farmer, and in 1903 by Philo Holbrook, jr.

Clayton, in wall of engine room of Washington Brick, Lime & Manufacturing Co.'s mills; bronze tablet stamped "2265 S".....	2, 262. 502
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From Spokane west down Spokane River to Canyon schoolhouse.

Spokane, 0.7 mile west of, upper side of track; stump marked "1654.16" (Great Northern Ry. bench mark).....	1, 896. 775
T. 26 N., R. 42 E., southeast corner of sec. 20, northwest of Spokane; iron post stamped "1677 T".....	1, 675. 358
Abbot schoolhouse, 75 feet north of Charles road; iron post stamped "1738 T".....	1, 735. 366
T. 27 N., R. 40 E., southeast corner of sec. 20; iron post stamped "1758 T".....	1, 755. 685
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, 701. 788

From Mondovi east along Northern Pacific and Great Northern railways to Spokane.

Mondovi station; iron post stamped "2507 T".....	2, 504. 765
Reardan; iron post stamped "2497 T".....	2, 494. 849
Deep Creek station; iron post stamped "2308 T".....	2, 305. 720
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, 319. 798

From Cheney north along Northern Pacific Ry. to Spokane (double line).

At junction of Y of Washington Central branch and Northern Pacific Ry..	2, 320. 3
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REDROCK QUADRANGLE.

[Latitude 46° 45'-47°; longitude 119° 30'-119° 45'.]

From point 12 miles south of Morrison west along highway 9 miles.

Primary leveling in 1909 by C. H. Semper.

T. 17 N., R. 26 E., southeast corner of sec. 4; iron post.....	1, 121. 035
T. 17 N., R. 25 E., southeast corner of sec. 1; iron post.....	1, 132. 713
T. 17 N., R. 25 E., northwest corner of sec. 10; iron post.....	1, 165. 913
T. 17 N., R. 25 E., SW. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 7 (old bench mark post not connected).	1, 239. 503

From point 12 miles south of Morrison along highways south 4.5 miles, thence west to sec. 26, T. 17 N., R. 24 E.

	Feet.
T. 17 N., R. 26 E., southeast corner of sec. 4; iron post.....	1,121.035
T. 17 N., R. 26 E., at center of quarter corners in sec. 22; iron post stamped "1279".....	1,279.189
T. 17 N., R. 26 E., southeast corner of sec. 30; iron post stamped "1055" ..	1,055.544
T. 17 N., R. 25 E., northeast corner of sec. 34; iron post stamped "1115" ..	1,115.130
T. 17 N., R. 25 E., southeast corner of sec. 30; iron post stamped "1174" ..	1,174.603

From 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".....	1,023.883
T. 16 N., R. 26 E., northwest corner of sec. 20; iron post stamped "666" ..	666.38
Redrock, bridge over Crab Creek, south end, east side, in guard rail; spike; marked "U. S. \square B. M. 540".....	540.71

From point 1.7 miles east of Colletta west along Chicago, Milwaukee & St. Paul Ry. to Jericho.

Colletta, 1.7 miles east of, at east end of long rock side cut, 15 feet south of track; iron post stamped "667".....	667.028
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".....	643.11
Colletta, in front of station sign; top of rail.....	629.7
Redrock, on Chicago, Milwaukee & St. Paul Ry., south of wagon bridge over Crab Creek, 300 feet east of creek, 35 feet north of track, at telegraph pole; iron post stamped "598".....	598.335
Smyrna, in front of station sign; top of rail.....	552.8
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".....	536.706
Smyrna, 3.4 miles west of, at west end of trestle over Crab Creek, in north guard rail; top of bolt, marked "U. S. \square B. M. 528".....	528.59
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".....	522.295
Jericho, in front of station sign; top of rail.....	526.1

From Smyrna southwest along highway to top of Saddle Mountain (checked spur).

Saddle Mountain, top of, on horse trail that leads up mountain from Smyrna (about 3 miles); iron post.....	2,431.650
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Reclamation Service bench mark.

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".....	1,239.553
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From east border of quadrangle west along Chicago, Milwaukee & St. Paul Ry. to Redrock.

Leveling in 1916 by D. S. Birkett.

Corfu, 2.2 miles west of, 870 feet west of road crossing, south side of track, concrete base of semaphore; chiseled square painted "U. S. 702 B. M." ..	701.94
Corfu, 2.9 miles west of, north side of track, west side of concrete base of fuse box, vertical face; bronze tablet stamped "687 Wash. 1916".....	686.878
Colletta, 1.7 miles east of, 0.3 mile east of center of sec. 34, T. 16 N., R. 26 E., at east end of long rock side cut, 15 feet south of track; iron post stamped "667" (Bull. 557, p. 61).....	667.028

Colletta, 0.8 mile east of, south side of track, concrete base of semaphore; chiseled square painted "649 B. M."	Feet. 648. 62
Colletta, 1.3 miles west of, north side of track, concrete base of semaphore; chiseled square painted "U. S. 605 B. M."	605. 44

REPUBLIC QUADRANGLE.

Latitude 48° 30'–49°; longitude 118° 30'–119°.

From Republic northeast along Kettle Falls road to Missouri Perkins ranch (spur line; elevations unreliable).

Primary leveling in 1901–2 by E. M. Fry and in 1903 by F. E. Fellows.

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

From Republic south down Sanpoil River road to Alkire (spur line; elevations unreliable).

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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From 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 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 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

From 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, south end of; surface of water, 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

From Curlew Lake west along Creek road to township corner (spur line; elevations unreliable).

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
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From 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 mile west of Olliver ranch, north side of road; iron post stamped "2839 S"	2, 842. 272
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From 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. 669
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From Curlew west along Kettle River road to Midway, B. C. (spur line; elevations unreliable).

Curlew, 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 Feet.

Up Goosmus Creek 2 miles to Louie ranch (spur line; elevations unreliable).

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

From Curlew west along Kettle River road to Midway, B. C. (spur line; elevations unreliable).

Castello ranch, 2 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

From Lynch ranch via Toroda Creek to Van Brunt ranch.

Cox ranch, 1 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

From point near Republic east along highway to milepost 1.

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 11, in root of fir tree: nail..... 4, 665. 57

From mouth of Beaver Creek northwest along road to Chesaw (part 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 mile west of, north side of road, in root of fir tree; nail marked "2520"..... 2, 521. 381

Fish Lake, on road along north side, 5 feet above water surface..... 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

RIPARIA QUADRANGLE.

[Latitude 46° 20'–47°; longitude 118°–118° 30'.

From Starbuck east along Oregon-Washington R. R. & Navigation Co. track 6 miles. (Unadjusted line.)

Primary leveling in 1915 by D. S. Birkett.

Starbuck, public-school yard, east side of, at fence line, almost in line with front of building, iron post stamped "645 Wash. 1915"..... 644. 836

Starbuck, 1 mile east of, milepost 1, Pomeroy branch of Oregon-Washington R. R. & Navigation Co., east side of track, spike scribed "U. S. 681 B. M.".....	681. 02
Milepost 2, 350 feet east of, telegraph pole, north side of track, spike scribed "U. S. 707 B. M.".....	707. 05
Starbuck, 2.07 miles east of, 1,050 feet east of milepost 3, 25 feet south of forks of Pomeroy-Dayton roads, 125 feet east of railroad crossing, 50 feet south of Oregon-Washington R. R. & Navigation Co. track. south side of road, iron post stamped "738 Wash. 1915" P. B. M. No. 34.....	737. 269
Milepost 4, back side of, south side of track, spike scribed "U. S. 768 B. M." bench mark.....	767. 37
Starbuck, 3.98 miles east of, 250 feet east of mile post 5, north side of Oregon-Washington R. R. & Navigation Co. track, top of concrete culvert bronze tablet stamped "804 Wash. 1915" P. B. M. No. 35.....	804. 261
Milepost 6, north side of track, spike scribed "U. S. 839 B. M.".....	838. 82

RITZVILLE QUADRANGLE.

[Latitude 47°-47° 30'; longitude 118°-118° 30'.]

From Concord southwest along Northern Pacific Ry.

Precise leveling by the U. S. Coast and Geodetic Survey.

Concord, 40 meters northeast of station, 25 meters north of track; U. S. G. S. iron post stamped "1,897" (U. S. C. & G. S. b. m. U ₄).....	1, 896. 633
Concord, 0.25 mile west of milepole 132, 25 meters north of track, 3 meters west of telegraph pole: iron post (U. S. C. & G. S. b. m. V ₄).....	1, 900. 360
Keystone, 1.25 miles east of station, 25 meters north of track; iron post (U. S. C. & G. S. b. m. W ₄).....	1, 901. 653
Keystone, 30 meters north of station; U. S. G. S. iron post stamped "1,937" (U. S. C. & G. S. b. m. X ₄).....	1, 936. 263
Keystone, 1.75 miles west of station, 35 meters north of track, at highway crossing: iron post (U. S. C. & G. S. b. m. Y ₄).....	1, 926. 889
Tokio, 1 mile east of station, 50 meters west of milepole 140, 20 meters northwest of track, 3 meters southeast of highway; iron post (U. S. C. & G. S. b. m. Z ₄).....	1, 936. 653
Tokio, 50 meters west of milepole 142, 0.5 mile west of station; U. S. G. S. iron post stamped "1,944" (U. S. C. & G. S. b. m. A ₃).....	1, 943. 146
Tokio, 2 miles west of station, 15 meters south of track, 1 meter west of fence at highway crossing; iron post (U. S. C. & G. S. b. m. B ₃).....	1, 896. 669
Coker, 0.25 mile east of east end of siding, 35 meters northwest of milepole 146, 1 meter west of telegraph pole; U. S. G. S. iron post stamped "1848" (U. S. C. & G. S. b. m. C ₃).....	1, 848. 431
Ritzville, 1.25 miles east of station, 25 meters west of mile pole 148, 15 meters northwest of track; iron post (U. S. C. & G. S. b. m. D ₃).....	1, 831. 686

From Paha northeast along Northern Pacific Ry. to Sprague (double line).

Double line by H. S. Crowe in 1898, in part redetermined by U. S. Coast and Geodetic Survey precise leveling.

Milepost "Wallula 90, Hope 156," opposite; iron post stamped "1645 T" (=U. S. C. & G. S. b. m. F ₃).....	1, 644. 944
Ritzville, 1.1 miles south of, 4 feet north of telegraph pole, 150 feet southeast of milepost "Wallula 95, Hope 151," 42 feet east of center track; iron post stamped "1798 T" (=U. S. C. & G. S. b. m. G ₃).....	1, 797. 342

Ritzville, at north entrance to Adams County courthouse, in fifth row of bricks above stone foundation; aluminum tablet stamped "1820 T".....	Feet. 1,819.887
Harriston siding, at west end of; head of block of switch.....	1,927.4
Harriston, in front of section house; top of rail.....	1,936.4
Sprague Lake; water surface.....	1,879

ROCK LAKE QUADRANGLE.

[Latitude 47°-47° 30'; longitude 117° 30'-118°.

From Cheney southwest along Northern Pacific Ry. to Sprague.

Precise leveling by the U. S. Coast and Geodetic Survey.

Cheney, in corner of national bank building; U. S. G. S. tablet stamped "2,351" (U. S. C. & G. S. b. m. I ₄).....	2,350.149
Cheney, 2.5 miles west of station, 120 meters southeast of milepole 104, 25 meters south of track; U. S. G. S. iron post stamped "2,353" (U. S. C. & G. S. b. m. J ₄).....	2,351.291
Babb siding, 50 meters northwest of west end of siding, 35 meters north of crossing, 20 meters north of track; iron post (U. S. C. & G. S. b. m. K ₄)..	2,331.596
Tyler, 3 miles east of station, 20 meters north of milepole 109; U. S. G. S. iron post stamped "2,284" (U. S. C. & G. S. b. m. L ₄).....	2,282.509
Tyler, 0.5 mile north of, 20 meters west of track at highway crossing; iron post (U. S. C. & G. S. b. m. M ₄).....	2,282.535
Tyler, 2 miles south of, 15 meters northwest of milepole 114, 15 meters west of track; U. S. G. S. iron post stamped "2,272" (U. S. C. & G. S. b. m. N ₄)..	2,270.369
Fish Trap, 400 meters west of station, 35 meters west of highway crossing, 15 meters north of track; iron post (U. S. C. & G. S. b. m. O ₄).....	2,272.840
Fish Trap, 3 miles west of station, 20 meters northwest of milepole 119, 5 meters east of telegraph pole; U. S. G. S. iron post stamped "2,147" (U. S. C. & G. S. b. m. P ₄).....	2,146.334
Kline, 0.75 mile west of station, 0.25 mile east of milepole 122, 30 meters southeast of track, 1 meter west of fence; iron post (U. S. C. & G. S. b. m. Q ₄).....	2,081.538
Sprague, in concrete head wall of culvert, 300 meters west of milepole 123, 2 miles east of Sprague; disk (U. S. C. & G. S. b. m. R ₄).....	2,045.652
Sprague, 0.5 mile northeast of station, 15 meters west of highway crossing; U. S. G. S. iron post stamped "1,936 T" (U. S. C. & G. S. b. m. S ₄)....	1,935.911
Sprague, 1.75 miles west of station, 25 meters north of track; iron post (U. S. C. & G. S. b. m. T ₄).....	1,891.610
Sprague, northeast corner of First and C streets, in brick wall of Grey's store, ninth tier of bricks above sidewalk; aluminum tablet stamped "1899 T".....	1,898.265
Sprague, in front of station; top of rail.....	1,898.1

From Sprague northeast along Northern Pacific Ry. to Cheney (double line).

Double line by H. S. Crowe in 1898. Redetermined by U. S. Coast and Geodetic Survey precise leveling.

Kline, in front of section house; top of rail.....	2,111.7
Tyler, in front of telegraph office; top of rail.....	2,289.8
Cheney, in front of station; top of rail.....	2,333.5
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".....	2,430.352

SAMISH LAKE QUADRANGLE.

[Latitude 48° 30'–48° 45'; longitude 122° 15'–122° 30'.]

From Woodlawn southeast along Northern Pacific Ry. to Wickersham.

Primary leveling in 1905 by G. C. Jacobs.

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".....	Feet. 312. 524
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".....	318. 177

From Fairhaven along Great Northern Ry. 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

From Fairhaven along Great Northern Ry. 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

From Belleville northeast along highway to Prairie.

Moody's abandoned logging camp, 1 mile northeast of, Samish River bridge, in line of fence north of road opposite old blacksmith shop; iron post stamped "142 B".....	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

ST. HELENS QUADRANGLE. (INCLUDING PORTLAND 15-MINUTE QUADRANGLE.)

[Latitude 45° 30'–46°; longitude 122° 30'–123°.

From Vancouver north along Northern Pacific Ry. to Kalama. (Leveled twice by L. F. Biggs, 1914–15.)

	Feet.
Vancouver, in county courthouse, east side of main entrance, in back of column; bronze tablet stamped "73" (see Bull. 557, p. 132).....	75.009
Vancouver, in front of station, top of east rail of west track.....	47.95
Vancouver, at north end of railroad bridge, top of east side of abutment; bronze tablet stamped "49 1915".....	47.301
Vancouver, 1.7 miles north of, at semaphore 132.3, on concrete wall; chiseled cross and "U. S. 45".....	43.055
Vancouver junction, 400 feet north of west side of track, west end of concrete railroad culvert; bronze tablet stamped "21 B. 15 1914".....	20.237
Vancouver, 4 miles north of, at semaphore 129.1, on concrete wall; chiseled cross and "U. S. 43".....	41.819
Felida, on concrete base of danger signal wall; chiseled cross "U. S. 43".....	42.327
Ridgefield, 7.6 miles south of, Felida 1 mile north of, semaphore 127.3; chiseled cross on southeast corner "U. S. + 44".....	42.378
Ridgefield, 6.6 miles south of, in west end of south abutment of bridge over Salmon Creek; bronze tablet stamped "1914 41 B 14".....	40.010
Ridgefield, 5.9 miles south of, in northeast corner of base of semaphore 125.5; chiseled "U. S. + 43".....	41.905
Ridgefield, 5.1 miles south of, 500 feet north of Knapps station, on west side of track; bronze tablet in culvert, stamped "1914 20 B. 13".....	18.740
Ridgefield, 3.7 miles south of, east side of track, on northeast corner of culvert; signal base chiseled "U. S. + 42".....	40.883
Ridgefield, 2.6 miles south of, on southwest corner of base of semaphore 122.2; chiseled "U. S. + 43".....	41.674
Ridgefield, 1.1 miles south of, on northeast corner of concrete base of semaphore 120.7; chiseled "U. S. + 42".....	40.661
Ridgefield water tank, on west side of track, 200 feet north of station, in concrete foundation; bronze tablet stamped "1914 40 B. 12".....	39.342
Ridgefield, 0.5 mile north of, in northeast corner of concrete base of semaphore 119.1; chiseled "U. S. + 42".....	40.743
Ridgefield, 1.7 miles north of, in northeast corner of concrete base of semaphore 117.9; chiseled "U. S. + 41".....	39.957
Woodland, 2.4 miles south of, at north end of drawbridge over Lewis River, in concrete abutment; bronze tablet stamped "35 1914 B. 11"....	33.881
Woodland, 1 mile south of, on east side of track on northwest corner of concrete base of signal; chiseled "U. S. + 34".....	32.927
Woodland, on west side of Davidson Avenue between Third and Second streets, in concrete stop landing to P. A. Blues' store; bronze tablet stamped "29 1914 10 B".....	27.938
Woodland, 0.5 mile north of, in northwest corner of concrete base of semaphore 113.6; chiseled cross marked "U. S. 33".....	32.393
Woodland, 1.9 miles north of, on west side of track, 260 feet north of semaphore 112.4, in concrete culvert; bronze tablet stamped "19 1914 B 9".....	17.752
Woodland, 2.7 miles north of, in northeast corner of concrete base of semaphore 111.9; chiseled cross marked "U. S. 38".....	37.182
Kalama, 5.2 miles south of, in southeast corner of concrete base of semaphore 110.3; chiseled cross marked "U. S. 38".....	36.699
Kalama, 4.1 miles south of, 1,300 feet north of Martins Bluff station in northeast corner of under track railroad crossing to powder house; bronze tablet stamped "34 1914 B 8".....	32.859

Kalama, 3.4 miles south of, in southeast corner of base of semaphore 108.5; chiseled cross marked "U. S. 36".....	Feet. 35.382
Kalama, 2.1 miles south of, in northeast corner of base of semaphore 107.1; chiseled cross marked "U. S. 37".....	35.646
Kalama, 1.2 miles south of, on west side of track, on northeast corner of base of signal; chiseled cross marked "U. S. 30".....	28.629

From Woodland northeast along highway to Ariel.

Leveled by L. F. Biggs in 1915.

Woodland, 1.1 miles northeast of, 800 feet southwest of Cangas Road and Pacific Highway junction, in root of 30-inch maple tree; copper nail scribed "U. S. 31".....	30.861
Woodland, 2.3 miles northeast of, 300 feet north of private road east, on west side of road, in root of 20-inch fir tree; copper nail scribed "U. S. 34".....	33.639
Woodland, 3.4 miles northeast of, on north edge of road, 250 feet east of cottage, in root of 24-inch fir tree; copper nail scribed "U. S. 40".....	39.384
Woodland, 3.6 miles east of, 0.2 mile west of T road, 120 feet north of bridge, on north side of road, in rock; bronze tablet stamped "29 1 1915".....	28.562
Woodland, 4.8 miles east of, on north edge of road, 70 feet south of church site, in root of 30-inch maple tree; copper nail scribed "U. S. 56".....	55.553
Reno, 2.8 miles west of, on north edge of road, in front of schoolhouse, in root of 18-inch fir tree; copper nail scribed "U. S. 60".....	59.501
Reno, 2 miles west of, on east edge of road in yard on Geo. C. Dufur's ranch, in west wall of root cellar; bronze tablet stamped "75 2 1915".....	74.443
Reno, 0.9 mile west of, on north side of road, 25 feet north of fence, in root of forked box elder tree; copper nail scribed "U. S. 165".....	164.827
Reno, 200 feet east of ferry, on south edge of road, in root of 36-inch fir tree; copper nail scribed "U. S. 63".....	63.186
Reno, 1.5 miles east of, on north edge of road, 100 feet west of bridge, in root of 16-inch alder tree; copper nail scribed "U. S. 178".....	177.695
Reno, 1.8 miles east of, on north edge of road at turn, in boulder; bronze tablet stamped "257 3 1915".....	257.110
Reno, 2.6 miles east of, on north edge of road, 70 feet west of bridge over canyon, on boulder; chiseled circle marked "U. S. 316".....	316.336
Ariel, 3.5 miles southwest of, on west wedge of road, 30 feet north of small spring, in face of rock; bronze tablet stamped "263 4 1915".....	263.159
Ariel, 2.4 miles southwest of, on west edge of road, at south end of wooden bridge over creek; chiseled circle on rock marked "U. S. 126".....	125.889
Ariel, 1.2 miles southwest of, on north edge of road, on south bank of ravine, in root of 38-inch maple tree; copper nail scribed "U. S. 141".....	141.280

SEATTLE QUADRANGLE.

[Latitude 47° 30'–47° 45'; longitude 122° 15'–122° 30'.

From Seattle along highways and Northern Pacific Ry. to Black River.

Precise leveling by the U. S. Coast and Geodetic Survey.

Seattle, 1.368 meters south of Madison Street, 0.2 meter from edge of sill on Post Street, on northern end of doorsill on west side of Rainier Grand Building on Post Street; square cut (Tidal 4 equals City, C. & G. S.)..	19.862
Seattle, on rear of the old Seattle Athletic Club building, now the Seneca Hotel, on Post Street, 2.402 meters north of Seneca Street, 0.681 meter above lower edge of window sill; top surface of an iron hinge (C. & G. S. "Tidal 5").....	21.536

Seattle, at intersection of First Avenue, James Street, and Yesler Way, in Pioneer Park, 5.350 meters from east fence of park, 5.430 meters from west fence, 4.070 meters south of totem pole; square hole in top of granite post marked "U. S. B. M." (C. & G. S. "G").....	Feet. 25. 111
Seattle, corner of James Street and First Avenue, at entrance of Puget Sound National Bank, 0.20 meter from edge of step and 0.30 meter from granite base supporting the column at side of doorway, the face of which is inscribed "City Datum"; square outlined in granite step (C. & G. S. "City 1").....	24. 836
Seattle, on foundation for chimney of Rainier Heat, Light & Power Co.'s generating plant, 76 meters southeast of Hill's gas works and 5 meters from siding of Columbia & Puget Sound R. R., on west side of foundation; cross cut in upper surface of top stone, 0.03 meter from west edge of stone (C. & G. S. "City 2").....	10. 945
South Seattle, 23 meters west of intersection of Charlestown Street and Eighth Avenue South and about 11 meters north of C. M. Felt's fence; tack in root of maple tree (C. & G. S. "City 3").....	10. 299
Argo, 0.9 kilometer south of, 65 meters south of south cattle guard for first railroad crossing south of Argo, 11.55 meters from east right of way fence, 3.055 meters from center of nearest Columbia & Puget Sound rail, 1.53 meters from center of nearest Northern Pacific Ry. rail; shallow circular depression in center of cylindrical concrete post set flush with surface of gravel between tracks and marked "N. P" on top (C. & G. S. "N P")..	20. 164
Black River, 4 kilometers north of, near old spur known as Van Asselts, 14 meters south of crossing for logging teams, 1.52 meters from center of nearest Northern Pacific Ry. rail, 1.66 meters from nearest Columbia & Puget Sound rail; shallow circular depression in center of cylindrical concrete post set flush with surface of gravel between the tracks and marked "N. P" on top (C. & G. S. "N. P").....	21. 404

SKYKOMISH QUADRANGLE.

[Latitude 47° 30'-48°; longitude 121°-121° 30']

From Cle Elum along highway north to Fish Lake (part of spur line; elevations unreliable).

Primary leveling in 1897 by G. N. Pratt and in 1898 by H. K. Kallock.

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 boulder 6 by 7 by 9 feet; aluminum tablet stamped "3371 T".....	3, 372. 708
Fish Lake, near head of; water level June 27, 1989.....	3, 326. 4
From Peshastin along Great Northern Ry. west to Index (part o. spur line; elevations unreliable).	
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,"	Feet.
420 feet north of milepost 1734, iron post stamped "1389 T".....	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, 130 feet east of switch at west end of side-track; iron post stamped "759 T".....	759. 716

From Index northeast along highway to Mineral City (part of spur line; elevation unreliable).

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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From Monte Cristo northwest along Everett & Monte Cristo (Northern Pacific) Ry. to point near Silverton.

Monte Cristo station, 247 feet north of freight platform, 20 feet east of switch-back, in large rock north of Everett & Monte Cristo Ry. trestle; copper bolt stamped "2772".....	2, 774. 073
Bridge 51, 210 feet east of, 20 feet north of center of track, on 30-inch hemlock stump.....	2, 510. 154

SLATE PASS QUADRANGLE.

[Latitude 48° 30'-49°; longitude 120° 30'-121°.

From Panther Creek east along trail to Slate Creek Pass.

Primary leveling in 1899, 1900, 1901 by E. M. Fry, in 1904 by Thomas Riggs, and in 1905 by George Newman.

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 boulder; aluminum tablet.....	2, 838. 759
Slate Creek camp, 1.5 miles southeast of, junction of Slate Creek and Benson Creek trail; top of boulder, 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

From 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 boulder; 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, about 2 miles south of Barron, at creek crossing road; point on rock.....	5, 120. 30
Harts Pass, 1.7 miles southwest of, on north bank of road, in root of spruce tree; spike.....	5, 073. 03
Barron, 75 feet from, 2 miles southwest of Harts Pass, on north edge at junction of Barron and Slate Creek roads; point on conical 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, 50 feet west of road, in west side of tamarack stump; nail.....	5, 843. 98

	Feet.
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 lowest part on saddle on divide between Pasayton River and north fork of Slate Creek, in top of largest boulder; bronze tablet stamped "6262 Tul".....	6,262.250
Harts Pass, 4.5 miles northwest of, in middle of pass between a fork of Slate Creek and Pasayton River, on small knoll, 100 feet north of trail; iron post stamped "6575 Tul".....	6,575.487
Harts Pass, 4 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.....	6,703.28
Harts Pass, 2.8 miles northwest of, 4 feet below trail: painted rock.....	6,987.69
Harts Pass, 1.5 miles northwest of, near top of bench coming up from valley, on boulder.....	6,770.97
Harts Pass, 0.5 mile northwest of, on high trail from pass, on boulder....	6,411.62
From Windy Pass northeast along trail to Pasayton River, thence north down river to international boundary line.	
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 feet from creek, in root of spruce tree; 20-penny spike.....	5,388.22
Windy Pass, 2.1 miles northeast of, 50 feet from trail, up east fork of Pasayton River, in large spruce tree; spike.....	5,097.48
Windy Pass, 3.6 miles northeast of, 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, at forks of new and old trails, 10 feet from both 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 miles north of, 20 feet from west bank of river, in root of balsam tree; spike.....	4,506.60
La Roche cabin, 4 miles north of, east bank of river below a gooseneck 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, west side of river, 11 miles south of international boundary; ring of paint around rock.....	4,373.65
International boundary, 8.6 miles south of, 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, 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, west side of river 50 feet distant and 12 feet higher; iron post stamped "4052 Tul".....	Feet. 4, 051.786
International boundary, 3.5 miles south of, 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 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

From Winthrop northwest along highway and trail to Slate Creek Pass (part of line).

Robinson Creek, 3 miles south of, 400 feet north of milepost 3, in root of 12-inch pine tree; nail.....	2, 374.56
Robinson Creek, 2 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

SNOHOMISH QUADRANGLE.

[Latitude 47° 30'–48°; longitude 122°–122° 30'.

From Grand Ridge coal mine along Northern Pacific Ry. to Issaquah, thence southwest along wagon road to point about 5 miles southwest of Issaquah.

Primary leveling in 1910 by D. S. Birkett.

Issaquah, 360 feet south of Northern Pacific Ry. station, 45 feet east of railroad, north side of Mill Street, 5 feet west of southeast corner of feed stable; iron post stamped "07 Wash".....	96.522
Issaquah, in front of Northern Pacific Ry. station; top of rail.....	96.9
Issaquah, 1.5 miles northwest of, Renton-Snoqualmie road, 0.9 mile west of Northern Pacific Ry., north side of road, 200 feet west of schoolhouse, at base of cedar stump 6 feet in diameter and 8 feet high; copper nail in notch, 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, at base of 1½-foot cedar stump 2 feet high; copper nail in notch, aluminum tag stamped "387".....	386.89

SNOQUALMIE QUADRANGLE.

[Latitude 47°–47° 30'; longitude 121°–121° 30'.

From Lester along Northern Pacific Ry. to Nelson.

Precise leveling by the U. S. Coast and Geodetic Survey.

Weston, 1.5 kilometers east of, in vertical face of side rock cut, 16 meters west of milepole 183, 2.45 meters north of nearest rail, 0.7 meter above level of top of rail; red metal disk (C. & G. S. "C ₁ ").....	1, 974.747
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Borup, 2.2 kilometers west of, on right of way, 31 meters east of west end of third rock cut east of milepole 182, 1.95 meters south of nearest rail; copper bolt marked "B. M." set vertically in natural rock (C. & G. S. "D ₁ ").	Feet. 2, 155. 448
Stampede, 370 meters east of, at south side of west entrance to Stampede tunnel, in vertical surface of rock, 3 meters south of nearest rail, 1 meter above level of rails at that point; red metal disk (C. & G. S. "E ₁ ").	2, 810. 270
Stampede, 1.7 kilometers east of, on north side of track in Stampede tunnel, near halfway point and at head of grade in tunnel, in vertical brick wall forming west side of manhole, 2.15 meters north of nearest rail, 1.55 meters above floor, 0.45 meter north of side of tunnel; red metal disk (C. & G. S. "F ₁ ").	2, 849. 489
Easton, 4.5 kilometers west of, at south end of west concrete abutment of bridge 161 over Cabin Creek, 195 meters east of milepole 168 Pascal, 0.35 meter from east and 0.18 meter from south edge, 1.67 meters south of nearest rail; copper bolt in upper surface marked "B. M." (C. & G. S. "G ₁ ").	2, 238. 850
Easton, in front and 5.5 meters south of A. O. Johnson's house, 2.35 meters east of Johnson Bros.' store, 2.2 meters north of fence inclosing yard; bottom of square hole in top of stone post marked "U. S. □ B. M." (C. & G. S. "H ₁ ").	2, 166. 784
Easton, in northeast corner of yard surrounding A. J. Adams's residence, 14 meters north of house, 0.74 meter from north fence, 0.62 meter west of east fence inclosing yard, 100 meters south of main track; red metal cap on iron post (C. & G. S. "I ₁ ").	2, 169. 130
Nelson, 1.8 kilometers west of, on west concrete abutment of bridge 151, in top surface, 0.35 meter from west edge and 0.18 meter from south edge of abutment, 1.67 meters south of nearest rail; copper bolt marked "U. S. □ B. M." (C. & G. S. "J ₁ ").	2, 074. 176

From Hot Springs east along Northern Pacific Ry. to Cle Elum.

Primary leveling in 1897 by H. K. Kalloch.

Lester, in top of concrete pedestal at southwest corner of Northern Pacific coal dock, on southwest corner of pedestal; cross cut (established by Northern Pacific Ry. Co. 1913).	1, 614. 69
Lester, on south window in east side of boiler house operating fuel-oil supply; check bench mark established by Northern Pacific Ry. Co. 1913.	1, 619. 39
Lester, in front of station; top of rail.	1, 610. 7
Stampede, 75 feet southwest of station, 10 feet northwest of bluff on Deer Creek; iron post stamped "2776 T" ¹ .	2, 777. 350
Stampede tunnel, at east end of; top of south rail at east end of snow shed.	2, 834. 2
Martin, 40 feet east of station and 20 feet south of main track, 6 feet east of telegraph pole, on bank above track; iron post stamped "2782" ¹ .	2, 784. 050
Martin, in front of station; top of south rail.	2, 776. 7
Snoqualmie wagon road, 3.6 miles west of Easton, at intersection with Northern Pacific Ry., 12 feet north of track, 15 feet east of wagon road; iron post stamped "2304".	2, 305. 848
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. 671

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

Big Creek, 25 feet north of west pillar of signpost at siding, 35 feet north of main track, 150 feet east of trestle 56 over small creek; iron post stamped "2103" Feet.
2, 104. 790

Nelson, 205 feet south of track, 200 feet northeast of house of Peter Nelson, 410 feet southwest by west from signboard "Nelson," 3 feet east of fence corner and 12 feet west of large pine tree; iron post stamped "2030" 2, 031. 554

From Cle Elum north along highway to Fish Lake (part of spur line; elevations unreliable.)

Primary leveling in 1897 by Frank Cole, in 1898 by H. K. Kalloch, in 1900 by C. J. Hutchison, and in 1910 by D. S. Birkett.

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. 372

Cle Elum 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" (=P. B. M. 1 by U. S. R. S. line A).. 2, 151. 622

Cle Elum Lake, foot of; water level May 24, 1898..... 2, 127. 9

Cle Elum Lake, head of, in highest point of large granite boulder 15 feet from lake, 30 feet from road; aluminum tablet stamped "2140 T" 2, 141. 319

Morgan ranch, 200 feet east of, 15 feet west of road and 3 feet from fence; iron post stamped "2157 T" 2, 158. 587

Big Salmon Lasac, 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. 791

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. 892

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 boulder; iron post stamped "2895 T" 2, 896. 572

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. 225

Fortune Creek, 30 feet north of north end of bridge over, 18 feet east of road; iron post stamped "3204 T" 3, 205. 096

From Easton north along highway to Lake Kachess (spur line; elevations unreliable).

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" (=P. B. M. 1 by U. S. R. S. line B)..... 2, 230. 530

Lake Kachess; surface of water Sept. 6, 1897..... 2, 222. 0

From Martin north along highway to Snoqualmie Pass (spur line; elevations unreliable).

Lake Keechelus, at foot, southeast end of, 35 feet northwest of wagon road, 68 feet southeast of lake, 120 feet south of old sawmill site, 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" (=P. B. M. 1 by U. S. R. S. line C)..... 2, 475. 396

Gold Creek trail, directly opposite and 6 feet south of road, small burn east of bench mark; iron post stamped "2502" 2, 498. 510

From mouth of Bumping River north to Mathews Cabin (part of spur line; elevation unreliable).

Mathews cabin, 1.0 mile southeast of, at summit of road, on trail 0.5 mile northwest of where it leaves river; iron post stamped "3119 T" 3, 119. 068

The United States Reclamation Service has established the following bench marks in the Snoqualmie quadrangle:

"A" line for control of Cle Elum dam site.

Cle Elum Lake, near outlet of, 500 feet nearly east of house at present dam, 20 feet north of trail running east from said house, 250 feet due north of Cle Elum River at point 700 feet below dam (1905), some 30 feet southeast of dead fir tree blazed and marked "2192.435;" iron post stamped "2192" (p. b. m. No. 2).....	Feet. 2, 193. 807
Cle Elum Lake, 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 pine trees are within 50 feet, marked "2248.886" and "2250.661," 120 feet above river gage; iron post stamped "2249" (p. b. m. No. 3).....	2, 250. 853

"B" line for control of Kachess dam site.

Lake Kachess, near outlet of, 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" (p. b. m. No. 2).....	2, 249. 077
Lake Kachess, near outlet of, 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" (p. b. m. No. 3).....	2, 245. 726

"C" line for control of Keechelus dam site.

Lake Keechelus, on ridge near outlet of, 205 feet north of timber dam on Yakima River, 190 feet east of public road, 500 feet east of lake; iron post stamped "2510" (p. b. m. No. 2).....	2, 506. 110
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The following bench marks were established in cooperation with the State in 1910 by D. S. Birkett in connection with leveling in the Cedar Lake quadrangle:

From Humpback Creek fill (1 mile east of Rainy Creek) northeast along Chicago, Milwaukee & St. Paul Ry. 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, in base of 2-foot fir stump 3 feet high; copper nail in notch, aluminum tag stamped "2485".....	2, 485. 76
Rockdale, 8 feet north of track, in concrete abutment of water tank; aluminum tablet stamped "Prim. Trav. Sta. No. 11, 1910, 2508 Wash".....	2, 508. 019
Laconia, 200 feet west of station, in foundation of water tank at east end; copper nail, aluminum tag stamped "3003".....	3, 003. 89
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. 213

SPOKANE QUADRANGLE.

[Latitude 47° 30'-48°; longitude 117°-117° 30'.]

From Moot southwest along Northern Pacific Ry. to Marshall.

Precise leveling by the U. S. Coast and Geodetic Survey.

Hauser Junction, 2 miles west of station, 10 meters northeast of highway crossing, 50 meters north of track; iron post (U. S. C. & G. S. b. m. S ₃)....	2, 108. 769
Moab, 0.25 mile west of station, 30 meters south of track, iron post (U. S. C. & G. S. b. m. T ₃).....	2, 074. 668

	Feet.
Otis Orchards, 0.5 mile east of station, at highway crossing, 20 meters south of track; iron post (U. S. C. & G. S. b. m. U ₃).....	2, 079. 989
Otis Orchards 1.5 miles west of station, 120 meters south of milepole 72, 25 meters southeast of track; iron post (U. S. C. & G. S. b. m. V ₃).....	2, 058. 441
Velox siding, 400 meters west of station along Northern Pacific Ry., 30 meters north of milepole 74; iron post (U. S. C. & G. S. b. m. W ₃).....	2, 040. 255
Irvin, 0.5 mile east of station, in west end of bridge over Spokane River, 210 meters west of mile pole 76; disk (U. S. C. & G. S. b. m. X ₃).....	1, 993. 257
Irvin, 1.5 miles west of station, in concrete abutment at Inland Empire-Northern Pacific crossover, at mile 78; disk (U. S. C. & G. S. b. m. Y ₃)..	1, 973. 379
Irvin, 4.25 miles west of station, 15 meters west of milepole 80; U. S. G. S. iron post stamped "1,953" (U. S. C. & G. S. b. m. Z ₃).....	1, 950. 439
Spokane, 1 mile east, along Northern Pacific Ry., from station in the signal tower at Northern Pacific and Chicago Milwaukee & St. Paul crossover; disk (U. S. C. & G. S. b. m. A ₄).....	1, 915. 731
Spokane, 2 miles southwest of station, along Northern Pacific Ry., 300 meters south of mile pole 87, 20 meters west of track; iron post (U. S. C. & G. S. b. m. B ₄).....	1, 864. 196
Spokane, 4 miles southwest of station, 260 meters south of milepole 89, 30 meters west of track; U. S. G. S. iron post stamped "1,857" (U. S. C. & G. S. b. m. C ₄).....	1, 854. 858
Marshall, 2 miles east of station, 35 meters southwest of milepole 91, 30 meters west of track, 3 meters north of telegraph pole; iron post (U. S. C. & G. S. b. m. D ₄).....	1, 955. 364
Marshall, 400 meters east of station, in wall of Northern Pacific signal tower; disk (U. S. C. & G. S. b. m. E ₄).....	2, 120. 245

From Marshall northeast along Northern Pacific Ry. to Spokane.

Primary leveling in 1898 by J. H. Carlock, in 1903 by E. M. Fry.

Marshall, 100 feet northwest of railroad crossing and 100 feet east of post-office building; iron post stamped "2130 T".....	2, 127. 923
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" (recovered by U. S. C. & G. S.).....	1, 854. 858
Spokane, in front of Northern Pacific Ry. station; top of rail.....	1, 906. 9
Spokane, in front of Great Northern Ry. station; top of rail.....	1, 877. 4
Spokane, center of astronomic pier in courthouse grounds; aluminum tablet stamped "1891 T".....	1, 888. 500
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, 911. 174

From Spokane east along Northern Pacific Ry. to State line.

Milepost Wallula 166, Hope 80, 60 feet northwest of, 40 feet north of railroad; iron post stamped "1953 T" (recovered by U. S. C. & G. S.).....	1, 950. 439
Trent, 2 miles east of, 100 feet north of railroad at road crossing; iron post stamped "2041 T".....	2, 038. 836
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, 080. 201

From Spokane north along Spokane Falls & Northern (Great Northern) Ry. to Dragoon, thence along highway to Chattaroy.

Mead, 100 feet southwest of station, in line with telegraph poles; iron post stamped "1906 S".....	1, 903. 228
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Dragoon, 90 feet west of station, 20 feet east of road; iron post stamped "1745 S".....	Feet. 1,742.972
Chattaroy post office, 1,500 feet east of, 30 feet southwest of Davis mill road crossing Great Northern Ry., in center of boulder 60 by 40 inches, 2 feet above ground; aluminum tablet stamped "1799 S".....	1,796.198
From Chattaroy along Great Northern Ry. 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".....	1,777.027
From point near Milan east and South along highway via Medler, Fish Ranch, Spirit Lake, and Fish Lake to Rathdrum (part 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.".....	2,465.647
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.".....	3,110.154
Washington-Idaho State line, 120 feet west 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".....	2,379.510
From 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.....	1,899.70
Tomkinson triangulation station, about 800 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".....	2,369.366
Mead, 2.5 miles southwest of, 70 feet northeast of junction of Mead road with Spokane-Clarks Mill road, 10 feet west of road, in 12-inch pine tree; spike.....	1,949.64
Mead, 0.5 mile southwest of, north of forks of road to Spokane, in root of 24-inch pine tree; nail.....	1,922.46
From 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".....	2,062.477
Wayside, 5 miles south of, 20 feet north of forks of road, west of road, in root of 14-inch pine tree; nail.....	2,028.90
Wayside, 9 miles southwest of, 80 feet east of road, in sec. 28, T. 27 N., R. 42 E., in center of boulder 60 by 40 inches, 2 feet above ground; aluminum bolt stamped "U. S. G. S. 2889 ft. S. B. M.".....	2,886.860
From 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 boulder 60 by 36 inches, 2 feet above ground; aluminum bolt stamped "U. S. G. S. 2065 ft. S. B. M.".....	2,062.372
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".....	1,919.542
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".....	1,878.845

From point 4 miles northeast of Mead along highway south and east by circuitous route to 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 tree west of road; tack.....	2,729.81
Newman Lake, 0.5 mile north of, 60 feet southeast of schoolhouse, 8 feet north of road; iron post stamped "2151 S".....	2,148.856
Newman Lake, water surface.....	2,127.6
Newman Lake, 0.5 mile east of, 3 miles north of Northern Pacific Ry., 30 feet south of forks of road, 1,000 feet east of house, in center of boulder 30 by 20 inches, 1 foot above ground; aluminum bolt stamped "U. S. G. S. 2147 ft. S. B. M.".....	2,144.486

From point 7 miles northeast of Mead south along highway to Northern Pacific Ry.

Pleasant Prairie, center of crossroads; iron post stamped "2431 S".....	2,428.993
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From 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.....	1,698.77
Chattaroy, 4.8 miles north of, northeast corner of forks of road, in top of boulder 10 by 8 inches, 6 inches above ground; cross.....	1,857.54

From Wayside along highway north to Deer Park, thence southeast along Spokane Falls & Northern (Great Northern) Ry. to Dregon.

Wayside, 4 miles northwest of, 10 feet northeast of corner of secs. 27, 28, 33, and 34, T. 28 N., R. 42 E.; iron post stamped "2093 S".....	2,090.767
Deer Park, southeast corner of crossroads at station, 70 feet southeast of post office, 130 feet east of Spokane Falls & Northern Ry.; iron post stamped "2117 S".....	2,114.621
Buckeye, in front of station; top of rail.....	1,961.30

From Deer Park northeast along highway via West Branch post office to point 1 mile north of Milan.

Corner of secs. 19, 24, 25, and 30; top of stone.....	2,218.78
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".....	2,266.067
Westbranch, 200 feet north of post office, 30 feet west of bridge over flume, 3 feet north of road, in top of boulder 48 by 36 inches, 1 foot above ground; aluminum bolt stamped "U. S. G. S. 1906 ft. S. B. M.".....	1,903.960

From point near Otis along highway south 3 miles, thence east via Liberty Lake to State line, thence north to Northern Pacific Ry.

Liberty Lake, 500 feet north of, 100 feet west of schoolhouse, 20 feet east of road; iron post stamped "2098 S".....	2,096.061
Liberty Lake; water surface.....	2,050.6

From 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"....	2,128.175
Sprague Avenue road, 4.8 miles southwest of, 100 feet south of forks, 4 feet east of road, in root of 30-inch pine tree; spike.....	2,328.18
East Spokane, 80 feet west of post office, 20 feet south of road, 160 feet south of track; iron post stamped "1933 S".....	1,930.541



From East Spokane southeast along track of Oregon-Washington R. R. & Navigation Co. to Buckley.

	Feet.
Chester, 200 feet northwest of section house, 30 feet north of fork of roads, 60 feet north of track; iron post stamped "2011 S".....	2,008.361
Mica, in front of station; top of rail.....	2,476.32
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".....	2,476.026
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".....	2,597.906

From 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.".....	2,687.342
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From point 1.8 miles south of Freeman west along highway to Northern Pacific Ry., thence north to Marshall.

Oregon-Washington R. R. & 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.".....	2,509.728
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.".....	1,924.964
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".....	2,451.936
Palouse branch of Northern Pacific Ry., 0.2 mile north of milepost 4, 80 feet east of road crossing, 40 feet east of small bridge, 20 feet east of forks of road; iron post stamped "2272 S".....	2,269.850

From Spokane west along Great Northern Ry. 4 miles.

Alta Vista, in front of station; top of rail.....	1,820
Junction of 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.".....	1,900.854

From junction of Great Northern and Spokane, Portland & Seattle 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.".....	2,264.158
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From Marshall south along Northern Pacific Ry. to Garfield (part of line).

Marshall, 100 feet northwest of railroad crossing; iron post stamped "2130 S".....	2,127.647
Milepost 4, 0.2 mile north of, 50 feet east of track; iron post stamped "2272 S".....	2,269.691

From Lockwood south along track of Oregon-Washington R. R. & Navigation Co. to Rockford.

Lockwood, 200 feet southwest of church, 60 feet south of road crossing; iron post stamped "2600 S".....	2,597.906
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STEHKIN QUADRANGLE.

[Latitude 48°-48° 30'; longitude 120° 30'-121°.]

From head of Lake Chelan up Stehekin River to Bridge Creek

	Feet.
Primary leveling in 1897 by P. F. Byrne, in 1899 by E. M. Fry, and in 1901 by C. E. Hill.	
Log cabin, on rock in trail near head of Lake Chelan.....	1, 086. 0
Cabin on trail, 0.2 mile south of, on 3-foot cottonwood tree.....	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 of 2 cubic yards volume, 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 2-foot pine tree; nail, elevation marked on a board nailed to a tree.....	1, 488. 3
Twin Lake, between two 4-foot pine trees; 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, in 18-inch fir stump; 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 of 3-foot tree.....	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

From Twisp west along highway and trail up Twisp Creek and down Bridge Creek to its mouth.

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 45-inch fir tree; 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 boulder.....	4, 485. 04
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 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 6½-foot cedar tree; nail.....	2, 556. 32
Bridge Creek, mouth of, 225 feet south of new bridge, in root of 30-inch fir tree; nail.....	2, 174. 53
Up Chewawa and Buck creeks northwest along highway to Buck Creek Pass (part of single-spur line from Leavenworth; elevations unreliable).	
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, 628. 818

	Feet.
Rock Creek, 6.5 miles northwest of, 2 feet east of trail, 300 feet north of small stream, in root of big fir tree; nail marked "2660".....	2, 651. 14
Phelps Creek, 125 feet south of, 36 feet northeast of trail, in big rock; bronze tablet stamped "2782 T".....	2, 773. 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, 895. 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, 025. 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, 198. 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, 354. 208
Forks of Buck and Chewawa creeks, 1 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, 821. 67
Forks of Buck and Chewawa creeks, 2 miles northwest of, 11 feet west of trail, in root of spruce tree; nail marked "4254".....	4, 235. 34
Forks of Buck and Chewawa creeks, 3 miles northwest of, 675 feet southeast of Buck Creek ford, 4 feet west of trail; top of big rock marked "4471".....	4, 452. 48
Buck Creek, surface of water at trail crossing, September 20, 1901.....	4, 475. 8
Forks of Buck and Chewawa creeks, 4 miles northwest 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, 866. 200
Buck Creek, at extreme headwaters of, 5 miles northwest 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, 777. 586
Summit of pass at headwaters of Buck Creek; ground at lowest sag in saddle.....	5, 766. 83

STILAGUAMISH QUADRANGLE.

[Latitude 48°-48° 30'; longitude 121° 30'-122°.]

From Hartford Junction northeast along Northern Pacific Ry. to Granite Falls, thence northwest along highway to Arlington.

Primary leveling in 1897 by G. H. Pratt and Fred Graff and in 1898 by L. D. Ryus.

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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From point near Silverton along Everett & Monte Cristo (Northern Pacific) Ry. and down Sauk River to Granite Falls.

Bridge 42, Perry Creek, 120 feet west of, on south side of track; on 24-inch hemlock stump.....	1, 748. 28
Bridge 37, 25 feet east of west end of, on larch stump 36 inches in diameter.....	1, 645. 92
South Fork of Stilaguamish River, bed of, opposite bridge 37.....	1, 630. 0
Milepost 30, 670 feet west of, 15 feet south of track, on 4-foot hemlock stump.....	1, 574. 34
Forty-five Mining Co.'s ore house, 450 feet east of, 15 feet north of center of track; on 5-foot cedar stump.....	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

	Feet.
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 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 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, 20 feet west of track, on hemlock 36 inches in diameter.....	1,179.04
Bridge 23, 120 feet west of, south side of track, on hemlock stump 18 inches in diameter.....	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 Ry. 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
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
Stilaguamish River, road down, at junction with Sauk River road, 600 feet west of Tunnel 2, north of track, on 24-inch fir stump.....	605.4
Milepost 9, 20 feet west of, on opposite side of track from, in side of solid rock cut about the middle of 10°-curve to the right, 10 feet south of center of track; copper bolt stamped "460".....	461.031
Blackman Spur, 470 feet west of headblock, 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

**From Silvertown 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 tree 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 tree 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 south side of trail, on larch tree 30 inches in diameter.....	3,514.59
Adelaide Gulch, near intersection of two small streams, on south side of trail, on hemlock 12 inches in diameter.....	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 tree 24 inches in diameter.....	Feet. 1, 903. 89
Log cabin, 850 feet south of, on east side of trail, on larch tree 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 "1638".....	1, 689. 93

From 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 tree on right of road.....	398. 12
Kerren's, across bridge opposite, 5-foot cedar stump, left of road.....	440. 57
Wetmore's slashing, 1,000 feet south of, right side of road, on root of cedar stump.....	511. 87
Swamp, 150 feet beyond bridge over, left of road; on 18-inch hemlock tree.....	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 tree, 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 tree, left of trail.....	639. 04
Lake Roesiger road, 800 feet south of house, on 12-inch hemlock left of road.....	733. 49

From Chowndings along highway to Kelley ranch.

Chowndings, 1,500 feet beyond, on 24-inch hemlock tree 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 tree left of trail.....	639. 83
Kelley house, 1,200 feet west of, on 36-inch cedar tree near creek right of trail.....	664. 93
Kelley house, 1,250 feet east of, on 18-inch hemlock tree 15 feet left of trail.....	708. 43
Kelley house, 1,750 feet east of, on boulder on side of hill, 25 feet to left of trail, 275 feet from Pilchuck River; copper bolt stamped "746".....	747. 500

From 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 mile northeast of, east of road at curve, in 76-inch cedar stump 10 feet high; nail.....	454. 24
Granite Falls, 1.5 miles northeast of, east side of road at bend, in very prominent 20-inch hemlock tree; nail.....	388. 25
Stilaguamish River, South Fork, 100 feet southwest of bridge over, 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 mile northeast of, northwest of road, top of ridge, in 24-inch hemlock tree; nail.....	568. 47
Canyon Creek, trail to footbridge, at junction with road.....	523. 9
Stilaguamish River, South Fork, 1.25 miles northeast of bridge over, 150 feet from Canyon Creek, north of road on hillside, in 36-inch fir tree; nail.....	446. 35

	Feet.
Canyon Creek, at mouth of small stream from north, 150 feet west of house.	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." ¹ ..	547. 725
From Barlow Pass along highway northwest down Sauk River to Darrington, thence west along Northern Pacific Ry. 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 west of road, on cedar tree 18 inches in diameter.....	732. 59
Meander corner between secs. 4 and 9, 300 feet (along road) north of, T. 31 N., R. 10 E., on west side of road, about 40 feet from river, in cedar tree 12 inches in diameter.....	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 30-inch hemlock tree..	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 (along road) north of log cabin, on fir tree 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 tree 30 inches in diameter on east of road.....	593. 57
Milepost 8, about 1,500 feet north of, 12-inch fir tree 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 tree 18 inches in diameter....	566. 92
Stilaguamish River, road down, junction with Sauk River road, 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, road down, junction with Sauk River road, 0.25 mile west of, north of road, on cedar tree 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 tree 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 feet and 1 foot 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 tree 8 inches in diameter.....	456. 88
W. Spoerhase ranch, opposite gate entrance to, on 36-inch cedar tree....	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 tree 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 tree 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

¹ The atlas sheet position is T. 30 N., R. 7 E., south of north side of sec. 5, and the actual location is therefore doubtful.

Boulder Creek, top of descent toward, 80 feet east of, on west edge of bench, on hemlock tree 14 inches in diameter.....	Feet. 412. 00
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 feet and 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 tree 4 feet in diameter.....	374. 14
Milepost 1, 40 feet west of, north side of trail; on 4-foot cedar tree.....	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 tree 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, north side of road, in root of 24-inch cottonwood tree; nail.....	206. 14
Four-mile post, about 300 feet east of, top of hill, on north side of road, in 20-inch fir tree; nail.....	274. 21
From Darrington north along highway to McKutchens.	
Darrington, 4 miles north of, east of road, opposite bars, in 36-inch cedar tree; nail.....	478. 61
Darrington, 5 miles north of, on west side of road at top of hill, in fir tree; nail.....	455. 29
Darrington, 7.5 miles north of, 200 feet north of corduroy bridge over swamp, on east side of road, in 42-inch cedar tree; 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
From McMurray east along highway and trail to Lake Cavanaugh, thence north via Day Lake to Lyman Ferry (part of line).	
Deer Creek trail, 5 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 tree, in top of large boulder; aluminum tablet stamped "1147 Wash 1909".....	Feet. 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 township line and trail from Deer Creek to Day Lake, 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 to 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 tree, 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".....	2, 044. 959

SULTAN QUADRANGLE.

[Latitude 47° 30'-48°; longitude 121° 30'-122°.]

From point 2 miles southeast of Preston west along Northern Pacific Ry. to Grand Ridge coal mine.

Primary leveling in 1910 by D. S. Birkett.

Preston Lumber Co.'s upper mill, northwest corner of school yard (district 90), 70 feet north by 25 feet west of schoolhouse, in notch at base of 3½-foot cedar stump 8 feet high; copper nail, 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 fence (district 90); iron post stamped "597 Wash".....	596. 479
Preston, 500 feet east of Northern Pacific Ry. 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

At Index (on spur line from Peshastin).

Primary leveling in 1898 by H. K. Kallock.

Index, at station, 40 feet southwest of agent's window, 27 feet southwest of track; iron post stamped "532 T".....	532. 176
From Silverton south along trail over divide and down Williamson Creek to Sultan River (part 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

From Granite Falls south to Lake Roesiger.

Lake Roesiger, 100 feet east of Nesbeth barn, 150 feet east of trail, in boulder; copper bolt stamped "619"	Feet. 619.930
Lake Roesiger, surface of water	568

SUMAS QUADRANGLE.

[Latitude 48° 45'-49°; longitude 122° 15'-122° 30'.]

From Delta south along Meridian road to Bellingham.

Primary leveling in 1905 by G. C. Jacobs.

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

From Bellingham north along Bellingham & Northern R. R. to Sumas.

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

From 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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From 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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From Bellingham east along Northern Pacific Ry. 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

From 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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TACOMA QUADRANGLE.

[Latitude 47°-47° 30'; longitude 122°-122° 30'.]

From Black River along Northern Pacific Ry. to Covington.

Precise leveling by U. S. Coast and Geodetic Survey.

Black River, opposite Northern Pacific Ry. station, 11.55 meters east of nearest Columbia & Puget Sound rail, 1.92 meters west of right of way fence; square hole in top of granite post, marked "U. S. □ B. M." (C. & G. S. "H").....	Feet. 20. 545
Black River, 0.25 kilometer south of, on sandstone abutment for approach to Northern Pacific Ry. bridge over Black River, on north end of bridge, on west side of track, 1.34 meters from nearest rail, in concrete abutment, 0.42 meter from south edge and 0.190 meter from west edge; copper bolt (C. & G. S. "I") marked "U. S. □ B. M."	34. 209
Kent, in Ed. Brotchi's yard on Railroad Avenue, 0.2 meter from west fence and 0.2 meter from south fence; bottom of square hole in top of granite post, marked "U. S. □ B. M." (C. & G. S. "J").....	40. 354
Kent, at southwest corner of Gowe Street and First or Front Street (as commonly known in town), 2.8 meters south of edge of Gowe Street pavement and 3.8 meters from corner of store building, 0.26 meter above ground, in head of northeast corner bolt holding cap of water hydrant; cut cross (C. & G. S. "K").....	42. 414
Kent, 2 kilometers south of, 0.8 kilometer north of Thomas at north end of Northern Pacific Ry. bridge over White River, west of track, in upper surface of northwest corner of concrete abutment, 0.1 meter from each edge and 2.22 meters from nearest rail; copper bolt (C. & G. S. "L") marked "U. S. □ B. M."	52. 838
Auburn, 73 meters north of small Northern Pacific Ry. station, in Mr. Gilmore's yard, about 20 meters northeast of his house, 2 meters west of fence inclosing his yard, 14.35 meters from nearest rail; bottom of square hole in top of granite post, marked "U. S. □ B. M." (C. & G. S. "M")..	74. 193
Auburn, in front of R. C. Kinleyside's hardware and furniture store, in cement sidewalk, 2.74 meters from its outer edge and 0.16 meter from building; brass plate (C. & G. S. "N").....	83. 737
Auburn, 0.75 kilometer east of, in top of concrete abutment for approach of Northern Pacific Ry. bridge over White River, 0.365 meter from east edge, 0.18 meter from south edge of abutment and 1.465 meters from nearest rail; bottom of hole 32 millimeters square cut in stone, lettered "U. S. □ B. M." (C. & G. S. "O").....	99. 468
Covington, 0.9 kilometer west of station, in west abutment of concrete approach to Northern Pacific Ry. bridge 2 over Jenkins Creek, 6 rails west of nearest switch stand, 0.3 meter from east and 0.2 meter from south edge of abutment, 1.5 meters south of nearest rail of track; brass plate (C. & G. S. "P").....	330. 764
Covington, 36 meters west of station of Northern Pacific Ry., 9 meters south of main-line track, 10 meters south of milepost 224, about in line of telegraph poles and in Northern Pacific right of way; bottom of square hole in top of granite post, marked "U. S. □ B. M." (C. & G. S. "Q").....	346. 315

From Tacoma southeast along Northern Pacific Ry. to Orting, thence northeast to Buckley.

Precise leveling in 1898 by H. S. Crowe and in 1913 by D. S. Birkett.

Tacoma, city hall building, on top of coping of cornerstone; cross.....	110. 240
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Tacoma, northwest corner of Seventh Street and Pacific Avenue, southeast corner of city hall building, 2 feet above sidewalk; aluminum tablet stamped "1913".....	Feet. 109.965
Prescott, in front of station; top of rail.....	8.9
Reservation platform, at road crossing; top of rail.....	12.5
Milepost 5, 270 feet east of, in top 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, at Stewart and Meridian streets, northeast corner of building of J. P. Stewart & Sons, in fifth row of bricks above cornerstone; aluminum tablet stamped "49 T".....	48.712
Meeker Junction; top of rail.....	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".....	89.136
Orting, in front of station; top of rail.....	192.0
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".....	197.974
South Prairie, in front of station; top of rail.....	428.4
South Prairie, 50.7 feet east of northeast corner of station, 2.3 feet west of telegraph pole, 19.1 feet from center of track; iron post stamped "430 T".....	429.706
Buckley, at River Avenue and Main Street, southwest corner of Collins & McNichol's butcher shop; aluminum tablet stamped "723 T".....	722.844
Buckley, in front of station; top of rail.....	723.7

From Tacoma southeast along Northern Pacific Ry. to Meeker Junction, thence north to Auburn.

Tacoma, at A and Thirteenth streets, opposite Puget Sound Traction, Light & Power Co.'s car barns, point midway in block, west side of street, top of trapdoor in sidewalk; painted square.....	64.54
Tacoma, 0.2 mile southwest of Union Station, intersection of north-south brick-paved street with Northern Pacific Ry. tracks, west side of street, top of granite curbstone; painted square.....	12.60
Tacoma, 2.1 miles southeast of, 300 feet northwest of engine room to Peterman Mill, west edge of Northern Pacific Ry. right of way, in base of telegraph pole; spike marked "U. S. B. M. No. 3".....	9.47
Tacoma, 3 miles southeast of, west end of Oregon-Washington R. R. & Navigation Co.'s steel bridge over Puyallup River, south side, top of concrete pier; aluminum tablet stamped "16 1913".....	16.036
Milepost 36, 400 feet southeast of, east side of Northern Pacific Ry. right of way, in base of brace to telegraph pole; spike marked "U. S. B. M. No. 5".....	20.66
Milepost 35, 1,100 feet southeast of, west edge of right of way, in base of telegraph pole; spike marked "U. S. B. M. No. 6".....	16.84
Milepost 34, opposite, on west side of Northern Pacific Ry. right of way, in base of telegraph pole; spike marked "U. S. B. M. No. 7".....	22.09
Milepost 33, 170 feet west of, south side of right of way, in base of telegraph pole; spike marked "U. S. B. M. No. 8".....	28.43
Puyallup, 2.4 miles west of, steel bridge over creek, east abutment, north end; aluminum tablet stamped "31 1913".....	31.175
Milepost 32, 210 feet east side of right of way, in base of telegraph pole; spike marked "U. S. B. M. No. 10".....	33.43
Milepost 31, 110 feet west of, south side of right of way, in base of telegraph pole; spike marked "U. S. B. M. No. 11".....	41.72
Milepost 30, 210 feet east of, south side of right of way, in base of telegraph pole; spike marked "U. S. B. M. No. 13".....	47.79

Meeker Junction, 700 feet west of, 14 feet south of track, northeast corner of water tank, on top of concrete pier; chiseled square.....	Feet. 60. 206
Meeker Junction, 0.7 mile northeast of, 0.5 mile southwest of Northern Pacific Ry. bridge over Puyallup River, north side of tracks, in concrete base of semaphore; chiseled square.....	63. 69
Summer, 0.4 southwest of, north end of Northern Pacific Ry. steel bridge over Puyallup River, in concrete abutment on east side; aluminum tablet stamped "69 1913".....	69. 830
Milepost 28, 1,000 feet northeast of, 30 feet west of tracks, in base of telegraph pole; spike marked "U. S. B. M. No. 17".....	65. 60
Milepost 27, 300 feet north of, on concrete base of semaphore; chiseled square.....	62. 12
Milepost 26, 30 feet north of, 30 feet west of tracks, in base of telegraph pole; spike marked "U. S. B. M. No. 19".....	56. 36
Milepost 25, west side of tracks, top of post; copper nail.....	82. 68
Stuck River steel bridge (Northern Pacific Ry.), 0.6 mile south of, 0.6 mile north of milepost 25, west side of track, on concrete base of semaphore; chiseled square.....	91. 01
Auburn, 2.9 miles south of, south end of Northern Pacific Ry. bridge over Stuck River, on east side, in concrete abutment; aluminum tablet stamped "100 1913".....	100. 263
Auburn, 2.2 miles south of, 260 feet south of milepost 23, west side of Northern Pacific Ry. tracks, on concrete base of semaphore; chiseled square.....	103. 73
Milepost 22, 12 feet north of, south end of emergency rail stand, on top; copper nail.....	99. 25
Auburn, 0.3 mile south of, nearly due west of main line of Northern Pacific Ry. steel bridge over Green River, east side of double track, on concrete base of semaphore; chiseled square.....	84. 27
Auburn, 73 meters north of small Northern Pacific Ry. station, in Gilmore's yard, about 20 meters northeast of his house, 2 meters west of fence inclosing his yard, 14.35 meters from nearest rail; bottom of square hole in top of granite post marked "U. S. □ B. M." (C. & G. S. b. m. M).....	74. 191

From Meeker Junction southeast along Northern Pacific Ry. to Orting, thence northeast along same road to South Prairie.

Precise leveling in 1913 by D. S. Birkett.

Milepost 33, 0.3 mile east of, west side of right of way, in base of telegraph pole; spike marked "U. S. B. M. No. 26".....	65. 07
Milepost 32, 0.1 mile east of, north side of right of way, in base of brace to telegraph pole; marked "U. S. B. M. No. 27".....	77. 10
Milepost 31, 255 feet southeast of, in base of mail crane; copper nail marked "U. S. B. M. No. 28".....	89. 57
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. 136
Milepost 30, 220 feet south of, east side of right of way, in base of telegraph pole; spike marked "U. S. B. M. No. 30".....	106. 57
McMillin, 620 feet south of milepost 29, east side of right of way, in base of telegraph pole; spike marked "U. S. B. M. No. 31".....	122. 88
McMillin, 1 mile southeast of, south end of Northern Pacific Ry. steel bridge over South Fork of Puyallup River, on east side in concrete abutment; aluminum tablet stamped "131 1913".....	130. 550
Milepost 27, 390 feet south of, east side of right of way, in base of telegraph pole; spike marked "U. S. B. M. No. 33".....	151. 42

Milepost 26, 50 feet southeast of, east side of track, in base of telegraph pole; spike marked "U. S. B. M. No. 34".....	Feet. 176. 38
Orting, Boatman store building, middle section of, on concrete sill; chiseled square.....	195. 31
Milepost 24, 400 feet west of, west end of wooden trestle 241, in foundation; spike marked "U. S. B. M. No. 13".....	225. 18
Milepost 23, 60 feet east of, west end of trestle 236, in top of wooden foundation; copper nail marked "U. S. B. M. No. 38".....	272. 46
Crocker, 0.4 mile northeast of, east end of Northern Pacific Ry. steel bridge over Puyallup River, north side, in concrete abutment; chiseled square marked "U. □ S.".....	311. 10
Milepost 21, in top of; copper nail marked "U. S. B. M. No. 40".....	319. 08
Milepost 20, 220 feet north of, west side of right of way, in base of brace to telegraph pole; spike marked "U. S. B. M. No. 41".....	344. 52
Milepost 19, in base of; spike marked "U. S. B. M. No. 42".....	393. 90
South Prairie, intersection of Emery and First streets, 150 feet south of tracks, across street from Knights of Pythias hall, in concrete sidewalk; chiseled square.....	428. 68

From point 5 miles southwest of Issaquah along wagon road to Renton, thence west along Northern Pacific Ry. to Black River Junction.

Primary leveling in 1910 by D. S. Birkett and E. M. Bandli.

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 or road intersection, 25 feet from each road and in forks, at base of 2-foot cedar stump 8 feet high, copper nail in notch; aluminum tag stamped "336".....	335. 99
T. 23 N., R. 5 E., in NE. $\frac{1}{4}$ sec. 12, 5.4 miles northeast of Renton city hall, in southwest corner of May Creek school yard, 40 feet south by 40 feet west of southwest corner of schoolhouse, 60 feet north of county road; 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 boulder marked with red paint "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, at base of 2-foot cedar stump 4 feet high; copper nail in notch, 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," at base of 5-foot cedar stump 10 feet high; copper nail in notch, 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 Ry. station, 11.6 meters east of nearest Columbia & Puget Sound R. R. 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." (C. & G. S. B. M. "H").....	20. 545

From point 1.4 miles west of Hobart along Pacific Coast R. R. to Maple Valley, thence south along same railroad to point near Summit.

Maple Valley, 300 feet east of Columbia & Puget Sound R. R. 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".....	Feet. 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

From 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 with the State.

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".....	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 Ry. 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 nail.....	544.74
Tps. 17 and 18 N., R. 5 E., 4 feet west of corner of 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

From Tacoma south along Northern Pacific Ry. to point 2.1 miles south of Lakeview (leveled twice).

Primary leveling in 1912-13 by E. M. Bandli.

Tacoma, at intersection of Twentieth and D streets and Jefferson Avenue, 1 mile from city hall, south of east side of Jefferson Avenue and opposite the Laurel rooming house (No. 1942), in bottom of telephone pole; copper nail marked "112.6".....	112.65
Tacoma, Center Street wagon bridge over Northern Pacific Ry. tracks, 6 feet north of tracks, southwest corner of foundation of bridge, in wooden pile; copper nail marked "214.0".....	213.98
South Tacoma, 40 feet north of road crossing, on Northern Pacific Ry. track, in top of small stump; copper nail marked "249.9".....	249.92
South Tacoma, first road crossing north of, at corner of station, 30 feet east of track, in telegraph pole; copper nail marked "253.5".....	253.65
South Tacoma, 66 feet south of Northern Pacific Ry. bridge crossing Lake Street car track, 90 feet north of road crossing, 15 feet east of track, in top of southwest concrete pier of bridge; aluminum tablet stamped "251".....	251.007
Tacoma, 7.3 miles south of, at northeast corner of auto race track, 40 feet east of railroad track, at road crossing, north of road, in telegraph pole; copper nail marked "275.7".....	275.68
Tacoma, 7.6 miles south of, at road crossing near Auto Club grandstand, 10 feet west of track, 4 feet south of railroad signpost; iron post stamped "Prim. Trav. Sta. No. 1, 272, 1912".....	272.484

Lakeview, 1,000 feet south of station, 15 feet north of first road crossing south of station, between arms of Y of Northern Pacific tracks, 6 feet southeast of railroad signpost, 30 feet northwest of main line of railroad; iron post stamped "Prim. Trav. Sta. No. 2, 275, Wash., 1912"	Feet. 275.270
Lakeview, 1.3 miles south of, 30 feet east of track at road crossing, in telegraph pole; copper nail marked "296.1"	296.33
Lakeview, 2.1 miles south of, at private-road crossing, 30 feet west of track, 30 feet south of road, in telegraph pole; copper nail marked "299.1"	299.36

TAUNTON QUADRANGLE (in Othello 30' quadrangle).

[Latitude 46° 45'-47°; longitude 119° 15'-119° 30'.]

From east border west along Chicago, Milwaukee & St. Paul Ry. to west border of quadrangle, thence south along highways to southwest corner of quadrangle.

Leveling in 1916 by D. S. Birkett.

Anson, 0.6 mile east of, north side of track, on concrete base of semaphore; chiseled square, painted "U. S. 928 B. M."	927.81
Anson; top of nearest rail opposite signboard	924.4
Anson, at west end of siding, south side of track, on concrete base of semaphore; chiseled square, painted "U. S. 923 B. M."	923.34
Anson, 1.3 miles west of, north side of track, north side of concrete base of semaphore, in vertical face; bronze tablet stamped "898 Wash. 1916" ..	897.579
Taunton, 1.7 miles east of, south side of track, on concrete base of semaphore; chiseled square, painted "U. S. 887 B. M."	887.12
Taunton, east end of siding, south side of track, on concrete base of semaphore; chiseled square, painted "U. S. 863 B. M."	862.77
Taunton, 0.3 mile west of, T. 15 N., R. 28 E., northeast quarter of sec. 7, west end of siding, north side of track, north side of concrete base of semaphore, in vertical face; bronze tablet stamped "849 Wash. 1916"	848.720
Taunton, 1.7 miles west of, north side of track, on concrete base of semaphore; chiseled square, painted "U. S. 821 B. M."	820.36
Corfu, 2.7 miles east of, north side of track, north side of concrete base of semaphore, in vertical face; aluminum tablet stamped "797 Wash. 1916" ..	797.132
Corfu, 2 miles east of, south side of track, on concrete base of semaphore; chiseled square painted "U. S. 784 B. M."	783.70
Corfu, 0.6 mile east of, east end of siding, north side of track, on concrete base of semaphore; chiseled square painted "U. S. 757 B. M."	757.26
Corfu, 1,260 feet east of depot, north side of track, west side of road; iron post stamped "750 Wash. 1916"	749.578
Corfu, Chicago, Milwaukee & St. Paul Ry. depot; top of nearest rail opposite semaphore by operator's window	744.9
Corfu, water tank, northwest corner of concrete base of feed pipe casing; chiseled square painted "U. S. 743 B. M."	742.31
Corfu, 1.5 miles west of, north side of track, on concrete base of semaphore; chiseled square painted "U. S. 716 B. M."	715.97
Corfu, 1.2 miles southwest of, in horseshoe bend of road, southeast side of road, top fence post; copper nail painted "U. S. 1314 B. M."	1,314.30
Summit Saddle Mountain, pass from Corfu to Wahluke, T. 15 N., R. 27 E., sec. 7, 70 feet east of road; iron post stamped "1981 Wash. 1916"	1,981.200
Summit Saddle Mountain, 0.4 mile southwest of, east side of road, guard-rail, top of post; copper nail painted "U. S. 1839 B. M."	1,839.20
T. 15 N., R. 27 E., near quarter corner, east side of sec. 18, 200 feet northwest of old house, east side of road, on basalt boulder; point in circle of paint, painted "U. S. 1319 B. M."	1,318.70

T. 15 N., R. 27 E., southwest corner of sec. 19, on top of corner stone in middle of road; chiseled square, painted "U. S. 973 B. M."	Feet. 972. 39
T. 15 N., R. 26 E., northeast corner of sec. 36, in base of very large corner fence post; railroad spike, painted "U. S. 777 B. M."	777. 07

In northeast corner of quadrangle.

T. 18 N., R. 28 E., southeast corner of sec. 35; iron post stamped "1080 Wash"	1, 080. 011
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TRINIDAD QUADRANGLE (INCLUDES MALAGA 15' QUADRANGLE).

[Latitude 47°-47° 30'; longitude 120°-120° 30'.]

From point near southwest corner of T. 18 N., R. 20 E., north along highway toward Malaga.

Primary leveling in 1903 by R. A. Farmer and in 1909 by C. H. Semper.

Ellensburg, 12.7 miles northeast of, at crossroads, at northwest corner of R. B. Gage ranch; iron post stamped "2310"	2, 309. 850
Ellensburg, 16 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. 595
Ellensburg, 19 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. 255
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. 874
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. 80
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. 605
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. 20
Top of loose 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. 697
Summit, 5.6 miles north of, at foot of mountain where grain fields commence, center of road, in root of large pine stump; spike marked "U. S. B. M. 2953"	2, 953. 54

From milepost 1630 east along Northern Pacific Ry. to Trinidad.

Trinidad, 100 feet east of station; iron post stamped "958 T"	958. 484
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TROUTDALE QUADRANGLE.

[Latitude 45° 30'-46°; longitude 122°-122° 30'.]

From Ariel east along highways to point east of Yale.

Primary leveling in 1915 by L. F. Biggs.

Ariel, 0.15 mile west of, on north edge of road and west bank of creek, in root of 33-inch maple tree; copper nail scribed "U. S. 91"	90. 746
Ariel, 125 feet east of post office, at south edge of road, set in rock, bronze tablet stamped "105 5 1915"	105. 079
Ariel, 1.3 miles east of, on south edge of road, in root of 18-inch fir tree; copper nail scribed "U. S. 191"	191. 313
Ariel, 2.3 miles east of, at east end of bridge over Rock Creek, on north edge of road, on boulder; chiseled circle marked "U. S. 244"	244. 050

Ariel, 3.3 miles east of, 100 feet east of creek on north edge of road, at rock point, set in rock; bronze tablet stamped "309 6 1915"	Feet. 308. 772
Ariel, 4.1 miles east of, 3.9 miles west of Yale, on north edge of road, on rock ledge; chiseled circle marked "U. S. 335"	334. 866
Yale, 2.6 miles southwest of, on west edge of road, in root of 50-inch fir tree; copper nail scribed "U. S. 384"	384. 305
Yale, 1.2 miles southwest of, on east edge of road, 100 feet north of road forks, on west bank of Spider Creek, on boulder; chiseled square marked "U. S. 247"	246. 891
Yale, 0.7 mile west of, on north edge of road, 20 feet west of orchard gate, in root of 32-inch crooked maple tree; copper nail scribed "U. S. 433"	432. 687
Yale, 0.3 mile southwest of, at schoolhouse, in south wall of foundation, directly under flagpole; bronze tablet stamped "446 7 1915"	445. 766

UMATILLA QUADRANGLE.

[Latitude 45° 30'-46°; longitude 119°-119° 30'.]

From 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.

Primary leveling in 1907 by T. J. McClain.

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"	330. 048
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. 908
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. 522
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. 802
T. 6 N., R. 28 E., 2.5 miles northeast of Plymouth, 0.85 mile west of road; iron post stamped "589"	589. 952
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-Prosser road; iron post stamped "570"	570. 542
Kings ranch, 4 miles northwest of, 20 feet west of old wood road; iron post stamped "608"	608. 560

VAN ZANDT QUADRANGLE.

[Latitude 48° 45'-49°; longitude 122°-122° 15'.]

From Sumas southeast along Bellingham & Northern R. R. to Maple Falls, thence by highway northwest through Lemolo to Columbia.

Primary leveling in 1898 by W. S. Wheeler.

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

From south border of quadrangle north along Northern Pacific Ry. to Deming, thence northeast along highways to Kendall.

Van Zandt, at southeast corner of schoolhouse yard; iron post stamped "239 B".....	Feet. 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 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

WALLA WALLA QUADRANGLE.

[Latitude 46°-46° 30'; longitude 118°-118° 30']

From Whitman east and northeast along Oregon-Washington R. R. & Navigation Co. and Northern Pacific Ry. tracks to near Waitsburg, thence west along Oregon-Washington R. R. & Navigation Co. track and highways to point near Lamar.

Primary leveling in 1915 by D. S. Birkett.

Whitman, 600 feet west of signboard, 400 feet west of milepost 24, telegraph pole; spike marked "U. S. 591 B. M.".....	590. 54
Whitman, opposite signboard, top of rail.....	592. 3
Whitman, 0.44 mile east of, 200 feet north of Oregon-Washington R. R. & Navigation Co. track, north side of concrete culvert over irrigation ditch, sloping surface; bronze tablet stamped "601 Wash. 1915".....	600. 810
Whitman, 1.14 miles east of, milepost 25; spike marked "U. S. 620 B. M."..	620. 16
Walla Walla, 5.09 miles west of Oregon-Washington R. R. & Navigation Co. station, milepost 26; spike marked "U. S. 663 B. M.".....	662. 85
Walla Walla, 4.08 miles west of Oregon-Washington R. R. & Navigation Co. station, milepost 27; spike marked "U. S. 702 B. M.".....	701. 84
Walla Walla, 3.15 miles west of, 200 feet west of milepost 28, telegraph pole; spike marked "U. S. 749 B. M.".....	748. 93
Blalock, 380 feet west of crossing of Oregon-Washington R. R. & Navigation Co. and Walla Walla Valley Traction Ry. Co. track, east entrance to cellar of packing house, on upper flat surface of south concrete retaining wall to cellar entrance, 20 feet from building; bronze tablet stamped "778 Wash. 1915".....	778. 306
Blalock fruit farm, top of rail at intersection point of Oregon-Washington R. R. & Navigation Co. and Walla Walla Valley Traction Ry. Co.....	780. 7
Blalock, 0.35 mile east of, milepost 29; spike marked "U. S. 802 B. M."..	801. 90
Walla Walla, 1.10 miles west of, milepost 30; spike marked "U. S. 864 B. M.".....	863. 70
Walla Walla (Oregon-Washington R. R. & Navigation Co.) station, opposite semaphore; top of rail.....	906. 5
Walla Walla, in northwest corner of county courthouse yard 31 feet south of the south margin of Main Street, 4 feet east of the east margin of Sixth Street; iron post stamped "936 Wash. 1915" (p. b. m. 9).....	935. 836
Walla Walla, Federal Building, north side entrance, concrete coping about 5 inches above ground, alongside of steps, bronze tablet stamped "952 Wash. 1915" (p. b. m. 10).....	951. 605
Walla Walla, about 1.07 miles east of Northern Pacific Ry. station, 300 feet west of milepost 65, on Dayton branch, telegraph pole; spike marked "U. S. 1013 B. M.".....	1, 013. 47
Mill Creek Junction, opposite switch stand; top of rail.....	1, 055. 9
Walla Walla, 2.16 miles northeast of, 250 feet east of milepost 66, opposite yard limit sign, telephone pole; spike marked "U. S. 1096 B. M.".....	1, 095. 79

	Feet.
Walla Walla, 3.12 miles east of, 50 feet north of milepost 57, north of track, brace to telegraph pole; spike marked "U. S. 1163 B. M."	1, 162. 99
Riffle, 1.55 miles west of, 250 feet west of milepost 58, telegraph pole; spike marked "U. S. 1205 B. M."	1, 204. 85
Riffle, 0.20 mile west of, east side of road crossing, 50 feet south of track, corner of right of way fence, iron post stamped "1230 Wash. 1915" (p. b. m. 11)	1, 229. 729
Riffle, opposite signboard; top of rail	1, 240. 1
Riffle, 0.5 mile east of, 70 feet east of milepost 69, telephone pole, south side of track; spike marked "U. S. 1263 B. M."	1, 262. 64
Sapolet, 0.2 mile west of, 20 feet west of milepost 70, north side of track, telegraph pole; spike marked "U. S. 1265 B. M."	1, 264. 92
Sapolet, opposite signboard; top of rail	1, 264. 0
Sapolet, 0.71 mile east of, 100 feet west of milepost 71, north side of track, telegraph pole; brace to spike marked "U. S. 1221 B. M."	1, 281. 30
Buroker, opposite signboard; top of rail	1, 308. 9
Dixie, 3.36 miles southwest of, 0.5 mile northeast of Buroker siding, 200 feet north of track, Charles Kibler place, concrete foundation of machinery storehouse; bronze tablet stamped "1325 Wash. 1915" (p. b. m. 12)....	1, 325. 447
Spring Creek, opposite signboard; top of nearest rail	1, 346. 2
Dixie, 2.02 miles southwest of, 120 feet south of milepost 73, west side of track, telephone pole; spike marked "U. S. 1427 B. M."	1, 426. 78
Gilliam, opposite signboard; top of rail	1, 496. 5
Dixie, 1 mile southwest of, 40 feet south of milepost 74, west side of track, telephone pole; spike marked "U. S. 1510 B. M."	1, 509. 94
Dixie, 100 feet southwest of station, west edge of right of way, in line of right-of-way fence, 60 feet west of track; iron post stamped "1587 Wash. 1915"	1, 586. 869
Eastman, 0.16 mile south of, 825 feet north of milepost 76, 100 feet north of point where road crosses track west side of track, telegraph pole; spike marked "U. S. 1671 B. M."	1, 670. 71
Eastman, opposite signboard, top of rail	1, 681. 8
Eastman, 1.08 miles north of, 400 feet northeast of milepost 77, on back side of north post of emergency rail stand; spike marked "U. S. 1741 B. M." ..	1, 741. 53
Milepost 78, 200 feet west of, south side of track, telegraph pole; spike marked "U. S. 1792 B. M."	1, 792. 12
Milepost 79, 420 feet north of, north side of track, back side of north post of emergency rail stand; spike marked "U. S. 1870 B. M."	1, 869. 77
Minnick, 560 feet south of signboard, road crossing east side of track, near right of way fence, south side of road; iron post stamped "1914 Wash. 1915" (p. b. m. 14)	1, 913. 777
Minnick, opposite signboard; top of rail	1, 915. 4
Minnick, 0.3 mile north of signboard, 480 feet south of milepost 80, telegraph pole; spike marked "U. S. 1898 B. M."	1, 898. 35
Minnick, 1.19 miles north of, milepost 81, 230 feet south of, west side of track, telegraph pole; spike marked "U. S. 1827 B. M."	1, 827. 08
Minnick, 2.23 miles north of, 100 feet south of milepost 82, west side of track, telephone pole; spike marked "U. S. 1751 B. M."	1, 750. 62
Milepost 83, 150 feet south of, corner fence post, right of way fence, 50 feet west of track; spike marked "U. S. 1662 B. M."	1, 662. 42
Trestle 23, over Copper Creek, midway over watercourse; top of highest rail ..	1, 625. 4
Milepost 84, 200 feet west of, telegraph pole; spike marked "U. S. 1591 B. M."	1, 591. 07
Copper, opposite signboard; top of rail	1, 520. 2

Copper, 0.21 mile north of, railroad crossing, west edge of right of way, north side of road; iron post stamped "1503 Wash 1915" (p. b. m. 15)...	Feet. 1,502.602
Milepost 86, 150 feet south of, west side of track, telegraph pole; spike marked "U. S. 1429 B. M.".....	1,429.09
Waitsburg, 0.9 mile south of, opposite milepost 87, emergency rail stand, back side of post; spike scribed "U. S. 1347 B. M.".....	1,347.12
Waitsburg, 0.2 mile south of, 250 feet north of milepost 88, power pole; spike marked "U. S. 1287 B. M.".....	1,287.34
Waitsburg, Northern Pacific Ry. station, in front of semaphore top of rail..	1,281.3
Waitsburg, northeast corner of town, 0.40 mile east of Oregon-Washington R. R. & Navigation Co. station, railroad crossing, east side of road, south edge of right of way, 70 feet north of mill race, 270 feet west of section tool house; iron post stamped "1280 Wash. 1915" (p. b. m. 16).....	1,280.267
Waitsburg, 600 feet west of Oregon-Washington R. R. & Navigation Co. station, 60 feet north of main track, 20 feet south of warehouse, 5 foot concrete pedestal for motor; bronze tablet stamped "1278 Wash. 1915" (p. b. m. 17).....	1,278.161
Milepost 3, opposite; top of nearest rail.....	1,263.4
Waitsburg, 1.56 miles west of, north side of Oregon-Washington R. R. & Navigation Co. track brace to milepost 2; spike marked "U. S. 1231 B. M.".....	1,230.98
Waitsburg, 2.30 miles west of, 1.1 miles east of Bolles Junction road crossing, north edge of, right of way; iron post stamped "1224 Wash. 1915" (p. b. m. 18).....	1,224.354
Milepost 1, opposite; top of nearest rail.....	1,201.2
Bolles Junction, opposite semaphore, main track; top of nearest rail.....	1,166.1
Bolles Junction, 0.47 mile west of, 360 feet west of Oregon-Washington R. R. & Navigation Co. water tank, south side of track, brace to milepost 71, spike marked "U. S. 1150 B. M.".....	1,150.21
Bolles Junction, 1.5 miles west of, south side of track, back side of milepost 70; spike marked "U. S. 1113 B. M.".....	1,112.98
Bolles Junction, 2.48 miles west of, south side of track, back side of milepost 69; spike marked "U. S. 1093 B. M.".....	1,093.13
Prescott, 1.35 miles east of, 180 feet east of milepost 68, back side of telephone pole; spike marked "U. S. 1070 N. M.".....	1,069.34
Prescott, 0.3 mile east of Oregon-Washington R. R. & Navigation Co. station, 200 feet east of milepost 67, north side of track, telephone pole; spike scribed "U. S. 1047 B. M.".....	1,046.46
Prescott, opposite semaphore; top of nearest rail.....	1,040.7
Prescott, 620 feet west of Oregon-Washington R. R. & Navigation Co. station, 160 feet north of main track, northeast corner of section foreman house yard; iron post stamped "1038 Wash. 1915" (p. b. m. 19).....	1,038.136
Prescott, 0.74 mile west of, 400 feet east of milepost 66, telegraph pole; spike scribed "U. S. 1050 B. M.".....	1,049.73
Prescott, 1.4 miles southwest of, 0.7 mile southwest from milepost 66, at point where telegraph line crosses Oregon-Washington R. R. & Navigation Co. track, telegraph pole; spike marked "U. S. 1081 B. M.".....	1,080.74
Wooden truss bridge over Touchet River, in middle of, at north side of, marked "1008".....	1,007.86
Prescott, 1 mile west of high school, T. 10 N., R. 36, E., in SW. $\frac{1}{4}$ sec. 32, T road south, telephone pole; spike scribed "U. S. 1031 B. M.".....	1,030.53
Prescott, 2 miles west of, and 0.5 mile north of high school, T. 10 N., R. 36 E., middle of sec. 31, telephone pole; spike scribed "U. S. 1033 B. M.".....	1,032.91

Prescott, 30 miles west of, T. 10 N., R. 35 E., middle of sec. 36, on Lamar road, north side of, opposite lane to south: iron post stamped "1012 Wash. 1915" (p. b. m. 20).....	Feet. 1,012.098
T. 10 N., R. 35 E., in the southeast corner of sec. 35, 200 feet west of turn in road, telephone pole; spike scribed "U. S. 970 B. M.".....	970.02
Pettyjohn Church, cross roads in front of, T. 10 N., R. 35 E., in the southwest corner of sec. 35, corner fence post; spike marked "U. S. 953 B. M.".....	952.72
Pettyjohn Church, 1.01 miles west of, T. 10 N., R. 35 E., on line between sections 33 and 34, private lane to north, southeast corner; iron post stamped "966 Wash. 1915" (p. b. m. 21).....	965.235
T. 10 N., R. 35 E., southeast corner of section 33, telephone pole; spike marked "U. S. 901 B. M.".....	901.12
Lamar, 2.5 miles east of, H. P. Wheeler ranch, concrete watering trough, in middle of top edge, at west end of.....	879.58
Lamar, 2.4 miles east of, 0.15 mile west of H. P. Wheeler ranch house, foot of small hill, north side of road, telephone pole, on back side; spike scribed "U. S. 876 B. M.".....	875.84
Lamar, 0.91 mile east of Northern Pacific Ry. steel bridge over Touchet River, west end of north side of, on concrete abutment; bronze tablet stamped "892 Wash. 1915".....	891.554
From Bolles Junction northeast and north along Oregon-Washington R. R. & Navigation Co. track to Starbuck. (Unadjusted line.)	
Bolles Junction, 1.1 miles northeast of, 450 feet northeast of milepost 73, brace to telegraph pole; spike scribed "U. S. 1297 B. M.".....	1,296.39
Menoken, 1.2 miles southwest of, 0.25 mile northeast of milepost 74, on east side of track, telegraph pole; spike scribed "U. S. 1364 B. M.".....	1,363.49
Menoken, opposite signboard; top of nearest rail.....	1,299.3
Menoken, 170 feet north of signboard, at road crossing, west edge of right of way, north side of road; iron post stamped "1296 Wash. 1915" (p. b. m. 28).....	1,295.912
Milepost 76, brace to, east side of track; spike scribed "U. S. 1325 B. M.".....	1,324.80
Milepost 77, 350 feet north of, brace to telegraph pole east side of track; spike scribed "U. S. 1405 B. M.".....	1,405.03
Menoken, 3.03 miles north of, 0.25 mile south of McKay schoolhouse, at point where road crosses railroad, 50 feet north of road, 50 feet east of railroad; iron post stamped "1523 Wash. 1915" (p. b. m. 29).....	1,523.247
Milepost 79, brace to, east side of track; spike scribed "U. S. 1570 B. M.".....	1,569.67
Milepost 80, 875 feet northeast of, east side of track, telegraph pole; spike scribed "U. S. 1667 B. M.".....	1,666.61
Milepost 81, 350 feet northeast of, east side of track, on back side of emergency rail stand; spike scribed "U. S. 1737 B. M.".....	1,737.06
Milepost 82, east side of track; spike scribed "U. S. 1819 B. M.".....	1,818.61
Alto, 770 feet south of signboard, 70 feet east of track, south side of road crossing, 3 feet north of milepost 83; iron post stamped "1900 Wash. 1915" (p. b. m. 30).....	1,899.972
Alto, opposite signboard; top of rail.....	1,906.3
Milepost 84, 150 feet north of, telegraph pole; spike scribed "U. S. 1805 B. M.".....	1,805.36
Milepost 85, 180 feet north of, back side of emergency rail stand; spike scribed "U. S. 1655 B. M.".....	1,654.77
Milepost 86, 175 feet south of, brace to telegraph pole: spike scribed "U. S. 1515 B. M.".....	1,515.18

Milepost 87, 350 feet north of, back side of emergency rail stand; spike scribed "U. S. 1350 B. M.".....	Feet. 1,350.06
Milepost 88, east side of track; spike scribed "U. S. 1206 B. M.".....	1,205.85
Relief, 630 feet south of, 75 feet south of road crossing, west edge of Oregon-Washington R. R. & Navigation Co. right of way, due west of cattle guard; iron post stamped "1106 Wash. 1915".....	1,106.205
Relief, opposite signboard, top of rail.....	1,097.2
Milepost 90, east side of track; spike scribed "U. S. 991 B. M.".....	990.84
Milepost 91, 130 feet south of, back side of emergency rail stand; spike scribed "U. S. 890 B. M.".....	889.72
Milepost 92, east side of track; spike scribed "U. S. 825 B. M.".....	824.56
Starbuck, 1.6 miles south of, 500 feet north of stock subway under county road, 60 feet west of small creek bank, west side of road, 500 feet west of railroad, at angle in fence; iron post stamped "781 Wash 1915" (p. b. m. 32).....	780.286
Milepost 93, 100 feet south of, back side of emergency rail stand, spike scribed "U. S. 746 B. M.".....	745.36

WALLULA QUADRANGLE.

[Latitude 46°-46° 30'; longitude 118° 30'-119°.]

From point near Pasco along Northern Pacific Ry. to point near Hunts Junction.

Precise leveling by U. S. Coast and Geodetic Survey.

Hunts Junction, 6.4 kilometers northwest of, opposite and about 25 meters northwest of mile pole 5, 11.2 meters northeast of nearest rail, in line of telegraph poles; red metal cap on iron pipe (C. & G. S. "J ₃ ").....	327.597
Hunts Junction, 3.2 kilometers northwest of, 1.6 meters northwest of first telegraph pole southeast of mile pole 3, 11.2 meters northeast of nearest rail, in line with telegraph poles; red metal cap on iron pipe (C. & G. S. "K ₃ ").....	341.906
Hunts Junction, in northeast corner of Northern Pacific Ry. section house yard, 3 meters west of nearest rail on main track, 0.8 meter south of north fence, 0.8 meter west of east fence inclosing yard; bottom of square hole in top of granite post, marked "U. S. □ B. M." (C. & G. S. "L ₃ ").....	324.855
Hunts Junction, in southeast corner of yard surrounding residence of storekeeper for Northern Pacific Ry., 18 meters west of nearest rail of main track, 0.7 meter from south and east fences inclosing yard; red metal cap on iron pipe (C. & G. S. "M ₃ ").....	320.948
Hunts Junction, near, at west end of Northern Pacific Ry. bridge over Walla Walla River, in top of concrete abutment, 1.4 meters from east and south edges, 1.8 meters south of nearest rail; red metal disk (C. & G. S. "N ₃ ").....	398.474
Hunts Junction, near, at east end of Northern Pacific Ry. bridge over Walla Walla River, in top of abutment, 0.8 meter west of east edge, 0.5 meter north of south edge, 1.8 meters south of nearest rail; red metal disk (C. & G. S. "O ₃ ").....	402.844
Hunts Junction, 8.4 kilometers southeast of, about 2 meters south of seventh pole southwest of mile pole 5, 12 meters south of nearest rail; red metal cap on iron pipe (C. & G. S. "P ₃ ").....	418.080
Hunts Junction, 6 miles southeast of, at mile pole 6, on right of way, 15 meters west of track; bottom of square hole in top of stone post, marked "U. S. □ B. M." (C. & G. S. "Q ₃ ").....	473.151

From Pasco south along Northern Pacific Ry. to Hunts Junction, thence along Oregon-Washington R. R. & Navigation Co.'s line to Oregon-Washington State line 6.2 miles southwest of Wallula.

Precise leveling in 1898 by H. S. Crowe.

	Feet.
Milepost 236, 90 feet northeast of, 42 feet east of center of track, 5 feet north of telegraph pole; iron post stamped "342 A".....	343.387
Hunts Junction, 120 feet southeast of milepost 240, 36 feet east of track, 5 feet east of telegraph pole; iron post stamped "341 A".....	343.011
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 Ry. connection; iron post stamped "322 A".....	323.568
Milepost 208, 150 feet east of, 570 feet east of State line post, 18 feet south of track; iron post stamped "318 A".....	319.393

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

From 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 Ry. (part of line).

T. 9 N., R. 30 E., NE. $\frac{1}{4}$ sec. 36, on highest point of hill about 500 feet north of road, triangulation station "Snake Signal"; iron post stamped "482 T".....	481.838
T. 9 N., R. 31 E., south of center of sec. 20, 60 feet north of road, 240 feet west of east (upstream) end of grove of locust trees situated on a flat between Snake River and the hills; iron post stamped "356 T".....	355.757
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".....	407.614
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".....	667.381
T. 9 N., R. 31 E., NE. $\frac{1}{4}$ sec. 4, 0.8 mile northeast of junction of roads at bench mark 668 T, on top of sand ridge, triangulation station "No. 7"; iron post stamped "752 T".....	751.663
T. 10 N., R. 30 E., east-central part of sec. 25, on top of sand ridge, triangulation station "No. 6"; iron post stamped "556 T".....	556.237

From 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".....	675.103
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".....	707.393
T. 11 N., R. 30 E., 1,250 feet west of north of southeast corner of SE. $\frac{1}{4}$ sec. 24, 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".....	591.657

From 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".....	780.283
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".....	794.900

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 signboard between forks of road; iron post stamped "738 T".....	Feet. 737. 518
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. 270
T. 11 N., R. 32 E., near center of sec. 22, 3 feet east of signboard 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. 643
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. 312
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. 856
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. 742

At Fishhook Ferry.

Fishhook Ferry, 120 feet east of Oregon R. R. & Navigation Co. 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. (Reset 1915 by D. S. Birkett, same description and elevation).....	423. 649
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From point near Hunts Junction east along Oregon-Washington R. R. & Navigation Co. track to point near Whitman.

Primary leveling in 1915 by D. S. Birkett.

Hunts Junction, near, at west end of Northern Pacific Ry. bridge over Walla Walla River, in top of concrete abutment, 1.4 meters from east and south edges, 1.8 meters south of nearest rail; red metal disk (C. & G. S. p. b. m. "N ₃ ", described in Bull. 557, p. 163).....	398. 474
Wallula, 5 miles east of, 200 feet north of milepost 5, 25 feet east of Oregon-Washington R. R. & Navigation Co. track, brace to telegraph pole; spike marked "U. S. 354 B. M.".....	353. 71
Wallula, 6 miles east of, 200 feet west of milepost 6, north side of track, brace to telegraph pole; spike marked "U. S. 368 B. M.".....	368. 07
Reese, 0.51 mile west of, opposite milepost 7, section post 68; spike on back scribed "U. S. 378".....	377. 73
Reese, 100 feet south of small station, 7.5 miles from Wallula, at north side of road to Walla Walla, 40 feet south of Oregon-Washington R. R. & Navigation Co. track; iron post stamped "386 Wash. 1915" (p. b.m.l)...	386. 147
Reese, 0.51 mile south of, 15 feet north of milepost 8; point on solid basalt rock, marked "U. S. 405 B. M.".....	405. 06
Divide, 1 mile west of, 200 feet east of milepost 9, brace to telegraph pole; spike marked "U. S. 437 B. M.".....	436. 76
Divide siding, 120 feet west of west end of warehouse, north edge of right of way; iron post stamped "486 Wash. 1915".....	485. 847
Divide siding, 1 mile east of, 200 feet east of milepost 11, signboard "Divide 1 mile;" spike scribed "U. S. 481 B. M.".....	481. 13
Divide siding, 2 miles east of, milepost 12, brace to telegraph pole; spike marked "U. S. 461 B. M.".....	460. 56

Touchet, 1.82 miles west of, 40 feet west of private road crossing north edge of Oregon-Washington R. R. & Navigation Co. right of way; iron post stamped "427 Wash. 1915" (p. b. m. 3).....	Feet. 426.457
Touchet, 0.96 mile west of, 200 feet west of milepost 14, telegraph pole; spike marked "U. S. 433 B. M.".....	432.64
Touchet, 400 feet west of station, east side of Oregon-Washington R. R. & Navigation Co. water tank, concrete pedestal; bronze tablet stamped "443 Wash. 1915" (p. b. m. 4).....	443.330
Touchet, 1.08 miles east of, 200 feet west of milepost 16, telegraph pole; spike marked "U. S. 447 B. M.".....	446.46
Touchet, 2.09 miles east of, milepost 17; spike marked "U. S. 458 B. M."..	457.50
Lowdens, 1.18 miles west of, 400 feet east of milepost 18, telegraph pole; spike marked "U. S. 472 B. M.".....	472.06
Lowdens, 0.26 mile west of, brace to milepost 19; spike marked "U. S. 484 B. M.".....	484.33
Lowdens, 480 feet west of small station, 50 feet north of Oregon-Washington R. R. & Navigation Co. track, at jog in right of way fence, south edge of country road; iron post stamped "489 Wash. 1915".....	488.604
Lowdens, opposite Oregon-Washington R. R. & Navigation Co. station, top of rail.....	490.6
Lowdens, 0.77 mile east of, 20 feet east of milepost 20, telegraph pole; spike marked "U. S. 496 B. M.".....	495.95
Lowdens, 1.81 miles east of, 200 feet east of milepost 21, telegraph pole; spike marked "U. S. 512 B. M.".....	521.94
Reavis, opposite signboard; top of rail.....	535.9
Lowdens, 2.79 miles east of, 200 feet east of milepost 22, telegraph pole; spike marked "U. S. 540 B. M.".....	539.86
Whitman, 1.06 miles west of milepost 23; spike marked "U. S. 567 B. M."..	566.84
Whitman, 0.75 mile west of, railroad crossing, 100 feet north of track, west side of road, near line of right of way fence; iron post stamped "570 Wash. 1915" (p. b. m. 6).....	569.591
From point near Lamar west along Northern Pacific Ry. and highway to Fishhook Ferry.	
Lamar, 0.4 mile east of, 70 feet west of milepost 40, 15 feet north of, Northern Pacific Ry. emergency rail stand, back side of west post of, spike scribed "U. S. 859 B. M.".....	859.14
Lamar, opposite semaphore; top of nearest rail.....	844.5
Lamar, 0.6 mile west of, road crossing, 70 feet west of milepost 39, north side of track cattle guard post, spike scribed "U. S. 849 B. M.".....	848.81
Lamar, 1.3 miles west of, T. 9 N., R. 34 E., near quarter corner between secs. 2 and 3, point where road to Eureka passes through concrete subway under Northern Pacific Ry. south portal, top of; bronze tablet stamped "836 Wash. 1915" (p. b. m. 23).....	835.229
Lamar, 1.75 miles west of, 200 feet east of milepost 38, north side of track, emergency rail stand; spike scribed "U. S. 890 B. M.".....	889.43
Eureka, 3.87 miles east of, 100 feet east of milepost 37, north side of track, emergency rail stand; spike scribed "U. S. 942 B. M.".....	941.57
Eureka, 2.9 miles east of, 300 feet east of milepost 36, emergency rail stand; spike scribed "U. S. 989 B. M.".....	988.65
Eureka, 1.8 miles east of, 200 feet west of milepost 35, emergency rail stand, back side of; spike scribed "U. S. 1030 B. M.".....	1,030.08
Eureka, 0.99 mile east of, 780 feet east of milepost 34, emergency rail stand, back side of; spike scribed "U. S. 1056 B. M.".....	1,056.06

Eureka, 0.36 mile east of Northern Pacific Ry. station, road crossing, T road south, 250 feet south of church, east side of road, south edge of right of way; iron post stamped "1061 Wash, 1915" (p. b. m. 24).....	Feet. 1,061.139
Eureka, opposite semaphore; top of nearest rail.....	1,056.9
Eureka, 0.15 mile west of station, road crossing, top of rail: telephone pole marked "1053".....	1,052.7
Eureka, 0.8 mile southwest of station, road crossing, north side of road, railroad crossing signpost; spike scribed "U. S. 1070 B. M.".....	1,069.19
T. 9 N., R. 33 E., near quarter corner, north side of sec. 3, 1.34 miles west of railroad crossing, south side of road, 800 feet east of windmill, fence corner, post; spike scribed "U. S. 1048 B. M.".....	1,047.59
T. 9 N., R. 33 E., sec. 3, north side of road, 50 feet east of windmill, top of concrete collar of reservoir; chiseled square marked "1072".....	1,071.43
T. 10 N., R. 33 E., near quarter corner, south side of sec. 33, north side of road, corner fence post; spike marked "U. S. 1022 B. M.".....	1,022.17
T. 10 N., R. 33 E., southwest corner of sec. 33, T road north, north side of road; iron post stamped "950 Wash. 1915" (p. b. m. 25).....	919.533
T. 9 N., R. 33 E., northeast corner of sec. 6, point where road to Ferry turns north, signpost; spike marked "U. S. 829 B. M.".....	828.65
T. 10 N., R. 33 E., southwest corner of sec. 29, corner fence post; spike marked "U. S. 743 B. M.".....	742.48
T. 10 N., R. 33 E., southeast corner of sec. 19, 400 feet east of point where road from Eureka turns west toward Ferry, north side of dim road; iron post stamped "945 Wash. 1915".....	944.679
T. 10 N., R. 33 E., near the northwest corner of sec. 30, opposite red barn, south side of road, at angle in fence post; spike scribed "U. S. 800 B. M.".....	800.00
Page siding, on Oregon-Washington R. R. & Navigation Co. line, 50 feet north of station, west side of track, concrete base of semaphore 2333; chiseled square.....	406.0
Page station (Oregon-Washington R. R. & Navigation Co.), 180 feet south of, just below Fishhook Ferry, 60 feet east of track, 150 feet north of warehouse north side of road, fence corner; iron post stamped "407 Wash. 1915" (p. b. m. 27).....	405.988
Fishhook Ferry (Page Ferry), west bank of Snake River, on Jacob Klundt place, concrete platform of well, 18 inches north of pump; chiseled square.....	398.96
T. 10 N., R. 32 E., in south corner of sec. 14, 1.3 miles northwest of Fishhook Ferry on Snake River, on north side of road, near signboard between forks of road; iron post stamped "738 T".....	737.518

From Page northeast along Spokane, Portland & Seattle Ry. to Burr Canyon.

Leveling in 1916 by D. S. Birkett.

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 signboard between forks of road; iron post stamped "738 T".....	737.518
Fishhook Ferry, Klundt's ranch, concrete platform for windmill; chiseled square.....	398.96
Page, about 500 feet west of post office, on north end of Spokane, Portland & Seattle trestle 250, east side of track; copper nail in tie.....	460.18
Page, top of nearest rail, opposite signboard.....	466.2
Page, 0.33 mile northeast of, 210 feet southeast of milepost 251, 6 feet west of track; point in rock cut, marked "U. S. 470 B. M.".....	469.88

Page, 1.05 miles northeast of, northwest corner trestle 251-7, west end of cap of bent; railroad spike marked "U. S. 475 B. M.".....	Feet. 474.71
Page, 2.28 miles northeast of, concrete bridge 253-0 over private road, 200 feet south of milepost 253, east side of track, on concrete bulkhead; aluminum tablet stamped "487 Wash. 1916".....	486.298
Page, 3.32 miles northeast of, opposite milepost 254, south side of track, on east end emerging rail stand; copper nail marked "U. S. 498 B. M."....	497.46
Milepost 255, top of nearest rail opposite.....	497.3
Snake River Junction, 1 mile southwest of, top of nearest rail opposite iron standpipe in front of concrete water tank.....	497.10
Snake River Junction, in front of operator's window of Spokane, Portland & Seattle station, in concrete platform; aluminum tablet stamped "499 Wash. 1916".....	498.499
Milepost 257, top of nearest rail opposite.....	506.1
Signpost "1 mile S", top of nearest rail opposite.....	512.6
Snake River Junction, 1.9 miles northeast of, 290 feet northeast of signpost "Je. one mile", 7 feet west of upper track, 2 feet above rail; chiseled square on basalt rock, marked "U. S. 517 B. M.".....	517.07
Milepost 258, top of nearest rail opposite.....	523.3
Snake River Junction, 2.53 miles northeast of, 12 feet west of milepost 259, top of emergency rail stand; copper nail marked "U. S. 543 B. M."..	542.97
Snake River Junction, 3.58 miles northeast of, 17 feet northwest of milepost 260, east side of track, top of emergency rail stand; copper nail marked "U. S. 565 B. M.".....	564.20
Burr siding, near upper end of, opposite milepost 262, 12 feet southeast of track, top of emergency rail stand; copper nail marked "U. S. 602 B. M.".....	601.98
Burr siding, 1.11 miles southwest of, 0.34 mile northeast of milepost 261, point where wagon road crosses upper track, 27 feet west of track, north side of road; iron post stamped "589 Wash. 1916".....	589.019
Burr siding, top of nearest rail opposite signboard.....	611.0
Milepost 263, top of nearest rail opposite.....	621.7
Farrington, 5.23 miles southwest of, 1,000 feet southwest of south portal of, tunnel 14, top of north end of retaining wall, east side track; chiseled square marked "U. S. B. M." marked "631".....	630.90
Farrington, 4.68 miles southwest of, 240 feet northeast of milepost 264, east side track, top of emergency rail stand; copper nail marked "U. S. 643 B. M.".....	642.30
Farrington, 3.67 miles southwest of, opposite milepost 265, east side track, top emergency rail stand; copper nail marked "U. S. 663 B. M.".....	662.85

WENATCHEE QUADRANGLE.

[Latitude 47° 15'-47° 30'; longitude 120° 15'-120° 30'.]

From point near Mission southeast along Great Northern Ry. to Malaga.

Primary leveling in 1898 by E. M. Fry, in 1903 by R. A. Farmer, and in 1909 by C. H. Semper.

Wenatchee, in high school building, south side of east entrance, in brick wall 15 feet above ground; aluminum tablet stamped "802" (set and checked by Charles Hartman, jr., from b. m. at bank).....	801.672
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 miles east of, 300 feet east of milepost 1648, north of road crossing, at corner of fence; iron post stamped "649 T".....	649.319

From 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".....	Feet. 738.090
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From Wenatchee east along highway 3 miles.

Bridge over Wenatchee River, center of.....	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

WICKERSHAM QUADRANGLE.

[Latitude 48° 30'–48° 45'; longitude 122°–122° 15']

From west border of quadrangle east to Wickersham, thence north along Northern Pacific Ry. to north border of quadrangle.

Primary leveling in 1898 by W. S. Wheeler and in 1905 by G. C. Jacobs.

Wickersham, 2 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

From Wickersham south along Northern Pacific Ry. to Sedro 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 52, 450 feet north of milepost 88; iron post stamped "150 B".....	151.220
Sedro Woolley, 20 feet northeast of northeast corner of station; iron post stamped "50 T. U. L.".....	50.204

From Sedro Woolley east along Great Northern Ry. 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.".....	63.823
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 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

WILBUR QUADRANGLE.

[Latitude 47° 30'–48°; longitude 118° 30'–119°.]

From point near Creston west along Northern Pacific Ry. to Coulee City. (Part of unadjusted line closing –3.853 feet in error.)

Primary leveling in 1903 by Philo Holbrook, jr.

Creston, 0.5 mile east of, at crossroads; iron post stamped "2444 T"....	2,441.913
Wilbur station; iron post stamped "2165 T".....	2,162.758

	Feet.
Govan station, at milepost 81; iron post stamped "2069 T".....	2,066.674
Almira station; iron post stamped "1916 T".....	1,913.756

WILSON CREEK QUADRANGLE.

[Latitude 47° 15'–47° 30'; longitude 119°–119° 15'.]

- **From Adrian east along Great Northern Ry. to point near Wilson Creek (part of spur line; elevations unreliable).**

Primary leveling in 1903 by R. A. Farmer.

Milepost 1581, 150 feet north of; iron post stamped "1259 T".....	1,260.055
Wilson Creek Wash, 2 miles west of, at road crossing, 8 feet east of sign-board; iron post stamped "1272 T".....	1,273.070

WINCHESTER QUADRANGLE.

[Latitude 47°–47° 15'; longitude 119° 30'–119° 45'.]

From milepost 1611 east along Northern Pacific Ry. to Winchester.

Primary leveling in 1903 by R. A. Farmer and in 1909 by C. H. Semper.

Winchester, 20 feet south of track, opposite section house, in top of granite boulder; aluminum tablet stamped "1277 T".....	1,277.333
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From 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".....	1,241.33
T. 20 N., R. 26 E., northwest corner of sec. 22; iron post.....	1,243.742
T. 20 N., R. 26 E., southwest corner of sec. 34; iron post.....	1,246.697
T. 19 N., R. 26 E., southwest corner of sec. 6; iron post.....	1,215.386
T. 20 N., R. 25 E., southwest corner of sec. 26; iron post.....	1,214.467
T. 20 N., R. 25 E., west quarter corner of sec. 22; iron post.....	1,216.061
Winchester, 20 feet south of track, opposite section house, in top of granite boulder; aluminum tablet stamped "1277".....	1,277.333

From 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".....	1,156.48
T. 19 N., R. 25 E., northwest corner of sec. 10; iron post.....	1,212.866
T. 19 N., R. 25 E., northwest corner of sec. 7; iron post.....	1,201.851

From 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, 2 miles south by 0.5 mile east of Morrison; iron post.....	1,226.340
T. 19 N., R. 26 E., northwest corner of sec. 30; iron post.....	1,160.917
T. 19 N., R. 25 E., northwest corner of sec. 34; iron post.....	1,184.784
T. 19 N., R. 26 E., northwest corner of sec. 30; iron post.....	1,160.917
T. 19 N., R. 25 E., northeast corner of sec. 34; iron post.....	1,184.784
T. 19 N., R. 25 E., southeast corner of sec. 32; iron post.....	1,166.645
T. 19 N., R. 25 E., southwest corner of sec. 31; iron post stamped "1185 T".....	1,185.687

From point 3 miles south of Morrison south along highway 8 miles.

T. 19 N., R. 26 E., southwest corner of sec. 34; iron post.....	1,148.217
T. 18 N., R. 26 E., northwest corner of sec. 22; iron post.....	1,134.240
T. 18 N., R. 26 E., near southeast corner of sec. 28, 20 feet west of road, on top of small hill; iron post.....	1,142.678

Reclamation Service bench mark.

Leveling in 1904 by Philo Holbrook, jr.

Feet.

Tps. 19 and 20 N., Rs. 24 and 25 E., at corner; iron post stamped "1206 T" 1, 206. 744

WINONA QUADRANGLE.

[Latitude 46° 30'-47°; longitude 117° 30'-118°.]

From point 6 miles east of Starbuck east along Oregon-Washington R. R. & Navigation Co. track to Houser. (Unadjusted line.)

Primary leveling in 1915 by D. S. Birkett.

Milepost 7, north side of track; spike scribed "U. S. 879 B. M.".....	878. 40
Milepost 8, brace to, north side of track; spike scribed "U. S. 913 B. M."..	913. 13
Delaney, opposite signboard; top of rail.....	911. 3
Delaney, 1.1 miles east of, north side of track, 3 feet west of milepost 9 iron post stamped "957 Wash. 1915" (p. b. m. 36).....	956. 943
Milepost 10, north side of track; spike scribed "U. S. 1001 B. M.".....	1, 000. 93
Milepost 11, opposite back side of emergency rail stand, north side of track; spike scribed "U. S. 1034 B. M.".....	1, 033. 92
Jackson, 270 feet west of signboard, north edge of right of way, in line of north-south fence; iron post stamped "1051 Wash. 1915" P. B. M. 37... 1, 051. 036	
Jackson, opposite signboard; top of rail.....	1, 054. 3
Milepost 12, north side of track; spike scribed "U. S. 1075 B. M.".....	1, 074. 48
Milepost 13, opposite back side of emergency rail stand; spike scribed "U. S. 1117 B. M.".....	1, 116. 45
Milepost 14, north side of track; spike scribed "U. S. 1160 B. M.".....	1, 160. 22
Chard, 300 feet west of signboard, 20 feet east of water tank, 40 feet north of Oregon-Washington R. R. & Navigation Co. track, south side of con- crete gasoline reservoir; bronze tablet stamped "1178 Wash. 1915" (p. b. m. 38).....	1, 178. 139
Milepost 15, north side of track; spike scribed "U. S. 1195 B. M.".....	1, 195. 23
Milepost 16, north side of track; spike scribed "U. S. 1210 B. M.".....	1, 240. 31
Dodge, opposite signboard; top of rail.....	1, 252. 7
Milepost 17, 100 feet east of, back side of emergency rail stand; spike scribed "U. S. 1282 B. M.".....	1, 282. 26
Milepost 18, north side of track; spike scribed "U. S. 1330 B. M.".....	1, 329. 82
Houser, 300 feet west of, 280 feet east of milepost 19, south edge of right of way, in line of north-south fence; iron post stamped "1366 Wash. 1915". 1, 365. 889	

YAKIMA QUADRANGLE.

[Latitude 46° 30'-47°; longitude 120°-120° 30']

From Umtanum along Northern Pacific Ry. to Selah.

Precise leveling in 1898 by H. S. Crowe.

Umtanum, 0.9 kilometer east of, on east concrete abutment of bridge over Umtanum Creek, in upper surface, 0.25 meter north of south edge, 0.25 meter from west edge of abutment, 1.55 meters south of nearest rail; copper bolt lettered "U. S. B. M." (C. & G. S. "U ₁ ").....	1, 337. 652
Canyon, at siding, in top of granite foundation of water tank, at northeast corner; bottom of rectangular hole, letters "U. S. B. M." cut near bench mark (C. & G. S. "V ₁ ").....	1, 296. 438
Roza, in southwest corner of section-house yard, 1 meter north of fence, 1.55 meters east of first telegraph pole east of station; red metal cap on iron pipe (C. & G. S. "W ₁ ").....	1, 245. 276

Selah, 0.8 kilometer east of, in upper surface of center pier of masonry for Northern Pacific Ry. bridge over Yakima River, 2 meters below level of rail and 1 meter outside line of north rail; red metal disk (C. & G. S. "X ₁ ").....	Feet. 1, 138. 942
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Near Yakima.

Yakima, 1.5 miles east of, on east concrete abutment of Northern Pacific Ry. bridge over Atanum Creek, 0.25 meter east of west edge. 0.3 meter north of south end of abutment, 1.3 meters south of nearest rail; bottom of square hole, lettered "U. S. □ B. M." disk (C. & G. S. "D ₂ ").....	952. 577
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From Thrall south along Northern Pacific Ry. to Roza.

Umtanum, 85 feet southwest of section house. 56 feet southwest of center of track; iron post stamped "1350 T".....	1, 350. 194
Umtanum, in front of section house; top of rail.....	1, 349. 0
Roza, opposite station. 198 feet west of telegraph office, 0.25 mile east of milepost 148; iron post stamped "1249 T".....	1, 249. 440
Roza, in front of station; top of rail.....	1, 249. 3

From Roza south along Northern Pacific Ry. 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. 743
Selah, in front of section house; base of rail.....	1, 148. 9

From Yakima south along Northern Pacific Ry. to Parker.

Yakima, in front of telegraph office; base of rail.....	980. 5
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 Ry., at corner of fence at cattle crossing; iron post stamped "937 T".....	937. 835

From Cohasset west along Chicago, Milwaukee & St. Paul Ry. to Boylston.

Primary leveling in 1909 by C. H. Semper.

Beverly, 6.4 miles west of, 45 feet west of railroad crossing, 25 feet south of track; iron post.....	1, 248. 234
Beverly, 8.7 miles west of, 75 feet west of railroad crossing, 15 feet south of rail; iron post.....	1, 511. 75
Rye, switch at west end of water tank, top of west front foundation timber of; spike driven vertically marked "1755".....	1, 755. 38
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. 942
Cheviot, in front of station sign; top of rail.....	2, 164. 5
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. 210

From Boylston west along Chicago, Milwaukee & St. Paul Ry. to Ellensburg.

Boylston, at railroad crossing, at west end of tunnel, 40 feet south of track; iron post stamped "2446".....	2, 446. 125
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. 305
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. 829

Kittitas, in front foundation pier of railroad water tank; aluminum tablet stamped "1646"	Feet. 1, 646. 460
Kittitas, 3.4 miles west of, at railroad crossing, west side of road, 15 feet south of track; iron post stamped "1603"	1, 607. 974
From 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 milepost 6, northwest corner of cross-roads; iron post stamped "1836"	1, 835. 607
Ellensburg, 9.9 miles northeast of, at west corner of road to south; iron post stamped "2031"	2, 031. 503

ZILLAH QUADRANGLE.

[Latitude 46°-46° 30'; longitude 120°-120° 30'.]

From Wapato along Northern Pacific Ry. to Mabton.

Precise leveling by U. S. Coast and Geodetic Survey.

Wapato, in Alexander E. McCredy's yard, 9.05 meters west of the house, 8.6 meters south of front fence, 19 meters east of store; red metal cap on iron pipe (C. & G. S. "E ₂ ")	853. 840
Wapato, 4.5 kilometers east of, in upper surface of south end of east concrete abutment of Northern Pacific bridge 77 over an irrigation ditch, 0.2 meter from west and south edges of abutment, 1.5 meters south of nearest rail; red metal disk (C. & G. S. "F ₂ ")	812. 777
Toppenish, 21.07 meters west of northwest corner of section house, 1 meter inside of fence inclosing yard, 11.34 meters south of nearest rail of main track; red metal cap on iron post (C. & G. S. "G ₂ ")	754. 289
Toppenish, in upper surface of concrete foundation supporting pillars of Northern Pacific water tank, under northern one of two western pillars, 0.26 meter north of south edge, 0.25 meter from east edge, 7 meters north of nearest rail of main track; copper bolt lettered "U. S. B. M." (C. & G. S. "H ₂ ")	756. 215
Alfalfa, 6.2 meters west of mile pole 66, 1.75 meters east of telegraph pole, in line with telegraph poles, 14.67 meters south of nearest rail of main track; red metal cap on iron pipe (C. & G. S. "I ₂ ")	714. 657
Satus, 0.9 kilometer east of, 1.78 meters west of second telegraph pole east of milepole 60, 10.89 meters south of nearest rail and in line with telegraph poles; red metal cap on iron post (C. & G. S. "J ₂ ")	668. 975
Mabton, 0.5 kilometer east of, 4.35 meters west of nearest (first) telegraph pole east of milepost 52 and in line with telegraph poles, 15.45 meters south of nearest rail of main track; red metal cap on iron pipe (C. & G. S. "K ₂ ")	713. 424

From Parker southeast along Northern Pacific Ry. to Mabton.

Precise leveling in 1898 by H. S. Crowe.

Parker siding, in front of signboard; base of rail	923. 2
Wapato, 180 feet east of east end of station, 50.3 feet south of center of track, at corner of fence; iron post stamped "855 T"	855. 323
Wapato, in front of station; top of rail	859. 3
Toppenish, in front of station; base of rail	757. 4
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. 615
Alfalfa, 0.6 mile northwest of, 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. 882

Granger, 15 feet northeast of northeast corner of Northern Pacific Ry. station, 6 feet south of nearest rail, 6 feet east of east platform; iron post stamped "724 T".....	Feet. 723. 705
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".....	674. 195
Satus, in front of station: top of rail.....	675. 5
Milepost 198, opposite, 9 feet north of fence, 116 feet south of center of track; iron post stamped "717 T".....	716. 566
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. 412

UNITED STATES RECLAMATION SERVICE LEVELS.

From headworks of Sunnyside canal along lower side of canal to Prosser.

Parker bottom, 1.5 miles northeast of, along canal fence, lower side of 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. 485
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. 511
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. 416
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. 458
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. 377
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. 427
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. 365
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. 374
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. 305
T. 10 N., R. 22 E., 100 feet east of half-mile line in sec. 14, 3 miles northwest of Sunnyside, at Mrs. Schloser's place, 60 feet north of house iron post stamped "851 T".....	851. 361

From Alfalfa on main line of Northern Pacific Ry. via Sunnyside Branch to Sunnyside, 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 Ry., 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".....	756. 025
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Outlook, 1.2 miles east of, 260 feet east of center of Snipe's Mountain lateral where lateral siphons under Northern Pacific Ry., 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 Ry.; iron post stamped "781" ..	Feet. 781.484
Sunnyside, 11 feet northeast of northeast corner of Northern Pacific Ry. station, 11 feet south of northeast rail, main track, 5 feet from corner of platform; iron post stamped "747"	747.268

From Alfalfa west to Range 13 east.

Primary leveling in 1893 by H. S. Crowe, in 1906 by G. Neuner and F. E. Fellows.

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"	728.948
T. 10 N., R. 20 E., quarter corner west side of sec. 29, 2½ feet north of fence on 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" ..	741.435
T. 10 N., R. 19 E., southwest corner of sec. 23, inside northeast fence corner; iron post stamped "757"	757.222
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"	778.523

U. S. GEOLOGICAL SURVEY LEVELS.

From 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 headworks of Sunnyside Canal; iron post stamped "914 T" (U. S. Reclamation Service B. M.)	914.689
T. 11 N., R. 19 E., northeast corner of Dunn's bridge and weir; iron post stamped "891 T" (U. S. Reclamation Service B. M.)	891.544
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"	1,324.383
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" ..	1,596.133
T. 11 N., R. 21 E., NE. ¼ sec. 17, 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"	1,335.258
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"	1,068.405
T. 11 N., R. 22 E., SW. ¼ sec. 35, about 3 miles north of Mrs. Schlosser place on Sunnyside Canal, 30 feet north of old State road; iron post stamped "1089"	1,089.280
Old State road, 0.8 mile south of, about 0.5 mile northeast of small blue house; conical rock marked "1037"	1,037.37

From Hovis ranch northeast over Rattlesnake Mountain to Moxee-Rattlesnake divide.

T. 11 N., R. 21 E., sec. 2, summit of saddle on Rattlesnake Mountain, 30 feet west of road; iron post stamped "2118"	2,118.278
T. 12 N., R. 22 E., SW. ¼ 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"	1,803.256

From 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"	Feet. 674. 195
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. 209
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. 973
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. 316
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, 090. 07
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" ..	961. 131
Goldendale road crossing Satus Creek, 20 feet east of, in knuckle of willow tree; 6-inch spike marked "977 U. S."	976. 97
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. 727
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. 955
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. 859
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. 359
T. 7 N., R. 19 E., sec. 21, in junction of Alfalfa and Satus roads, about 1 mile northeast of pine spring, set on bed rock; iron post stamped "3170" ..	3, 170. 224
Alfalfa and Satus roads, 0.9 mile south of junction of, 50 feet west of road, top of three-cornered rock; marked "U. S. 3268 B. M."	3, 268. 20
Alfalfa and Satus roads, 2.1 miles south of junction of, 10 feet east of road, in root of 3-foot pine tree; 6-inch spike marked "U. S. 3477 B. M."	3, 477. 28
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, 901. 139
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. 954
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. 979
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. 842
From 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 of Ostrick's ranch house; iron post stamped "3017" ..	3, 016. 941
T. 7 N., R. 21 E., north side of NW. $\frac{1}{4}$ sec. 31, 1.6 miles southwest of Donoho ranch house, 70 feet south of forks of road, east side of road, at top of ridge, 4 feet south of signpost; iron post stamped "2996"	2, 995. 778

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".....	2,805.956
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".....	1,877.680
T. 8 N., R. 21 E., about sec. 34 (unsurveyed section), 10.1 miles southwest of Mabton, 500 feet west of ravine, 300 feet east of ravine, north point of ridge, 20 feet west of road; iron post stamped "1281".....	1,280.833
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".....	879.277
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".....	793.784
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".....	715.406

From 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".....	2,808.844
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".....	2,584.819
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".....	2,217.760
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".....	1,944.751
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".....	2,246.741
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".....	2,586.689
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".....	2,618.586

From 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".....	1,636.508
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From sec. 13, T. 7 N., R. 23 E., southwest to southeast corner of sec. 21, T. 7 N., R. 22 E., (part of an unadjusted line closing +0.744 foot).

Primary leveling in 1915 by D. S. Birkett and U. S. Reclamation Service.

T. 7 N., R. 22 E., quarter corner between secs. 13 and 14, turn in road, south side of road, in fence post; spike marked "U. S. 2114 B. M."....	2,113.938
T. 7 N., R. 22 E., in southwest corner of sec. 14, in north side of road, in front of white house, in corner fence post; spike marked "U. S. 2214 B. M.".....	2,214.485

T. 7 N., R. 22 E., in southeast corner of sec. 22, west side of road, in fence post; spike marked "U. S. 2103 B. M.".....	Feet. 2, 103. 532
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" (Bull. 557, p. 122=2,246. 741).....	2. 247. 485

From sec. 14, T. 10 N., R. 22 E., east to center of sec. 13.

T. 10 N., R. 22 E., 100 feet east of center line in sec. 14, 3 miles northwest of Sunnyside, at Mrs. Schlosser's place, 60 feet north of house; iron post stamped "851 T" (U. S. R. S. B. M.; Bull. 557, p. 119).....	851. 361
T. 10 N., R. 22 E., near quarter corner between secs. 13 and 14, on Sunnyside Canal, south end of concrete weir 20; bronze tablet stamped "850".....	850. 044
NOTE.—This is a regular U. S. Reclamation Service bench mark, but its value is not known.	
T. 10 N., R. 22 E., about center of sec. 13, south end, east side of wagon bridge over Sunnyside irrigation canal, on top of concrete abutment; chiseled square marked "U. S.".....	856. 57

From Alfalfa east to Sunnyside. An old U. S. Reclamation Service bench mark not previously published.

Granger, 15 feet northeast of northeast corner of Northern Pacific station, 6 feet south of nearest rail, 6 inches east of east end of station platform; iron post stamped "724 T" (U. S. Reclamation Service bench mark)....	723. 705
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APPENDIX.

SECONDARY ELEVATIONS.

Secondary elevations from records and topographic maps of the United States Geological Survey, including vertical-angle bench marks, altitudes of well-known summits, water-surface elevations of prominent lakes, and other useful elevations, are given below. These elevations are approximate only and should not be used for accurate work.

Locality.	Quadrangle.	County.	Elevation.
			<i>Fect.</i>
Alta Lake, water surface.....	Okanogan.....	Okanogan.....	1, 175
Alta Mountain.....	Snoqualmie.....	Kittitas.....	6, 265
Anvil Rock.....	Mount Rainier National Park.	Pierce.....	9, 584
Anvil Rock, Johnnie Peak triangulation station, on rocky ridge overlooking upper part of Cowlitz Glacier and projecting from new fields leading up to Camp Muir; triangulation tablet.	.....do.....	.....do.....	9, 620
Atatum Ridge.....	Ellensburg.....	Yakima.....	3, 369
Auburn.....	Tacoma.....	King.....	90
Austin Pass.....	Mount Baker.....	Whatcom.....	4, 630
Bald Butte.....	Pullman.....	Whitman.....	3, 452
Bald Knob.....	Okanogan.....	Okanogan.....	3, 472
Bald Mountain.....	Ellensburg.....	Kittitas.....	5, 906
Do.....	Mount Vernon.....	Skagit.....	2, 482
Do.....	.....do.....	Skagit-Snohomish	3, 045
Do.....	Republic.....	Ferry.....	6, 946
Baldy Mountain.....	Chelan.....	Chelan.....	6, 432
Barrier Peak.....	Mount Rainier National Park.	Pierce.....	6, 514
Bear Creek Mountain.....	Mount Aix.....	Yakima.....	7, 335
Bear Gap.....	.....do.....	Pierce-Yakima.....	5, 882
Bear Lake, water surface.....	Skykomish.....	King.....	3, 670
Bear Mountain.....	.....do.....	Snohomish.....	5, 482
Bearpaw Butte.....	Snoqualmie.....	King-Kittitas.....	4, 835
Beehive Mountain.....	Wenatchee.....	Chelan.....	4, 576
Beljica, Coast Survey triangulation station west of Mount Wow.	Mount Rainier National Park.	Pierce.....	5, 473
Big Four Mountain.....	Stilaguamish.....	Snohomish.....	6, 120
Big Lake, water surface.....	Mount Vernon.....	Skagit.....	85
Big Snow Mountain.....	Skykomish.....	King.....	6, 670
Black Mountain.....	Glacier Peak.....	Snohomish.....	7, 192
Blanca Lake, water surface.....	Skykomish.....	.....do.....	4, 064
Blue Lake, water surface.....	Osoyooos.....	Okanogan.....	1, 765
Bonaparte Mountain.....	.....do.....	.....do.....	7, 280
Boston Peak.....	Glacier Peak.....	Chelan-Skagit.....	8, 850
Boundary Post No. 1, on Carbon River.....	Mount Rainier National Park.	Pierce.....	1, 716
Boundary Post No. 42, on Muddy Fork of Cowlitz River.	.....do.....	Lewis.....	2, 336
Boundary Post No. 46, at Hot Springs ranger station.	.....do.....	.....do.....	2, 004
Boundary Post No. 56, on divide between Ohanapcosh and White rivers drainage in what is locally known as Sheepskull Gap. Bench mark is National Park boundary post stamped "5217."	.....do.....	Pierce.....	5, 213
Boundary Post No. 75, West Fork of White River.....	.....do.....	.....do.....	2, 921

Locality.	Quadrangle.	County.	Elevation. Feet.
Boundary Post No. 84, Carbon River (Carbon River ranger station).	Mount Rainier National Park.	Pierce	2,026
Brodie Mountain.	Republic.	Ferry	5,685
Buck Creek Pass.	Steekin.	Chelan-Snohomish	5,796
Buck Mountain.	Okanogan.	Okanogan	6,170
Bumping Lake, water surface.	Mount Aix.	Yakima	3,395
Burroughs Mountain.	Mount Rainier National Park.	Pierce	7,830
Cairn Hope Peak.	Priest Rapids.	Yakima	3,340
Carbon Glacier, lower end.	Mount Rainier National Park.	Pierce	3,355
Cascade Pass.	Glacier Peak.	Chelan-Skagit	5,392
Castle Rock.	Mount Rainier National Park.	Pierce	6,116
Cathlamet Rock, triangulation station, on west side of Ohanapecosh Glacier.	do.	do.	8,262
Cavanaugh Lake, water surface.	Mount Vernon.	Skagit	1,016
Chelan Butte.	Chelan.	Chelan	3,892
Chemis Mountain, on sharp rocky summit about 1 mile west of Windy Gap. Trail from Carbon River to West Fork of White River is about 1.8 miles north of point. Trail crosses first ridge after leaving Carbon River about $\frac{1}{4}$ mile northwest of point; bronze tablet stamped "6040"	Mount Rainier National Park.	Pierce	6,030
Chimney Rock.	Skykomish.	King-Kittitas	7,727
Chopaka Mountain.	Chopaka.	Okanogan	7,870
Chopaka triangulation station.	do.	do.	7,390
Church Mountain triangulation station.	Mount Baker.	Whatcom	6,245
Cispus Pass.	Mount Adams.	Lewis-Yakima	6,473
Clark Peak.	Chopaka.	Okanogan	7,900
Cl Elum Lake, water surface.	Snoqualmie.	Kittitas	2,128
Cleman Mountain.	Ellensburg.	Yakima	5,000
Cleveland Mountain.	Skykomish.	King	5,301
Coal Mountain.	Stilaguamish.	Skagit	4,317
Columbia Peak.	Skykomish.	Snohomish	7,134
Conconully Lake, water surface.	Chopaka.	Okanogan	2,287
Cooke Mountain.	Republic.	Ferry	5,097
Copper Mountain.	do.	do.	4,446
Cowichee Mountain.	Ellensburg.	Yakima	4,300
Cowlitz Chimney triangulation station, on highest peak of Cowlitz Chimneys.	Mount Rainier National Park.	Pierce	7,607
Coyote Rocks.	Mount Adams.	Yakima	6,130
Crater Lake.	Mount Rainier National Park.	Pierce	4,929
Crater Lake, water surface.	Glacier Peak.	Skagit	4,960
Do.	Mount Rainier National Park.	Pierce	4,929
Crosby Mountain.	Skykomish.	King	5,533
Crown Point.	Mount Aix.	Pierce-Yakima	6,470
Cumberland Mountain.	Republic.	Okanogan	3,846
Curlew Lake, water surface.	do.	Ferry	2,347
Day Lake, water surface.	Stilaguamish.	Skagit	1,825
Deer Lake, water surface.	Skykomish.	King	3,620
Dege Peak.	Mount Rainier National Park.	Pierce	7,006
Diamond Butte.	Mount Adams.	Yakima	5,796
Dickerman Mountain.	Glacier Peak.	Snohomish	5,766
Dock Butte.	Mount Baker.	Skagit	5,151
Dome Peak.	Glacier Peak.	Chelan-Skagit	8,860
Do.	Mount Aix.	Yakima	6,586
Double Peak triangulation station known as Double on southeast extremity of ridge known as Cowlitz Chimneys, on south or highest peak; bronze tablet stamped "6204."	Mount Rainier National Park.	Pierce	6,200
Douglas Mountain.	Chopaka.	Okanogan	5,420
Dumpy Lake, water surface.	Steekin.	Chelan	2,213
Eagle Peak triangulation station, on west end of Tatoosh Range.	Mount Rainier National Park.	Lewis	5,955
Ellemeham Mountain.	Chopaka.	Okanogan	4,770
Emmons Glacier, lower end.	Mount Rainier National Park.	Pierce	4,719
Fairfield.	Oakesdale.	Spokane	2,559
Fay Peak.	Mount Rainier National Park.	Pierce	6,500
Fir Mountain.	Republic.	Okanogan	5,666
Fish Lake, water surface.	Chopaka.	do.	1,799
Do.	Mount Adams.	Yakima	4,042
Florence Peak.	Mount Rainier National Park.	Pierce	5,501
Found Lake, water surface.	Glacier Peak.	Skagit	4,150
Frailey Mountain.	Stilaguamish.	do.	2,795
Frenchman Hills.	Red Rock.	Grant	1,767

Locality.	Quadrangle.	County.	Elevation. <i>Feet.</i>
Frost Mountain.....	Mount Stuart.....	Kittitas.....	5,750
Gable Mountain.....	Coyote Rapids.....	Benton.....	1,116
Garland Peak.....	Stehekin.....	Chelan.....	7,545
Gibraltar, highest point of upper end of Cowlitz Cleaver.....	Mount Rainier National Park.....	Pierce.....	12,679
Gibraltar Mountain.....	Republic.....	Ferry.....	3,783
Glacier Basin, Starbo Camp.....	Mount Rainier National Park.....	Pierce.....	5,935
Glacier Peak.....	Glacier Peak.....	Snohomish.....	10,436
Goat Butte.....	Mount Adams.....	Yakima.....	7,487
Goat Island Mountain.....	Mount Rainier National Park.....	Pierce.....	7,301
Goat Mountain.....	Mount Baker.....	Whatcom.....	5,514
Do.....	Okanogan.....	Okanogan.....	5,290
Goat Peak.....	Mount Aix.....	Yakima.....	6,494
Goat Rocks.....	Mount Adams.....	do.....	8,201
Goat triangulation station, on highest point of Mount Wow.....	Mount Rainier National Park.....	Pierce.....	6,030
Gold City, junction of trails.....	do.....	do.....	2,752
Gold Hill.....	Chopaka.....	Okanogan.....	4,620
Gold Mountain.....	Stilaguamish.....	Snohomish.....	3,493
Governor's Ridge.....	Mount Rainier National Park.....	Pierce.....	6,614
Grand Park, south end.....	do.....	do.....	5,736
Granite Butte.....	Oakesdale.....	Whitman.....	2,930
Granite Mountain.....	Republic.....	Ferry (west side).....	5,326
Do.....	do.....	Ferry (center).....	5,912
Do.....	Snoqualmie.....	King.....	5,820
Green Mountain.....	Glacier Peak.....	Snohomish.....	5,957
Green Pass.....	Snoqualmie.....	King-Kittitas.....	4,894
Gunn Peak.....	Skykomish.....	Snohomish.....	6,245
Hannegan Pass.....	Mount Baker.....	Whatcom.....	4,962
Hart Lake, water surface.....	Stehekin.....	Chelan.....	3,890
Haystack Mountain.....	Mount Vernon.....	Skagit.....	4,126
Helen Butte.....	Mount Baker.....	Skagit.....	5,490
Helena Peak.....	Stilaguamish.....	Snohomish.....	5,392
Higgins Mountain.....	do.....	Skagit.....	5,202
Horse Heaven Hills.....	Zillah.....	Clickitat-Yakima.....	4,035
Horse Lake, triangulation station.....	Wenatchee.....	Chelan.....	4,588
Horseshoe Mountain.....	Chopaka.....	Okanogan.....	7,930
Howard Lake, water surface.....	Mount Adams.....	Yakima.....	4,887
Hubbard Peak.....	Skykomish.....	Snohomish.....	5,925
Huckleberry Mountain.....	Glacier Peak.....	Skagit-Snohomish.....	5,355
Hull Mountain.....	Osoyoos.....	Okanogan.....	5,110
Ind ex Mountain.....	Skykomish.....	Snohomish.....	6,125
Irene Mountain.....	Republic.....	Okanogan.....	4,712
Iron Mountain.....	do.....	Ferry.....	4,807
Do.....	Stilaguamish.....	Skagit.....	4,886
Issaquah.....	Seattle.....	King.....	96
Johns Butte.....	Mount Adams.....	Yakima.....	5,918
Jumbo Mountain.....	Stilaguamish.....	Snohomish.....	5,806
Kachess Lake, water surface.....	Snoqualmie.....	Kittitas.....	2,226
Kamiak Mountain.....	Pullman.....	Whitman.....	3,650
Keechelus Lake, water surface.....	Snoqualmie.....	Kittitas.....	2,458
Kent.....	Tacoma.....	King.....	50
Kickerville.....	Blaine.....	Whatcom.....	213
King Mountain.....	Sumas.....	do.....	521
Kruger Mountain.....	Osoyoos.....	Okanogan.....	2,890
Ladow Butte.....	Pullman.....	Whitman.....	3,302
Lake Chelan, water surface.....	Chelan-Methow.....	Chelan.....	1,079
Lake George, water surface.....	Mount Rainier National Park.....	Pierce.....	4,232
Lake Goodwin, water surface.....	Mount Vernon.....	Snohomish.....	329
Lake Stevens, water surface.....	do.....	do.....	212
Lake Tapps, water surface.....	Tacoma.....	Pierce.....	516
Lake Terrell, water surface.....	Blaine.....	Whatcom.....	208
Lake Union, water surface.....	Seattle.....	King.....	12
Lake Washington, water surface.....	do.....	do.....	22
Lakeview Mountain.....	Mount Adams.....	Lewis-Yakima.....	6,661
Lemanasky Mountain.....	Chopaka.....	Okanogan.....	5,206
Liberty Cap.....	Mount Rainier National Park.....	Pierce.....	14,112
Liberty Lake, water surface.....	Spokane.....	Spokane.....	2,052
Lichtenberg Mountain.....	Skykomish.....	Chelan.....	5,920
Little Mount Adams.....	Mount Adams.....	Yakima.....	6,815
Little Tahoma, high rock point 2.5 miles east of sum- mit of Mount Rainier.....	Mount Rainier National Park.....	Pierce.....	11,117
Long Mountain.....	Stilaguamish.....	Snohomish.....	5,109
Lookout Mountain.....	Methow.....	Okanogan.....	5,692
Do.....	Mount Stuart.....	Kittitas.....	3,440
Loomis Mountain.....	Mount Baker.....	Whatcom.....	5,521
McNeill Peak.....	Mount Aix.....	Yakima.....	6,788

Locality.	Quadrangle.	County.	Elevation. <i>Feet.</i>
Marble Peak.....	Stilaguamish.....	Snohomish.....	5,156
Maverick Peak.....	Chiwaukum.....	Chelan.....	5,308
McNeeley Peak.....	Mount Rainier National Park.	Pierce.....	6,806
McClure Rock, triangulation station.....	do.....	do.....	7,384
Merchant Peak.....	Skykomish.....	Snohomish.....	5,466
Miler Peak.....	Mount Stuart.....	Chelan-Kittitas.....	6,460
Mineral Hill.....	Chopaka.....	Okanogan.....	5,500
Montborne.....	Mount Vernon.....	Skagit.....	116
Mother Mountain.....	Mount Rainier National Park.	Pierce.....	6,540
Mount Adams.....	Mount Adams.....	Yakima.....	12,326
Mount Aix.....	Mount Aix.....	do.....	7,805
Mount Annie.....	Osoyoos.....	Okanogan.....	6,056
Mount Ararat.....	Mount Rainier National Park.	Pierce.....	5,996
Mount Baker.....	Mount Baker.....	Whatcom.....	10,750
Mount Carlton.....	Spokane.....	Spokane.....	5,808
Mount Josephine.....	Mount Baker.....	Skagit.....	3,860
Mount McCay.....	Chopaka.....	Okanogan.....	7,628
Mount Rainier, highest snow summit (highest point in State yet determined).	Mount Rainier National Park.	Pierce.....	14,408
Mount Rainier National Park, on high lone rock on divide between South Fork of Mowich River and North Fork of Puyallup River, 3 miles from west boundary of park, marked by cairn of rocks 4 feet high; aluminum tablet stamped "6977 V. A."	do.....	do.....	6,965
Mount St. Helens.....	Mount St. Helens.....	Skamania.....	9,671
Mount Stuart.....	Mount Stuart.....	Chelan.....	9,470
Naches Pass.....	Snoqualmie.....	King-Pierce, Kittitas-Yakima.	4,988
Naff Ridge.....	Oakesdale.....	Whitman.....	3,033
Newman Lake, water surface.....	Spokane.....	Spokane.....	2,130
Oak Hill.....	Mount Adams.....	Yakima.....	2,830
Observation Rock triangulation station, on high sharp rock on divide between Carbon and Mowich River glaciers, and 2 miles southeast of spray Park triangulation station, rock cairn 6 feet high; tablet stamped "8376 V. A."	Mount Rainier National Park.	Pierce.....	8,364
Old Baldy.....	Chopaka.....	Okanogan.....	7,870
do.....	do.....	do.....	5,230
Old Seab Mountain.....	Wenatchee.....	Chelan-Kittitas.....	6,887
Osoyoos Lake, water surface.....	Mount Aix.....	Yakima.....	6,642
Oval Peak.....	Osoyoos.....	Okanogan.....	913
Palmer Lake, water surface.....	Methow.....	do.....	8,800
Palmer Mountain.....	Chopaka.....	do.....	1,150
Park, on bald hill on divide between Muddy Fork and Ohanapeosh River, in south edge of Cowlitz Park, about 1.5 miles north of trail crossing. Bronze tablet stamped "5580."	do.....	do.....	4,370
Parrygin Lake, water surface.....	Mount Rainier National Park.	Pierce.....	5,572
Patterson Lake, water surface.....	Methow.....	do.....	2,020
Peacock Mountain.....	do.....	do.....	2,380
Peak Success.....	Chopaka.....	do.....	4,520
Pilchuck.....	Mount Rainier National Park.	do.....	14,150
Pilchuck.....	Mount Vernon.....	Snohomish.....	139
Pilchuck Mountain.....	Stilaguamish.....	do.....	5,334
Pinnacle Peak triangulation station.....	Mount Rainier National Park.	Lewis.....	6,562
Pinnacle Peak triangulation station on Tatoosh Range directly south of Reflection Lake, V. A. B. M. is bronze tablet set in rock 8 feet north of monument marking triangulation station, stamped "6566."	do.....	Lewis.....	6,562
Poland Butte.....	Mount Adams.....	Yakima.....	3,143
Prairie Mountain.....	Glacier Peak.....	Snohomish.....	5,670
Pugh Mountain.....	do.....	do.....	7,150
do.....	do.....	do.....	7,150
Pyramid Mountain.....	Stehekin.....	Chelan.....	8,240
Pyramid Peak.....	Snoqualmie.....	King-Kittitas.....	5,723
Pyramid Peak triangulation station.....	Mount Rainier National Park.	Pierce.....	6,937
Rainier Fork, peak north of divide at head of American River.	do.....	do.....	6,231
Rattlesnake Hills.....	Priest Rapids.....	Yakima.....	2,515
Rattlesnake Ridge.....	Zillah.....	do.....	3,007
Red Butte.....	Mount Adams.....	do.....	7,203
Red Mountain.....	Glacier Peak.....	Snohomish.....	6,930
do.....	Snoqualmie.....	Kittitas.....	5,707
Riley Lake, water surface.....	Stilaguamish.....	Snohomish.....	525
Ruby Hill.....	Okanogan.....	Okanogan.....	4,950

Locality.	Quadrangle.	County.	Elevation. <i>Feet.</i>
Ruth Mountain.....	Mount Rainier National Park.	Pierce.....	8,700
Saddle Mountain.....	Red Rock.....	Grant.....	2,696
St. Elmo Pass.....	Okanogan.....	Okanogan.....	7,415
Salt Lake Hill.....	do.....	do.....	2,960
Sammamish Lake, water surface.....	Seattle.....	King.....	35
Sauk Mountain triangulation station.....	Mount Baker.....	Skagit.....	5,510
Saxton Rock.....	Mount Adams.....	Yakima.....	4,413
Seymour Peak.....	Mount Rainier National Park.	Pierce.....	6,351
Shaw Mountain.....	Mount Adams.....	Klickitat.....	3,620
Sheep Mountain.....	Glacier Peak.....	Snohomish.....	6,120
Shuksan Mountain triangulation station.....	Mount Baker.....	Whatcom.....	9,038
Signal Peak.....	Mount Adams.....	Yakima.....	5,111
Skyscraper Mountain.....	Mount Rainier National Park.	Pierce.....	7,065
Sloan Peak.....	Glacier Peak.....	Snohomish.....	7,790
Sluski Mountain.....	Mount Rainier National Park.	Pierce.....	7,015
Snipes Mountain.....	Zillah.....	Yakima.....	1,290
Snoqualmie Lake, water surface.....	Skykomish.....	King.....	3,225
Snoqualmie Mountain.....	Snoqualmie.....	do.....	6,270
Snowshoe Butte.....	do.....	King-Kittatas.....	5,139
Sourdough Mountain, on rocky summit at extreme southeast end of Sourdough Mountains, about 0.5 mile north of trail between Huckleberry Parks; bronze tablet stamped "7016."	Mount Rainier National Park.	Pierce.....	7,006
Spanaway Lake.....	Tacoma.....	do.....	329
Spangle.....	Oakesdale.....	Spokane.....	2,431
Spectacle Lake, water surface.....	Chopaka.....	Okanogan.....	1,351
Spire Mountain.....	Skykomish.....	Snohomish.....	6,065
Spire Point.....	Glacier Peak.....	Chelan-Skagit.....	8,220
Squak Mountain.....	Seattle.....	King.....	1,980
Squalicum Mountain.....	Sumas.....	Whatcom.....	1,525
Steamboat Prow (summit of "The Wedge").....	Mount Rainier National Park.	Pierce.....	9,702
Steptoe Butte.....	Oakesdale.....	Whitman.....	3,613
Stevens Pass.....	Skykomish.....	Chelan-King.....	4,061
Stevens Peak triangulation station, southeast end of Tatoosh Range.	Mount Rainier National Park.	Lewis.....	6,511
Stilaguamish Peak.....	Glacier Peak.....	Snohomish.....	5,683
Stormy Mountain.....	Chelan.....	Chelan.....	7,219
Stratton Butte.....	Oakesdale.....	Whitman.....	3,300
Strawberry Mountain.....	Osoyoos.....	Okanogan.....	4,750
Sugarloaf Peak.....	Chiwaukum.....	Chelan.....	5,840
Sumner.....	Tacoma.....	Pierce.....	74
Swan Lake, water surface.....	do.....	King.....	478
Table Mountain.....	Mount Stuart.....	Kittitas.....	6,243
Tekoa Mountain.....	Oakesdale.....	Spokane-Whitman.....	4,006
Temple Mountain.....	Skykomish.....	King.....	3,570
Thornton.....	Oakesdale.....	Whitman.....	2,297
Three Brothers.....	Mount Stuart.....	Chelan.....	7,370
Three Fingers.....	Stilaguamish.....	Snohomish.....	6,845
Tieton Peak.....	Mount Aix.....	Yakima.....	7,775
Tiffany Mountain.....	Chopaka.....	Okanogan.....	8,275
Tillicum Point.....	Mount Rainier National Park.	Pierce.....	6,654
Timberwolf Mountain.....	Mount Aix.....	Yakima.....	6,435
Tolmie Peak triangulation station, on highest point of Tolmie Peak on divide between Carbon and Mowich rivers, 1.5 miles northwest of Crater Lake, marked by cairn of rocks; aluminum tablet stamped "5951 V. A."	Mount Rainier National Park.	Pierce.....	5,939
Tomyhoi Peak.....	Mount Baker.....	Whatcom.....	7,889
Toppenish Ridge.....	Zillah.....	Yakima.....	2,093
Toroda Mountain.....	Republic.....	Okanogan.....	4,621
Townsend Mountain.....	Skykomish.....	Snohomish.....	5,405
Trapper Lake, water surface.....	Glacier Peak.....	Chelan.....	4,300
Tumtum Peak.....	Mount Rainier National Park.	Pierce.....	4,678
Tunk Mountain.....	Osoyoos.....	Okanogan.....	6,065
Twin Lakes, water surface.....	Chiwaukum.....	Chelan.....	2,808
do.....	Stilaguamish.....	Snohomish.....	660
Twin Peaks.....	Glacier Peak.....	do.....	5,995
Twisp Pass.....	Stehekin.....	Chelan-Okanogan.....	6,066
Two Lakes, water surface.....	Mount Adams.....	Yakima.....	4,259
Tyee Mountain.....	Chelan.....	do.....	4,285
Umptanum Ridge.....	Ellensburg.....	Yakima.....	6,688
			4,217

Locality.	Quadrangle.	County.	Elevation. <i>Feet.</i>
Unicorn Peak.....	Mount Rainier National Park.	Lewis.....	6,939
Vesper Peak.....	Stilaguamish.....	Snohomish.....	6,190
Wahpenayo Peak.....	Mount Rainier National Park.	Lewis.....	6,234
Walupt Lake, water surface.....	Mount Adams.....	do.....	3,927
Wannacut Lake, water surface.....	Chopaka.....	Okanogan.....	1,847
Waptus Lake, water surface.....	Skykomish.....	Kittitas.....	2,980
Wenatchee Lake, water surface.....	Chiwaukum.....	Chelan.....	1,870
Wenatchee triangulation station.....	Wenatchee.....	do.....	6,754
Whisky Mountain.....	Osoyoos.....	Okanogan.....	2,837
Whitechuck Mountain.....	Glacier Peak.....	Snohomish.....	6,935
White Horse Mountain.....	Stilaguamish.....	do.....	6,820
Whitestone.....	Osoyoos.....	Okanogan.....	2,867
Whitman Crest.....	Mount Rainier National Park.	Pierce.....	8,262
Windy Pass.....	Stilaguamish.....	Snohomish.....	3,705
Windy Peak.....	Chopaka.....	Okanogan.....	8,345
Winthrop Glacier, lower end.....	Mount Rainier National Park.	Pierce.....	4,872

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