

The average quantity of earthwork will be 38,000 cub. yds. per mile, of which about three-quarters is in embankment and one-quarter in cutting. On the port branch the earthwork will be about 100,000 cub. yds. per mile. There will be required retaining walls at several points, some of dry masonry and some in mortar masonry.

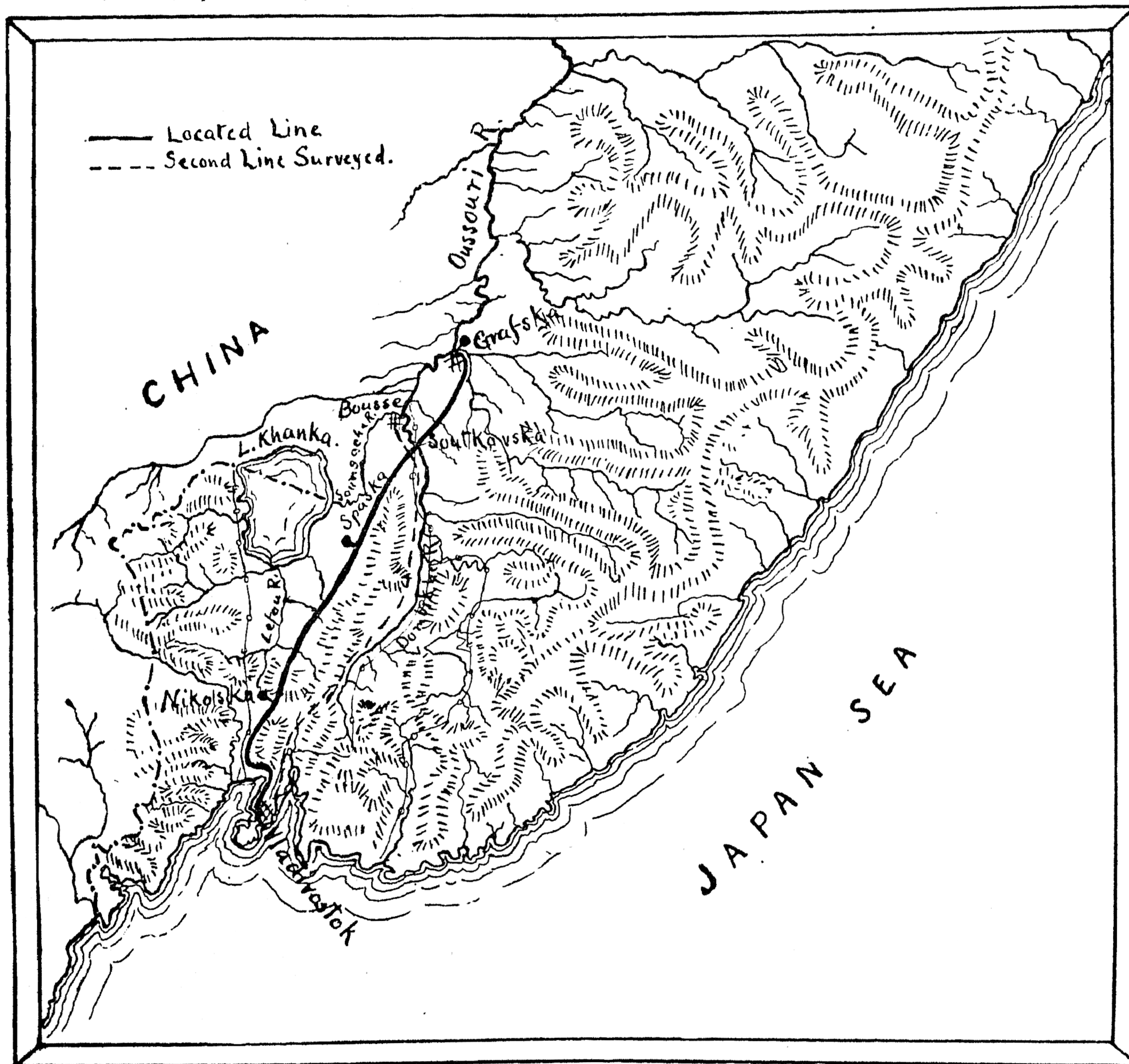
Two tunnels will be required, one 665 ft. long, on the 13th mile, the other 1,090 ft. long, on the 32d mile.

There will be a few arch culverts and a number of small bridges of 7 ft. span, of wood. The rest will be of iron and will be as follows: 66 bridges of spans from 14 to 56 ft.; 1 deck bridge, 70 ft. span; 4 through bridges, 70 ft. span; 1 through bridge, 84 ft. span; 3 of 105 ft.; 1 of 140 ft.; 3 of 175 ft.; 3 of 210 ft.; finally one bridge, over the Oussouri River, with 7 spans of 252 ft. each.

tanks will be placed at 20 points, 11 regular stations and 9 sidings. The supply is everywhere abundant, from rivers, ponds and springs. The tanks will be of 2,744 cub. ft. capacity and the general arrangements the same as on the other lines.

The station yards will be paved and fenced and the stations fully supplied with signals, switches, etc. There will be five Sellers turn-tables of 55 ft. diameter, seven smaller turn-tables, three weigh-bridges and 60 switch-houses.

The supply of rolling stock, for three daily trains, will be 29 six-wheeled, 32-ton locomotives; 20 eight-wheeled, 42-ton locomotives, making 49 locomotives in all; 47 passenger cars and 372 freight cars. Sufficient repair shops will be provided.



THE SOUTH OUSSOURI SECTION OF THE GREAT SIBERIAN RAILROAD.

The total amount of masonry required will be about 105,000 cub. yds., while for the superstructure 5,000 tons of iron will be needed.

The length of sidings will be 11 per cent. of the length of main line.

The rails will be of somewhat light type, 54 lbs. Russian (49 lbs. English) to the yard. There will be 2,400 ties to the mile and 2,300 cub. yds. of ballast. Ballast is very scarce along the line.

The road buildings will be all of wood; they will include 36 section-houses, 21 double and 96 single watchmen's houses.

There will be 12 stations: one first-class (terminal); two second-class; one third-class and eight fourth-class; besides these there will be nine sidings with water tanks.

There will be four engine-houses with 30 stalls. Water

The cost of the line, 261 miles, is estimated at 24,000,000 roubles, or 92,000 roubles per mile.

The second line explored, from Vladivostok to Bousse, through the center of the peninsula and by the valley of the Dombikhe, is much more expensive and difficult. On the first 30 miles it requires 17 tunnels of from 350 ft. to 10,000 ft. in length, and many viaducts, some as high as 250 ft.; its estimated cost is 37,000,000 roubles. Moreover, it will have grades of 2 per cent., and curves of 1,050 ft. radius.

The Oussouri country has a moderate climate, generally a fertile soil; the rivers are abundant, the forests are full of large trees, and there are valuable mineral deposits; so that the country is capable of great development and has a promising future. At present the population is small, and labor difficult to secure; for this reason the estimated