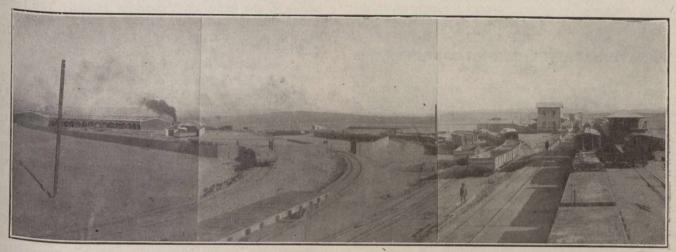
months before date of expiry. Thus by the completion of the Northern section the whole of the great Chilian nitrate districts are now connected by rail with Santiago, Valpariso and Port Montt, the total length of the system being 1,600 miles.

The northern section is built across the great Chilian desert on which for the whole distance of 450 miles one cannot find a blade of grass or a living insect. In fact,

softeners were of steel, with steel frame on concrete foundations.

There was only one bridge on the whole line, this being at Quillagua, across the Loa River valley. As it never rains in the country there are no streams to cross.

As the sections were accepted by the Government, and the decree issued, the contractors were obliged to operate these accepted sections. Before the final ac-



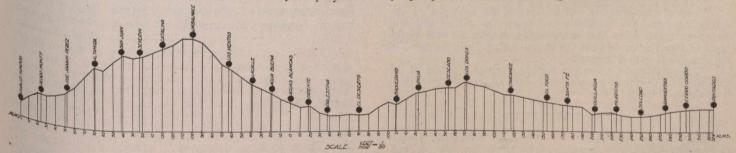
Baquedano Yard, Showing Car and Engine Sheds.

it is absolutely devoid of life. Darwin, in his travels, which included the Chilian desert, states: "It is the most perfect desert in the world."

In building the line, the water question was one of the most serious problems, but by hard work in drilling the contractors were eventually rewarded, and secured a good supply from wells at different points on the line. In some places it was found necessary to erect condensers as the only water obtainable was salt. These plants yielded a supply of 15,000 gallons per day, and gave excellent satisfaction. At some of the wells, owing to the hardness of the water it was necessary to erect softeners, the water first passing through chemicals then to the tank for engine supply. During construction water was often hauled 60 miles in order to supply the workmen doing the grading. The labor employed was native, and a better class of railroaders would be hard to find. from five to seven thousand being constantly employed.

ceptance of the whole line the contractors were operating 250 miles, on which a large traffic in the haulage of nitrate and supplies to the different nitrate plants along the line was developed. During an outbreak of yellow fever in the port of Tocopilla in the summer of 1912, the road was able to maintain the traffic between the ports of Tocopilla and Antofagasta by the interior connecting link, thus saving thousands of pounds in keeping the many nitrate plants in supplies, thereby avoiding their closing down during the epidemic. Up to this date all supplies had been shipped to Tocopilla by sea and then to the Pampa by the Tocopilla Railway. As the port was in quarantine during the epidemic, ships were not allowed to enter or leave.

The whole of the work was under the supervision of the Chief Government Engineer, Sr. Augusto Knudsen, who spared no pains to see that the work was well and properly done. The chief engineer for the concessionaires



Profile of Route of Northern Section.

As nothing grew in the country, all supplies of every ties, telegraph poles and timber for stations, etc., were obtained in British Columbia, although a few ties, etc., with timber frame covered with corrugated iron; matched except the main machine shops at Baquedano which were frame covered with corrugated iron. Tanks and

was Mr. W. B. Leane, A.M.I.C.E., with headquarters at Santiago. The headquarters of the contractors, Messrs. Macdonald, Gibbs and Macdougal, was in Antofagasta, the chief sea port of Northern Chili. Here they employed a large staff, the heads of the different departments being either English or Canadian. The whole work was under the direct control of the general manager. The partners, Messrs. Arthur C. Macdonald, a Nova Scotian by birth and a graduate of the Royal Military