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Degenerative Permafrost Engineering Geology Features Analysis and Forecasting of National Road 214

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Introduction

The frozen soil is usually referred to zero degrees or goes below zero degrees and containing ice and rock soil, the state last two years and above is called permafrost. The change of climate significantly affects the development process. The road of permafrost areas is based on the permafrost. Because of the outside temperature increase and under the influence of the project, The permafrost all tended to degenerate. Permafrost ground temperature of National Road 214 is above -1.5°C , and account for 70-80%, Then the warm permafrost more strongly respond to the highway projects, its geological nature more vulnerable, especially for warm permafrost and ice-rich permafrost, because of the project. Permafrost table, freeze-thaw of active layer will changes. Then lead to permafrost more changes, causing even more serious degeneration. The study of the project is in stable condition for the main object of the frozen ground, including the Qinghai-Tibet the study the experience, it cannot simply pushed on to degenerative permafrost [1]. Some foreign countries also realize that problem of permafrost degeneration, but reduced the impact of countermeasures on the project is just beginning, no mature experience to lessons from. Therefore, it is necessary to evaluation and analysis the geological condition for permafrost and study permafrost engineering geology nature, not only provide an important basic information for degenerative permafrost regions highway design, but also guarantee the stability and disease prevention and control will possess important actual significance.

National road 214 engineering geology property distribution of permafrost

National Road 214 begin in Qinghai Xining City and the final Jinghong City Yunnan province, after Qinghai, Tibet and Yunnan provinces, Overall length 3180km, Qinghai domestic 1084.25km, In 1994 National Road 214 made the geological prospecting in the frozen ground, There are all 313.3km permafrost area. Continuous permafrost length is 92km, discontinuous permafrost is 147.3km. Permafrost total 239.3km [1]. Based on the survey and design for Permafrost in 2010, a lot of information shows that the frozen soil is in a state of degradation. Specific segments as follows [2]:

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