IPL Project Annual Report Form 2013

1. Project Title

Landslides Mechanism and the Subgrade Stability Controlling Measures in Island Permafrost Area (IPL 167)

2. Main Project Fields

Mitigation, Preparedness and Recovery

3. Name of Project leader:

Wei Shan

Affiliation: (office and position)
Northeast Forestry University (NEFU), Harbin, China.

Contact: (postal address and email)
No.26, Hexing Road, Harbin China. 150040

Phone: +86-0451-82191477/ Fax: +86-0451-82191477

E-mail: shanwei456@163.com

Core members of the Project: Names/Affiliations:

Dr. Ying Guo, Northeast Forestry University, China
Dr. Hua Jiang, Northeast Forestry University, China
Dr. Chunjiao Wang, Northeast Forestry University, China
Dr. Zhaoguang Hu, Northeast Forestry University, China

4. Objectives:

Under the permafrost, landslides and other complex geological conditions investigation, design, construction and monitoring technical of express way expansion project.

5. Study Area:

Bei-Hei Expressway Extension Project K160–K182 Section
6. Project Duration
   2009.08-2016.12

7. Report

1) Progress in the project:

Combining with geological survey, topographic mapping, landslide distribution was known. Through on-site monitoring, laboratory tests and simulation, the formation mechanism and movement rules of landslide were found out. By now, geological structure is clear; permafrost distribution of study area was got.

2) Planned future activities or Statement of completion of the Project

There is still other important impact factors, such as climate and meteorological factors, which affect permafrost distribution and degradation processes mostly. This is the next focus.

3) Beneficiaries of Project for Science, Education and/or Society

Landslide in cold regions, formation mechanism and its movement feature was explored in the context of climate changing

4) Results:

   Landslides in cold regions in the context of climate change., Springer. 2013. ISSN: 1431-6250

   Wei Shan, Hua Jiang, Zhaoguang Hu, Chunjiao Wang, Ying Guo, Chengcheng Zhang. Occurrence mechanism and movement characteristics of landslides in Bei'an to Heihe expressway area in China under the climate change. PP. 23-41

   Hua Jiang, Wei Shan, Zhaoguang Hu. Bedding landslide formation mechanism and traits in Lesser Khingan Mountain. PP. 71-85

   Zhaoguang Hu, Wei Shan, Hua Jiang. Based on the drilling and high-density resistivity method to research landslide in the permafrost regions. PP. 163-177

   Chunjiao Wang, Wei Shan, Ying Guo, Zhaoguang Hu, Hua Jiang. Relative factors of Beihei Highway's ground deformation interpretation based on remote-sensing imagery technology. PP. 191-205

   IAEG XII - Engineering Geology for Society and Territory. 1.9 session: Environmental and engineering geological problems in permafrost regions in the context of a warming climate

   Hua Jiang, Wei Shan, Zhaoguang Hu. Freeway Extension Project Island Permafrost Section Foundation Deformation Characteristics
Wei Shan, Zhaoguang Hu, Hua Jiang, Ying Guo, Chunjiao Wang. "Environment and Engineering Geology Problems in Permafrost Section of China Bei’an to Heihe Expressway under the Background of Climate Change"

Chunjiao Wang, Wei Shan, Ying Guo, Zhaoguang Hu, Hua Jiang. Permafrost Distribution Research Based on Remote Sensing Technology in Northwest Section of lesser Khingan Range in China

Zhaoguang Hu, Wei Shan, Hua Jiang. The Deformation Monitoring of Superficial Layer Landslide in the Northern Part of Lesser Khingan Mountains of China

**WLF3- C7 Session: Landslides in cold regions**

Wei Shan. The landslide deformation monitoring and analysis of influence factors at K178+530 of the Bei’an to Heihe Expressway

Chunjiao Wang. Permafrost Distribution Study Based on Landsat ETM+ Imagery from the Northwest Section of the Lesser Khingan Range in China

Hua Jiang. Development Mechanism and Damage Mode of Cut Layer Rocky Landslide in Island Permafrost region

**WLF3- A1 Session**

Wei Shan, Ying Guo, Chengcheng Zhang, Zhaoguang Hu, Hua Jiang, Chunjiao Wang. The Impact of Climate Change on the Stability of Embankment and Slope of Bei’an Highway in Permafrost Regions