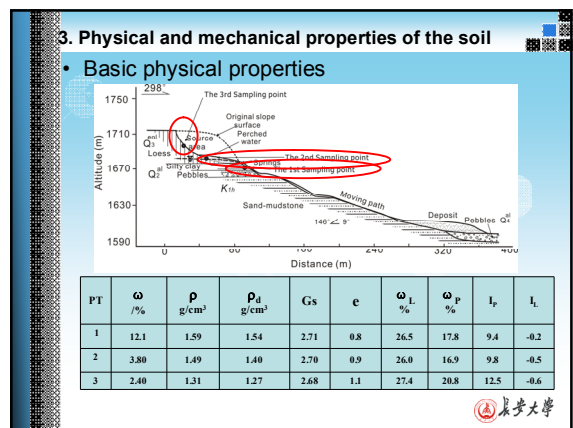
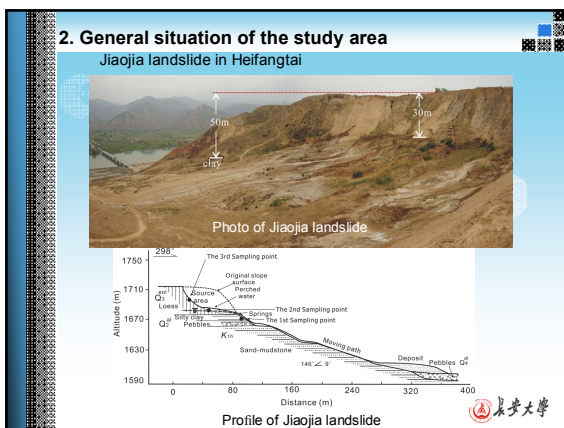
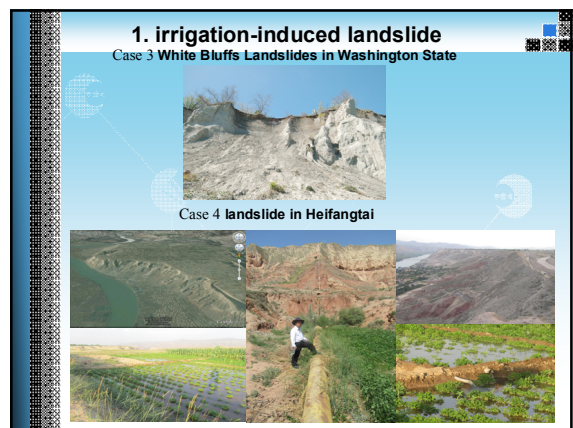






目录

- Irrigation-induced landslide
- General situation of the study area
- Physical and mechanical properties
- Element simulation for seepage and stability analysis
- Conclusions



3. Physical and mechanical properties of the soil

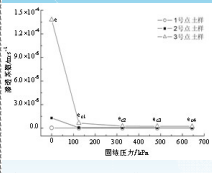
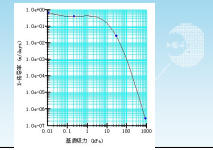
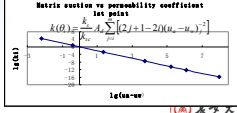
- Permeability coefficient

Saturated permeability coefficient	Unsaturated permeability coefficient
 <p>Modified penetration apparatus</p>	 <p>TEN-type tension meter</p>

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3. Physical and mechanical properties of the soil

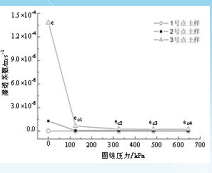
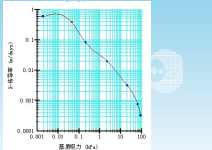
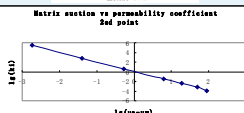
- Permeability coefficient

Saturated permeability coefficient	unsaturated permeability coefficient
 <p>Saturated permeability coefficient under different consolidation pressure of the 3 points</p>	 <p>Matrix suction vs permeability coefficient 3rd point</p>  <p>Matrix suction vs permeability coefficient 1st point</p>

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3. Physical and mechanical properties of the soil

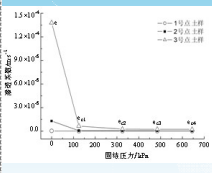
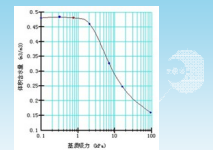
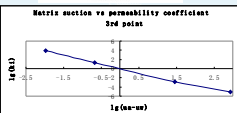
- Permeability coefficient

Saturated permeability coefficient	unsaturated permeability coefficient
 <p>Saturated permeability coefficient under different consolidation pressure of the 3 points</p>	 <p>Matrix suction vs permeability coefficient 2nd point</p>  <p>Matrix suction vs permeability coefficient 1st point</p>

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3. Physical and mechanical properties of the soil

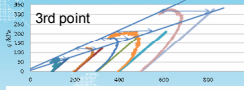
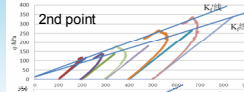
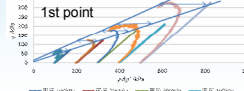
- Permeability coefficient

Saturated permeability coefficient	unsaturated permeability coefficient
 <p>Saturated permeability coefficient under different consolidation pressure of the 3 points</p>	 <p>Matrix suction vs permeability coefficient 1st point</p>  <p>Matrix suction vs permeability coefficient 1st point</p>

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3. Physical and mechanical properties of the soil

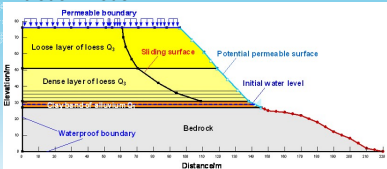
- Strength parameters

 <p>3rd point</p>	$C_q = 8.0\text{kPa}$ $C'_q = 11.7\text{kPa}$ $\tan \phi_q = 0.362$ $\tan \phi'_q = 0.473$
 <p>2nd point</p>	$C_q = 7.8\text{kPa}$ $C'_q = 12.5\text{kPa}$ $\tan \phi_q = 0.37$ $\tan \phi'_q = 0.482$
 <p>1st point</p>	$C_q = 13.3\text{kPa}$ $C'_q = 16.5\text{kPa}$ $\tan \phi_q = 0.362$ $\tan \phi'_q = 0.473$

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4. Element simulation for seepage and stability analysis

- simulation model

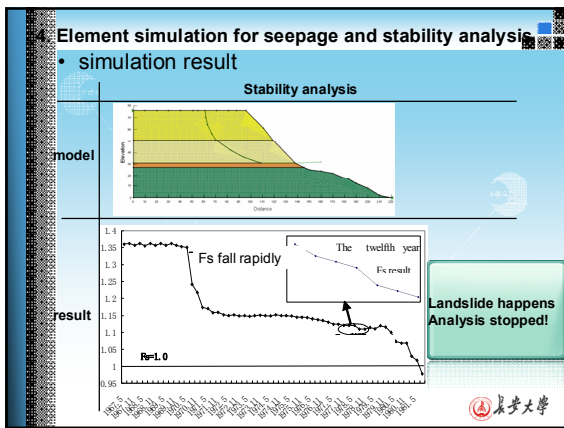
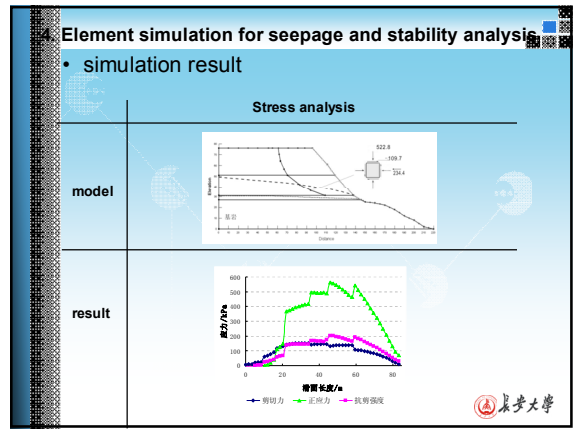
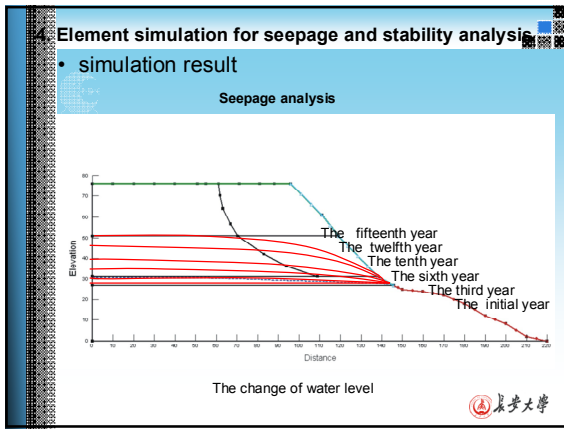


- simulation process (Began in 1967)

1967.5 irrigation	1967.6-10 Irrigation stopped	1967.11 irrigation	1967.12-4 Irrigation stopped
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When will stop? What will happen?

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5. Conclusions

Irrigation-induced loess landslide is not a instantaneous process, but a continuous process of accumulation. With the growing of the irrigation time, the pore water pressure in the slope is changing, for years, or even decades, the slope turns to landslide.

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