



483 19 0
Views CrossRef citations to date Altmetric


Original Articles

Risk assessment and prevention of surface subsidence in deep multiple coal seam mining under dense above-ground buildings: Case study

Jixiong Zhang, Qiang Sun , Andy Fourie, Feng Ju & Xiangjian Dong

Pages 1579-1593 | Received 14 Mar 2018, Accepted 28 Apr 2018, Published online: 24 May 2018

 Cite this article  <https://doi.org/10.1080/10807039.2018.1471579>

 Check for updates

Sample our
Mathematics & Statistics
Journals



>> [Sign in here](#) to start your access

We Care About Your Privacy

We and our 907 partners store and access personal data, like browsing data or unique identifiers, on your device. Selecting "I Accept" enables tracking technologies to support the purposes shown under "we and our partners process data to provide," whereas selecting "Reject All" or withdrawing your consent will disable them. If trackers are disabled, some content and ads you see may not be as relevant to you. You can resurface this menu to change your choices or withdraw consent at any time by clicking the ["privacy preferences"] link on the bottom of the webpage [or the floating icon on the bottom-left of the webpage, if applicable]. Your choices will have effect within our Website. For more details, refer to our Privacy Policy. [Here](#)

We and our partners process data to provide:

...

 I Accept

Reject All

Show Purpose



subsidence, horizontal movement, inclination, and horizontal deformation, whereas the key index to control is the compression ratio of backfill materials. The results of surface subsidence prediction and measurements in the Tangshan Coal Mine show that the solid waste backfill mining technique can effectively control the surface subsidence, deformation, and safety of buildings. This study is highly instrumental in sustained deep mining and environmental protection.

KEYWORDS:

- risk assessment
- surface subsidence
- backfill mining
- dense buildings
- environmental protection

Conflict of interest

The authors declare no conflict of interest.

Additional information

Funding

This research was funded by the National Natural Science Foundation of China (grant number 81573055) and the Central Government's Special Support Program for the Introduction and Cultivation of Talents. The authors thank the financial support of the Tangshan Coal Mine.



References

1. Zhang, Y.; Li, X.; Wang, J.; Chen, H.; Liu, Z.; Zhao, Y.; Sun, W.; Zhang, L.; Wang, Q.; Li, Y.; et al. (2021) Surface Subsidence Prediction and Measurements in the Tangshan Coal Mine. *Journal of Mining and Metallurgy*, 12(1), 1–10.
2. Wang, J.; Li, X.; Zhang, Y.; Chen, H.; Liu, Z.; Zhao, Y.; Sun, W.; Zhang, L.; Wang, Q.; Li, Y.; et al. (2021) Surface Subsidence Prediction and Measurements in the Tangshan Coal Mine. *Journal of Mining and Metallurgy*, 12(1), 1–10.
3. Zhang, Y.; Li, X.; Wang, J.; Chen, H.; Liu, Z.; Zhao, Y.; Sun, W.; Zhang, L.; Wang, Q.; Li, Y.; et al. (2021) Surface Subsidence Prediction and Measurements in the Tangshan Coal Mine. *Journal of Mining and Metallurgy*, 12(1), 1–10.
4. Wang, J.; Li, X.; Zhang, Y.; Chen, H.; Liu, Z.; Zhao, Y.; Sun, W.; Zhang, L.; Wang, Q.; Li, Y.; et al. (2021) Surface Subsidence Prediction and Measurements in the Tangshan Coal Mine. *Journal of Mining and Metallurgy*, 12(1), 1–10.
5. Zhang, Y.; Li, X.; Wang, J.; Chen, H.; Liu, Z.; Zhao, Y.; Sun, W.; Zhang, L.; Wang, Q.; Li, Y.; et al. (2021) Surface Subsidence Prediction and Measurements in the Tangshan Coal Mine. *Journal of Mining and Metallurgy*, 12(1), 1–10.

Information for

- Authors
- R&D professionals
- Editors
- Librarians
- Societies

Opportunities

- Reprints and e-prints
- Advertising solutions
- Accelerated publication
- Corporate access solutions

Open access

- Overview
- Open journals
- Open Select
- Dove Medical Press
- F1000Research

Help and information

- Help and contact
- Newsroom
- All journals
- Books

Keep up to date

Register to receive personalised research and resources by email

 Sign me up



Copyright © 2024

Accessibility

Registered
5 Howick Place

Wiley & Francis Group
a John Wiley & Sons business

