Mine Ventilation Planning and Simulation Workshop
The purpose of the workshop is to develop the necessary skills needed for ventilation planning with an emphasis on using ventilation modeling software. The recent changes to the regulations for dust control emphasize the need for ventilation modeling. The morning session of the ventilation workshop will begin with a review of the fundamentals of mining ventilation to better understand the choices one will make using the ventilation modeling software. It will then move on to fan theory and an overview of dust control. It will conclude with a presentation on current dust control research at the University of Kentucky. The second session includes a hands-on, guided introduction to Ventsim Visual. Data for a basic coal mine will be provided and the ventilation model will be developed. Techniques for incorporating survey data into the model will be introduced, along with fan selection and model optimization. It will conclude with dynamic modeling dust dispersal in the ventilation model.

In summary, the following topics will be discussed during the first session:

- Introduction to ventilation planning
- Ventilation fundamentals for incompressible flows
- Friction factor and the theory of airway resistance
- Fan theory
- Dust control
- Dust control Research at UK

The second session will include hands on exercises using Ventsim Visual including:

- Ventsim Visual demonstration and its use in ventilation planning
- The basics of building a ventilation model
- Incorporating ventilation survey data into the model
- Fan selection and model optimization
- Dynamic modeling of dust

Instructor:
Chad Wedding, Assistant Professor
University of Kentucky Department of Mining Engineering

Fee: $450 - Eight PDHs awarded (if attending both days the reduced fee is $800)
For registration information contact Geaunita Caylor, 859-257-2820 or p.caylor@uky.edu

To register online go to: http://www.engr.uky.edu/mng/
Surface Deformations: Application for High Extraction Underground Mines

The purpose of the workshop is to provide the background needed to predict surface deformations due to high extraction longwall or room and pillar mines. The morning session will cover basic principles as well as enhanced procedures and techniques including calibration options, dynamic deformations, and risk analysis. The afternoon session of the ground deformation workshop will include a guided hands-on introduction to the Surface Deformation Prediction System (SDPS) package. Time limited – full featured copies of the latest version of the software will be provided to the participants along with data to cover basic scenarios. Participants may also bring their own case studies to the workshop for discussion and analysis.

In summary, the following topics will be discussed during the first session:

- Subsidence over underground mines
- Introduction to ground deformation prediction
- Using surface deformations to predict potential impacts to surface structures
- Calibration to site specific conditions
- Dynamic deformations
- Risk analysis

The second session will include hands on exercises using the SDPS package. Topics include:

- 2D and 3D examples for calculation of final deformations to demonstrate the surface distribution of different deformation indices
- Calibration Examples
- Dynamic deformation examples
- Demonstration of interfacing SDPS with Autocad
- Development of cross-sections and 3D graphs

Instructor:
Zach Agioutantis, Professor and SDPS Developer
University of Kentucky Department of Mining Engineering

Fee: $450 - Eight PDHs awarded (if attending both days the reduced fee is $800)
For registration information contact Geaunita Caylor, 859-257-2820 or g.caylor@uky.edu

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