QUEENSLAND MINING INDUSTRY Health & Safety Conference 2017

VENTILATION MODEL FOR TRAINING

John Phillips Ventilation Officer

Glencore - Oaky North Mine

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Mine Ventilation – In a Nutshell

Provides the essential airflow to dilute & remove:

1. Heat

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- 2. Explosive, respirable & carcinogenic dusts
- 3. Flammable and noxious gases etc.

And to provide fresh air emergency escapeways to the surface





The Ventilation System



The Ventilation System



The Problem

- Workforce needed training in the new system
- Adult learners not comfortable in classrooms
- One chance to get it right
- Conventional visual computer learning programs too complicated





Inspiration for Innovation

- To use modern technology to go back to basics and start from scratch.
- Use first principles that cater for all learning styles to maximize effectiveness.



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The Solution

An adjustable scale model for training mine workers.

- ~1:100 scale airways
- Removable sections & layouts
- Adjustable fans & regulators
- Instrumentation ports
- Visualisation tools

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The Solution



Some of the Benefits

- 3D printing allows for amazing accuracy combined with air current distribution tools illustrates airflow behaviour
- Caters to all learning types, adjustable networks for hands on learning and higher level training
- Illustrates to mineworkers what failure looks like the aim is to have it self auditing
- Transferable; emergency response, development
- Enthusiastic and positive response from the learners
- Very successful implementation of the new system
- Cost effective

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Thanks for letting me shoot the breeze

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