



## Heat Stress in Underground Mining

**Instructor(s):** Glen Kenny, Stephen Hardcastle,  
Heather Dougherty (MBA, P.E) – Mining Engineer  
**Date:** June 12, 2010, 9:00 am – 5:00pm

### Course detail:

Session	Time	Speaker
<b>1. Fundamentals of body temperature regulation</b>		
Physiology of thermoregulation in the heat	9:00am - 9:30am	Glen P. Kenny
Heat-related illnesses	9:30am - 9:45am	Glen P. Kenny
<b>2. Assessing the heat stress and establishing the limits for work in a hot mine</b>		
How to measure environmental temperature	10:00am - 10:45am	Stephen Hardcastle
Exposure limits based on wet-bulb temperature	10:45am - 11:45am	Glen P. Kenny
<b>3. Strategies for maintaining health and performance</b>		
Hydration and heat acclimation	1:00pm - 1:30pm	Glen P. Kenny
Protective clothing and optimal work/rest cycles	1:30pm - 2:00pm	Glen P. Kenny
Your health and fitness	2:15pm - 2:45pm	Glen P. Kenny
Heat sources and their control in Canadian mines	2:45pm - 3:15pm	Stephen Hardcastle

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### Glen Kenny

Glen Kenny, a professor and the director of the Human and Environmental Physiology Research Unit at the University of Ottawa, is a leading authority in the area of human thermoregulation. His work is directed at improving the understanding of the human physiological responses to work performed in adverse environments. This research is playing a key role in providing valuable information aimed at improving the health and safety of Canadian workers.

### Stephen Hardcastle

Stephen Hardcastle is a senior scientist with Natural Resources Canada, head of mine ventilation research within CANMET Mining and Mineral Sciences Laboratories, and an Adjunct Professor at the Laurentian University. Currently, he is both managing a suite of heat stress-oriented projects as well as delivering specific elements for Canada's Deep Mining Research Consortium.

The course will provide a better understanding of heat exposure, how the body reacts and the possible risks. It will include information on how one should work in the heat, introducing new findings in this area. It will also include information on the appropriate instrumentation to use, criteria for limiting exposure and the source and control of heat in Canada's mechanized mines, are most suitable.

This course will be of interest to all levels, from health and safety representatives, technicians and engineers, through to the industrial hygiene practitioner.