

Monitoring for Hazards in Mining Guide



MONITORING MADE EASY

Australia's leading provider
of workplace monitoring
solutions and equipment

www.aesolutions.com.au



AIR SAMPLING

One of most common hazards for miners is exposure to harmful dust, gases or vapours being discharged to the atmosphere. As inhalation is usually the most significant route of entry into the body, it is important that the air workers breathe is monitored. Air quality monitors can help to alert when toxic pollutants are present and ensure that legislative limits are not exceeded.

REAL-TIME MONITORING

AES offer monitors which measure aerosol concentrations corresponding to PM1, PM2.5, PM10 or respirable size fractions, including silica dust particles. Continuous and real-time measures of particulates of multiple sizes at the same time are available, plus remote monitoring solutions via telemetry set-up and personal handheld dust monitors if required.



PERSONAL SAMPLING

Our extensive range of air sampling pumps, sorbent tubes and filters allow effective monitoring of hazardous substances including asbestos and other harmful particulates and vapours.



HEAT STRESS MONITORING

AES supplies physiological monitoring equipment that helps you to monitor worker well-being including activity level, hydration and core body temperature.

The equipment we offer provides critical workplace measurements that can be accessed remotely via wireless data transmission, using AES CONNECT to a central platform or data hub. Analysis and reports can then be generated to understand the full impact on worker health and well-being.



Heat Shield

- Measures globe temperature, wet bulb temperature, dry bulb temperature and relative humidity
- Quick, reliable and accurate assessment of indoor and outdoor WBGT index
- Built-in technology for simultaneous, wireless monitoring in different locations/heights



LSI Heatshield

Equivaltal

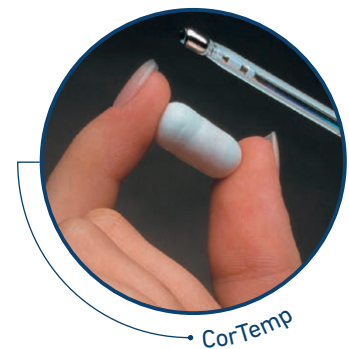
- Displaying real time heat stress, safety and performance monitoring
- Interactive map for location tracking
- Customisable analytics and after action review



Equivaltal Black Ghost

CorTemp

- Ingestible core body temperature sensor
- Measures temperature in real time
- Accurate sensor +/-0.1% °C



CorTemp

Kenzen

- Non invasive wearable patch
- Real-time reporting of core body temperature heart rate, sweat rate and activity
- View personal trends and historic reports



Kenzen

HydraTrend

- Urine test strips are convenient and easy to use
- Provides feedback on hydration status that can be used to adjust fluid intake
- Gives results in 30 to 60 seconds



HydraTrend

FACE FIT TESTING

Face fit testing or RPE fit testing is an important range of tests undertaken to ensure that tight-fitting respirators fit the user correctly. It ensures respiratory protective equipment, including N95, P100 and N99, FFP1, FFP2, FFP3, full and half-face elastomerics, are working properly to provide the highest level of protection to the wearer.



AccuFIT9000 Pro

- Fit Tests ALL Tight-Fitting Full & Half Respirators
- Easy to use 7" Colour Touch Screen Control
- Stand Alone or PC Operation
- Two Modes of operation for Particle Size range
- WiFi Enabled
- OSHA, ANSI, CSA, HSE Protocol Compliant

CONSUMABLES

- Disposable Fit-testing probes
- Universal Fit-testing alcohol
- Fit-testing twin tube hose

NOISE, SOUND & VIBRATION MONITORING

Mining operations include many mechanical, pneumatic and construction processes which may pose risks to workers hearing and exposure to Hand Arm Vibration (HAVs). We have a range of products for noise and vibration exposure measurement.



DoseBadge

- Simple, reliable, and easy to use
- Scheduled start, pause and stop automatically
- Intrinsically safe versions available

Optimus

- Simple operation and ergonomic design
- Available in Type 1 and Type 2 versions
- Real-time octave band analysis
- Measurements for occupational and environmental noise

HAVwear

- Wrist worn device for truly personal monitoring data
- Real-time exposure points and calculation display
- Tracks tool usage
- Low cost, simple to use and fully automated



GAS DETECTION

Portable

Our personal gas monitors are rugged in construction, simple to operate, have audible and visual alarms, and comply with all intrinsic safety requirements. Available with a wide range of sensor options including PID for VOCs, electrochemical sensors for toxic gases and oxygen, flammable LEL and NDIR sensors, and NDIR sensors for CO₂.



Micro Clip



MultiRAE Lite



BW Icon

- Extensive range of sensor options
- Datalogging capability
- Man-down alarm options
- Adjustable alarm setpoints
- Easy to view display
- Remote monitoring access available

Transportable

When you need more than personal gas monitoring, transportable area monitors provide a comprehensive safety perimeter or wireless fence line. Real-time monitoring gives peace of mind that issues can be addressed quickly and effectively.



AreaRAE PLUS



RigRat

AreaRAE PLUS

- Monitors up to 7 gases
- Rugged and weatherproof
- Optional meteorological sensor for tracking toxic plumes

BW Honeywell RigRat

- Extended run time off one charge
- Wireless – no cables
- Remote monitoring options available with TouchPoint Plus Control System
- Connect multiple units for a wireless safety boundary

Specialised

During shutdowns, specialised pieces of monitoring equipment may need to be deployed to detect hazardous vapours and other VOC's. The MiniRAE 3000 and ToxiRAE Pro PID supplied by AES allow measurement of these atmospheric contaminants down to sub-ppm levels.



MiniRAE 3000



ToxiRAE Pro PID

Specialised

- Compound specific benzene readings
- Handheld and personal devices available
- Wireless remote monitoring options



WORKPLACE DUST EXPOSURE STANDARD

The workplace exposure limit for crystalline silica (all forms) is: 8-hour time weighted average (TWA) of 0.05 mg/m³.

At AES offer several dust monitoring equipment solutions including the latest technology which can simultaneously monitor multiple particle sizes. This feature ensures you are monitoring all parameters of dust, at the same time providing real-time results that can be actioned immediately.

We also hire and service equipment. All hire equipment is properly maintained, serviced and calibrated by qualified and knowledgeable technicians, ready to be delivered and deployed on site.

For more information, or to book your complete hazard monitoring hire equipment please contact AES on hire@aesolutions.com.au or our offices below:



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