Black Mountain Mining

BMM-HSE-VOH-SOP-0006 Occupational Hygiene Sampling Methodology

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CHANGE HISTORY

Modified Date	Version	Modified by	Description of change
2021/08/25	V1	CW Klopper	Change to new format
2022/11/20	V2	CW Klopper	Included a specific section on Diesel Particulate Matter sampling methodology

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DEFINITIONS AND ABBREVIATIONS

Word / Phrase / Abbreviation	Definition
PEME	PEME is an acronym used in Black Mountain Mining and has the following meaning: - People, - Equipment, - Materials, - Environment, The use of this in written documentation helps to comply with Resources Clause 7 – ISO 9001, ISO 14001, and ISO 45001. It is advisable to include in all written documentation.
Assessment	A program of measurement to determine any risk from exposure to hazards at the workplace to identify the steps needed to be taken to remove, reduce or control such hazard.
BMM	Black Mountain Mining
Consequence	The effect of exposure to a hazard.
Employee	Includes both BMM and Contractor & Business Partner employees.
Exposure	State or condition of being unprotected and open to damage, danger, risk to health.
Hazard	Source of potential damage, harm or adverse health effects on something or someone under certain conditions at work.
Health	Being not only the absence of disease, but also rather the complete physical, mental, and social wellbeing of the individual.
Risk	Chance or probability that a person will be harmed or experience an adverse health effect if exposed to a hazard.
SAMOHP	South African Mine's Occupational Hygiene Codebook.
SOP	Standard Operating Procedure.
VOH	Ventilation & Occupational Hygiene.

1. PURPOSE

The purpose of this SOP on Sampling Methodology and Analysis for Airborne Pollutant Particulates is to provide information on particulates, details sampling and analysis methodology.

2. SCOPE

This procedure applies to:

- Ventilation and Occupational Hygiene Personnel – for the preparation, pre- & post weighing, calibration, handing out and retrieval of sampling media/equipment
- All Employees – for the wearing of sampling equipment

3. LEGISLATIVE REQUIREMENTS

The Mine Health and Safety Act 29 of 1996 requires that:

- Act 11. Employer to assess and respond to risk
- Act 12. Employer to conduct occupational hygiene measurements
- Regulation 9.2
    - the employer must ensure that the occupational exposure to health hazards of the employee is maintained below the limits set out in Schedule 22.9 (2) (a) and (b)
    - the employer must establish and maintain a system of occupational hygiene measurements, as contemplated in section 12, of all working places where airborne pollutant particulates are ≥ 1/10 of the occupational exposure limit

Occupational Health & Safety Act

- Lead Regulations (2002)

4. RELATED COP's, STANDARDS, PROCEDURES AND OTHER DOCUMENTS

- VOH-COP-005: Minimum Standards of Fitness to Perform Work at a Mine
- VOH-SOP 005A Occupational Medical Surveillance
- VOH-COP-006: Occupational Health Programme on Personal Exposure to Airborne Pollutants

5. LEAD AND SILICA DUST SAMPLING METHODOLOGY

Risk based Personal Sampling for exposure to Lead and Silica dust are conducted for at risk employees, based on the risk assessment. To align with best international practice, the following National Institute for Occupational Safety & Health (NIOSH) Methods are used for the sampling and analysis:

- Respirable Crystalline Silica Quartz - № 7602 (IR)/7500 (XRD)
- Inorganic Lead - № 7300

Post sampling, the filters are submitted to a SANAS accredited laboratory for analysis.

The personal sampling strategy are determined based on the requirements as set out in the Code of Practice for An Occupational Health Programme on Personal Exposure to Airborne Pollutants. This includes:

a) Determination of Homogenous Exposure Groups (HEGs) for dust (airborne pollutant) sampling

b) Determination of an annual sampling schedule based on the HEGs. The total number of exposed employees is determined at the beginning of the annual reporting cycle and only changes if there is an increase in employees during the quarterly reporting cycle. A reduction in employees will not reduce the total number of exposed employees during the reporting cycle.

c) The table below depicts the procedure that are followed to determine the Airborne Pollutant (excluding gases & vapours) Category, Sampling Amount and the Period over which the sampling will take place:

Airborne Pollutant (excluding gases & vapors)

CLASSIFICATION BANDS			
CATEGORY	**PERSONAL EXPOSURE LEVEL**	**SAMPLING AMOUNT**	**SAMPLING PERIOD**
A	Exposures ≥ the OEL or mixtures of exposures ≥ 1	5% or 5 samples per quarter	Quarterly
B	Exposures ≥ 50% of the OEL and < of the OEL or mixtures of exposures ≥ 0.5 or < 1	5% or 5 samples 6-monthly (evenly spread bi-annually)	6-monthly
C	Exposures ≥ 10% of the OEL and < 50% of the OEL or mixtures of exposures ≥ 0.1 or < 0.5	5% or 5 samples per annum (evenly spread annually)	Annually
D	Exposures < 10% of the OEL	5% or 5 samples per annum (evenly spread annually)	Annually

d) Conducting the sampling based on the sampling schedule

e) Submission of the sampling media to a SANAS accredited laboratory for analysis

f) Determining exposure levels based on the laboratory results

g) Dissemination of results to employees

h) Reclassification of HEGs at the end of each cycle (annually; end of calendar year)

i) Individual sample results will be allocated to the employees forming part of the Homogenous Exposure Group to which the sampled employee(s) belong

j) Results from the Diesel Particulate Matter sampling are linked to the medical surveillance programme.

k) Area sampling could be used to enhance Personal Sampling information on Respirable Crystalline Silica Quartz and Inorganic Lead where required

6. DIESEL PARTICULATE MATTER SAMPLING METHODOLOGY

Risk based Personal Sampling for Diesel Particulate Matter exposure will be conducted for at risk employees, based on the risk assessment. To align with best international practice, the following National Institute for Occupational Safety & Health (NIOSH) Methods are used for the sampling and analysis:

- Diesel Particulate Matter - Nº 5040

Sampling media (DPM filter assembly) will be sourced from and submitted to a SANAS accredited laboratory for analysis.

The personal sampling strategy are determined based on the requirements as set out in the Code of Practice for An Occupational Health Programme on Personal Exposure to Airborne Pollutants.

This includes:

a) Determination of Homogenous Exposure Groups (HEGs) for DPM sampling

b) Determination of an annual sampling schedule based on the HEGs. The total number of exposed employees is determined at the beginning of the annual reporting cycle and only changes if there is an increase in employees during the quarterly reporting cycle. A reduction in employees will not reduce the total number of exposed employees during the reporting cycle.

c) The table below depicts the procedure that are followed to determine the Category, Sampling Amount, and the Period over which the sampling will take place:

Airborne Pollutant (excluding gases & vapours)

CLASSIFICATION BANDS			
CATEGORY	**PERSONAL EXPOSURE LEVEL**	**SAMPLING AMOUNT**	**SAMPLING PERIOD**
A	Exposures ≥ the OEL or mixtures of exposures ≥ 1	5% or 5 samples per quarter	Quarterly
B	Exposures ≥ 50% of the OEL and < of the OEL or mixtures of exposures ≥ 0.5 or < 1	5% or 5 samples 6-monthly (evenly spread bi-annually)	6-monthly
C	Exposures ≥ 10% of the OEL and < 50% of the OEL or mixtures of exposures ≥ 0.1 or < 0.5	5% or 5 samples per annum (evenly spread annually)	Annually
D	Exposures < 10% of the OEL	5% or 5 samples per annum (evenly spread annually)	Annually

d) Conducting the sampling based on the sampling schedule

e) Submission of the sampling media to a SANAS accredited laboratory for analysis

f) Determining exposure levels based on the laboratory results

g) Dissemination of results to employees

h) Reclassification of HEGs at the end of each cycle (annually; end of calendar year)

i) Individual sample results will be allocated to the employees forming part of the Homogenous Exposure Group to which the sampled employee(s) belong.

j) Results from the Diesel Particulate Matter sampling are linked to the medical surveillance programme.

k) Area sampling could be used to enhance Personal Sampling information on Diesel Particulate Matter where required.

7. WEIGHING ROOM REQUIREMENTS

l) The location of the weighing room should be in an uncontaminated, dust free environment and away from any activity or equipment that can cause vibration

m) To avoid draughts and the ingress of dust, windows if fitted, must at all times be kept closed (sealed) and the entrance to the weighing room must preferably be through an airlock or otherwise must be a self-closing door. (Any other condition that may affect a stabilized atmosphere must be addressed)

n) Commercial air conditioners are not acceptable unless they are of the type designed to maintain a constant humidity and temperature

o) This room must be dedicated to the weighing and preparation of filter cassettes only

p) The following signs must be displayed at the entrance to the weighing room:

- Weighing Room
- No Smoking
- Acclimatization in Progress (when applicable)
- Weighing in Progress (when applicable)

q) The balance, correctly levelled, must stand on a rigid specially designed balance table together with a properly earthed anti-static mat

r) Enough storage space for filters and associated equipment must be provided

Carpets are not allowed in the weighing room because of problems of static build up unless they are manufactured and installed according to SABS specifications

8. WEIGHING AND SAMPLING EQUIPMENT ASSEMBLY PROCEDURE

8.1 APPARATUS REQUIRED

The following apparatus is required:

a) Personal Sampling Pumps - calibrated and capable of maintaining a sustained flow rate over a full working shift. The flow rate of the pumps will depend on the type of cyclone used and NIOSH Method of the specific airborne pollutant being sampled.

Cyclone Model	Weight (Kg)	Air Flow Rate
10mm Dorr-Oliver	0.08	1.7 LPM
BGI-4L, Higgins-Dewell (HD)	0.15	2.2 LPM
FSP-2 HD style (European version)	0.14	2.2 LPM
GK 2.69	0.10	4.2 LPM
RASCAL	0.26	8.5 to 9.5 LPM
FSP-10	0.26	11.2 LPM

b) Clean filter holders capable of holding a 25 mm or 37 mm diameter filter

c) Sufficient length of 5 mm or 6 mm internal diameter thick-walled tubing suitable for connecting the personal sampling pump to the sampling head

d) 25 mm or 37 mm diameter filter media. The pore size should be selected to suit the specific application (e.g. 0.8 μm for respirable dust)

e) Cyclone separator to remove coarse dust where respirable dust is to be sampled

f) Clip-on holder, which allows the filter holder to be attached to a worker's clothing

g) Belts or harnesses to which the sampling pumps can be conveniently fixed, for the wearing of sampling equipment by persons

h) Calibrated rotameter or electronic airflow calibrator for the measurement of the flow rate through the sampling pump

i) Flat tipped tweezers

j) Petri dishes

k) Charging/docking station to charge the air sampling pump batteries

l) Foam lined sampling box to transport samples (where required)

m) Means to transport the filter samples from the workplace to the laboratory

8.2 PREPARATION OF FILTERS

a) Prepare 3 reference filters. Handle filters with flat tipped tweezers
b) Prepare clean filters. Handle filters with flat tipped tweezers
c) Mark each filter with ballpoint pen to identify each filter (unique identifying number)
d) Mark each correlating petri dish where the filters is to be stored in
e) After marking of filters, place filters in acclimatization chamber for minimum of 12 hours to acclimatise before pre-weighing can take place

8.3 PRE-WEIGHING OF FILTERS

a) Display “Weighing in Progress” sign on the outside of laboratory door and close door

b) Remove filters out of acclimatization chamber (after 12 hours)

c) Switch on the weighing scale

d) Ensure the settings of the scale are correct

e) First weigh the reference filters 3 times and record the weighing results and date

f) Start weighing the clean filters, each 3 times and record the weighing results

g) If more than 10 clean filters are to be weighed

- Batches of clean filters must be limited to ten filters
- After each batch of ten filters, the reference filters must be weighed again (post and pre reference filters for each batch of clean filters)

h) After all clean filters are weighed, weigh the reference filters again and record the results.

i) Place filters back in petri dishes & start preparing sampling train for sampling purposes.

8.4 PREPARATION OF FILTERS CASSETTES (HOLDER)

a) Assemble the filter cassette (holder), one outlet side and one inlet side.

b) Insert filter-backing pad and numbered filter in the correct manner (by means of using a laboratory tweezer to handle the filter and the filter-backing pad).

c) Number the cassette with the corresponding number of the filter.

d) Record the filter number on the sampling form.

e) Seal the filter holder joint with shrinkable cellulose band or insulation tape to prevent leakage where applicable.

8.5 THE FILTER HOLDER IS PREPARED AS FOLLOWS:

a) Assemble the filter holders in a clean environment

b) Only clean filters must be used. Use flat tipped tweezers to handle the filter and filter supporting pad or grid

c) Place the filter and the filter support pad or grid in the filter holder, with the filter on the air intake side

d) Close the inlet and outlet ports of the filter holder with the plugs or covers provided with the filter holder

e) Seal the filter holder joint with shrinkable cellulose band or insulation tape to prevent leakage where applicable

8.6 CALIBRATION OF SAMPLING PUMP

Review the annual calibration (by 3rd party) of the sampling pump to ensure it is still within calibration – if not remove from service and submit for calibration.

- Before a pump and filter holder assembly is used to measure dust and other airborne pollutant levels, it is necessary that the pump flow rate is correctly set
- Take the filter holder which is to be used for air sampling and attach it to the pump tubing in the correct manner
- Connect a calibrated rotameter or electronic airflow calibrator to the intake side of the filter holder
- Switch the pump on and note the rotameter or electronic airflow calibrator reading
- If required, adjust the pump's airflow rate to the required flow rate. Record the pre-sampling calibration airflow rate of the pump on the sampling form
- Assemble sampling train
- Once the pump and filter assembly has been calibrated, it is ready for use to measure dust or other airborne pollutants as required

9. SAMPLING PROCEDURE

The conducting of occupational hygiene measurements is a legal requirement in terms of the Mine Health & Safety Act (MHSA), Act 29 of 1996 as amended. In order to comply with these requirements:

- Sampling schedules are development as per the Guideline for the compilation of a Mandatory Code of Practice for an Occupational Health programme on Personal Exposure to Airborne Pollutants issued by the Chief Inspector of Mines.

- Based on these schedules certain occupations/employees will be required to be sampled during the year, meaning to carry the sampling equipment on their person during their shift.
- Failure or refusal to wear and take care of the sampling equipment could constitute a breach of the employee's duties and lead to corrective/disciplinary action against the employee.

9.1 ISSUING OF SAMPLING EQUIPMENT

a) Brief employee who will be wearing the sampling equipment on the following:

b) Legislation requires that sampling equipment is to be worn by employees to quantify their risk

c) Why they are being sampled

d) What is being sampled (e.g. silica, lead, Diesel Particulate Matter)

e) How to fill in the sampling form, to ask for assistance with the completion of the form where needed.

f) To wear the sampling equipment for the entire shift.

Issuing of equipment:

g) Place the sampling train on the person if needed or demonstrate how the sampling equipment is to be worn.

h) Switch on the sampling pump and record sampling start time.

9.2 COLLECTION OF SAMPLING EQUIPMENT

a) Stop the sampling pump and record sampling stop time.

b) Collect the cassette holder.

c) Close the inlet and outlet ports of the filter holder with the plugs or covers provided with the filter holder and put in the foamed box.

d) Check if the form is correctly completed, if not, assist the employee in completing the form.

e) Check the pump calibration after sampling and record the airflow rate on the sampling form.

10. POST SAMPLING PROCEDURE

A similar process is followed for the post sampling weighing as for the pre-sampling weighing, with some minor changes:

10.1POST WEIGHING

f) Remove the "used" filter and put into the correct petri dish with corresponding number

g) Place all the “used” filters and reference filters into acclimatization chamber for 12 hours before conducting post weighing

h) Place filter on the weighing scale

i) Make sure that the settings of the scale are correct

j) First weigh the reference filters 3 times and record the weighing results and date

k) Start weighing the dirty filters, each 3 times and record the weighing results (not exceeding 10 filters per batch, with reference filters after every batch of 10 filters)

l) After the “used” filters are weighed, weigh the reference filters again and record the results

m) Put filters back in petri dishes for laboratory analysis purposes

10.2 LABORATORY ANALYSIS

For analysis of the filter deposit, the filters are sent to a South African National Accreditation System (SANAS) accredited laboratory.

11. NOISE SAMPLING METHODOLOGY

The personal sampling strategy are determined based on the requirements as set out in the Code of Practice for An Occupational Hygiene Programme for Noise.

This includes:

a) Determination of Homogenous Exposure Groups (HEGs) for noise sampling.

b) Determination of an annual sampling schedule based on the HEGs. The total number of exposed employees is determined at the beginning of the annual reporting cycle and only changes if there is an increase in employees during the quarterly reporting cycle. A reduction in employees will not reduce the total number of exposed employees during the reporting cycle.

c) The table below depicts the procedure that are followed to determine the Personal Noise Category, Sampling Amount and the Period over which the sampling will take place:

Noise Monitoring Frequency

No	Cat	Classification Bands Personal Exposure Level	Minimum Sampling Frequency
i)	A	Exposures ≥ 105 dB $L_{Aeq, 8h}$	5% with a minimum of five samples per quarter

ii)	B	Exposures ≥ 85 < 105 dB $L_{Aeq, 8h}$	5% with a minimum of five samples per annum (evenly spread per quarter)
	C	Exposures ≥ 82 < 85 dB $L_{Aeq, 8h}$	
iii)	D	Exposures < 82 dB $L_{Aeq, 8h}$	Ad Hoc Monitoring will be conducted to have a portfolio of evidence. Measurement results that are below 82 dBA will be reported under this category

a) Conducting the sampling based on the sampling schedule.

b) Determining exposure levels based on measurement results.

c) Dissemination of results to employees

d) Reclassification of HEGs at the end of each cycle (annually; end of calendar year)

e) Individual sample results will be allocated to the employees forming part of the Homogenous Exposure Group to which the sampled employee(s) belong.

f) Results from the noise exposures are linked to medical records.

g) Area sampling could be used to enhance Personal Sampling information on Noise Exposure.

11.1NOISE MEASUREMENT FOR INDIVIDUAL PIECES OF EQUIPMENT

MEASUREMENT CRITERIA

Noise measurements should be measured directly with an ISLM that meets at least the accuracy requirements for a class-2 instrument and is fitted with a windshield specified by the ISLM manufacturer. The following measurement criteria should be applied:

- OEL: 85 dba
- Threshold level/low threshold limit: 80 dba
- Energy exchange or doubling rate: 3 dba

The instrument supplier normally sets these measurement criteria to delivery, but this should be confirmed before use. For instruments with a facility to alter the measurements criteria via on-board software or firmware, the above criteria should be confirmed or corrected using the instrument's set-up mode.

INSTRUMENT SETTINGS

The following instrument settings should be used for LAeq, T measurements:

- A weighting: On
- Time weighting: “fast” or “impulse” if the noise is impulsive and the SLM has impulsive integrating capability.
- If the noise is impulsive but the SLM does not provide for impulse-integration, increase the measured LAeq by 5dba for moderately impulsive noise (e.g., pneumatic rock drill) or 12 dba for highly impulsive noise (e.g., Compressed air driven charging-up of blastholes or hammer blows in an artisan workshop)

- Sound incidence: where applicable, “frontal” if the microphone is facing a noise source, or “random” if the noise is non-directional/multi-directional.
- Frequency filter: out (off)
- Operating mode: integrate or LAeq

GENERAL PROCEDURES

The following general procedures must be followed for LAeq, T measurements:

- The area to be measured should be reasonably uniform in terms of noise level, i.e., all values for the various workplace operating conditions must be within 10db(A). If this is not the case, the area should be divided into separate noise zones.
- The SLM’s calibration should be confirmed immediately before and after each series of measurements.
- If the 2 calibration checks do not correspond within 1 db, the results should be discarded, and the measurements repeated.
- If more than a single microphone position is needed to cover the area adequately, at least three representative positions should be used (more for larger areas and for more variable noise).
- As far as reasonably practicable, microphone positions should be at leas 1.2m from walls or other large reflective surfaces, and meet the following situation-specific requirements:
    - **Standing persons: 1.5m above the floor, ground, or platform**
    - **Seated persons: 0.9m above the chair seat**
    - **Fixed workstations: at the position of the worker’s more-exposed ear**
    - **Individual noise sources: 1m from the source and 1.5m above the floor**
- Where operations and activities result in sporadic noise emission (periods of high levels of noise) interspersed with quieter periods, composite measurements should be used to divide the measurement time interval at each microphone position into representative sub-intervals.
- The measurement time for each sub-interval should be proportional to the relative duration of noisy and quieter periods.
- For each microphone position and, in the case of composite measurements, for each measurement time sub-interval, measurement should extend over a representative period.
- For steady noise, a measurement period of 1 minute is adequate but, where noise is variable or cyclical, the measurement period should be sufficiently long to capture variations in level and encompass 3 or more work task cycles.

The following instrument settings should be used when measuring LAeq,T and LReq, T:

- A-weighting: On
- Time weighting: As detailed below
- Sound incidence (if selectable): Frontal if the microphone faces a noise source or random if the noise is non- or multi-directional.
- Frequency filter (if equipped): out or off.

- Operating mode: integrate or Leq

Equivalent Continuous A-weighted Sound Pressure Level

Measurements of LAeq,T sould apply time-weighting as follows:

- Slow for steady noise, provided the level does not vary by more than 5 db(A)
- Fast for more variable or rapidly changing noise
- Impulse for impulsive noise if the SLM has impulse-integrating capability.

If the SLM does not provide for impulse integration, increase the measured value by 5dbA for moderately impulsive noise (pneumatic drill)

Or by 12db(A) for highly impulsive noise (charging up of blastholes, hammering or metal stamping)

a) From an appropriate microphone position and after a representative measurement period, read LAeq, T directly from the SLM
b) If more that 1 microphone position is used, repeat Step1 for each, pausing the SLM between positions and read LAeq, T for the entire area directly from the instrument after measuring at the last position.
c) For the composite measurements, i.e. where the total measurement time for a given microphone position consists of discrete sub-intervals, pause the SLM between sub-interval, and read LAeq,T for that position directly from the instrument at the end of the last sub-interval, and calculate the average LAeq,T for all microphone positions in accordance with Equation 1 to determine LAeq,T for the entire area.

$$L_{\text{Aeq},T} = 10\log\left[\frac{1}{T_m}\int_{t_1}^{t_2}\frac{p_A^2(t)}{p_0^2}\,dt\right] \qquad (1)$$

MEASUREMENT PROCEDURES

Measure LAeq for a representative time at a selected microphone position:

Data collection

- For equipment noise emissions above 100 dba, the data collection will be based on sampling minimum of 5% (or a minimum of 5 if there is less than 100 pieces of that particular equipment type) of that equipment type total population over a 12-month period (samples should be representative of the various activities).
- For steady noise, a measurement time of one minute is adequate.
- Where the noise varies or is cyclical, the measurement time should be sufficient to capture variations in level and include a reasonable number of work task cycles, to ensure representative results.

- This LAeq measurement for the variation or cyclical noise level will then be recorded as the representative noise level for the individual piece of equipment or machine.

NEW (TYPE/DESIGN) EQUIPMENT REQUIREMENTS

Noise measurements must comply with ISO 3744/SANS3744:2012. As a rule of thumb, the impact of the noise emitted from a new type or design of equipment underground can be estimated by doubling the noise level measured on surface. This is achieved by adding 3Db(A) to the noise level displayed on the manufacturer's certificate to allow for sound reflected from solid boundaries (reverberation).

PERSONAL DOSIMETRY

Measure personal noise exposure for full duration of the shift.

Set up:

a) Check if instrument is not damaged.
b) Check battery.
c) Screen not cracked.
d) Microphone
e) Pre-calibrate instrument with calibrator at level as specified by OEM.

Issuing Dosimeters and briefing participants

Workers that are issued with the dosimeters should:

a) Be identified in advance according to the employers sampling schedule.
b) Explain the monitoring programme's purpose.
c) Be encouraged to raise any questions or concerns they may have.
d) Understand that their results from personal exposure will be provided if they so wish.
e) Understand that where results are not evaluated on an individual worker basis, they serve to identify occupations and workplaces that are a significant risk.
f) To take care of the instrument, not to remove or tamper with the instrument.
g) Attach collar, or employees most exposed ear (30cm radius to ear)
h) Press the play button on the instrument to record session and record the time.

Retrieving Dosimeters

a) Remove dosimeter from worker's collar.
b) Press the pause/stop button on the instrument.
c) Record stop time
d) Post calibrate instrument at level as specified by OEM, this should not be more than 0.5db (1db) if more discard reading.
e) Plug instrument into docking station connect to computer, download graph and compare results to OEL TWA of 85 Leq A,8 hours.
f) If above 85, risk assessment and control

Sampling Issuing forms

PERSONAL NOISE EXPOSURE MEASUREMENT ISSUE FORM

DATE :
WORK AREA :
STATISTICAL POPULATION :
NUMBER OF PEOPLE IN H.E.G. :
OCCUPATION – Black Mountain :
OCCUPATION – SAMOHP Code Book :
SAMOHP Occupation Code :

NAME (Full Name) :
COY NUMBER :
IMMEDIATE SUPERVISOR :
HEAD OF DEPARTMENT :
CONTRACTOR NAME (If Applicable) :

INSTRUMENT TYPE : *The Edge Personal Noise Sampler*
INSTRUMENT NUMBER :
CALIBRATION READING (Before) :
CALIBRATION READING (After) :

NOTE:

Please complete the attached questionnaire after you have worn the sampler for the day. Please feel free to add any comments or questions that you have. These will be addressed when the feedback for your particular sample is sent.

(*The person issuing the sampler and the supervisor are to help those individuals that are illiterate*)

PERSON CARRYING INSTRUMENT BRIEFED BY

NAME: ______________________ SIGNATURE: ________________

PERSON ISSUING INSTRUMENT AT START OF SHIFT

NAME: ______________________ SIGNATURE: ________________

TIME STARTED: ______________

PERSON RECEIVING THE INSTRUMENT AT THE END OF SHIFT

NAME: ______________________ SIGNATURE: ________________

TIME STOPPED:

PLEASE RETURN TO THE VOH DEPARTMENT / LAMPROOM
PERSONAL NOISE EXPOSURE MEASUREMENT ISSUE FORM

You have been selected to carry a Personal Noise Sampler today.
Please answer the following questions to the best of your ability. Please ask your supervisor to assist you in completing this questionnaire where necessary.

1.1. Did you receive training for wearing the sampler for the day?

Yes	No

1.2. Please check if the noise sampler is still on at the following time periods:

1. 09h00	Yes	No	2. 12h00	Yes	No	
3. 15h00	Yes	No				

2. What was the job(s) you performed for the day?

Specify type of equipment (Boltec, Boomer, LHD, Truck, Scoop, etc) if applicable			
Equipment type		Equipment No	

3.Area (Level/s if underground) where you performed work?

3. Did you wear the Noise Sampler on your person for the duration of the shift?

4. Did you notice any obviously noisy conditions, equipment, or machines during the shift at your workplace? If so, please describe what you considered noisy.

5. Did you see symbolic signs for wearing of hearing protection? If so, where?

6. Have you been issued with hearing protection?

7. Did you wear your hearing protection during the shift?

8. Do you wear your hearing protection every day?

9. If you have any suggestions, comments or questions regarding noise and hearing protection, please write them down in the space provided.

Date: ____________________ Initials & Surname: ____________________

Occupation: ____________________ Supervisor: ____________________

12. REVIEW AND APPROVAL

Role	Name (Designation)
Content Owner(s)	Eanthe Schrywer (Occupational Hygiene Officer| BMM) TimeStamp: 2025/02/06 12:02:56 PM ||
Reviewer(s)	Leonard Magerman (Occupational Hygienist | BMM) TimeStamp: 2025/02/06 12:37:39 PM ||
Approver(s)	Catharina Kotze (Head of HSE | BMM) TimeStamp: 2025/02/17 9:49:21 AM ||
This document was approved (in sequence) by the individuals above using electronic approval in our Document Control System. Final approval status: Approved	

Approvals were done electronically.