© Mine Health and Safety Inspectorate

EXPLANATORY NOTES
FOR THE
ANNUAL MEDICAL REPORT
(DMPR 165)

Introduction

The explanatory notes must be read with the **AMR** (**DMPR** 165) form.

It provides guidance to the **OMP** on how to correctly complete and submit the **DMPR** 165 in accordance with the **MHSA** and the related regulations.

Purpose

The explanatory notes are designed to assist the **OMP** in completing the **DMPR** 165 form with step-by-step instructions making reporting consistent, clear and uniform across the South African mining industry.

All information submitted by the mines must be complete, reliable and comparable. Therefore it is important to capture data accurately by gender (female and male employees), employment category (permanent and contractor employees), type of health outcome (occupational and non-occupational) and whether is an incidence or a prevalence.

List of abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
AMR	Annual Medical Report
BEI	Biological Exposure Index
BLL	Blood lead level
DMPR	Department of Mineral and Petroleum Resources
HPCSA	Health Professions Council of South Africa
ILO	International Labour Organization
MHSA	Mine Health and Safety Act, 1996 (Act No 29 of 1996) as amended
MHSI	Mine Health and Safety Inspectorate
NCD(s)	Non-communicable disease(s)
OMP(s)	Occupational Medical Practitioner(s)
PPE	Personal protective equipment
WHO	World Health Organization

SECTION A:
Particulars of the employer

Name of the mine	Provide the full official name of the mine verified with departmental records for spelling and consistency.
Name of the mining house	Provide the name of the mining house or owner of the mine.
Departmental mine code	Provide the unique five-digit mine code as assigned by the **DMPR**.
Type of mine	Select the type of mine from the drop-down list provided.
Main commodity mined	Select the main commodity mined from the drop-down list provided.
Other mines *[specify other commodities mined]*	If other mines were selected from the above-mentioned drop-down menu, provide the commodity or commodities mined.
Postal address	Provide the full postal address of the mine for correspondence and reporting purposes.
Postal code	Provide the postal code for the above postal address.
Region	Select the region from the drop-down list provided.
District	Provide the name of the district (geographical area) in the jurisdiction of the mine.
Contact number	Provide the 10-digit official telephone number of the mine for correspondence and reporting purposes.
Name of the health care facility	Provide the name of the health care facility of the mine ensuring accuracy.
Occupational health service	Select the occupational health service from the drop-down list provided.
Primary health care service	Select the primary health care service from the drop-down list provided.

SECTION B:
Employer workforce during the current reporting year

Employment category	· Permanent employees are employees appointed on permanent basis. · Contractor employees are employees appointed on contract basis. · Total employees are the sum of the above permanent and contractor employees at the mine.
Female employees	· Record the data per employment type (permanent and contractor employees) divided into gender-disaggregated data (female and male employees). · The total employees are the sum of the permanent and contractor gender-disaggregated data at the mine by gender.
Male employees	· Record the data per employment type (permanent and contractor employees) divided into gender-disaggregated data (female and male employees). · The total employees are the sum of the permanent and contractor gender-disaggregated data at the mine by gender.
Total employees	· The total employees are the sum of the gender-disaggregated data at the mine under the employment type.

SECTION C:
Summary

- Press control (CTRL) and click to follow the link corresponding with the section in the third column.
- Mark the boxes (☒) next to each section of the form that was completed.
- Use this as a verification tool before submission.

SECTION D:
Occupational health hazards associated with the mining processes

List all occupational health hazards and sub-category present at the mine. Mining process-related examples should reflect actual processes at the specific mine (Refer to ANNEXURE B for guidance and reference provided).

Main category	· Biological hazards are micro-organisms, cells or cell cultures, endoparasites, or non-cellular microbiological entities that can cause harm to human health. · Chemical hazards are types of occupational hazards caused by exposure to chemicals in the workplace that can have detrimental health or physical effects. · Ergonomic hazards are factors within the workplace environment and work practices that can lead to musculoskeletal disorders (MSDs) and other health problems.- · Physical hazards are risks that can cause physical harm due to agents, factors, or conditions in the workplace. Psychosocial hazards are actors in the work environment, job content, and organizational conditions that can, through a worker's perception and experience, influence their health and well-being.
Sub-category of hazards	· Identify the hazard(s) associated with the main category ensuring the accurate linkage to surveillance data under Section E of the form. e.g. excessive heat, noise, vibration, radiation etc.
Mining process related examples	· Provide specific examples of how the hazards may occur in actual mining processes at the site. Refer to Annexure B for guidance and reference.

SECTION E:
Medical surveillance conducted during the current reporting period

Ensure that all surveillance conducted is in line with the **MHSA** as amended and associated guidelines.
The data should be based on records of medical surveillance and should be cross-checked against the measures of the main category risk groups specified under Section D of the form.

Category	· Initial examinations are counted as the new employees that were examined. · Periodic examinations are counted as all the routine examinations conducted. · Exit examinations are counted as all the medical examinations conducted at termination of employment.
Number of examinations conducted	· Record the data divided into gender-disaggregated data (female and male employees). · The total employees are the sum of the gender-disaggregated data at the mine.

SECTION F:
Reasons for exit from employment: Classification

This section outlines the analysis in line with the exit medical examinations conducted.
Verify the medical records and exit examinations to ensure accurate attribution to health or administrative reasons.

Voluntary	· Record the total data associated with the total voluntary exits from employment per subsection namely resignation, retirement and/or absent without leave. · Record any other voluntary exit data under the tab for *Other (specify)*.
Involuntary	· Record the total data associated with the total involuntary exits from employment per subsection namely retrenchment or redundancy, dismissal due to misconduct and/or contract expiry. · Record any other involuntary exit data under the tab for *Other (specify)*.
Health-related exits	· Record the total data associated with the total health-related exits from employment per subsection namely ill-health retirement and/or permanent medical incapacity.

	· Record any other health-related exit data under the tab for *Other (specify)*.
Other or administrative reasons	· Record the total data associated with the total exits from employment for other or administrative reasons per subsection namely contract expiry, education or study leave and/or work permit expired. · Record any data for an exit due to other or administrative reasons under the tab for *Other (specify)*.

SECTION G:
Biological monitoring of chemical exposures in mining

DEFINITION:
In Section 102 (definitions) of the **MHSA**, ***biological monitoring*** means a planned programme of periodic collection and analysis of body fluid, tissue, excreta or exhaled air in order to detect and quantify the exposure to or absorption of any substance or organism.

This section summarises biological monitoring for specific risks (see Annexure B).
Cross-check the data with the occupational exposure groups under Section D of this form.

Identified chemical hazard	· Specify the agent or hazard e.g. lead, arsenic, carbon monoxide etc.
Biomarker or sample type	· Specify the biomarker sample for the agent or hazard e.g. urine, blood, etc.
Total monitored	· Record the data associated with the total monitored (employees tested for specific biomarkers) divided into gender-disaggregated data (female and male employees).
Total above BEI	· Record the data associated with the total above (exceeding) the **BEI** divided into gender-disaggregated data (female and male employees).
Notes or comments	· Summarise the biological monitoring outcomes, note any **BEI** exceedances and provide recommended preventive or corrective measures.

SECTION H:
Occupational diseases reported during the current reporting period

DEFINITION:
Occupational disease refers to the diseases contracted as a result of exposure to risk factors at work

Ensure the accurate classification, verification with medical records and linkage to exposure data.

Occupational disease(s)	· Provide the specific occupational disease where specific conditions were diagnosed and classified by the **OMP**. · Mark the check boxes provided for each occupational disease reported. · For each occupational disease, select one appropriate diagnosis category (e.g. suspected or confirmed). · Do not select multiple categories for the same disease as this leads to double counting and will affect the data integrity.
Suspected cases of an occupational disease	· Record the data associated with the suspected cases of an occupational disease divided into gender-disaggregated data (female and male employees). · Record the total employees as the sum of the gender-disaggregated totals.
Confirmed cases of an occupational disease	· Record the data associated with the suspected cases of an occupational disease divided into gender-disaggregated data (female and male employees). · Record the total employees as the sum of the gender-disaggregated totals.

Cases of occupational disease submitted for compensation	· Record the data associated with the suspected cases of an occupational disease divided into gender-disaggregated data (female and male employees). · Record the total employees as the sum of the gender-disaggregated totals.

SECTION I:
Medical incapacity attributable to occupational disease(s)

Include only permanent medical incapacity cases directly attributed to occupational diseases.

Occupational disease	· Specify the occupational disease causing permanent medical incapacity.
Number of medical incapacity cases	· Record the data associated with the occupational disease divided into gender-disaggregated data (female and male employees). · Record the total employees as the sum of the gender-disaggregated totals.

SECTION J:
Occupational disease prevention strategies and interventions

Summarise the key prevention measures including (but not limited to) health surveillance and monitoring, worker education and training, early detection and intervention, rehabilitation and/or return-to-work for each disease group.
Briefly elaborate on occupational health interventions implemented during the reporting year.

Occupational disease group	· Specify the occupational disease group e.g. lung diseases.
Prevention measures or interventions	· Provide the key prevention measures, interventions and/or engineering controls including (but not limited to) health surveillance and monitoring, worker education and training, early detection and intervention, rehabilitation and/or return-to-work for each disease group.

SECTION K:
Deaths due to occupational diseases

This is a summary of fatalities attributable to occupational diseases and medically verified work-related health conditions.
It excludes deaths resulting from traumatic safety incidents or causes unrelated to workplace exposures.

Occupational disease	· Specify the occupational disease causing death.
Number of deaths	· Record the data associated with the occupational disease divided into gender-disaggregated data (female and male employees). · Record the total employees as the sum of the gender-disaggregated totals.

SECTION L:
Metabolic risk factors

Incidence	· Report on the number of metabolic syndrome cases that occurred in a specific group during the current reporting year. · Record the data associated with the metabolic syndrome cases divided into gender-disaggregated data (female and male employees). · Record the total employees as the sum of the gender-disaggregated totals.
Prevalence	· Report on the number of metabolic syndrome cases that occurred in a specific group during the current reporting year. · Record the data associated with the metabolic syndrome cases divided into gender-disaggregated data (female and male employees). · Record the total employees as the sum of the gender-disaggregated totals.

© Mine Health and Safety Inspectorate

SECTION M:
NCDs and mental health disorders reported during the current reporting period

DEFINITION:
NCDs are diseases or medical conditions that are non-infectious and non-transmissible among persons that are generally long duration and slow progression.

Listed cases of a disease or health conditions are not exhaustive.
The **OMP** should use the space specified as *Other (specify)* to capture the data for any additional conditions.

Incidence	· Report on the number of new cases of diseases or health conditions that occurred in a specific group during the current reporting year. · Record the data associated with the medical condition divided into gender-disaggregated data (female and male employees). · Record the total employees as the sum of the gender-disaggregated totals.
Prevalence	· Report on the number of new cases of diseases or health conditions that occurred in a specific group during the current reporting year. · Record the data associated with the medical condition divided into gender-disaggregated data (female and male employees). · Record the total employees as the sum of the gender-disaggregated totals.

SECTION N:
Medical incapacity attributable to NCDs and mental health disorders

Record both the disease group and the medical condition.
Only report on non-occupational-related medical incapacity.
Data should reflect only the non-occupational disease causing medical incapacity directly related to the condition and should be distinguished from the occupational diseases under Section I of the form.

NCD group	· Specify the name that refers to the group of conditions that are not caused by an acute infection but results in long-term health consequences requiring long-term treatment and care e.g. cancer.
Medical condition	· Specify the illness, disorder or disease that affects the physical or mental health of the employee e.g. melanoma where a **NCD** group was captured.
Number of medical incapacity cases	· Record the data associated with the medical condition divided into gender-disaggregated data (female and male employees). · Record the total employees as the sum of the gender-disaggregated totals.

SECTION O:
NCD and mental health disorder prevention strategies and interventions

This is a summary of key prevention measures including (but not limited to) health screening and monitoring, worker education and training, early detection and referral or further management.

NCD groups and mental health disorders	· Specify the name that refers to the group of conditions that are not caused by an acute infection but results in long-term health consequences requiring long-term treatment and care e.g. cancer.
Prevention measures or interventions	· Provide key prevention measure(s) or interventions including, but not limited to, health screening and monitoring, worker education and training, early detection and referral or further management.

© Mine Health and Safety Inspectorate

SECTION P:
Deaths due to non-occupational diseases

DEFINITION:
A ***natural death*** occurs due to internal factors such as illness or age-related decline without any external causes such as accidents, violence, trauma or suicide.

This excludes deaths due to workplace injuries, out-of-mine accidents, assaults, gunshot incidents, and other non-occupational causes.
Record the exact medical condition(s) contributing to mortality.
The **OMP** should verify the medical cause and align it with the medical surveillance data under Section E of this form.

NCD group	· Where applicable, specify the name that refers to the group of conditions that are not caused by an acute infection but results in long-term health consequences requiring long-term treatment and care e.g. cancer.
Medical condition	· Where applicable, specify the illness, disorder or disease that affects the physical or mental health of the employee e.g. melanoma where a **NCD** group was captured.
Number of medical mortality cases	· Record the data associated with the medical condition divided into gender-disaggregated data (female and male employees). · Record the total employees as the sum of the gender-disaggregated totals.

SECTION Q:
Details of the Occupational Medical Practitioner

This is to confirm the completeness and accuracy of the gender-disaggregated workforce data and health outcomes captured in the report.

Surname	Provide the surname of the **OMP**.
Initials	Provide the initial(s) of the **OMP**.
Full name(s)	Provide the full name(s) of the **OMP**.
Designation or title	Provide the designation or job title of the **OMP**.
HPCSA number	Provide the **HPSCA** number of the **OMP**.
Contact number	Provide the contact number of the **OMP**.
E-mail address	Provide the email address of the **OMP**.
Name of employer or medical service provider	Provide the official name of the employer or medical service provider of the **OMP**.
Qualifications	Provide the qualification(s) of the **OMP**.
Signature	**OMP** to sign the report.
Date	Select the date from the drop-down menu provided.

SECTION R:
Details of the employer

This is to endorse the verification of the gender-disaggregated workforce data and health outcomes captured in the report and the submission thereof to the **MHSI**.

Surname	Provide the surname of the employer.
Initials	Provide the initial(s) of the employer.
Full name(s)	Provide the full name(s) of the employer.
Designation or title	Provide the designation or job title of the employer.
Contact number	Provide the contact number of the employer.
E-mail address	Provide the email address of the employer.
Signature	Employer to sign the report.
Date	Select the date from the drop-down menu provided.

ANNEXURE A:
References

GENERAL

1) **ILO**. List of Occupational Diseases (Revised 2010): Identification and recognition of occupational diseases. Geneva: **ILO**, 2010

2) **ILO**. Diagnostic and exposure criteria for occupational diseases: Guidance notes for diagnosis and prevention of the diseases in the **ILO** List of Occupational Diseases (Revised 2010). Geneva: **ILO**.

BIOLOGICAL MONITORING AND **BEIS**

1) American Conference of Governmental Industrial Hygienists (ACGIH). (2024). Threshold Limit Values and Biological Exposure Indices (**BEIs**). ACGIH: Cincinnati, OH. Available at: https://www.acgih.org

2) Department of Employment and Labour, South Africa. Regulations for Hazardous Chemical Substances (RHCS), under the Occupational Health and Safety Act (Act No. 85 of 1993). Available at: https://www.labour.gov.za

3) European Chemicals Agency (ECHA). Guidance on Monitoring of Workers Exposure to Chemical Agents. Helsinki: ECHA. Available at: https://echa.europa.eu

4) International Programme on Chemical Safety (IPCS). (2001). Biological Monitoring of Chemical Exposure in the Workplace. Geneva: **WHO**/IPCS. Available at: https://inchem.org

5) National Institute for Occupational Safety and Health (NIOSH). NIOSH Manual of Analytical Methods (NMAM). Centers for Disease Control and Prevention (CDC), USA. Available at: https://www.cdc.gov/niosh/nmam

6) **WHO** and **ILO**. Biological Monitoring of Chemical Exposure in the Workplace: Guidelines. Geneva: **WHO** Publications. Available at: https://www.who.int/publications

© Mine Health and Safety Inspectorate

ANNEXURE B:
Occupational health hazards associated with mining processes

MAIN CATEGORY	SUB-CATEGORY OF HAZARDS	MINING PROCESS–RELATED EXAMPLES / NOTES
Biological hazards	Bacteria, viruses, fungi, parasites	Exposure to mycobacterium tuberculosis in confined underground areas; respiratory infections from damp tunnels; leptospirosis risk from contaminated water; hepatitis B or C from occupational exposure in processing plants; mold exposure in wet mine workings; etc.
Chemical hazards	Heavy metals, dusts, gases, solvents, cyanide, explosives	Silica dust from drilling or blasting; coal dust from extraction; arsenic or lead exposure in ore processing; carbon monoxide or nitrogen oxides from diesel engines and blasting; solvent exposure in maintenance workshops; cyanide in gold processing; etc.
Ergonomic hazards	Repetitive strain, awkward postures, heavy lifting, vibration	Manual drilling, picking and handling; repetitive conveyor belt tasks; awkward postures during narrow-shaft work; vibration from jackhammers, drill rigs and heavy machinery; lifting ore or equipment, etc.
Physical hazards	Noise, vibration, temperature extremes, radiation, pressure changes, mechanical risks	High noise levels from rock drills, crushers and haul trucks; whole-body vibration in dump trucks; heat stress in underground tunnels; cold stress in exposed surface sites; ultra-violet exposure during surface operations; pressure changes in compressed air tunnels; mechanical hazards from moving equipment or roof falls; etc.
Psychosocial hazards	Work stress, shift work, workplace violence, job insecurity	Shift rotation or night shifts; high workload during production peaks; stress from operational risk exposure; interpersonal conflict or bullying in teams; anxiety related to job insecurity or contract employment; etc.

© Mine Health and Safety Inspectorate

ANNEXURE C:
Biological monitoring of chemical exposures in mining

1. Key notes for the completion of the **AMR**:

1.1. Hazard category: Classifies chemicals into metals, solvents or toxic gases (or asphyxiants) which helps in risk assessment and regulatory reporting.
1.2. Biomarker or sample type: Critical for the interpretation of **BEI** results.
1.3. Total monitored and total above **BEI**: Helps to identify trends and focus the interventions.
1.4. Notes or comments: Space for corrective actions, **PPE** reinforcement or engineering controls.
1.5. **BEI** references: Based on **ACGIH** biological exposure indices, relevant occupational health literature and the **WHO** or **ILO** guidance.

Note:
The table provides a reference list of chemical hazards and is not exhaustive. OMPs are required to report all chemical hazards that are present and relevant in their respective mining operations.

CHEMICAL HAZARD	BEI / BIOLOGICAL MARKER	MINING EXPOSURE	NORMAL / REFERENCE RANGE	EXCEEDANCE INDICATOR	POTENTIAL HEALTH OUTCOME	RECOMMENDED INTERVENTION
Arsenic (As)	Urine inorganic As(µg/L)	Gold or copper ore processing, smelting	<35 µg/L	≥35 µg/L	Skin lesions, neuropathy, cancer risk, etc.	Reduce exposure, **PPE**, medical follow-up, etc.
Benzene	Urinary S-phenyl mercapturic acid (S-PMA, µmol/mol creatinine)	Diesel, solvents, petrochemical	<25 µmol/mol creatinine	≥25 µmol/mol creatinine	Hematotoxicity, leukaemia, etc.	Remove from exposure, retest, health monitoring, etc.
Cadmium (Cd)	Urine Cd (µg/g creatinine), Blood Cd (µg/L)	Nickel, zinc, cadmium ore processing	<2 µg/g creatinine (urine), <5 µg/L (blood)	≥2 µg/g creatinine (urine), ≥5 µg/L (blood)	Kidney damage, bone disease, etc.	Remove from exposure, medical monitoring, engineering controls, etc.
Carbon disulfide (CS_2)	Urine CS_2 metabolites	Synthetic rubber, chemical processing	<1 mg/L	≥1 mg/L	Neurotoxicity, cardiovascular effects, etc.	Reduce exposure, medical monitoring, **PPE**, etc.
Carbon monoxide (CO)	Carboxyhaemoglobin (COHb, %)	Diesel engines, furnaces	<2% non-smokers, <9% smokers	>9%	Headache, dizziness, hypoxia, etc.	Remove from exposure, improve ventilation, **PPE**, etc.
Chromium (Cr VI)	Urine Cr (µg/L)	Welding, ore refining	<25 µg/L	≥25 µg/L	Dermatitis, respiratory disease, etc.	Engineering controls, **PPE**, medical assessment, etc.
Ethylbenzene	Urinary mandelic acid (g/g creatinine)	Solvent, industrial use	<1.5 g/g creatinine	≥1.5 g/g creatinine	Central nervous system toxicity, kidney or liver effects, etc.	Reduce exposure, retesting, engineering controls, etc.
Fluoride (F^-)	Urine fluoride (mg/L)	Aluminium smelting, phosphate processing	<1.5 mg/L	≥1.5 mg/L	Skeletal fluorosis, dental effects, etc.	Reduce exposure, **PPE**, retesting, etc.
Hydrogen cyanide (HCN)	Blood cyanide (µmol/L)	Smelting, chemical processing	<0.5 µmol/L	≥0.5 µmol/L	Acute toxicity, respiratory failure, etc.	Emergency response, remove from exposure, medical treatment, etc.

CHEMICAL HAZARD	BEI / BIOLOGICAL MARKER	MINING EXPOSURE	NORMAL / REFERENCE RANGE	EXCEEDANCE INDICATOR	POTENTIAL HEALTH OUTCOME	RECOMMENDED INTERVENTION
Lead (Pb)	Blood lead (µg/dL)	Smelting, battery maintenance, welding, ore dust	<30 µg/dL (adults)	≥30 µg/dL	Neurological effects, anaemia, renal impairment, etc.	Remove or rotate worker, repeat testing, medical assessment, reduce exposure, **PPE** reinforcement, etc.
Manganese (Mn)	Blood Mn (µg/L)	Welding, crushing, manganese ore	4–15 µg/L	>15 µg/L	Neurological effects, cognitive impairment, etc.	Reduce exposure, monitor neurology, **PPE**, etc.
Mercury (Hg)	Blood Hg (µg/L) or Urine Hg (µg/g creatinine)	Gold amalgamation, chemical handling	<5 µg/L (blood), <10 µg/g creatinine (urine)	≥5 µg/L (blood), ≥10 µg/g creatinine (urine)	Neurotoxicity, tremors, renal dysfunction, etc.	Engineering controls, **PPE**, medical follow-up, retesting, etc.
Nickel (Ni)	Urine Ni (µg/L)	Ore processing, refining	<35 µg/L	≥35 µg/L	Respiratory irritation, dermatitis, etc.	Engineering controls, **PPE**, medical follow-up, etc.
Styrene	Urinary mandelic acid (g/g creatinine)	Resin, fiberglass, polymer handling	<0.3 g/g creatinine	≥0.3 g/g creatinine	Central nervous system effects, eye or skin irritation, etc.	Reduce exposure, medical surveillance, **PPE**, etc.
Toluene	Urinary hippuric acid (g/g creatinine)	Paints, degreasers, fuel handling	<1.5 g/g creatinine	≥1.5 g/g creatinine	Neurotoxicity, liver or kidney effects, etc.	Reduce exposure, **PPE**, retesting, etc.
Xylene	Urinary methylhippuric acid (g/g creatinine)	Paint, degreaser, solvent	<1.5 g/g creatinine	≥1.5 g/g creatinine	Central nervous system effects, dizziness, headache, etc.	Reduce exposure, **PPE**, medical assessment, etc.

2. Summary table for **BEI** exceedance management where:

2.1. Exceedance triggers interventions include worker removal, retesting, engineering or **PPE** controls and medical follow-up.
2.2. Aggregated data can be reported in **AMRs** under section D, while individual results remain confidential.
2.3. Frequent retesting depends on exposure intensity and duration (typically 6–12 months).

STEP	ACTION
Detection	**BEI** exceeds the limit in biological sample
Assessment	Confirm exposure, review the job or task, evaluate symptoms, etc.
Control	Implement administrative, engineering and/or **PPE** interventions, etc.
Medical Follow-up	Retesting, treatment, health monitoring, etc.
Documentation	Record in confidential medical file and aggregate in **AMR**
Reporting	Include in trend analysis or **AMR** for preventive action

© Mine Health and Safety Inspectorate

ANNEXURE D:
Metabolic risk factors

Note:
Metabolic syndrome is identified when three or more of the following conditions are present: central obesity, elevated fasting blood glucose, dyslipidaemia and/or hypertension. It is a key indicator of cardiovascular and metabolic risk in the mining workforce.

	COMPONENT	GENDER-SPECIFIC CUT-OFF / THRESHOLD	MINING OCCUPATIONAL NOTES / EXAMPLES
1.	Central obesity (elevated waist circumference)	Waist circumference: · Men ≥ 102 cm · Women ≥ 88 cm	Sedentary work (drivers, operators), shift work, limited healthy food access, stress-related fat accumulation, etc.
2.	Type II diabetes mellitus (elevated blood glucose)	Fasting plasma glucose ≥ 5.6 mmol/L (100 mg/dL)	Shift work, fatigue, circadian disruption, stress-induced insulin resistance, etc.
3.	Hyperlipidaemia (elevated total cholesterol)	Men < 1.03 mmol/L (40 mg/dL), women < 1.29 mmol/L (50 mg/dL)	Sedentary work, poor diet, obesity-related lipid changes, etc.
4.	Hypertension or elevated blood pressure	Systolic ≥ 140 mmHg or diastolic ≥ 90 mmHg	Stress, shift work, occupational noise exposure, fatigue, etc.
5.	Optional or associated conditions	Clinically confirmed by laboratory or imaging	Capture if documented, contributes to overall metabolic risk, etc.



Department of Mineral and Petroleum Resources
© Mine Health and Safety Inspectorate
Private Bag X59
Arcadia
0007

Switchboard: +27 (0) 12 444 3000

Trevenna Campus
Building 2C
70 Meintjes Street
Sunnyside, Pretoria

Email: mhsi@dmpr.gov.za