



Mapping Exercise

Mining Supervisor

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Introductions

This document has been produced to examine how statements within the National Occupational Standards (NOS) can be used to develop the content that could form a common training standard for supervisors across the UK mining sector. The following standards have been considered as part of developing this approach.

Module Title	MPQC Refence	Ofqual Refence
Identify Health and Safety Hazards and Risks in Mines	PROMT2 (SUM02v2)	J/508/0369
Control Major Mining Hazards	PROMR03 (SUM03v2)	A/508/0370
Carry Out Mine Safety, First Aid and Emergency Organisation	PROSUM (SUM04v2)	F/508/0371
Contribute to Maintaining and Improving Health and Safety in the Mine	PROMT3 (SUM05v2)	J/508/0372
Lead the Work of Teams and Individuals to Achieve Objectives in Extractives and Mineral Processing Industries	MPQP015 (PO15)	R/507/1593
Supervise Underground Mining Activities	SUM16v2	L/508/0373

The tables contained within this document have aimed to:

1. Use the knowledge statements from the NOS to inform a wider content for any training programme.
2. Use the performance statements to start to inform a structured approach to assessment.

The review of the knowledge statements has been designed such that there is a link back to the level 2 qualifications (in particular the modules covering safe in the underground environment), and the knowledge and skills statements identified as part of the L6 Mine Management Degree Apprenticeship.

Once the content of this document has been agreed by the sector it is suggested that:

1. A structured portfolio is developed that covers the knowledge elements.
2. A structured skills development programme is developed that covers the key performance statements (this would likely require that the potential supervisor is provided with opportunity to shadow competent supervisors and spend time with specialist departments, to provide as broad an understanding of the mining operation as possible).
3. A structured assessment is constructed around a typical working day, and the arrangements in the event of an emergency.

Disclaimer

The **Mining Qualification Committee** (MQC) has developed and reviewed the training and assessment material.

MPQC have provided the accreditation for the training and assessment material.

MAUK have published the training and assessment material and provided access for the underground mining sector.

It remains the responsibility of the **mine operator** to verify the training and assessment material is suitable for their circumstances and application.

PROMPT2 (SUM02) – Identifying Health and Safety Hazards in Mines

Common Elements		
PROMT2 (SUM02) – Identify Health and Safety Hazards in Mines		
Knowledge Statement		Elements
K1	Definitions of hazard, risk, accident, danger, accident rate, frequency, and severity.	Understands the principles of risk management.
		Understands the hierarchy of controls.
		Know the key definitions.
		Understands how the mine monitors and records accidents.
		Understands how the mine records and displays data associated with accidents.
		Understands how the mine differentiates between all accidents, lost time accidents, major injury accidents and high potential events.
K2	Workplace monitoring and hazard identification methods (e.g., formal, and informal health and safety inspections, surveys and audits).	Understands classification of hazards within the mine environment.
		Understands the use of various risk assessment techniques (major hazard assessment (bow tie), risk assessment, point of work risk assessment).
		Understands the use of safety performance indicators.
		Understands the method of carrying out workplace safety inspections.
K3	Key basic features for carrying out health and safety risk assessment.	See K1 for some elements.
		Identifying the hazards present in the workplace.
		Understands the application of a scoring system to categorise risk.
		Understands the use of controls to reduce the risk, and application of a scoring system (i.e., a risk matrix) to categorise residual risk.
K4	Key aspects of legislation applicable to the role of the supervisor in the workplace.	Understanding of the Health and Safety at Work Act.
		Understanding of the Management Regulations.
		Understanding of the Mines Regulations.
		Understanding of Control of Substances Hazardous to Health.
		Understanding of Reporting of Injuries, Disease and Dangerous Occurrence Regulations.

		Understands the Personal Protective Equipment Regulations.
		Understands the Provision and Use of Work Equipment Regulations.
		Understands the Lifting Operations and Lifting Equipment Regulations.
K5	The benefits of participation of persons at work.	How to interact with people (teams) on matters of health and safety.
		How to effectively record feedback provided by people (teams).
		Getting buy in, the management of change in the workplace.
K6	Requirements of the Health and Safety Document with regard to Risk Assessment.	The requirement to assess the risk that people might be exposed to at the mine.
		Consideration of the design, use and maintenance of equipment.
		The requirements for ongoing consideration to ensure that the controls/ document remain relevant.
		The makeup of the health and safety document at the mine operation.
		Access to the health and safety document at the mine operation.
K7	In house information in relation to internal accidents, incidents, near misses and cases of occupational illness.	See statements in K1 .
		How health and safety information is recorded, displayed and communicated on site.
		How health and safety information is used on site at the mine to inform decisions.
K8	Basic knowledge of the main types of occupational health risk – chemical (toxic, corrosive, dermatitis) physical (noise, dust, temperature, light, vibration and repetitive strain) and ergonomic.	See K4 for information relating to control of hazards (regulations).
		Understanding of the processes that may introduce occupational health risk into the workplace.
		Understands how these risks are assessed and the controls that have been put in place to reduce the occupational health risks.
K9	How the incorporation of commonly used protective devices and correct plant maintenance contribute to the reduction in risks.	See K6 for elements.
		See K8 for elements.
		Why the managers scheme for maintenance at the mine is in place, and the principles of its operation.

K10	Safe working practices for yourself and those working under your direction and control to include all systems, procedures, equipment and materials in use.	See K1 for elements.
		See K4 for elements.
		See K5 for elements.
		The use of standard operating procedures and safe systems of work as a means of controlling the risk in the workplace.
		Where to find and locate standard operating procedures and safe systems of work .
		The process for reviewing, updating, or changing standard operating procedures and safe systems of work.
		The process that is used within your organisation to communicate the operating standards.
		How you would ensure that persons under your control are working to the operational procedures, and any formal process that your organisation has in place to record the outcomes from such reviews.
K11	Scope and responsibility for dealing with hazards.	Understands what must be done if a hazard is encountered during inspection or routine work activity.
		Understands the limitations of what can be achieved without reviewing the standard approach to managing workplace hazards, and the process for escalation.
		Understands how the area affected by the hazard identified might be made safe ahead of remedial activities being completed.
		Understands how to report works completed and works outstanding in relation to dealing with hazards.
K12	Your own limitations relating to hazards and risk and awareness of the structure for reporting.	See K11 for elements.
		Understands that they cannot use risk assessment as a means of justifying changes to the standard operating procedures.
		Change process?
K13	Health and safety induction schemes.	Understands the key elements required at your organisation at the mine in order to enter the work environment (application to visitors/ contractors/ employees).

K14	Communication, involvement, and motivation in relation to hazards and risks.	See K5 for elements.
		Understands the need to engage with the team in order to verify understanding and gain buy in to the standard operating procedures, and other rules.
K15	Interview and questioning techniques.	Understands the principles of preparation for interviewing and questioning.
		Understand the principles of open and closed questioning techniques as part of interviewing and questioning.
K16	The organisations record keeping requirements.	Understands the requirements to maintain records relating to health-related issues.
		Understand the requirement to record and document risk assessments.
		Understand the requirements to document and record findings of maintenance activities.
		Understand the requirements for documenting and recording information found during mine inspection/ mine supervision activities.
		Understands the requirement to investigate and record findings from incidents, accidents and significant near misses.

PROMR03 (SUM03) – Control of Major Mining Hazards

Common Elements		
PROMR03 (SUM03) – Control of Major Mining Hazards		
Knowledge Statement		Elements
K1	An appreciation of the main principles of health and safety and environmental legislation and regulation relevant to mines.	See K4 in PRMOMT2 .
		Understands Part 3 (Control of Major Mining Hazards) of the Mine Regulations.
K2	The major mining hazards in your area of responsibility.	Can identify the major mining and other significant hazards that could be present in their normal area of responsibility.
		Can identify the major mining and other significant hazards in other areas of the mine in which they may be expected to inspect or supervise.
K3	The procedure to monitor and control major mining hazards.	Understands how the major mining and other significant hazards that might be present in the mine are assessed.
		Understands how the major mining and other significant hazards are monitored.
		Understand how the preventative and mitigating controls (for example engineering controls and standard operating procedures) are developed to control and mitigate the major mining hazards.
		Understands how safety performance indicators may be used to review and evaluate the effectiveness of the preventative and mitigating controls of major mining and other significant hazards.
K4	Sources of information on major hazards/ hazardous substances and how to use them.	See K3 for elements.
		Understands the requirement to generate/ use specialist reports/ assessments.
		Understands the use of manufactures information.
		Understands where to locate and how to use information relating to the use of hazardous substances.
K5	Industrial standards relevant to mines.	See K4 in PRMOMT2 .
		Understands that there are guidance documents produced to support the mine operator with the application of best practice.

		Understands the standing of those guidance documents in law.
K6	Working knowledge of approved codes of practice and guidance for controlling major mining hazards and working safely in mines.	See K5 for elements.
		Identify codes of practice, industry guidance and British Standards that relate to major hazards in your area of responsibility.
K7	Awareness of how emergency situations can occur in mines due to major hazards arising.	See statements in K2 .
		Identify how major hazards may if not suitably assessed and controlled escalate to multiple casualty/ multiple fatality and serious business impact events.
		How the emergency procedures are developed to take cognisance of escalation potential.
K8	The importance of compliance with manufactures instructions relating to the use of equipment and tools provided for hazard/ environmental/ monitoring and ventilation.	Understands the requirements around the Provision and Use of Work Equipment (PUWER).
		Understands that manufactures instructions may place limitations on equipment that may make it unsuitable for use in that environment.
K9	Procedures to check that tools and equipment are fit for purpose.	Arrangements for ensuring that the equipment provided is of the correct standard and type for tasks performed in your area of responsibility.
		The importance of pre-use checks prior to issues or use.
K10	Procedures to check that tools and equipment are fit for purpose.	See K9 (repeat).
K11	The safe and proper use of monitoring/ control equipment.	Can identify where monitoring systems are in their area of responsibility.
		The type of information that the monitoring system can generate.
		The limitations of the system.
		How the system is reviewed and calibrated to ensure that the correct information is displayed.
		Any alarm/ action levels and the response required from the standard operating procedures.

K12	Limits of personal responsibility.	See K11 in PROMT2 for elements.
		See K12 in PROMT2 for elements.
		Understands when it is necessary to take advice as part of the decision-making process.
		The organisational procedure for escalating issues and concerns that fall outside of the limits of your responsibilities.
K13	The importance of effective communication.	See K5 in PROMT2 for elements.
		See K14 in PROMT2 for elements.
		See K15 in PROMT2 for elements.
K14	Communications systems/ procedures in your area of responsibility.	
		Knows about the systems that are provided to support verbal communication in the workplace.
		Knows about the systems that are in place to support the provision of written reports and other information in the workplace.
		Knows how information from the remote monitoring systems is sent to other locations at the mine and how this information might be used.
K15	Personal responsibilities/ duties of others.	
		Understands the management, engineering, and other structures at the mine.
		Understands the responsibilities/ duties of the key individuals within those structures.
K16	The importance and advantages of effective teamwork.	
		Understands that people have different roles to play within an organisation.
		Understands how those roles work together to deliver the safety, environmental and performance objectives of the mine.
		Understands the role that they play within the structure.
		Understands the need to work effectively, openly, and honestly to meet the safety, environmental and operational controls for the business.
K17	The dangers of working in isolation.	
		Understands their own limitations (see K11 and K12 within PROMT2).
		Understands how they fit within the operational structure of the mine.

K18	The normal constituents of the air we breathe.	Understands the normal constituents (oxygen/ nitrogen and other gasses) that make up normal mine air.
K19	The effect that a sharp rise or fall on the barometer will have on the behaviour of gas below ground.	Understands the principles of high and low pressure on a barometer.
		Understands how the change in barometric pressure may manifest itself within the mine.
		Understands how gasses may accumulate, especially in areas where ventilation has been reduced/ stopped.
		Understands how gasses may accumulate, in areas where there are anticline and synclines within the mine roadways.
K20	Recording procedures to meet statutory/ operational requirements.	The statutory requirement to periodically record ventilation measurements in a mine (Mines Regulations 2014).
		How a handheld gas monitor works, the alarm level and limitations.
		How and where to test using a personal gas monitor.
		Any actions that must be taken statutorily dependant on the readings obtained from the personal gas monitor (Mines Regulations/ COSHH/ EH40).
		If different to the above, any actions that must be taken operationally on the readings obtained from the personal gas monitor.
K21	How rises and falls in air temperature will affect the physical/ atmospheric working conditions below ground (heat/ humidity/ condensation/ saturation).	Understands the factors that influence the generation of heat underground (strata temperature, adiabatic compression of air, the introduction of equipment, the introduction of people).
		Understands how the increase in temperature may allow the humidity to increase, and how water in the mine environment may impact this.
		Understands the physiological impacts of heat and humidity on persons working in the mine.
		Understands how changes in temperature may occur in a mine and the impact that this could have on any moisture held in the mine air.
K22	The gasses indigenous/ imported to a mine that may have an adverse effect on humans.	Understands the type of gasses that might normally be present within the mine environment.

		Understands how the mining operation may impact the generation of gasses which are considered indigenous to the mine environment.
		Understands how the mining process (for example the use of explosives/ exhaust emissions/ burning and welding) may lead to the generation of gasses not normally present in the mine environment.
K23	For such gasses encountered whether they are toxic, suffocating and/ or explosive.	See K22 for details of gases identified.
		Understands the properties of those gasses.
K24	For each gas encountered in your area of responsibility their physiological effect on humans.	See K22 for details of gases identified.
		Understands the physiological effects of those gasses on humans.
K25	The dusts/ hazardous substances indigenous or imported to a mine that may have an adverse effect on humans.	Understands the type of dust or other hazardous substances that might normally be present within the mine environment.
		Understands how the mining operation may impact the generation of dust or other hazardous substances which are considered indigenous to the mine environment.
		Understands how the mining process may lead to the generation of dust and other hazardous substances not normally present in the mine environment.
K26	For such dusts/ hazardous substances encountered whether they are explosive, carcinogenic harmful, irritant, corrosive or toxic.	See K25 for details of dusts/ hazardous substances identified.
		Understands the properties of those dusts/ hazardous substances.
K27	For such dusts/ hazardous substances encountered in your area of responsibility, their physiological effects on humans.	See K25 for details of dusts/ hazardous substances identified.
		Understands the physiological effects of those dusts/ hazardous substances on humans.
		Understands the longer-term physiological effects of continued exposure those dusts/ hazardous substances have on humans.
K28	When and where monitoring/ testing and measurements are carried out.	See K20 and K22 for details of gasses identified and the requirement for testing.
		See K25 for details of dusts/ hazardous substances identified.

		Identify the monitoring regime that are in place in your area of responsibility to identify the levels of dust or hazardous substances identified in K25 .
		Identify any occupational exposure limits identified within COSHH/ EH40 (or other legislative standards) and any operating procedures.
		In the context of major mining hazards, identify any other monitoring that is carried out to ensure that controls implemented remain effective.
K29	Ground movement/ changes in strata conditions can affect the integrity of the mine/ area, and corrective/ remedial and reporting procedures to be followed.	See K28 for details of other measurements taken.
		Understands the maximum levels of permissible movement or deterioration identified within the operating procedures.
		Understands why limits on movement or deterioration are set.
		Understands the impact on ground control if the maximum levels of movement or deterioration are exceeded.
		Understands the corrective actions that should be taken if levels of permissible movement or deterioration are exceeded.
		How you should identify that the strata conditions have changed.
		Understands the importance of recognising a change in strata conditions.
		Understands any actions that need to be taken if strata conditions are recognised to have changed.
		Understands the requirement to report change, and the actions that have been taken.
		Understands the requirement to report any outstanding actions.
		Understands arrangements for monitoring limits of extraction.
		Understands arrangements for verifying the ground control measures are installed and perform to the defined standards.
K30	Personal Protective Equipment (PPE) for the work area, its correct use and maintenance.	Understands the need for PPE/ RPE within your area of responsibility.
		understands the requirements for use and maintenance of PPE / RPE.
K31	Reporting/ recording/ rectification procedures for faulty equipment/ systems.	Understand the requirement to identify and report faulty equipment/ procedures/ systems.

		Understands how the equipment is taken out of use until any defects have been rectified.
		Understands how the request for repair is generated.
		Understands the need to keep accurate reports of any repairs completed, and where that information is held at the mine.
K32	Methods used to measure airflow and corrective actions to be taken if it falls below the required standard.	Understands the principles of pressure and resistance and how that impacts the quantity of air flowing in the mine.
		Understands how the cross-sectional area of the roadway will impact the velocity of air flowing in that roadway.
		Understands the relationship between quantity, velocity, and area.
		Understands the minimum quantity of airflow that should be present within the working area.
		Understands how mine ventilation is delivered to the working area.
		Understands the actions that they should take if it falls below the minimum standards (for example check that the air outbye has not been short circuited).
K33	The monitoring equipment for detecting the inception of spontaneous combustion or fire (recognise that the spontaneous combustion element is applicable to mines of coal only).	Understands the gases that are given off by a spontaneous combustion or fire in the early stages of generation.
		How these gasses may be detected (various techniques).
		How thermal image capabilities may be used to assist in locating the early stages of a spontaneous combustion or fire.
K34	Actions to be taken by personnel exposed to atmospheric conditions, gasses/ dusts/ hazardous substances in excess of the prescribed limits (including reports).	See K22 and K23 for the gasses and limits identified.
		See K25 and K26 for the dusts and hazardous substances identified.
		Understand the actions required if any of the occupational exposure limits are breached.
K35	Procedures for the installation of additional ventilation equipment to dilute/ remove accumulations of gasses, including where required the requirements for degassing .	Understands the operation exposure limits (K22 and K23).
		Understands organisational and regulatory requirement for the isolation of energy sources and removal of people.

		Understands the arrangements for setting up hurdles to get the ventilation to flow where required.
		Understands the need to manage the airflow to steadily dilute the gasses or remove layering.
		Understands how to position instruments to monitor the impact of the change on the ventilation system.
		Understands the authority that is required to make any changes to the ventilation system.
		If auxiliary ventilation systems are to be installed, there is an understanding of any survey required prior to and following the installation.
		If an auxiliary ventilation system is to be used for the purpose of removing gasses, then there is an understanding of how the process is managed and controlled.
		Understands the information that would be reported on progress, completion and the reinstatement of the normal ventilation system.
K36	Procedure to notify personnel of changes in mine layout and operating conditions.	
		Understands how the teams are updated of changes.
		Understands how as supervisor they contribute to that process.
		Understands how changes to the mine layout may impact escape routes, and the requirement to familiarise the team with those changes.
K37	How to interpret readings taken against statutory/ company pre-set actions levels.	<i>Covered within the relevant sections on gasses/ dusts/ hazardous materials/ ground movement/ ventilation.</i>
K38	How to identify trends and levels that require action.	<i>Covered within the relevant sections on gasses/ dusts/ hazardous materials/ ground movement/ ventilation.</i>
K39	When actions should be taken to notify and protect others and the procedures to be followed.	<i>Covered within the relevant sections on gasses/ dusts/ hazardous materials/ ground movement/ ventilation.</i>
K40	Reporting/ recording procedures according to regulatory/ operational requirements.	<i>Covered within the relevant sections on gasses/ dusts/ hazardous materials/ ground movement/ ventilation.</i>

PROSUM04 (SUM04) – Carry Out Mine Safety, First Aid and Emergency Org.

Common Elements		
PROSUM04 (SUM04) – Carry Out Mine Safety, First Aid and Emergency Organisation		
Knowledge Statement		Elements
K1	The roles and responsibilities of mine personnel and others in relation to accidents, incidents, dangerous occurrences and emergencies.	See K15 in PRMOMR03 relating to management structure and roles and responsibilities.
		Understands the roles that personnel at the mine have in relation to accidents/ incidents/ dangerous occurrence and emergencies.
		Understands the role of the supervisor when it comes to accidents/ incidents (including near misses)/ dangerous occurrence and emergencies.
K2	The meaning of hazard, accident, incident, dangerous occurrence, and emergency situation.	See K1 in PROMT2 for definitions already covered.
		Understands the terms incident, dangerous occurrence, near miss, and emergency situation.
K3	Acceptable standards of cleanliness and tidiness in the workplace.	Understands the need to maintain a tidy work environment and the impact on safety and performance.
		Understands a need to maintain a workplace and equipment that is clean and debris free from a safety, efficiency, and performance perspective.
		Understands how equipment in their area of responsibility is to be stored.
		Understands how materials should be stored to ensure that wastage is minimised, and safety is maintained.
K4	Method to maintain a clean and tidy workplace.	Understands the methods that are applied at the mine to ensure that the area of work is maintained in a clean and tidy condition.
K5	The implication of drink, drug and smoking policies.	Understands the organisations tolerance for alcohol in the workplace.
		Understands the organisations tolerance for drugs in and outside of the workplace.

		Understands the organisations requirements for smoking in the workplace.
		Understands the reporting procedures where it is suspected that there is abuse of the policies covering alcohol, drugs and smoking in the workplace.
		Understands why the policies are in place, and the potential implications if these are breached.
K6	Dynamic risk assessment and safe manual handling techniques.	See K2 for PROMT2 covering informal risk assessment.
		Understands when it is appropriate to utilise dynamic risk assessment.
		Understands the limits of when/ where dynamic risk assessment can be applied.
		Understands what is involved in a manual handling assessment.
		Understands how to apply a manual handling assessment when completing a dynamic risk assessment.
K7	Means of checking out environmental conditions.	See K28 in PROMR03 for the arrangements of when/ where the monitoring has to be completed.
		See K20/K21/K22/ K26 in PROMR03 in relation to the means for checking key environmental conditions.
K8	Potential injuries in mining situations.	Understands the types of injuries that may be associated with moving around the mine (personal injury).
		Understands the types of injuries that may occur through the operation of plant and equipment in the mine (coming into contact with plant and equipment).
		Understands the type and nature of injuries that may occur in the mine as a consequence of failing to adequately control the major mining hazards (low frequency, high potential/ consequence events).
K9	Types and category of an emergency.	Understands the difference between a single casualty event and a multiple casualty event.
		Understands events that need escalating due to their nature (RIDDOR) or the escalation potential.
		Understands events that may require person to leave their working area to move

		towards a place of safety or escalating the requirements to one of rescue.
K10	How emergency situations can arise in mines.	Understands the events that may give rise to an emergency situation at a mine.
K11	Organisational and legislative procedures in the event of an irregular or abnormal situation, including emergency accident, incident or dangerous occurrence.	See K4 in PROMT2 relating to the application of the Mines Regulation 2014.
		See K4 in PROMT2 relating to the application of RIDDOR.
		Understands the organisational procedure in the event of an emergency below ground, and how this would trigger a response.
		Understands the organisational procedure relating to the role that the supervisor has in responding to an emergency.
		Understands the organisational requirement for the supervisor to prevent escalation of an incident or accident and the actions that they should take.
		Understands the actions that they must take to preserve the scene to allow for a full investigation.
K12	Organisational and legislative reporting requirements in the event of an emergency, accident, incident, or dangerous occurrence.	See K4 in PROMT2 relating to the application of RIDDOR.
		Understands the organisations requirements relating to the reporting of emergency, accident, incident, or dangerous occurrence.
K13	Organisational procedures for extinguishing fires.	Understands the firefighting provisions that are available.
		Understands the suitability of those provisions for different fires.
		Understands ventilation influences the position from which the fire is tackled.
		Understands the procedures that are applied to fire fighting.
		Understands the limitations when it comes to fighting a fire in the mine environment.
K14	Organisational procedures for evacuation.	Understands how the instruction to evacuate would be given.
		Understands where people for whom they are responsible would muster.
		Understands the requirements for making a headcount and reporting that headcount to those responsible for the evacuation.

		Understands the actions to be taken if persons are missing.
K15	Names and contact details of persons/ organisations to be contacted in the event of an emergency, accident, incident, or dangerous occurrence.	Knows the telephone numbers to use in the event of an emergency underground.
		Understands the process for escalation.
K16	The purpose of emergency contact points and how these should be established.	Understands how when no persons are deployed to the surface, how contact would be made to arrange the alarm in the event of an emergency. (If applicable to your organisation.)
K17	The physical and physiological effects on people of excessive mine gasses and other substances that may be present.	See K22 and K24 in PROMR03 for detail of gasses and physiological effects.
K18	The purpose and use of facilities provided for use in an emergency.	Understands the location of any safe haven, muster points and changeover stations provided within the mine.
		For each installation, they understand how they operate and any limitations relating to capacity or duration.
		Understands that the preference is always for self-escape and that all other facilities are secondary.
		Understands the location of any emergency equipment specified in the emergency plan.
K19	Actions to maintain or restore acceptable environmental conditions in emergency situations.	See K35 in PROMR03 for detail of installation of additional ventilation.
		Understands the limitations of their authority to make changes to the ventilation systems.
		Understands how to monitor the effectiveness of any changes made to the ventilation system.
K20	The purpose of safe havens, and how they are established and maintained.	See K18 in PROMSUM04 for detail of safe havens.
K21	The situation requiring the establishment and maintenance of exclusion zones to preserve evidence according to organisational and legislative requirements.	See K4 in PROMT2 for details of regulations covering site disturbance and the preservation of evidence.
		Understands that in the event of a potentially reportable incident or dangerous occurrence the site must be left undisturbed.
		Understands that there can be action taken to secure the safety of the person or the

		mine, however relevant evidence must be retained.
		Understands how to establish, identify, and control an exclusion zone.
K22	The identification and procedures for preservation of evidence that could be lost.	Understands the organisational procedure for incident investigation, and how evidence should be gathered and preserved.
K23	Methods of establishing and maintaining areas to preserve evidence.	See K21 in PROSUM04 for details of establishing exclusion zones.
		See K22 in PROSUM04 for detail of preserving evidence.
K24	The purpose and procedure for recording witnesses.	See K15 in PROMT2 for interview and questioning techniques.
		Understands why it is necessary to record witness statements following an incident/accident.
		Understands the procedure that is used to take and record witness statements.
K25	The main principles of health and safety and environmental legislation and regulations relevant to mines.	See K2 in PROMT2 for the key health and safety legislation.
		Understands the principles of the Environmental Act 2021.
K26	Industrial standard relevant to mines.	See K5 of PROMR03 for industrial standards/ approved codes of practice relevant to mines.
K27	Approved codes of practice and guidance for safe working in mines.	See K5 of PROMR03 for industrial standards/ approved codes of practice relevant to mines.
K28	The different types and categories of hazards and hazardous situations in mines in general, and in your area of responsibility in particular.	See PROMT2 for general safety and occupational health related hazards in the workplace.
		See PROMR03 for major hazard safety hazards in the workplace.
K29	Organisational and legislative requirements for inspections, examinations, and testing.	Understands what the Mines Regulations require in relation to carrying out inspections of the mine.
		Understands what the Mines Regulations require in relation to the need for systematic

		examination and testing of equipment as part of a maintenance scheme.
		Understands how an inspection of the mine should be completed, the frequency of inspection and the way the information is to be reported.
		Understands the authority to deal with situations that they come across as part of the inspection.
		Understands how systematic maintenance is scheduled at the mine.
		Understands their role in coordinating maintenance activities.
K30	Access and egress routes in routine and emergency situations.	Understands the normal routes to and from the place of work.
		Understands the alternative routes that may be used in an emergency situation.
K31	Methods of communication in hazardous or emergency situations.	Understands the communications system in use at the mine.
		Understands how to identify that an emergency situation is developing.
		Understands the type of information that they will need to provide (what, where, when, who, how many etc.).
K32	Methods and equipment for handling and transporting casualties.	Understands the arrangements for transporting rescue teams (and equipment) in the event of an emergency.
		Understands the benefits in using intake roadways wherever possible.
		Understands the arrangement for transporting single and multiple casualties.
		Understands the principles of casualty prioritisation.
K33	Procedures and recording arrangements for administered medication.	Understands why it is important that any medication administered in the event of providing first aid treatment is recorded.
		Understands the company procedure for recording any medication that has been administered.
K34	Types, use and maintenance requirements of personal protective equipment for emergency situations	Understands the requirement to carry (or have available) a device that would allow self-escape in an oxygen deficient or toxic mine atmosphere.

	according to manufactures and organisational requirements.	Understands the operational limitations of the equipment provided to support self-escape.
		Understands how the device should be worn, in enough detail to provide instruction to the team or visitors.
K35	Legislation, approved codes of practice and guidelines for safe use of environmental monitoring equipment.	Already covered by the Mines Regulations (ALARP).
K36	The use of equipment/ tools provided for dealing with an emergency according to manufactures instructions.	Understands the equipment that is available on site at the mine to deal with a range of emergencies.
K37	The limitations of equipment/ tools provided for the use in an emergency.	Equipment limitations already covered.
K38	Requirements of the Inspection and maintenance requirements of communication systems.	Understands the maintenance requirements and resilience testing of communication systems i.e., UPS and battery backup systems.
K39	Organisational procedures for the isolation of plant and equipment.	Understands the principles of energy isolation and dissipation.
		Understands the hazards associated with electrical and stored energy systems.
		Understands the principles of a permit to work system.
		Understands the operational procedures relating to the reinstatement of electrical supplies or other energy sources and any safety checks that need to be completed.
K40	Your own responsibilities and limitations in respect of emergencies.	As a supervisor, understands the role that they have in initiating, communicating and potentially directing the emergency response.
		Recognises that the primary responsibility is to keep people safe, and that mine equipment and infrastructure is a secondary response.
		Understands the limit of authority/ knowledge when it comes to managing an ongoing emergency.
K41	Methods of effective communication in an emergency.	This is a repeat of the K31 within PROMSUM04 .

K42	The allocation of tasks and duties.	The supervisor understands the mining process and the roles that are required to contribute. Understands that people allocated to tasks must be competent to fulfil the tasks. Understands the principles of establishing expectations when it comes to the delivery of any duties or tasks allocated. Understands the process by which they will hold those allocated duties and tasks accountable for delivering to the defined standards.
K43	The benefits of teamwork, and how to achieve it.	Understands the need to establish a team within the workplace. Understands the need to ensure that the individuals make up the team need a range of competencies that complement each other. Understands the way in which they need to work in order to promote a team dynamic. Understands the need to create responsibility and accountability for safety, operational performance and work standards.

PROMT3 (SUM05) – Contribute to Maintaining and Improving Health and Safety in the Mine

Common Elements		
PROMT3 (SUM05) – Contribute to Maintaining and Improving Health and Safety in the Mine		
Knowledge Statement		Elements
K1	The benefits to individuals and the organisation for improved health and safety and environmental performance.	Understands the personal impact that incidents, accidents, and long-term health issues can have on an individual and their family.
		Understands that the workforce perceives the way that management and supervision care about health, safety, and environmental impact.
		Understands that people feeling safe in the workplace means that they will positively promote the business and that staff are likely to stay at that organisation.
K2	The consequences of failing to maintain/ improve health, safety and environmental performance.	Understands the personal impact that incidents, accidents, and long-term health issues can have on an individual and their family.
		Understands that there are significant costs, both short and long term associated with a failure to manage the health and safety of those employed (or those affected).
		Understands the impact of the regulator becoming involved in the investigation of breaches of health, safety, and environmental legislation.
		Understands how ongoing or repeat issues can negatively influence the reputation of the business.
K3	The benefits of participation of persons at work.	K5 of PROMT2 covers the benefits of participation of those at work.
K4	How to communicate effectively.	K14 of PROMT2 covers communication, involvement, and motivation to reduce risk.
		K14 of PROSMR03 covers communication systems and procedures in your area of responsibility.
		K41 of PROSUM04 covers communication in an emergency.

K5	How to identify and use effective opportunities to promote awareness, understanding of and enthusiasm for health, safety, and environmental issues.	Understands the need to advocate for safe working practices.
		Understands the potential long term health impacts that may exist if elements of the work process are not adequately managed and controlled.
		Understands the need to ensure that others are provided with the information that supports the development of a positive safety culture.
K6	Sources of supporting information, resources and materials.	Knows where to find information at the mine that underpins the procedures and process that are in place.
		Knows where to get statistical information relating the performance of the mine in key areas relating to health, safety, and the environment.
K7	Operational instructions, rules, procedures, and schemes in relation to the mine.	Understands where to find the rules and operating procedure relating to their place of work.
		Understands the importance of communicating these effectively with the workforce.
		Understands how to review, evaluate, and provide constructive feedback on the rules and procedures.
		Understands the process to be followed if the rules and procedures in place are not effective in controlling the risks relating to health, safety, and the environment.
K8	Organisational procedures for the prevention of/ responding to hazards.	Understands the importance of communicating these effectively with the workforce.
		Understands how to review, evaluate, and provide constructive feedback on the rules and procedures.
		Understands the process to be followed if the rules and procedures in place are not effective in controlling the risks relating to health, safety, and the environment.
K9	The organisational procedure for implementing improvements.	Understands how to review, evaluate, and provide constructive feedback on the rules and procedures.

K10	The organisations reporting and record keeping requirement.	Understands the information that needs to be recorded within their area of responsibility.
		Understands the information that the organisation records and why.
K11	The organisations procedure for publicising health, safety, and environmental matters.	Understands how statistics for health, safety and environmental performance are generated.
		Understands how the safety performance indicators associated with the effective management of major mining hazards are produced.
		Understands how to interpret and cascade the information in an informative way.
		Understands where relevant information is published, and where to direct people to go to get any information that they require.
K12	The organisations achievements in health and safety management.	Understands how to interpret and cascade the information in an informative way.
		Understands how to accentuate the organisations achievements and the team's part in those achievements.
K13	Use/ operation and application of various personal protective equipment and maintenance schemes for personal protective equipment.	Understands where PPE sits with the hierarchy of controls.
		Understands how to identify the need to utilise PPE as part of any operational controls.
		Understands the need for maintenance of key pieces of PPE (work clothes, respiratory equipment, personal gas detectors, escape sets etc.).
K14	Availability and use of mine plans.	Understands the mine plans that must be made available statutorily.
		Understands the symbols that are used on a mine plan.
		Understands where the various mine plans are located.
		Understands how mine plans are used as part of planning and managing the mining process.
K15	Details of operational activities and associated hazards and risk.	Understands the mining process within their area of responsibility.
		Understands the general hazards that exist within their area of responsibility.

		Understands the major mining hazards that are present within their area of responsibility.
		Understands the health hazards that are present within their area of responsibility (indigenous and imported).
		Understands the principles of risk management through the application of controls and procedures for general, major and health related hazards.
K16	How to identify hazards and risks.	K2 in PROMT2 covers workplace monitoring and hazard identification.
		K3 of PROMR03 covers major hazards in the workplace.
		K6 of PROSUM04 covers the use of dynamic risk assessment.
K17	Practical aspects of risk control.	K3 in PROMT2 covers the basic function of risk assessment.
		K3 in PROMR03 covers the monitoring and control of major hazards.
K18	Health and safety efficiency in terms of the parts of the process under your control.	Understands how the area under your control is working effectively (use of safety performance indicators).
		Understands how their area of the mine contributes to the organisational performance indicators.
K19	How to interpret patterns and trends relating to occurrences in the workplace.	Covered within K11 and K12 of PROMT3 .
K20	Workplace health, safety and environmental performance and identified improvement needs.	Partially covered within K11 and K12 of PROMT3 .
		Understands how the information may be used to give targeted interventions within the mine or various places of work.
		Understands how the information may be used as a catalyst to review operating procedures, equipment (including PPE).
K21	Examples of best practice and best available techniques.	Understands how health and safety trends may allow best practice to be identified and spread.
		Can provide examples of where best practice has been identified and cascaded within the organisation.

K22	Legislative framework for workplace health and safety, Act, Regulations, Codes of Practice, Guidance).	This area has been covered within PROMT2 , PROMR03 and PROSUM04 .
K23	Key aspects of current health, safety, and environmental legislation acceptable to the workplace under your supervision.	This area has been covered within PROMT2 , PROMR03 and PROSUM04 .
K24	Nature and frequency of statutory exams.	Understands the operator's scheme of maintenance/ inspection for the mine within your area of responsibility.

P015 – Lead the Work of Team and Individuals to Achieve Objectives in Extractives and Mineral Processing Industries

Common Elements		
MPQCP015 (P015) – Lead the Work Teams and Individuals to Achieve their Objectives in the Extractive and Mineral Processing Industry		
Knowledge Statement		Elements
K1	The importance of effective communication when explaining workplans and activities.	Understands effective verbal and written communication skills.
		Understands the mines procedures for deployment and debrief of teams.
K2	The importance of providing your team members with the opportunity to contribute to the planning and organisation of their work.	Understands how to encourage team/ individuals input and involvement and supportive of this.
K3	The types of organisational constraints which influence your planning.	Understanding of legal, financial, and operational constraints on plans.
K4	The importance of planning work activities to organisational effectiveness and your role and responsibility in relation to this.	Understands that plans are appropriate to deliver organisational objectives.
		Outline their role in delivering organisational objectives.
K5	How to develop realistic and achievable workplans for teams and individuals both in the short and medium term.	Covered within K3 .
K6	The teams' objectives and how your plans succeed in meeting these.	Understanding of the overall organisations objectives and the key milestones required to achieve this.
		Understanding of individuals teams' performance to achieve plan.
K7	The difference between someone within your line management control and someone for whom you have functional responsibility, and the implications this difference may have in work planning.	<i>The statement is tested in the portfolio (management structure).</i>
K8	How to present work plans in a way that gains the support and commitment of those involved.	Covered within K1 .
K9	The importance of regularly reviewing work.	Understands how the plan is being delivered in line with the organisation's requirements.

K10	The principles of fair and objective assessment of work and how to ensure that it is applied.	Understands the need to allocate tasks fairly to ensure that the work and opportunity is shared equally between team members. Understands how to assess that all members of the team are contributing to the organisational objectives.
K11	The importance of assessing the ongoing work of teams and individuals and your roles and responsibilities in relation to this.	Understands and assess the individuals' behaviours align with organisations requirements. Define organisational arrangements to ensure the work undertaken is to an agreed standard. Knows how to access required specification/ tolerance/ standard for work outputs.
K12	The importance of providing opportunities to your team members to assess their own work and how you can encourage this involvement.	Understands how ownership is developed through the involvement of the team in reviewing work procedures and work output. Understands the benefits to be derived from the encouragement of peer review within the team. Understands the need to demonstrate empathy with individual team members, without letting this influence individual or team performance. Understands the need to act with honesty and integrity.
K13	The importance of being clear yourself about the purpose of assessment and of communicating this effectively to those involved.	Covered within K1 and 12.
K14	How to gather and evaluate information you need to assess the work of teams and individuals.	Understands the key performance metrics relevant to their area of the operation, and criteria for the collection of this information.
K15	The purpose of work assessment, why work assessment plays a role in an organisation and how we apply to your own situation.	Covered within K11.
K16	How to assess the work of teams and individuals, and processes in the workplace which can support such assessments.	Covered within K11.
K17		Covered within K1.

	The importance of good communication skills when providing feedback.	
K18	The principles of confidentiality when providing feedback, and who should receive which pieces of information.	Understands the need to act with empathy when providing feedback and ensures that feedback is provided in a way that does not offend the recipient, and in a way that promotes development.
		Understands the need to treat personal conversations in a confidential manner, recognises that there needs to be integrity in the relationship between themselves and those receiving feedback.
		Understands the need to be honest, constructive, and consistent when providing feedback.
K19	How to give both positive and negative feedback to teams and individuals.	Covered within K1 and K18.
K20	How to choose an appropriate time and place to give feedback to teams and individuals.	Understands the facilities available to give feedback in the workplace.
		Understands the need to allocate time to the process.
K21	How to give feedback in a way which encourages your team members to feel that you respect them.	Covered within K1 and K18.
K22	The importance of providing clear and accurate feedback to your team members of their performance and your role and responsibilities in relation to this.	Covered within K1 and K18.
K23	How to motivate team members and gain their commitment by providing feedback.	Understands the requirements of leadership qualities in the form of leading from the front when required "when the going gets tough".
K24	The importance of being encouraged when providing feedback to the team members and showing respect for those involved.	Covered within K1 and K18.
K25	Why it is important to provide constructive suggestions on how performance can be improved.	Covered within K1 and K18.
K26	The importance of giving those involved the opportunity to provide suggestions on how to improve their work.	Covered within K12.

SUM16 – Supervise Underground Mining Activities

Common Elements		
SUM16 – Supervise Underground Mine Activities		
Knowledge Statement		Elements
K1	Explain the organisational approved policies, procedures, and practices as appropriate to the area of the mine under their responsibility.	Understands the operations taking place in their area of responsibility, including the mining sequence.
		Understands the policies and procedures that have been developed to control those activities.
K2	Explain the organisational information, communication and reporting arrangements relating to work activity.	Understands the elements that must be reported in relation to safety of the operation under their control (incidents and accidents).
		Understands the elements that must be reported in relation to general and major mining hazards in their area of responsibility.
		Understands the requirements to report the performance and efficiency of the operation.
K3	Outline principal legislation to be complied with whilst undertaking supervisory duties.	Understands the requirements of the Mines Regulations 2014.
		Can summarise how the regulations apply to major hazards in their area of responsibility.
		Can summarise the requirements within the regulations for provision of ventilation.
		Can summarise the requirements for the arrangements for self-escape within their area of responsibility.
		Can identify the needs from the regulation to provide a competent workforce and how they ensure that this is in place within their area of responsibility.
K4	Describe the hazards and risk associated with work activities in the area you are responsible for, how they affect yourself, others, and the work environment, and how they are controlled.	The principles of risk identification and risk management are covered within PROMT2 , PROMR03 and PROSUM04 .
		Can identify the major hazards that are present within the workplace.
		Understands how these hazards may impact people within the work environment.
		Understands how some major hazards may propagate to impact persons employed in other areas of the mine.

		Can identify the key controls for each of the hazards that they identify within their work area.
K5	Explain organisational requirements relating to provision of mine plans.	See K14 in PROMT3 for details of mine plans, the requirements to maintain/ keep and update.
K6	List the range of plans required to be kept at the mine.	Identify the plans that are required statutorily to be kept at the mine.
		Identify any plans that the mine operator requires to have available to support the development and operation of the mine (these may be different to the statutory requirements).
		Identify any plans that may be kept in your area of responsibility, and how these are used as part of managing and supervising that area.
K7	Describe who is responsible for amending or reviewing mine plans.	Self-contained statement.
K8	Explain what factors may require them to seek clarification of information from appropriate people regarding mine plans.	Understands the principle of surface features, and the need to manage encroachment towards certain features.
		Understands the arrangements that need to be in place to prevent an inrush in to underground workings.
K9	Explain the ventilation system in their area of responsibility.	Explain how the ventilation system in their area of responsibility works.
		Can identify the key components that make up the ventilation system.
		Can identify the minimum ventilation quantities that the system should supply.
		Can identify how they would verify that the ventilation system is performing within the deigned parameters.
		Can describe the types of action that they would be authorised to take to correct the system if it was working outside of the design parameters.
K10	Explain the methods of ground control used in their area of responsibility.	Understands the type of support that is used in their area of responsibility.
		Understands what is meant by temporary support, permanent support, and secondary support when applied to ground control.

		Understands how the types of support (or other ground control measures) work to make the work area safe for people to work or pass.
		Understands how the effectiveness of the support (or other ground control measures used at their site/ area of responsibility) is monitored to ensure that it is performing and outline any action levels that have been established within their area of responsibility.
		Understands what actions that they are responsible for taking if the planned support (action levels are triggered) is not working to the designed parameters.
		Understands how the standard for the installation of support is applied in their workplace.
K11	Explain the organisational requirements for inspection to include: • Parts of the mine to be inspected. • Frequency of which the inspections have to be carried out. • Location(s) at which specific environmental readings may need to be taken. • Alarm and action levels. • Actions to be taken in the event that an alarm or action level is reached. • Information that needs to be recorded as part of the inspection.	Understands what the Mines Regulations require in relation to completing an inspection.
		Understands what is meant by the terms inspection and supervision.
		Is clear on the areas that need to be inspected within their areas of responsibility.
		Is clear on the frequency of inspections within their area of responsibility.
		Can describe the nature of the inspection when it comes to the effective management of the major mining hazards.
		Can describe what is required by the inspection in relation to maintaining adequate ventilation.
		Can describe the typical action levels relating to the exposure to flammable/ explosive/ toxic and noxious gases, and their response if any reading goes above the required action level.
		Can outline the type of information that needs to be recorded as part of an inspection.
		Can describe how items that have not been dealt with or pose a risk to health, safety, environmental or operational performance are brought to the attention of persons senior in the management structure.
K12	Explain organisational procedures for ordering of materials for their area of responsibility.	Understands if there are any minimum quantiles of materials that need to be maintained within their area of responsibility.

		Knows what actions to be taken if the materials have or are at risk of dropping below the minimum quantities.
		Understands how replacement materials are ordered and quantities verified.
K13	Explain the arrangements for the checking of competence for their personnel.	Understands the regulatory requirement under the Mines Regulations to have competent workforce.
		Understands what competence means in relation to the workplace.
		How you would verify that persons competent to perform the task have been deployed.
		What actions could be taken according to organisational procedures if a person that is not competent to perform the task in isolation has been deployed with people that are competent.
K14	Explain the limits of their own responsibilities.	Understands what is expected of the person carrying out the role of supervisor.
		Understands what to do if they are unsure of any decision that may have a bearing on health, safety, environment, or operational performance of the mine.
		Understands the limits of their authority to make decisions that may have a bearing on the health, safety, environmental on operational performance of the mine.
K15	State the main problems that can occur with work activities, and how to respond to them.	Understands the mining sequence in their place of work.
		Understands how the mining sequence may be interrupted, and the implications of that interruption at that time.
		Understands how the work area should be reinstated following an interruption, and any checks (where applicable) that must be completed.
K16	Explain the actions to be taken in the vent of damage, breakdown, or unsatisfactory performance of resource to include: - Plant. - Equipment. - Tools.	Understands the process of reporting damaged or defective equipment.
		Understands how they would immobilise that piece of equipment to prevent inadvertent use whilst damage/ defective.
		Understands how certain equipment is unlikely to be repaired, and therefore must be effectively disposed of to prevent it from re-entering service.

K17	List the emergencies that may arise in their areas of responsibility and actions to be taken to deal with them in accordance with organisational procedures.	Covered by PROSUM04 (Emergency Organisation).
K18	Explain what reports and records need to be made on completion of work, where these should be deposited and why it is important to complete them.	Other than their inspection report, the supervisor understands any other reports that need to be completed for their area of responsibility.
		Can describe the information that must be contained within each report and why it is critical to the safe/ efficient operation of the mine.

Assessment Plan

The assessment plan outlined below has been produced to capture the key performance and knowledge elements. It has been produced such that it can be delivered over two separate days, however it could be further split to allow it to be delivered in smaller sections. These performance elements and assessments provide the opportunity to build in assessments of attitude and behaviour, key requirements for effective supervision.

Day 1

Pre-shift Brief and Shift Preparation, the assessment considers how the supervisor presents themselves for work and how they prepare themselves for the current situation in the work environment. This will include for any briefing of the team in safety and operational matters.

Risk Assessment and Near Miss, the supervisor will be asked to carry out a dynamic risk assessment to the company format. They will also be asked to identify potential hazards in the workplace and consider how these are dealt with or escalated.

Inspection of safety equipment, the supervisor will be asked to demonstrate how they carry out the inspection of safety related equipment and how any defects are reported/ escalated.

Inspection and reporting, the supervisor will be shadowed during the shift. During the shift the supervisor will be asked to demonstrate and explain the way in which they are inspecting the work environment, what they are looking for and how it contributes to the control of hazards, including major mining hazards.

Day 2

Understanding the Mining Sequence, the supervisor will be asked to explain the mining sequence, the focus will be on ensuring the operation is managed in a safe and operationally efficient way.

Incident Investigation, using a scenario, the supervisor will be asked to take the assessor through their immediate and follow up actions, and why they chose this course of action.

Emergency Organisation, using a scenario, the supervisor will be asked to take the assessor through their immediate response to the emergency, what and how they would communicate.

End of Shift Handover, this part of the assessment considered how they collate the information, and how they provide a report to the shift manager and oncoming shift. It should review any other reports that have been completed and verify that these are to the correct standard.

Other Assessments

These will not be relevant to all mining operations, and so should be considered separately.

<i>Supervising shot firing operations</i> , the effective transport, charging, management of the work area to ensure that shot firing operations are, managed and administered correctly.
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<i>Carrying out shot firing operations</i> , as above with the additional element of having responsibility for priming, charging and firing the shots.
