PROSUM12
Supervise mine mineral production

Overview

This standard is about a mine supervisor being able to oversee/co-ordinate all activities involved in mineral production at the point of extraction, in accordance with statutory and company requirements. This includes monitoring environmental conditions to ensure that gases, hazardous substances, dusts etc. do not exceed statutory/company limits, ensuring that all associated equipment and the plant is inspected/maintained in accordance with the manufacturers'/organisational specifications and equipment/plant faults are dealt with, ensuring that the operational cycle is carried out in compliance with statutory/organisational requirements and protecting staff in the area of responsibility.

This is a **four** element unit:

1. Oversee mineral winning
2. Oversee inspection and maintenance of mineral production faces
3. Monitor environmental conditions during mineral winning
4. Protect personnel working on or in vicinity of mineral production faces

PROSUM12
Supervise mine mineral production

Performance criteria

Oversee mineral winning

You must be able to:

P1 monitor the operational cycle and all relevant operations within your area of responsibility / specific district

P2 ensure material needs for the production unit are met using material transport system

P3 co-ordinate face operations to maintain true line of advance or retreat to prevent excessive face creep

P4 oversee the immediate advance and setting of supports (temporary/permanent) to combat poor roof conditions and supervise the application of the support rules

P5 supervise the dressing of exposed ground

P6 co-ordinate work operations to ensure that each on going activity does not affect the activities, health and safety of others within your sphere of responsibility.

P7 check that workers carry out their duties competently and to organisational procedures

P8 complete records/reports according to legislative requirements and organisational procedures

Oversee inspection and maintenance of mineral production faces

You must be able to:

P9 check to ensure fire hydrants and/or other fire fighting equipment is correctly sited, installed, undamaged, in date, fit for purpose in accordance with regulatory requirements and organisational procedures and operational requirements

P10 implement isolation and lock-off procedures for plant/equipment as required for adjustments or routine or forced maintenance

P11 oversee planned maintenance of respirable / combustible dust suppression equipment

P12 confirm that all safety devices fitted to mineral winning and clearance system/s are in place and operational

P13 confirm that all service pipes, hoses, high tension cables and trailing cables are identified, colour coded, stored correctly and have appropriate safety devices attached

P14 check that services systems (e.g. suspension monorail for catenaries, cable handling devices) are supported, free moving and have sufficient storage to allow safe face advance/retreat

P15 confirm that girder cradles/integrated working platforms associated with setting supports are available and in good order

P16 confirm that support installations/extraction systems/materials handling/mineral processing machinery/equipment are serviced/maintained in accordance with manufacturers/company

procedures

P17 implement procedures to initiate maintenance or servicing of plant or equipment

P18 accurately record details of defects under appropriate heading according to regulatory requirements and organisational procedures

P19 check that suitable and sufficient repairs have been carried out safely on damaged/faulty items of mineral winning equipment

P20 carry out organisational procedures for defects found that cannot be rectified immediately

Monitor environmental conditions during mineral winning

You must be able to:

P21 ensure that equipment provided to prevent frictional ignitions / drain gas are in place and working in accordance with statutory, company and manufacturers specifications

P22 check ventilation system is operational within organisational limits

P23 ensure gas/smoke monitoring/detection equipment is correctly positioned and operational

P24 operate and interpret readings from gas detection/monitoring equipment

P25 check geological conditions are within normal operational parameters

P26 ensure dust suppression/neutralisation equipment is operating satisfactorily

P27 implement action to address any shortcomings arising in the ventilation system which may adversely affect the quality of the mine environment within your area of responsibility

P28 communicate environmental problems/shortfall in quality of the mine environment outside your limits of responsibility to the relevant person/s according to organisational procedures

P29 complete records/reports according to legislative requirements and organisational procedures

Protect personnel working on or in vicinity of mineral production faces

You must be able to:

P30 monitor, record and control the number of persons in your area of responsibility

P31 ensure that staff working within your area of responsibility recognise when a hazardous situation has occurred and know appropriate action to take to inform others without prejudicing safety of self.

P32 carry out checks on competency of persons employed in mineral winning

P33 direct staff to positions appropriate to prevent contact with moving plant/equipment/machine parts

P34 enforce the use of appropriate personal protective equipment

P35 check to ensure personnel are not exposed to excessive work hazards (e.g. vibration, hazardous substances)

P36 ensure that manual handling tasks are minimised by the use of

	mechanical lifting devices
P37	confirm checks on safety devices have been carried out
P38	identify problems (e.g. obstructions, geological movements, mechanical or service failure) and report to appropriate person/s for advice or repair/remedial action
P39	communicate effectively with work colleagues, staff and line managers throughout operations

PROSUM12
Supervise mine mineral production

Knowledge and understanding

You need to know and understand:

Mineral Winning

K1 statutory requirements and organisational procedures for the operation of mineral production faces
K2 relevant approved codes of practice and guidance for working safely on production faces
K3 statutory requirements and operational procedures for strata support
K4 statutory requirements and organisational procedures for the inspection and maintenance of mineral winning equipment
K5 manufacturers' instructions and operational procedures for the use of plant and equipment in your area of responsibility
K6 an appreciation of the main principles of health and safety and environmental legislation and regulations relevant to mines
K7 industrial standards relevant to area of responsibility
K8 the principal activities involved in mineral winning
K9 types, features, advantages and limitations of mineral winning systems
K10 principals and methods to keep production faces aligned with the survey/plan
K11 the main functions within the operational cycle
K12 the need for cyclic and repetitive operations
K13 operational support rules
K14 type, size and gauge of support systems used in area of responsibility
K15 physical indications of excessive loads on supports (e.g. when rock bolts are used, checks for tell-tale readings and action to take when trigger points have been reached
K16 mine logistics procedures and systems for the delivery of supplies
K17 operational procedures for dressing exposed ground
K18 the mine geological/environmental factors that may affect the choice of mineral clearance systems
K19 the geological conditions that may affect the performance of mineral clearance systems
K20 regulatory requirements and/or organisational procedures for reporting/recording information
K21 the procedure to be followed to deal with a 'hold-fast' situation (e.g. with conveyor/cutting machine/powered roof support/transport system jammed) giving priority to the safe dissipation of stored energy
K22 organisational procedures in the event of problems/repairs occurring that are not immediately rectifiable
K23 the reporting/recording procedures for inspections carried out on mineral production systems under regulatory requirements or organisational procedures

Mine environments

You need to know and understand:

K24 the main principles of health and safety and environmental legislation and regulations relevant to area of responsibility
K25 hazards associated with mineral winning
K26 the geological conditions that would require investigation/rectification/additional support
K27 regulatory requirements, manufacturers' instructions and organisational procedures for the inspection, use and maintenance of environmental monitoring and control equipment in your area of responsibility
K28 environmental of practice and guidance for working safely during mineral winning approved codes
K29 the effect that activities in one area can have on the activity, health and safety of others
K30 how emergency situations can arise during in your area of responsibility
K31 responsibilities of self and others and procedures to follow in event of an emergency situation
K32 the principal regulatory requirements and organisational procedures for ventilation in your area of responsibility
K33 your duty with regard to ventilation system deterioration/failure or gas fast situations
K34 the locations within a specific district where gas accumulations may occur
K35 regulatory requirements and operational policies and procedures for the positioning and operational efficiency of ventilation equipment (e.gs. filtration equipment, fans and ducts)
K36 the action to be taken should any shortcomings arise in the ventilation system adversely affecting the quality of air issuing inbye/outbye your area of responsibility
K37 regulatory requirements, manufacturers' instructions and organisational procedures for the positioning and operation of equipment to prevent frictional ignition/drain gas in your area of responsibility
K38 safe operation of portable/fixed environmental monitoring equipment provided at area of responsibility
K39 the statutory duties should 1.25% or 2% general body readings of methane be detected within your area of responsibility (flame safety lamp mines only
K40 operational policies and procedures for the maintenance of a safe mine environment e.g. dust suppression, degassing
K41 legislative requirements for coal/combustible dust/stone dust ratios (if applicable)
K42 the terms; quantity, flow, pressure, resistance, volume, and cross-sectional area of airways
K43 regulatory requirements and organisational procedures for reporting and recording shortfalls in the quality of the mine environment

Equipment and tools

You need to know and understand:

K44 manufacturers' and organisational instructions relating to the use of equipment and tools provided for mineral winning
K45 manufacturers' and organisational instructions relating to the storage, maintenance and servicing of equipment and tools provided for mineral winning
K46 manufacturers, instructions and organisational requirements and procedures for use of personal protective equipment (in general and for specific operations)
K47 legislation and approved codes of practice and guidelines for safe use of gas/dust monitoring, fire detection and ventilation equipment
K48 the limitations/maximum capacities of equipment provided for use in mineral winning operations
K49 regulatory requirements and operational procedures to reduce the risks from vibrating equipment/tools
K50 organisational procedures to ensure communication systems are inspected/maintained
K51 organisational procedures to ensure safety devices are inspected and maintained
K52 organisational procedures in relation to equipment that is defective or requiring maintenance/servicing
K53 the types, use and siting of fire fighting equipment
K54 plant/equipment isolation/lock-off policies and procedures
K55 maintenance procedures for dust suppression systems
K56 lubricants and fuels used in your area of responsibility
K57 equipment identification and coding systems
K58 storage procedures for e.g. tools, equipment, hoses, cables
K59 operational procedures for correct installation of services systems (e.g. monorails, cables) handling/support devices
K60 manufacturers' instructions and operational procedures for servicing/maintenance of equipment (e.gs. rock bolting and drilling equipment)
K61 procedures to ensure that suitable and sufficient repairs have been carried out safely on damaged/faulty items of mineral winning equipment.

Working with others

You need to know and understand:

K62 your own responsibilities and the limits of those responsibilities
K63 methods to confirm competence of personnel involved in mineral production operations
K64 the allocation of tasks and duties
K65 the benefits of team working and methods to achieve this
K66 statutory and organisational reporting and recording procedures in your area of responsibility

K67 the importance of effective communications
K68 Communications systems/procedures in area of responsibility
K69 The personal responsibilities/duties of others in respect of mineral production
K70 The dangers of working in isolation
K71 Organisational requirements for recording/monitoring personnel in your area of responsibility

PROSUM12
Supervise mine mineral production

Developed by	Proskills
Version number	1
Date approved	30/04/2009
Indicative review date	30/04/2013
Validity	Current
Status	Original
Originating organisation	Proskills
Original URN	SUM12
Relevant occupations	8122- Coal Mining Operatives 1123 Managers in Mining,8123 quarry workers and related operatives
Suite	Supervision of Underground Mining Operations
Key words	mines, supervision, underground, rock, mineral, plant, equipment, extraction, ventilation, transport, emergency