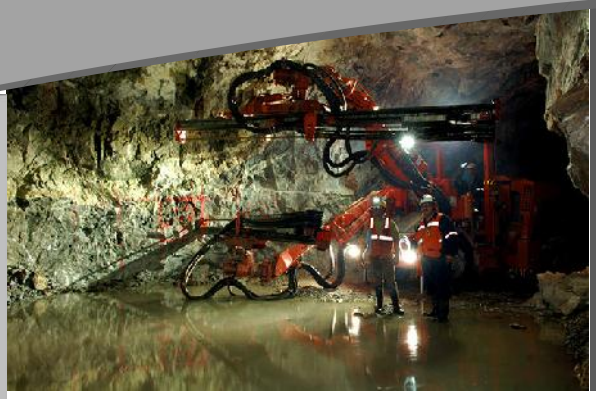
QUALIFICATIONS PACK - OCCUPATIONAL STANDARD FOR MINING INDUSTRY



Contents

What are Occupational Standard(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standard that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

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Introduction

Qualifications Pack – Jumbo Operator

SECTOR: MINING

SUB-SECTOR: Underground Mines

OCCUPATION: Mining Operations

REFERENCE ID: MIN/Q 0432

ALIGNED TO: NCO-2004/8111.10

A Jumbo Operator ensures execution of end to end drilling activities using a single/ double boom jumbo drilling rig in the underground mines

Brief Job Description: A Jumbo operator is responsible for the operation of a single and/ or double boom jumbo drilling rig for underground development mining with installation of ground support.

Personal Attributes: This job requires the individual to concentrate on the job at hand and complete it efficiently and effectively without any accidents so diligence and hard-working are desired attributes for individuals performing this role. He must also demonstrate strong work ethics, an ability to communicate courteously with co-workers, and must be good with following instructions of supervisor.

Job Details

Qualification Pack Code	**MIN/ Q0432**		
Job Role	**Jumbo operator**		
Credits(NSQF)	**TBD**	**Version number**	**1.0**
Industry	**Mining**	**Drafted on**	**15/12/2014**
Sub-sector	**Underground Mines**	**Last reviewed on**	**24/03/2015**
Occupation	**Mining Operations**	**Next review date**	**24/03/2017**

Job Role	**Jumbo Operator**
Role Description	Operates a single and/ or double boom jumbo drilling rig for underground development mining with installation of ground support
NSQF level **Minimum Educational Qualification** **Maximum Educational Qualification**	4 Class XII/ ITI- Mechanical NA
Training	Mandatory: 1. Technical and gallery training as per first schedule, Mining Vocational Training Rules (MVTR) 1966. 2. Refresher training if absent from mines for a period of one year or more before re-employment. 3. Heavy Commercial Vehicle Driving License Optional: 4. 5S and Safety 5. Quality Management 6. First aid certificate is preferred
Experience	No experience necessary but any experience with jumbos is preferred
Applicable National Occupational Standards	**Compulsory:** **Click on the hyperlink to read/download the required NOS** 1. MIN/N 0488 (Prepare Machine) 2. MIN/N 0489 (Perform Operations) 3. MIN/N 0490 (Perform routine maintenance and troubleshooting on the Machine) 4. MIN/N 0901 (Health and Safety) **Optional:** Not Applicable
Performance Criteria	As described in the relevant OS units

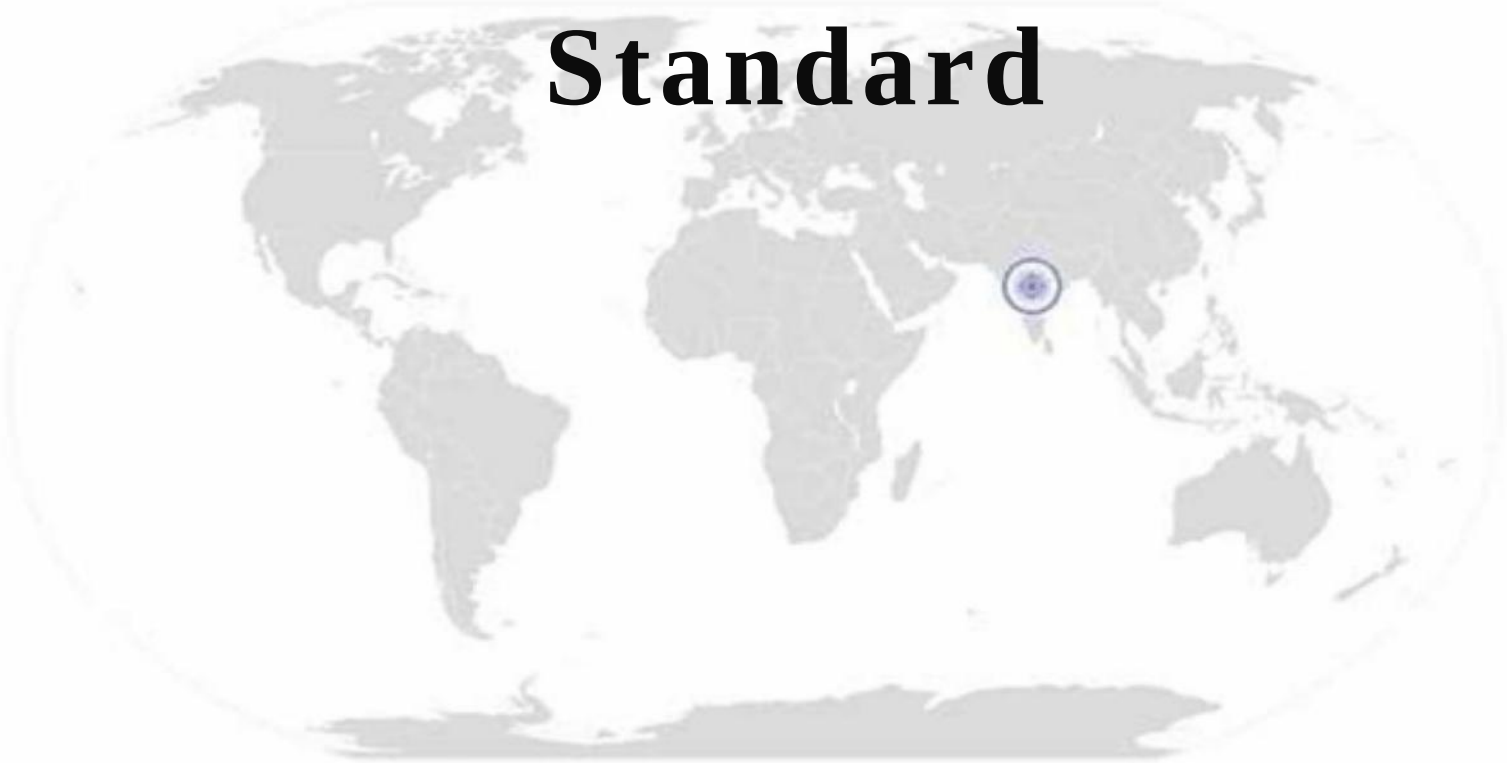
Definitions

Keywords /Terms	Description
Sector	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.
Job Role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
OS	OS specify the standard of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standard are applicable both in the Indian and global contexts.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
NOS	NOS are Occupational Standard which apply uniquely in the Indian context.
Qualification Pack Code	Qualification Pack Code is a unique reference code that identifies a qualification pack.
Qualification Pack	Qualification Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualification Pack is assigned a unique qualification pack code.
Unit Code	Unit Code is a unique identifier for an Occupational Standard , which is denoted by an 'N'.
Unit Title	Unit Title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard.
Organizational Context	Organizational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills or Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the OS , these include communication related skills that are applicable to most job roles.

Acronyms

Keywords /Terms	Description
SCMS	Skill council for Mining Sector
NOS	National Occupational Standard
NSQF	National Skill Qualification Framework
NVEQF	National Vocational Educational Qualification Framework
NVQF	National Vocational Qualification Framework
OS	Occupational Standard
PC	Performance Criteria
QP	Qualification Pack
SSC	Sector Skill Council

National Occupational Standard



Overview

This unit is about preparing the machine for activities that need to be carried out during a shift

National Occupational Standard

Unit Code	MIN/N 0488
Unit Title(Task)	Prepare machine
Description	This unit is about preparing the machine for activities that need to be carried out during a
Scope	This OS unit/task covers the following: • Conducting pre-operation checks to ensure jumbo drilling rig is safe to use. • Recording details of checking and maintenance

Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Pre-operation checks	To be competent, the user/individual on the job must be able to: PC1. Adhere to time limits given by supervisor PC2. Check various controls, gauges, warning lamp and other safety devices PC3. Ensure that crown blocks are mounted securely. PC4. Check all hose connections are in order, if using a compress air drill PC5. Check that drilling equipment is in safe operating condition. PC6. Perform visual checks to detect cracks, wear and tear or any damage that could result in structural weakness PC7. Visually inspect to detect cracks or fractures in welded joints. PC8. Apply grease to all greasing pins and pivot points PC9. Check under carriage and superstructure in the drill. PC10. Clear the drilling site of other mine workers to avoid any accidents. PC11. Follow the manufacturer's instructions which apply to the care and safe operation of the Drill. PC12. Keep footplates and steps clean and free from mud, dirt and oil PC13. Conduct prestart check including oil level, coolant level, air pressure, air leakages level etc PC14. Check earthing of drilling machine and fire safety aspects
Recording details	PC15. Maintain a checking/maintenance logbook to record all activities performed before starting the Drill PC16. Inform supervisor of problems that are beyond scope of his role.

Knowledge and Understanding (K)	
A. **Regulatory context** (knowledge of safety guidelines specified by Director General of Mine Safety (DGMS))	The user/individual on the job needs to know and understand: KA1. Different types of mines and detail of the mine he is working in KA2. Mine Organisation, time keeping, need for discipline and punctuality KA3. Benching in quarries, Dressing of overhangs, Undercuts, Fencing, First aid and Hygiene KA4. Code of traffic in specific areas of mine. Significance of fences KA5. Standing orders in force at the mine. Safety in the vicinity of machinery KA6. Shot-firing and Safety regulations. How and where to take shelter KA7. Tramways and siding, Haulage rooms, Winding rooms, Boilers, Electrical Gears KA8. Duties of workmen KA9. Provision of wages, working hours and accident compensation as per Mines act KA10. Knowledge of mining safety procedures KA11. Impact of violation of safely procedures KA12. Precautions to be taken when handling explosives KA13. Refresher training as per fourth schedule MVTR (1966) within one month of joining duties following absence from duties for a period exceeding one year.
B. Organizational Context (Knowledge of organization processes)	The user/individual on the job needs to know and understand: KB1. Job specific documents e.g. daily maintenance checklist and importance of the same KB2. Risk and impact of not following defined procedures/work instructions KB3. Escalation matrix for reporting identified problems KB4. Cost of equipment and loss for the company that results from damage of equipment KB5. All direct /indirect cost of accidents to the company KB6. Implications of delays in process to the company KB7. Locally prepared emergency response /disaster management plan.

C. Technical Knowledge	The user/individual on the job needs to know and understand: KC1. Specifications of jumbo drilling rig and their specific use. KC2. Proper use and care of machine and cables, picks, bits, sharpening, shaping etc. KC3. Specification and details of jumbo drills used in mines KC4. Instrument panel, various controls their location and operation KC5. Lubrication of jumbo drilling rig KC6. Various levers and switches in order to operate the Drill properly KC7. Different types of drill bits and their uses KC8. Common terminology vis-à-vis jumbo drilling KC9. Precautions against falls/gas/coal dust KC10. Routine checks essential before starting operations KC11. Operation of large jumbos single/ double boom KC12. Signage, mining area signs and other safety and emergency signals KC13. Response to emergencies such as fire, accident, major failure etc. KC14. Interlocking of drill safety aspects etc KC15. Construction and operation of different assemblies and sub-assemblies: • Operator's cabin • Mast • Under carriage • Compressors • Hydraulic Systems • Other Mechanical parts

Skills (S) [Optional]	
Element	**Skills**
Element **A. Core Skills/ Generic Skills**	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA1. note down observations (if any) SA2. write information documents or enter the information in online ERP systems under guidance of the supervisor
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA3. read and interpret symbols and measurements SA4. read information documents SA5. understand and analyse the available data about the site
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA6. discuss task lists, schedules and activities SA7. effectively communicate SA8. attentively listen with full attention and comprehend the information given by various sources about the site
B. Professional Skills	**Plan and Organize**
	The user/individual on the job needs to know and understand how to: SB1. plan and organize the work order and jobs SB2. organize all process manuals so that sorting/ accessing information is easy
	Judgment and Critical Thinking
	The user/individual on the job needs to know and understand how to: SB3. use common sense and make judgments during day to day basis SB4. use reasoning skills to identify and resolve basic problems SB5. use intuition to detect any potential problems which could arise
	Desire to learn and take initiatives
	The user/individual on the job needs to know and understand how to: SB6. follow instructions and work on areas of improvement identified SB7. complete the assigned tasks with minimum supervision SB8. complete the job within timelines and quality norms
	Problem Solving and Decision making
	The user/individual on the job needs to know and understand how to: SB9. detect problems in day to day tasks SB10. discuss possible solution with the supervisor for problem solving SB11. make decisions in emergency conditions

NOS Version Control

NOS Code	MIN/ N0488		
Credits(NSQF)	TBD	Version number	1.0
Industry	Mining	Drafted on	15/12/2014
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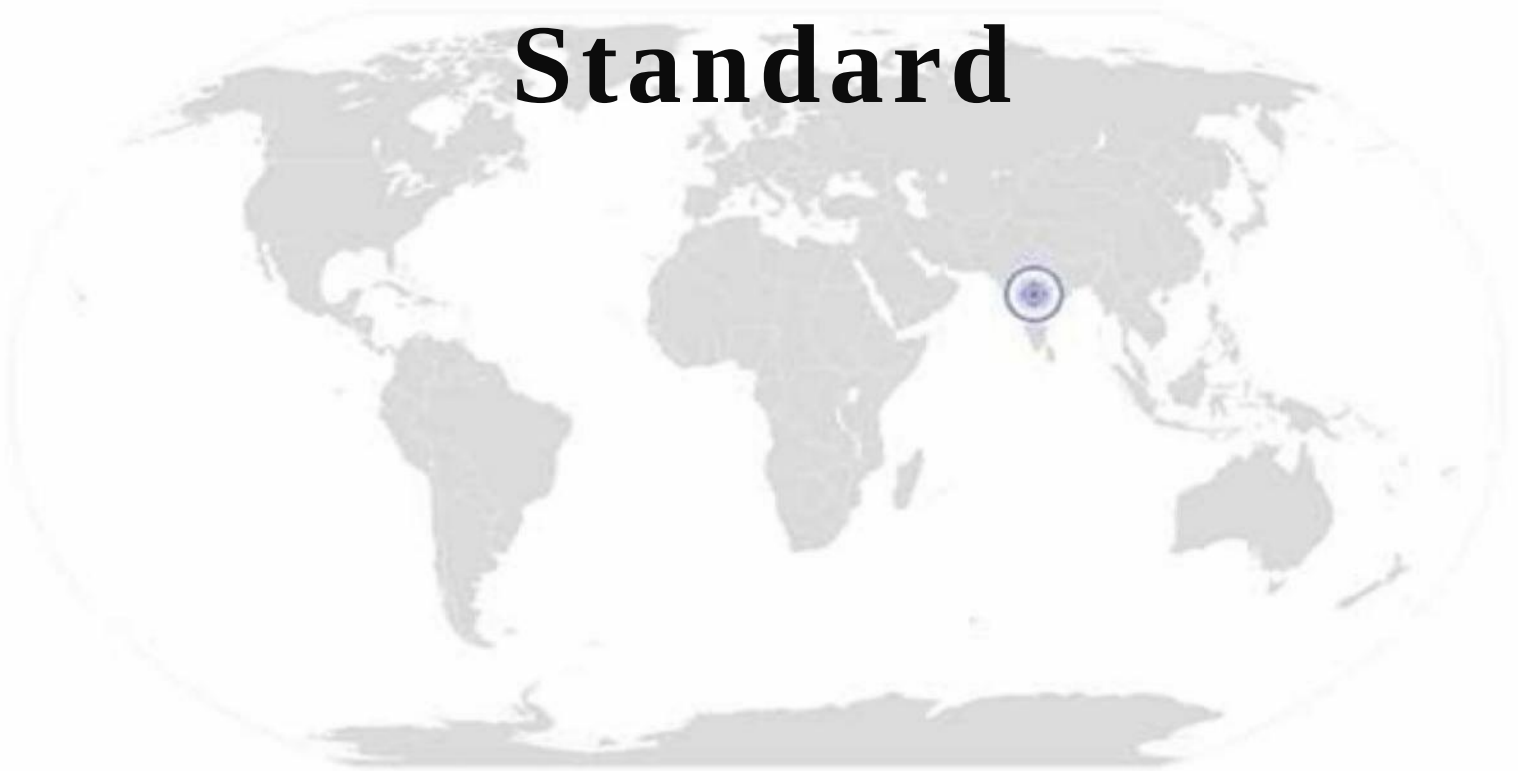
National Occupational Standard



Overview

This unit is about performing operation using a Jumbo machine

National Occupational Standard

Unit Code	MIN/N 0489
Unit Title(Task)	Perform Operations
Description	This unit is about performing operation using a Jumbo machine
Scope	This OS unit/task covers the following: • Performing operation

Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Perform operations	To be competent, the user/individual on the job must be able to: PC1. Mark up the faces in accordance with geological, statutory and survey specifications PC2. Install the ground support except cable bolts and shotcrete PC3. Install the mine services when required PC4. Ensure all necessary precautions are adhered to before towing the drill to a distant site. PC5. Ensure that the OEM prescribed limit for angles of inclination are followed during setting up of drill PC6. Ensure that the highest level of quality is consistently maintained PC7. Work with technical and supervisory staff in quality and safety initiatives PC8. Reduce downtime and wastage PC9. Demonstrate caution against hazards of machine in operation.

Knowledge and Understanding (K)	
A. **Regulatory context** (knowledge of safety guidelines specified by Director General of Mine Safety (DGMS))	The user/individual on the job needs to know and understand: KA1. Different types of mines and detail of the mine he is working in KA2. Mine Organisation, time keeping, need for discipline and punctuality KA3. Benching in quarries, Dressing of overhangs, Undercuts, Fencing, First aid and Hygiene KA4. Code of traffic in specific areas of mine. Significance of fences KA5. Standing orders in force at the mine. Safety in the vicinity of machinery KA6. Shot-firing and Safety regulations. How and where to take shelter KA7. Tramways and siding, Haulage rooms, Winding rooms, Boilers, Electrical Gears KA8. Duties of workmen KA9. Provision of wages, working hours and accident compensation as per Mines act KA10. Knowledge of mining safety procedures KA11. Impact of violation of safely procedures KA12. Precautions to be taken when handling explosives KA13. Refresher training as per fourth schedule MVTR (1966) within one month of joining duties following absence from duties for a period exceeding one year.
B. Organizational Context (Knowledge of the organization and its processes)	The user/individual on the job needs to know and understand: KB1. Types of documentation in organization e.g. daily maintenance checklist and importance of the same KB2. Risk and impact of not following defined procedures/work instructions KB3. Rules and regulations of mine as per standard operating procedure (SOP) KB4. Risk and impact of not following company's SOP KB5. Escalation matrix for reporting identified problems KB6. The duties and responsibilities associated with his job role as per the employer KB7. Cost of delays to the company KB8. Direct /Indirect cost of accidents to the company KB9. Locally prepared emergency response /disaster management plan.

C. Technical Knowledge	The user/individual on the job needs to know and understand: KC1. General knowledge about single/ double boom jumbo drilling rig, Diesel Engines, Electric Motors and compressors KC2. V arious levers and switches in order to operate the Drill properly KC3. Drilling pattern and sequence of operations. KC4. Different types of drill bits and their uses KC5. Common terminology vis-à-vis jumbo drilling KC6. Operation of different assemblies and sub-assemblies such as under- carriage, compressors, hydraulic/pneumatic systems. KC7. Drill safety devices fitted on compressors KC8. Correct sequence of operation of different levers. KC9. Transmissions of compressed air from compressor to Drill head. KC10. Selection of proper rotation speed and effect of excessive speeds on bit life KC11. Specification of single/ double boom jumbo drilling rig used in mines KC12. Instrument panel, various controls their location and operation KC13. Lubrication system of drills KC14. Drill hole design and impact of poor drill hole design on blasting KC15. Understanding of fly rocks and air-blast KC16. Inclined hole, azimuth, deviation, dip KC17. Safety during drilling, marching and other operations KC18. Dangers from loose house joints and defective Houses. KC19. Understanding of survey prints and layouts KC20. Signage, mining area signs and other safety and emergency signals KC21. Wet cutting, drilling method, drilling pattern KC22. Dangers from cutting/ drilling in stone band KC23. Slope failures, Joint spacing, Caving KC24. Fleeting of ore cutting machine on gradient KC25. Understanding of ground support plans KC26. Electrical and Mechanical knowledge of jumbo rigs KC27. Dust extraction system and water injection system KC28. Knowledge of Connection Flow Monitor

Skills (S) [Optional]	
Element	**Skills**
Element **A. Core Skills/ Generic Skills**	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA1. note down observations (if any) SA2. write information documents or enter the information in online ERP systems under guidance of the supervisor
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA3. read and interpret symbols and measurements SA4. read information documents SA5. understand and analyse the available data about the site
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA6. discuss task lists, schedules and activities SA7. effectively communicate SA8. attentively listen with full attention and comprehend the information given by various sources about the site
B. Professional Skills	**Plan and Organize**
	The user/individual on the job needs to know and understand how to: SB1. plan and organize the work order and jobs SB2. organize all process manuals so that sorting/ accessing information is easy
	Judgment and Critical Thinking
	The user/individual on the job needs to know and understand how to: SB3. use common sense and make judgments during day to day basis SB4. use reasoning skills to identify and resolve basic problems SB5. use intuition to detect any potential problems which could arise
	Desire to learn and take initiatives
	The user/individual on the job needs to know and understand how to: SB6. follow instructions and work on areas of improvement identified SB7. complete the assigned tasks with minimum supervision SB8. complete the job within timelines and quality norms
	Problem Solving and Decision making
	The user/individual on the job needs to know and understand how to: SB9. detect problems in day to day tasks SB10. discuss possible solution with the supervisor for problem solving SB11. make decisions in emergency conditions

NOS Version Control

NOS Code	MIN/ N0489		
Credits(NSQF)	TBD	Version number	1.0
Industry	Mining	Drafted on	15/12/2014
Industry Sub-sector	Underground Mines	Last reviewed on	24/03/2015
Occupation	Mining Operations	Next review date	24/03/2017

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National Occupational Standard

Overview

This unit is about performing routine maintenance and troubleshooting on machine

National Occupational Standard

Unit Code	**MIN/ N0490**
Unit Title(Task)	**Perform routine maintenance and troubleshooting on the machine**
Description	This unit is about performing routine maintenance and troubleshooting tasks on the machine
Scope	This OS unit/task covers the following: • Routine maintenance in accordance with the manufacturer's recommendations and company procedures • Basic diagnostics and Troubleshooting

Performance Criteria (PC) w.r.t. the Scope

Element	Performance Criteria
Routine maintenance	PC1. Track machine operating hours (drilling hours and engine hours) to assess the right service schedule. PC2. Clean air filter dust bowls PC3. Clean footplates, pedals and steps free from mud, dirt, ice and snow PC4. Drain water and sediment /fuel separators PC5. Replenish coolants, lubricants and fluids PC6. Grease all greasing pins and pivot points PC7. Check battery levels and condition of the terminals and carrying out minor adjustments if required. PC8. Check and maintain the tyre rims, air pressure, wheel nuts and treads. PC9. Check structural safety of the machine. PC10. Complete timely and legibly daily/weekly maintenance sheets
Troubleshooting	PC11. Ensure the machine is on firm and level ground before attempting to carry out any maintenance activity. PC12. Ensure that no maintenance task on the engine is performed when running or still hot. PC13. Ensure proper Lock out and Tag out scenario to avoid any untoward incident triggered due to unknowingly operation of machine / system under maintenance PC14. Assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel PC15. Complete timely and legibly defect sheets as provided by the company

Knowledge and Understanding (K)	
A. **Regulatory context** (knowledge of safety guidelines specified by Director General of Mine Safety (DGMS))	The user/individual on the job needs to know and understand: KA1. Different types of mines and detail of the mine he is working in KA2. Mine Organisation, time keeping, need for discipline and punctuality KA3. Benching in quarries, Dressing of overhangs, Undercuts, Fencing, First aid and Hygiene KA4. Code of practice in specific areas of mine. Significance of fences KA5. Standing orders in force at the mine. Safety in the vicinity of machinery KA6. Shot-firing and Safety regulations. How and where to take shelter KA7. Tramways and siding, Haulage rooms, Winding rooms, Boilers, Electrical Gears. KA8. Duties of workmen KA9. Provision of wages and working hours as per Mines act KA10. Knowledge of mining safety procedures KA11. Impact of violation of safely procedures KA12. Precautions to be taken when handling explosives KA13. Refresher training as per fourth schedule MVTR (1966) within one month of joining duties following absence from duties for a period exceeding one year.
B. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KB1. Types of documentation in organization e.g. daily maintenance checklist and importance of the same KB2. Risk and impact of not following defined procedures/work instructions KB3. Rules and regulations of mine as per standard operating procedure (SOP) KB4. Risk and impact of not following company's SOP KB5. Escalation matrix for reporting identified problems
B. Technical Knowledge	The user/individual on the job needs to know and understand: KC1. Specifications of jumbo drilling rig and their specific use KC2. Operation of different assemblies and sub-assemblies such as under-carriage, compressors, hydraulic/pneumatic systems. KC3. Specification and details of jumbo drills used in mines KC4. Instrument panel, various controls their location and operation KC5. Lubrication of drills KC6. Various levers and switches in order to operate the Drill properly

	KC7. Drilling pattern and sequence of operations. KC8. Different types of drill bits and their uses KC9. Common terminology vis-à-vis drilling KC10. Safety during drilling, marching and other operations KC11. Compliance with all company Quality, Health, Safety and Environment policies and procedures KC12. Signage, mining area signs and other safety and emergency signals KC13. Wet cutting, drilling method, drilling pattern KC14. Dangers from cutting/ drilling in stone band, KC15. Fleeting of ore cutting machine on gradient KC16. Keeping machinery reasonably free from dust. KC17. Response to emergencies such as fire, accident, major failure etc

Skills (S) [Optional]	
Element	**Skills**
Element **A. Core Skills/ Generic Skills**	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA1. note down observations (if any) SA2. write information documents or enter the information in online ERP systems under guidance of the supervisor
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA3. read and interpret symbols and measurements SA4. read information documents SA5. understand and analyse the available data about the site
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA6. discuss task lists, schedules and activities SA7. effectively communicate SA8. attentively listen with full attention and comprehend the information given by various sources about the site
B. Professional Skills	**Plan and Organize**
	The user/individual on the job needs to know and understand how to: SB1. plan and organize the work order and jobs SB2. organize all process manuals so that sorting/ accessing information is easy
	Judgment and Critical Thinking
	The user/individual on the job needs to know and understand how to: SB3. use common sense and make judgments during day to day basis SB4. use reasoning skills to identify and resolve basic problems SB5. use intuition to detect any potential problems which could arise
	Desire to learn and take initiatives
	The user/individual on the job needs to know and understand how to: SB6. follow instructions and work on areas of improvement identified SB7. complete the assigned tasks with minimum supervision SB8. complete the job within timelines and quality norms
	Problem Solving and Decision making
	The user/individual on the job needs to know and understand how to: SB9. detect problems in day to day tasks SB10. discuss possible solution with the supervisor for problem solving SB11. make decisions in emergency conditions

NOS Version Control

NOS Code	MIN/ N0490		
Credits(NSQF)	TBD	Version number	1.0
Industry	Mining	Drafted on	15/12/2014
Industry Sub-sector	Underground Mines	Last reviewed on	24/03/2015
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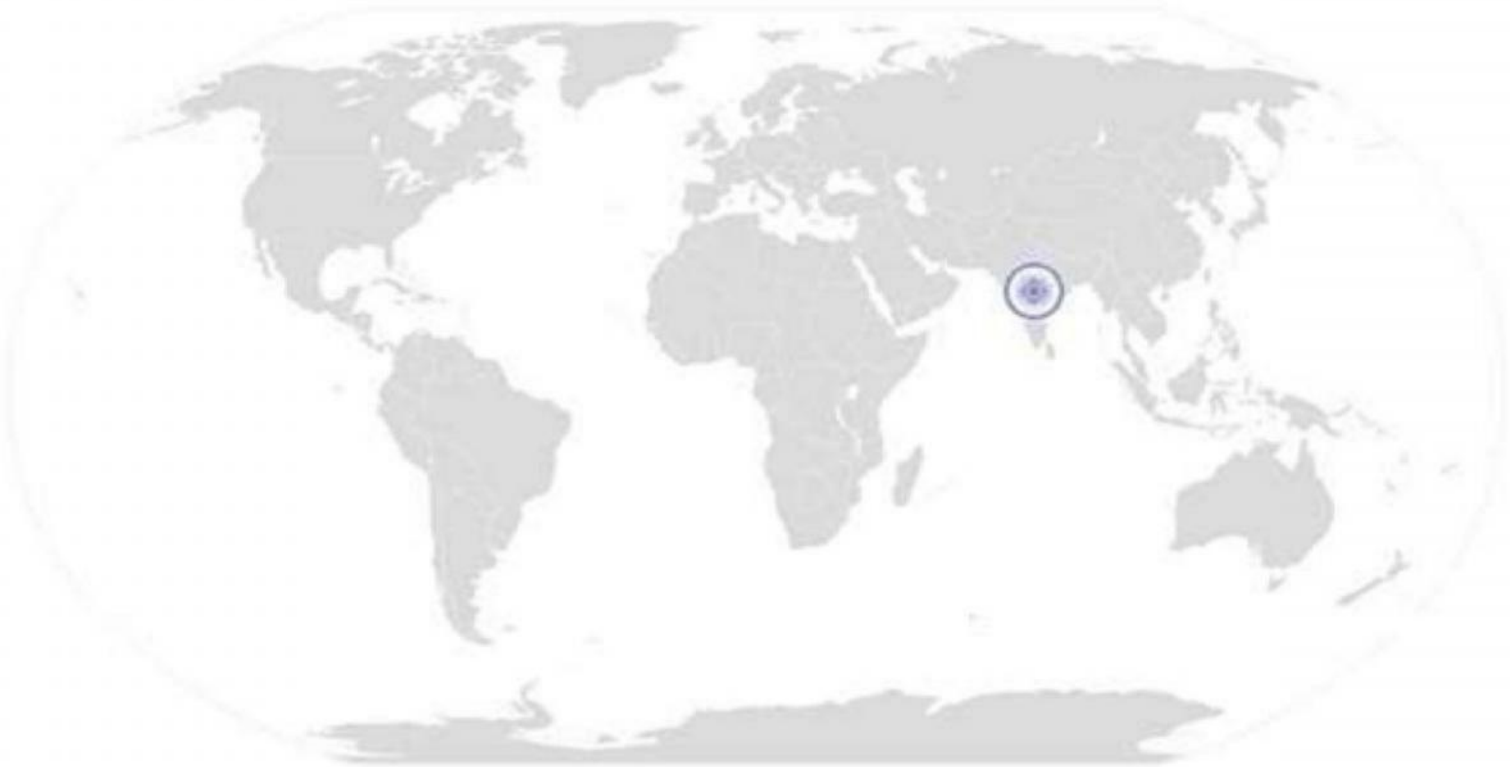
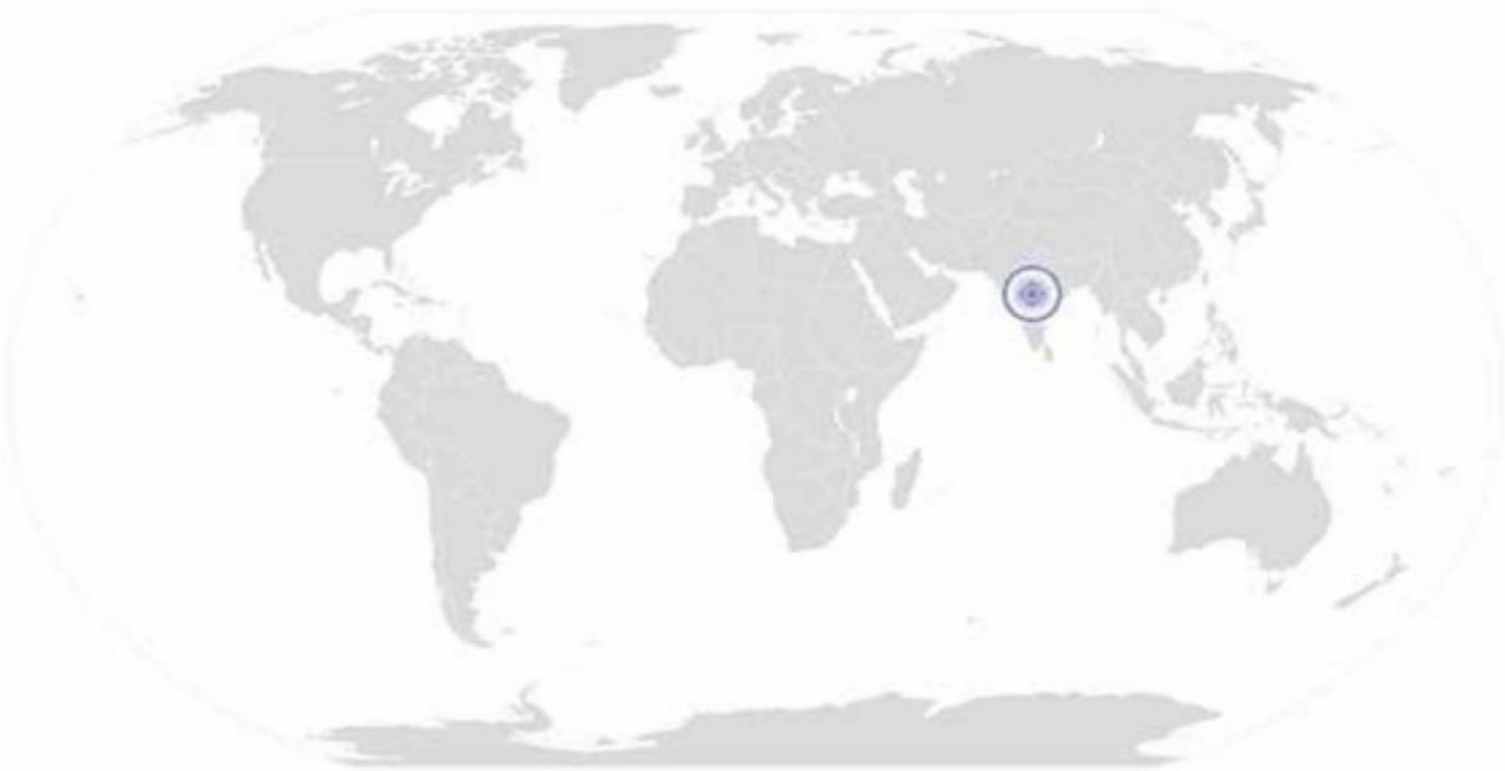


National Occupational Standard



Overview

This unit is about health and safety measures critical in mines

National Occupational Standard

Unit Code	MIN/N 0901
Unit Title (Task)	**Health and Safety**
Description	This unit is about health and safety measures critical in mines
Scope	This OS unit/task covers the following: • Health and safety measures critical for personnel in mines
Element	**Performance Criteria**
Safety, Security and Administrative	To be competent, the user/individual on the job must be able to: PC1. Comply with occupational health and safety regulations adopted by the employer. PC2. Follow mining operations procedures with respect to materials handling and accidents PC3. Follow the correct safety steps in case of fire, accident, major failure PC4. Work responsibly and carefully so as not to put the health and safety of self or others at risk. PC5. Perform storage and transport of hazardous materials compliant with safety guidelines prescribed by DGMS. PC6. Comply with safety regulations and procedures in case of fire hazard. PC7. Operate various grades of fire extinguishers. PC8. Work responsibly and as safe and careful as possible so as not to put the health and safety of self or others at risk, including members of the public PC9. Demonstrate careful practices in handling explosives and heavy machinery. PC10. Identify characteristics of post-blast fumes and take necessary precautions.

Knowledge and Understanding (K)	
A. **Regulatory context** (knowledge of safety guidelines specified by Director General of Mine Safety (DGMS))	The user/individual on the job needs to know and understand: KA1. Benching in quarries, Dressing of overhangs, undercuts, fencing KA2. First aid and hygiene KA3. Code of practice in specific areas of mine. Significance of fences KA4. Standing orders in force at the mine. Safety in the vicinity of machinery KA5. Shot-firing and Safety regulations. How and where to take shelter KA6. Knowledge of mining safety procedures KA7. Impact of violation of safety procedures KA8. Locally prepared Emergency Preparedness / Disaster Management Plan. KA9. Environmental impact of mining KA10. Sources of dust, noise and vibration and measures to minimize KA11. Hazardous material safety and security rules and regulations as prescribed by DGMS

NOS Version Control

NOS Code	MIN/ N0901		
Credits(NSQF)	TBD	Version number	1.0
Industry	Mining	Drafted on	15/12/2014
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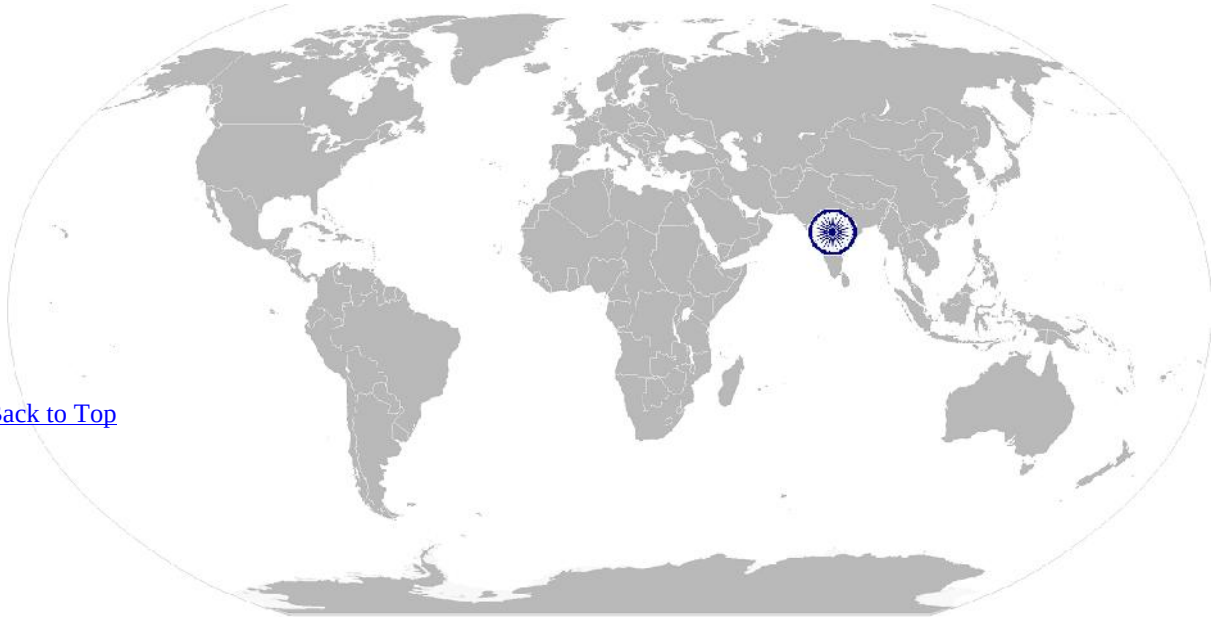

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CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Jumbo operator

Qualification Pack MIN/ Q0432

Sector Skill Council Mining

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
5. To pass the Qualification Pack , every trainee should score a minimum of 70% in every NOS
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

				Marks Allocation	
		Total Mark (100)	**Out Of**	**Theory**	**Skills Practical**
1. MIN/N 0488(Prepare Machine)	PC1. Adhere to time limits given by supervisor	**25**	2	1.5	0.5
	PC2. Check various controls, gauges, warning lamp and other safety devices		2	1	1
	PC3. Ensure that crown blocks are mounted securely.		2	1	1
	PC4. Check all those connections are in order ,if using a compress air drill		2	1	1
	PC5. Check that drilling equipment is in safe operating condition.		2	1.5	0.5
	PC6. Perform visual checks to detect cracks , wear and terror any damage that could result in structural weakness		2	1.5	0.5

	PC7. Visual inspect to detect cracks or fractures in welded joints.		2	1	1
	PC8. Apply grease to all gear sing pins and pivot points		2	1.5	0.5
	PC9. Check under carriage and super structure in the drill.		2	1.5	0.5
	PC10.Clear the drilling site of other mine workers to avoid any accidents.		1	0.5	0.5
	PC11.Followthe manufacturer instructions which apply to the care and safe operation of the Drill.		1	0.5	0.5
	PC12.Keep foot plates and steps clean and free from mud, dirt and oil		1	0.5	0.5
	PC13. Conduct prestart check including oil level, coolant level, air pressure, air leakages level etc		1	0.5	0.5
	PC14. Check earthing of drilling machine and fire safety aspects		1	0.5	0.5
	PC15.Maintain a checking/maintenance log book to record all activities performed be for starting the Drill		1	0.5	0.5
	PC16.Inform supervisor of problems that are beyond scope of his role.		1	0.5	0.5
		Total	**25**	**15**	**10**
2.MIN/N0489(Perform Operations)	PC1. Mark up the faces in accordance with geological, statutory and survey specifications	**25**	3	2	1
	PC2. Install the ground support except cable bolts and shot Crete		3	1.5	1.5
	PC3. Install the mine services when required		3	1.5	1.5
	PC4. Ensure all necessary precautions are adhered to before towing the drill to a distant site.		3	2	1
	PC5. Ensure that the OEM prescribed limit for angle of inclination are followed during setting up of drill		3	2	1
	PC6.Ensurethatthehighestlevel of quality is consistently maintained		3	2	1

	PC7. Work with technical and supervisory staff in quality and safety initiatives		3	2	1
	PC8. Reduce downtime and wastage		2	1	1
	PC9.Demonstratecautionagainsthazards of machine in operation.		2	1	1
		Total	**25**	**15**	**10**
3.MIN/N0490(Perform routine maintenance and troubleshooting on the Machine)	PC1. Track machine operating hours (drilling hours and engine hours)to assess the right service schedule.	**25**	2	1	1
	PC2. Clean air filter dust bowls		2	1	1
	PC3. Clean foot plates, pedal sand steps free from mud, dirt, ice and snow		2	1	1
	PC4. Drain water and sediment/fuel separators		2	1	1
	PC5. Replenish coolants , lubricants and fluids		2	1	1
	PC6. Grease all greasing pins and pivot points		2	1.5	0.5
	PC7. Check battery levels and condition of the terminals and carrying out minor adjustments if required.		2	1.5	0.5
	PC8. Check and maintain the tyre rims, air pressure, wheel nuts and treads.		1	0.5	0.5
	PC9. Check structural safety of the machine.		1	0.5	0.5
	PC10.Completetimelyand legibly daily/weekly maintenance sheets		1	0.5	0.5

	PC11.Ensurethemachineison firm and level ground before attempting to carry out any maintenance activity.		2	1.5	0.5
	PC12.Ensurethatno maintenance task on the engine is performed when running or still hot.		2	1.5	0.5
	PC13.EnsureproperLock out and Tag out scenario to avoid any untoward incident triggered due to unknowingly operation of machine/system under maintenance		2	1.5	0.5
	PC14.Assesswhen the problem is beyond his competence and report the problem to suitably qualified and competent personnel		1	0.5	0.5
	PC15.Completetimelyand legibly defect sheets as provided by the company		1	0.5	0.5
		Total	**25**	**15**	**10**
4. MIN/ N0901 (Health and Safety)	PC1. Comply with occupational health and safety regulations adopted by the employer.	**25**	2	1	1
	PC2. Follow mining operations procedures with respect to materials handling and accidents.		3	2	1
	PC3. Follow the correct safety steps in case of fire, accident, and major failure.		2	1	1
	PC4. Work responsibly and carefully so as not to put the health and safety of self or others at risk.		2	1	1
	PC5. Perform storage and transport of hazardous materials compliant with safety guidelines prescribed by DGMS.		3	2	1
	PC6. Comply with safety regulations and procedures in case of fire hazard.		2	1	1
	PC7. Operate various grades of fire extinguishers.		3	2	1
	PC8. Work responsibly and as safe and careful as possible so as not to put the health and safety of self or others at risk, including members of the public.		2	1.5	1
	PC9. Demonstrate careful practices in handling explosives and heavy machinery.		3	2	1
	PC10. . Identify characteristics of post-blast fumes and take necessary precautions.		3	1.5	1
		Total	**25**	**15**	**10**