

QUALIFICATION PACK - OCCUPATIONAL STANDARDS FOR MINING INDUSTRY

What are Occupational Standards(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 standards 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- Assistant Mine Surveyor

SECTOR: MINING

SUB-SECTOR: Open Cast and Underground Mines

OCCUPATION: Mine Surveying

REFERENCE ID: MIN/Q 0426

ALIGNED TO: NCO-2004/2148.40

An Assistant Mine Surveyor provides requisite support in surveying the mine site and taking measurements

Brief Job Description: Assistant Mine Surveyor supports the mine surveyor with making measurements and determining property boundaries. This role will further support in making accurate Surveys, Levelling, Contouring,(Traversing, Triangulation, Co-relation, Setting out Curves etc.) and for preparing such Plans, sections and tracing etc. as required under Provision/Statute

Personal Attributes: This job requires the individual to have technical knowledge of surveying & levelling ,representing & preparing a plan, section, tracings, knowledge of Auto CAD, ability to plan and prioritize, quality consciousness, sensitivity to problem solving, quick decision making

Job Details	Qualification Pack Code	MIN/Q 0426		
	Job Role	Assistant Mine Surveyor		
	Credits(NSQF)	TBD	Version number	1.0
	Industry	Mining	Drafted on	15/12/2014
	Sub-sector	Open Cast and Underground Mines	Last reviewed on	24/03/2015
	Occupation	Mine Surveying	Next review date	24/03/2017

Job Role	Assistant Mine Surveyor
Role Description	The role is responsible for supporting mine surveyor in various activities towards land surveying like positioning tracts of land, natural and constructed features and managing related information systems
NSQF level	4
Minimum Educational Qualification	ITI in Draughtsmanship, ITI Civil
Maximum Educational Qualification	NA
Training (Suggested but not mandatory)	<ol style="list-style-type: none"> 1. Mine Surveying 2. 5S 3. Safety
Experience	2 years for ITIs and 6 months for diploma holders
Applicable National Occupational Standards	<p>Compulsory: Click on the hyperlink to read/download the required NOS</p> <ol style="list-style-type: none"> 1. MIN/ N 0473 (Assist in measuring and setting out dimensional control for the mining requirements) 2. MIN/ N 0474 (Set out secondary dimensional work control) 3. MIN/ N 0475 (Move and handle resources to assist surveyor) 4. MIN/ N0901 (Health and Safety) <p>Optional: Not Applicable</p>
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 standards 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 Standards 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 Standards 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 Standards
NSQF	National Skills Qualification Framework
NVEQF	National Vocational Educational Qualification Framework
NVQF	National Vocational Qualification Framework
OS	Occupational Standards
PC	Performance Criteria
QP	Qualification Pack
SSC	Sector Skill Council

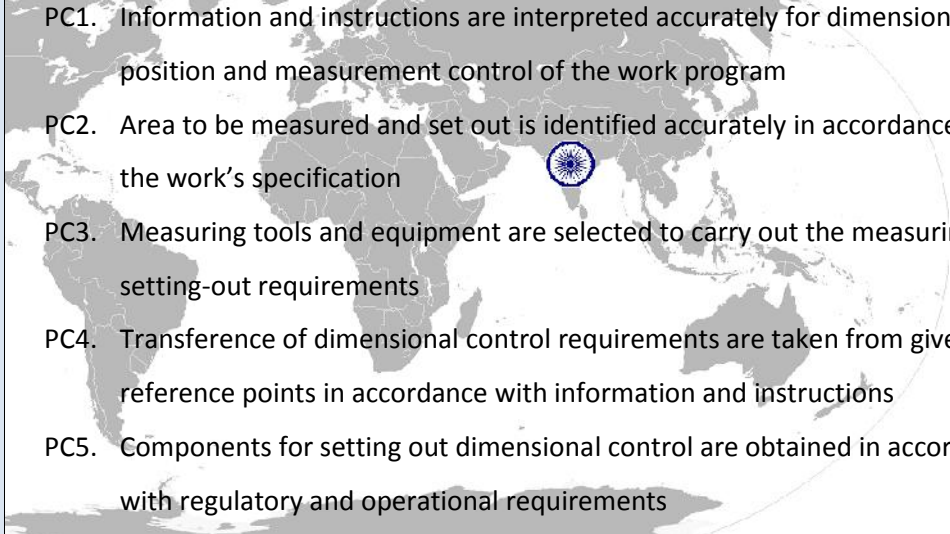
National Occupational Standard



Overview

This unit is about supporting mine surveyor in various activities towards land surveying like positioning tracts of land, natural and constructed features and managing related information systems

MIN/ N0473 Assist in measuring and setting out dimensional control for the mining requirements`

National Occupational Standard	Unit Code	MIN/ N0473
	Unit Title (Task)	Assist in measuring and setting out dimensional control for the mining requirements
	Description	This OS unit is about demonstrating competence to measure and set out dimensional control for the mining requirement. It involves correctly interpreting information and instruction to set out the work area and enable the accurate transfer of measurement and dimensional positioning to which the work will be carried out
	Scope	This unit/task covers the following: <ul style="list-style-type: none"> Measuring and setting out dimensional control
	Performance Criteria (PC) w.r.t. the Scope	
	Element	Performance Criteria
	Measuring and setting out dimensional control	 <p>PC1. Information and instructions are interpreted accurately for dimensional position and measurement control of the work program</p> <p>PC2. Area to be measured and set out is identified accurately in accordance with the work's specification</p> <p>PC3. Measuring tools and equipment are selected to carry out the measuring and setting-out requirements</p> <p>PC4. Transference of dimensional control requirements are taken from given reference points in accordance with information and instructions</p> <p>PC5. Components for setting out dimensional control are obtained in accordance with regulatory and operational requirements</p> <p>PC6. Clarification and understanding of the information and instructions are confirmed with the appropriate person(s)</p> <p>PC7. Markings and dimensional control components are positioned and secured accurately in accordance with the specifications and work requirement</p> <p>PC8. Variations between the information and instructions and the actual dimensions of work are reported promptly to the authorized person</p> <p>PC9. Corrective actions for variations to the information and instructions are agreed, recorded and confirmed with the appropriate person(s)</p> <p>PC10. Work is carried out to approved procedures and practices and in compliance with statutory requirements</p>

MIN/ N0473 Assist in measuring and setting out dimensional control for the mining requirements`

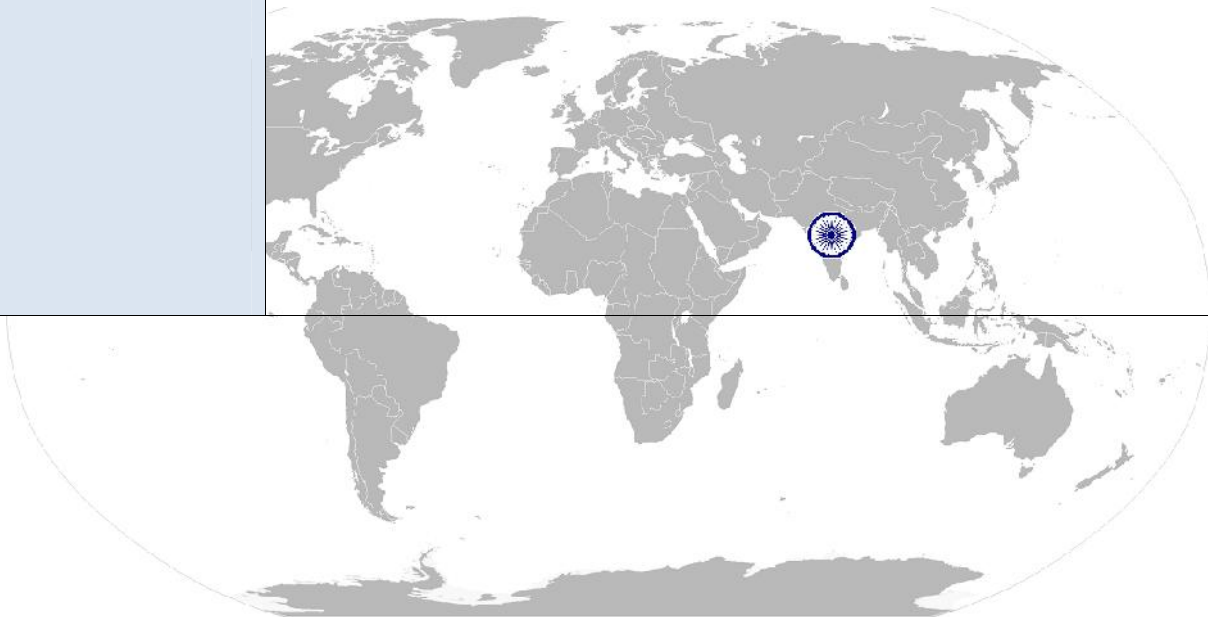
	<p>PC11. Prepare and maintain the plan and sections and related instruments</p> <p>PC12. Understand/ identify the errors in surveying under the guidance of surveyor</p>
Knowledge and Understanding (K) w.r.t. the scope	
<p>A. Regulatory context (knowledge of safety guidelines specified by Director General of Mine Safety (DGMS))</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Different types of mines and detail of the mine he is working in</p> <p>KA2. Mine Organisation, time keeping, need for discipline and punctuality</p> <p>KA3. Benching in quarries, Dressing of overhangs, Undercuts, Fencing, First aid and Hygiene</p> <p>KA4. Standing orders in force at the mine. Safety in the vicinity of machinery</p> <p>KA5. Shot-firing and Safety regulations. How and where to take shelter</p> <p>KA6. Duties of workmen</p> <p>KA7. Provision of wages, working hours and accident compensation as per Mines act</p> <p>KA8. Knowledge of mining safety procedures</p> <p>KA9. Impact of violation of safely procedures</p>
<p>B. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. relevant standards and procedures followed in the company</p>
<p>C. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KC1. Measuring and setting-out procedures</p> <p>KC2. Types of measuring tools and equipment used</p> <p>KC3. Information and instruction to measure and set out the work</p> <p>KC4. Methods for transfer of dimensional control</p> <p>KC5. Setting-out procedures used with the work</p> <p>KC6. Types of marking and components used for setting out</p> <p>KC7. Related reference points used in engineers', surveyors' and designers' plans</p> <p>KC8. Interpretation of job sheets and dimensional data and drawings</p>

MIN/ N0473 Assist in measuring and setting out dimensional control for the mining requirements`

	<p>KC9. Defects with measuring and marking tools and equipment</p> <p>KC10. Problems that can occur when measuring and/or marking</p> <p>KC11. Reporting/recording methods and procedures</p>
Skills (S) [Optional]	
<p>Element</p> <p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Note down observations (if any)</p> <p>SA2. Write information documents or enter the information in online ERP systems under guidance of the supervisor</p> <p>Reading Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA3. Read and interpret symbols and measurements</p> <p>SA4. Read information documents</p> <p>SA5. Understand and analyse the available data about the site</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. Discuss task lists, schedules and activities</p> <p>SA7. Effectively communicate</p> <p>SA8. Attentively listen with full attention and comprehend the information given by various sources about the site</p>
<p>B. Professional Skills</p>	<p>Plan and Organize</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Plan and organize the work order and jobs</p> <p>SB2. Organize all process manuals so that sorting/ accessing information is easy</p> <p>Judgment and Critical Thinking</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB3. Use common sense and make judgments during day to day basis</p> <p>SB4. Use reasoning skills to identify and resolve basic problems</p> <p>SB5. Use intuition to detect any potential problems which could arise</p> <p>Desire to learn and take initiatives</p>

MIN/ N0473 Assist in measuring and setting out dimensional control for the mining requirements`

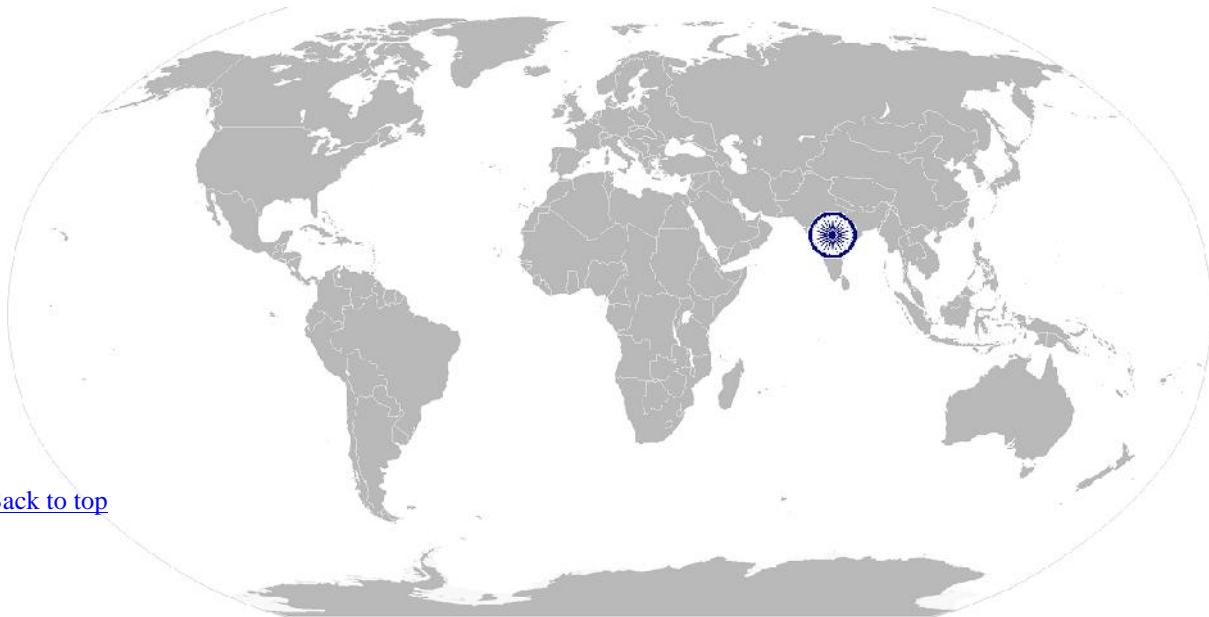
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SB6. Follow instructions and work on areas of improvement identified SB7. Complete the assigned tasks with minimum supervision SB8. Complete the job within timelines and quality norms
	<p>Problem Solving and Decision making</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SB9. Detect problems in day to day tasks SB10. Discuss possible solution with the supervisor for problem solving SB11. Make decisions in emergency conditions



MIN/ N0473 Assist in measuring and setting out dimensional control for the mining requirements`

NOS Version Control

NOS Code	MIN/ N0473		
Credits(NSQF)	TBD	Version number	1.0
Industry	Mining	Drafted on	15/12/2014
Industry Sub-sector	Open Cast and Underground Mines	Last reviewed on	24/03/2015
Occupation	Mine Surveying	Next review date	24/03/2017



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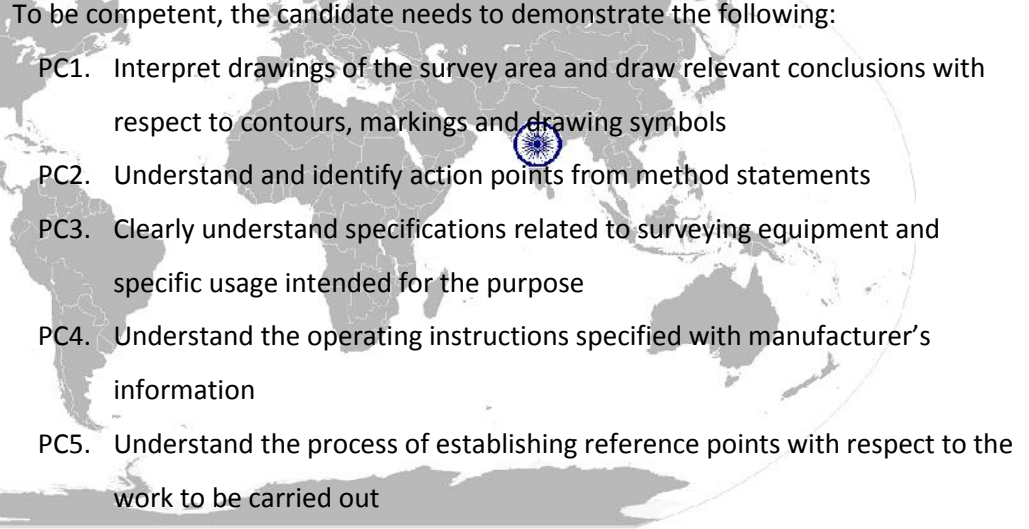
National Occupational Standards



Overview

This unit is about demonstrating competence in interpreting information, selecting setting out equipment and ancillary resources and preparing & setting out secondary dimensional control for survey

MIN/ N0474 Set out secondary dimensional work control `

National Occupational Standard	Unit Code	MIN/ N0474
	Unit Title (Task)	Set out secondary dimensional work control
	Description	This OS unit is about demonstrating competence in interpreting information, selecting setting out equipment and ancillary resources and preparing & setting out secondary dimensional control for survey
	Scope	This unit/task covers the following: <ul style="list-style-type: none"> • Interpreting information required • Selecting and prepare setting out equipment and ancillary resources for secondary dimensional control of the work
	Performance Criteria (PC) w.r.t. the Scope	
	Element	Performance Criteria
	Interpret information required	To be competent, the candidate needs to demonstrate the following:  <p>PC1. Interpret drawings of the survey area and draw relevant conclusions with respect to contours, markings and drawing symbols</p> <p>PC2. Understand and identify action points from method statements</p> <p>PC3. Clearly understand specifications related to surveying equipment and specific usage intended for the purpose</p> <p>PC4. Understand the operating instructions specified with manufacturer's information</p> <p>PC5. Understand the process of establishing reference points with respect to the work to be carried out</p>
	Selecting and prepare setting out equipment and ancillary resources for secondary dimensional control of the work	PC6. Select the required type and quantity of resources: material, components and equipment relating to types, quantity, quality and sizes of standard and/or specialist: <ul style="list-style-type: none"> • measuring tools and instruments • marking equipment • level and alignment tools. <p>PC7. Use given equipment to transfer, transpose, level, measure, mark, position, fix and secure required reference points</p> <p>PC8. Measure and set out secondary dimensional control for the work</p> <p>PC9. Measure, align and level to dimensional control requirements</p>

MIN/ N0474 Set out secondary dimensional work control `

	<p>PC10. Transfer and set out line, angles and levels to dimensional control requirements</p> <p>PC11. Use hand tools and measuring and marking equipment</p> <p>PC12. Work at height if required to set up equipment</p>
Knowledge and Understanding (K) w.r.t. the scope	
Element	Knowledge and Understanding
<p>A. Regulatory context (knowledge of safety guidelines specified by Director General of Mine Safety (DGMS))</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Different types of mines and detail of the mine he is working in</p> <p>KA2. Mine Organisation, time keeping, need for discipline and punctuality</p> <p>KA3. Benching in quarries, Dressing of overhangs, Undercuts, Fencing, First aid and Hygiene</p> <p>KA4. Standing orders in force at the mine. Safety in the vicinity of machinery</p> <p>KA5. Shot-firing and Safety regulations. How and where to take shelter</p> <p>KA6. Duties of workmen</p> <p>KA7. Provision of wages, working hours and accident compensation as per Mines act</p> <p>KA8. Knowledge of mining safety procedures</p> <p>KA9. Impact of violation of safely procedures</p>
<p>B. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Relevant standards and procedures followed in the company</p>

MIN/ N0474 Set out secondary dimensional work control `

<p>C. Technical</p> <p>Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KC1. Measuring and set out secondary dimensional control for the work</p> <p>KC2. Measuring, aligning and levelling to dimensional control requirements</p> <p>KC3. Transfer and set out line, angles and levels to dimensional control requirements</p> <p>KC4. Usage of hand tools and measuring and marking equipment</p> <p>KC5. Methods of calculating height, depth, angle, length and area associated with the method/procedure to set out for secondary dimensional work control</p> <p>KC6. Interpretation of job sheets and dimensional data and drawings</p> <p>KC7. Defects with measuring and marking tools and equipment</p> <p>KC8. Problems that can occur when measuring and/or marking</p> <p>KC9. Reporting/recording methods and procedures</p> <p>KC10. Techniques of calibration of survey instruments</p>
<p>Skills (S) [Optional]</p>	
<p>Element</p> <p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Note down observations (if any)</p> <p>SA2. Write information documents or enter the information in online ERP systems under guidance of the supervisor</p> <p>Reading Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA3. Read and interpret symbols and measurements</p> <p>SA4. Read information documents</p> <p>SA5. Understand and analyse the available data about the site</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. Discuss task lists, schedules and activities</p> <p>SA7. Effectively communicate</p> <p>SA8. Attentively listen with full attention and comprehend the information given by various sources about the site</p>
<p>B. Professional</p>	<p>Plan and Organize</p>

MIN/ N0474 Set out secondary dimensional work control `

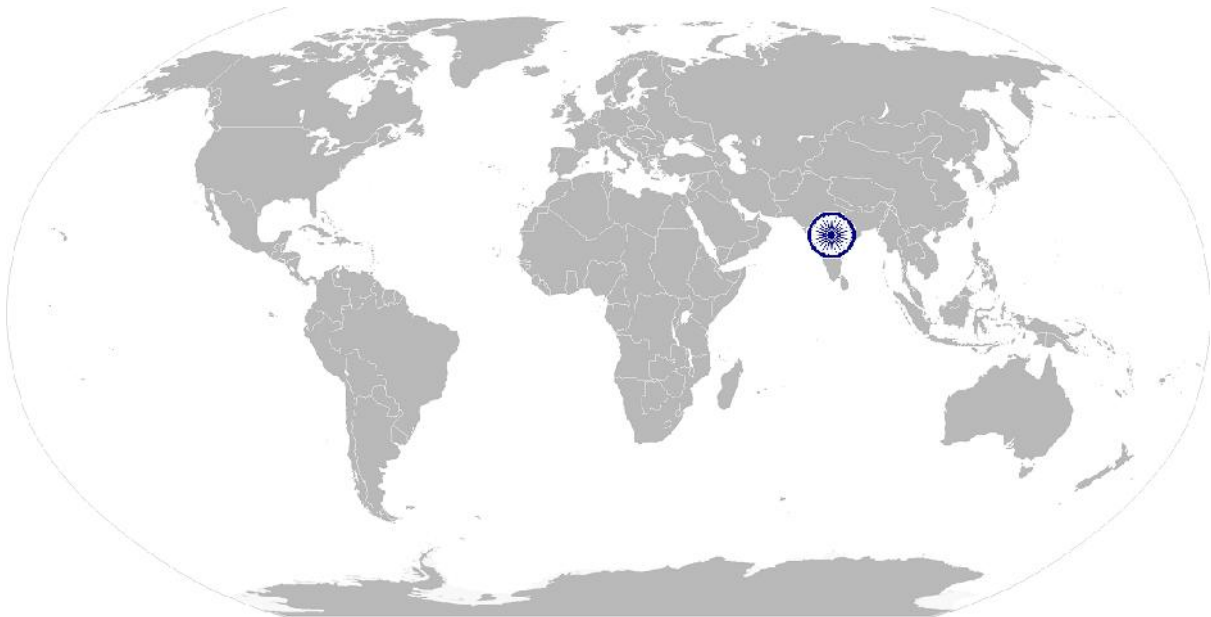
Skills	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Plan and organize the work order and jobs</p> <p>SB2. Organize all process manuals so that sorting/ accessing information is easy</p>
	Judgment and Critical Thinking
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB3. Use common sense and make judgments during day to day basis</p> <p>SB4. Use reasoning skills to identify and resolve basic problems</p> <p>SB5. Use intuition to detect any potential problems which could arise</p>
	Desire to learn and take initiatives
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB6. Follow instructions and work on areas of improvement identified</p> <p>SB7. Complete the assigned tasks with minimum supervision</p> <p>SB8. Complete the job within timelines and quality norms</p>
	Problem Solving and Decision making
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB9. Detect problems in day to day tasks</p> <p>SB10. Discuss possible solution with the supervisor for problem solving</p> <p>SB11. Make decisions in emergency conditions</p>	

NOS Version Control

NOS Code	MIN/ N0474		
Credits(NSQF)	TBD	Version number	1.0
Industry	Mining	Drafted on	15/12/2014
Industry Sub-sector	Open Cast and Underground Mines	Last reviewed on	24/03/2015
Occupation	Mine Surveying	Next review date	24/03/2017

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National Occupational Standards




Overview

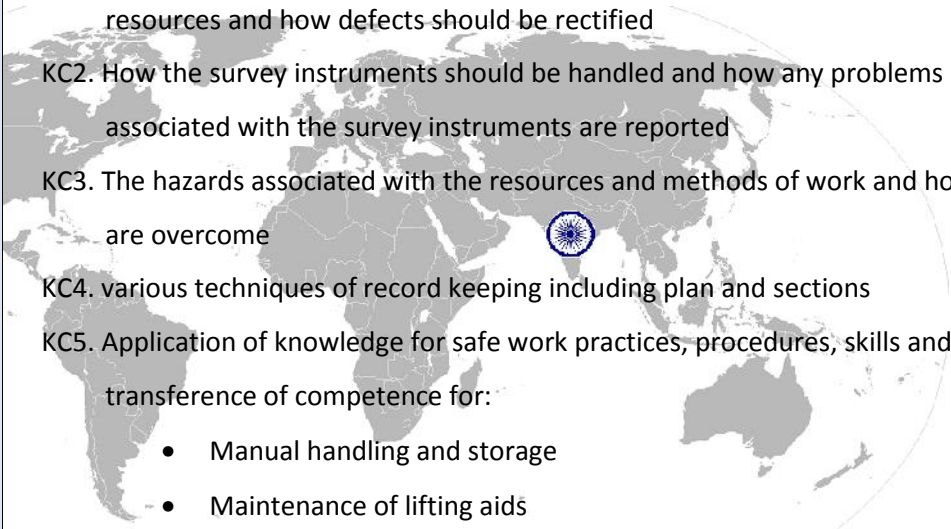
This unit is about demonstrating competence in in following instructions, selecting materials, components & equipment and handling, moving and storage of materials and components by manual procedures and lifting aids

MIN/ N0475 Move and handle resources to assist surveyor

National Occupational Standard

Unit Code	MIN/ N0475
Unit Title (Task)	Move and handle resources to assist surveyor
Description	This OS unit is about demonstrating competence in following instructions, selecting materials, components & equipment and handling, moving and storage of materials and components by manual procedures and lifting aids
Scope	This unit/task covers the following: <ul style="list-style-type: none"> Handling, moving and storage of materials and components by manual procedures and lifting aids
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Interpret information required	To be competent, the candidate needs to demonstrate the following: <ul style="list-style-type: none"> PC1. Comply with the given information to move and store resources to maintain safe work practice PC2. Select the resources to be stored/moved and ensure they conform to the given information PC3. Comply with the given information to prevent damage to the product and surrounding environment PC4. Comply with the given product information to carry out the work efficiently to the required guidance. 
Knowledge and Understanding (K) w.r.t. the scope	
Element	Knowledge and Understanding
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: <ul style="list-style-type: none"> 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. 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. Duties of workmen KA7. Provision of wages, working hours and accident compensation as per Mines act KA8. Knowledge of mining safety procedures

MIN/ N0475 Move and handle resources to assist surveyor

	KA9. Impact of violation of safely procedures
B. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KB1. Relevant standards and procedures followed in the company
C. Technical Knowledge	The user/individual on the job needs to know and understand: KC1. The characteristics, quality, uses, limitations and defects associated with the resources and how defects should be rectified KC2. How the survey instruments should be handled and how any problems associated with the survey instruments are reported KC3. The hazards associated with the resources and methods of work and how they are overcome KC4. various techniques of record keeping including plan and sections KC5. Application of knowledge for safe work practices, procedures, skills and transference of competence for: <ul style="list-style-type: none"> • Manual handling and storage • Maintenance of lifting aids 
Skills (S) [Optional]	
Element	Skills
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

MIN/ N0475 Move and handle resources to assist surveyor

	<p>Oral Communication (Listening and Speaking skills)</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. Discuss task lists, schedules and activities</p> <p>SA7. Effectively communicate</p> <p>SA8. Attentively listen with full attention and comprehend the information given by various sources about the site</p>
<p>B. Professional Skills</p>	<p>Plan and Organize</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Plan and organize the work order and jobs</p> <p>SB2. Organize all process manuals so that sorting/ accessing information is easy</p>
	<p>Judgment and Critical Thinking</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB3. Use common sense and make judgments during day to day basis</p> <p>SB4. Use reasoning skills to identify and resolve basic problems</p> <p>SB5. Use intuition to detect any potential problems which could arise</p>
	<p>Desire to learn and take initiatives</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB6. Follow instructions and work on areas of improvement identified</p> <p>SB7. Complete the assigned tasks with minimum supervision</p> <p>SB8. Complete the job within timelines and quality norms</p>
	<p>Problem Solving and Decision making</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB9. Detect problems in day to day tasks</p> <p>SB10. Discuss possible solution with the supervisor for problem solving</p> <p>SB11. Make decisions in emergency conditions</p>

NOS Version Control

NOS Code	MIN/ N0475		
Credits(NSQF)	TBD	Version number	1.0
Industry	Mining	Drafted on	15/12/2014
Industry Sub-sector	Open Cast and Underground Mines	Last reviewed on	24/03/2015
Occupation	Mine Surveying	Next review date	24/03/2017



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National Occupational Standards



Overview

This unit is about health and safety measures critical in mines

MIN/ N0901 Health and Safety

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: <ul style="list-style-type: none"> Health and safety measures critical in mines
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Safety, Security and Administrative	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Comply with occupational health and safety regulations adopted by the employer.</p> <p>PC2. Follow mining operations procedures with respect to materials handling and accidents</p> <p>PC3. Follow the correct safety steps in case of accident or major failure</p> <p>PC4. Comply with safety regulations and procedures in case of fire hazard.</p> <p>PC5. Operate various grades of fire extinguishers.</p> <p>PC6. 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</p> <p>PC7. Perform storage and transport of hazardous materials compliant with safety guidelines prescribed by DGMS.</p> <p>PC8. Deal with misfires as per statutory requirement</p> <p>PC9. Identify characteristics of post-blast fumes and take necessary precautions.</p> <p>PC10. Wears safety gear such as hard hat, respiratory protection, eye protection, ear protection</p> <p>PC11. Follow the manufacturer’s instructions for care and safe operation of the equipment.</p>
Knowledge and Understanding (K)	

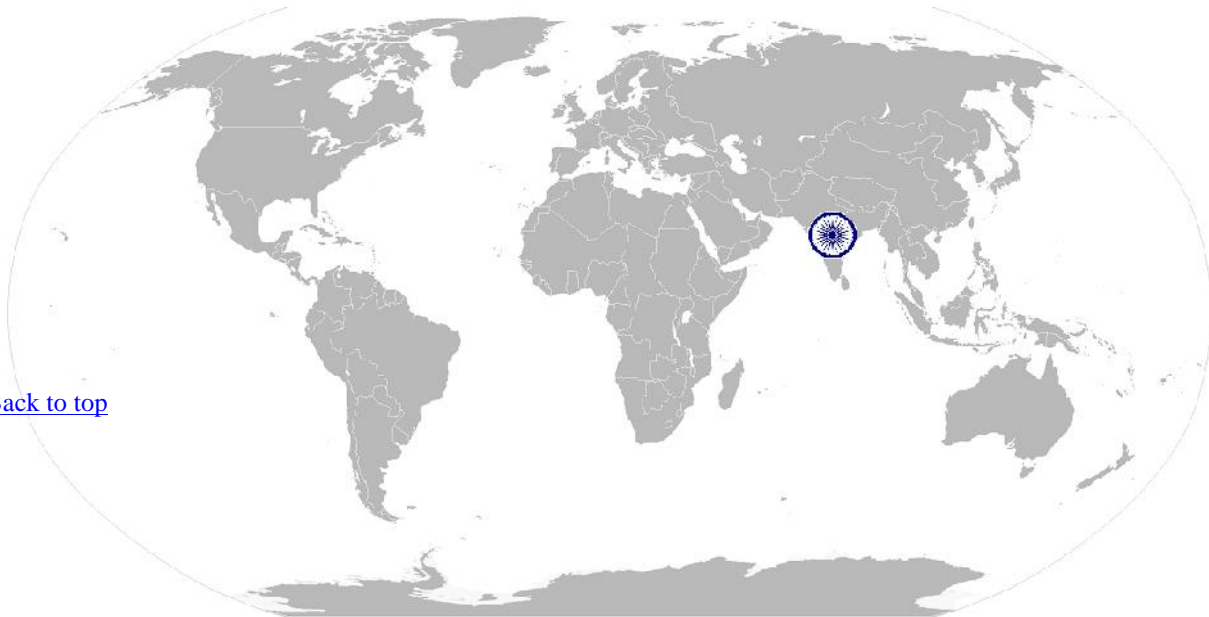
MIN/ N0901 Health and Safety

<p>A. Regulatory context (knowledge of safety guidelines specified by Director General of Mine Safety (DGMS))</p>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> KA1. Benching in quarries, Dressing of overhangs, undercuts, Fencing KA2. First aid and Hygiene KA3. Code of traffic 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
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NOS Version Control

NOS Code	MIN/N 0901		
Credits(NSQF)	TBD	Version number	1.0
Sector	Mining	Drafted on	15/12/2014
Sub-sector	Open Cast and Underground Mines	Last reviewed on	24/03/2015
Occupation	Mine Surveying	Next review date	24/03/2017



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CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Assistant Mine Surveyor

Qualification Pack MIN/Q0426

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 0473 (Assist in measuring and setting out dimensional control for the mining requirements)	PC1. Information and instructions are interpreted accurately for dimensional position and measurement control of the work program	30	3	2	1
	PC2. Area to be measured and set out is identified accurately in accordance with the work's specification		2	1	1
	PC3. Measuring tools and equipment are selected to carry out the measuring and setting-out requirements		3	2	1
	PC4. Transference of dimensional control requirements are taken from given reference points in accordance with information and instructions		3	2	1

	PC5. Components for setting out dimensional control are obtained in accordance with regulatory and operational requirements		3	2	1
	PC6. Clarification and understanding of the information and instructions are confirmed with the appropriate person(s)		2	1	1
	PC7. Markings and dimensional control components are positioned and secured accurately in accordance with the specifications and work requirement		3	2	1
	PC8. Variations between the information and instructions and the actual dimensions of work are reported promptly to the authorized person		3	2	1
	PC9. Corrective actions for variations to the information and instructions are agreed, recorded and confirmed with the appropriate person(s)		2	1	1
	PC10. Work is carried out to approved procedures and practices and in compliance with statutory requirements		2	1	1
	PC11. Prepare and maintain the plan and sections and related instruments		2	1	1
	PC12. Understand/ identify the errors in surveying under the guidance of surveyor		2	1	1
		Total	30	18	12
2. MIN/ N 0474 (Set out secondary dimensional work control)	PC1. Interpret drawings of the survey area and draw relevant conclusions with respect to contours, markings and drawing symbols	30	3	2	1
	PC2. Understand and identify action points from method statements		2	1	1
	PC3. Clearly understand specifications related to surveying equipment and specific usage intended for the purpose		2	1	1

	PC4. Understand the operating instructions specified with manufacturer's information		2	1	1
	PC5. Understand the process of establishing reference points with respect to the work to be carried out		2	1	1
	"PC6. Select the required type and quantity of resources: material, components and equipment relating to types, quantity, quality and sizes of standard and/or specialist: • measuring tools and instruments • marking equipment • level and alignment tools."		3	2	1
	PC7. Use given equipment to transfer, transpose, level, measure, mark, position, fix and secure required reference points		3	2	1
	PC8. Measure and set out secondary dimensional control for the work		3	2	1
	PC9. Measure, align and level to dimensional control requirements		3	2	1
	PC10. Transfer and set out line, angles and levels to dimensional control requirements		3	2	1
	PC11. Use hand tools and measuring and marking equipment		2	1	1
	PC12. Work at height if required to set up equipment		2	1	1
		Total	30	18	12
3. MIN/ N 0475 (Move and handle resources to assist surveyor)	PC1. Comply with the given information to move and store resources to maintain safe work practice	15	4	3	1
	PC2. Select the resources to be stored/moved and ensure they conform to the given information		3	2	1

	PC3. Comply with the given information to prevent damage to the product and surrounding environment		4	2	2
	PC4. Comply with the given product information to carry out the work efficiently to the required guidance.		4	2	2
		Total	15	9	6
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 accident or major failure		2	1	1
	PC4. Comply with safety regulations and procedures in case of fire hazard.		2	1	1
	PC5. Operate various grades of fire extinguishers.	25	3	2	1
	PC6. 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	1
	PC7. Perform storage and transport of hazardous materials compliant with safety guidelines prescribed by DGMS.		3	2	1
	PC8. Deal with misfires as per statutory requirement		2	1.5	0.5
	PC9. Identify characteristics of post-blast fumes and take necessary precautions.		2	1.5	0.5
	PC10. Wears safety gear such as hard hat, respiratory protection, eye protection, ear protection		2	1	1
	PC11. Follow the manufacturer's instructions for care and safe operation of the equipment.		2	1	1
		Total	25	15	10

