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|                 | <b>Unit ID: 1123</b>   |
| <b>Domain</b>   | <b>HEAVY EQUIPMENT OPERATIONS</b>                                      |
| <b>Title:</b>   | <b>Carry out surface mining and quarrying activities using a dozer</b> |
| <b>Level: 3</b> | <b>Credits: 35</b>   |

### Purpose

This unit standard is intended for those who work in surface mining and quarrying operations. People holding credit for this unit standard are able to: Plan and prepare for work; demonstrate knowledge of the functions of a dozer; start and shut down dozer; operate dozer; prepare dozer for transport to and from site; clear and grub; remove and stockpile overburden; rip and stockpile fine, medium and coarse gravel material; finish off borrow pit area; cut and fill; complete work related documents; and clean up work area.

Being credited with this unit standard does not enable a person to drive the vehicle on an open, public road. In order to do so, a person must be in possession of a valid and current driving licence relevant to this vehicle type.

The main focus of this unit standard is the attainment of the required outcomes of learning, not the how, when or where the learning occurred. People who have attained credits for unit standard ID 832 and/or ID 1015, registered under the subfield and domain of Road Construction and Maintenance, should be given the opportunity to apply for recognition of prior learning.

### Special Notes

1. Entry information:
  - Prerequisite
    - Unit 1113 - *Comply with health, safety and environmental rules and regulations pertaining to heavy equipment operations*
2. Expected worksite production target are to be met.
3. Assessment evidence may be collected from a real workplace or a simulated workplace in which surface mining and quarrying operations are carried out.
4. Equipment, tools, attachments and materials may include but are not limited to dozer blade cutting edges, rippers and ripper machine guidance system, diesel and specified oil and lubricants and accessory tools.
5. 'Dozer' refers to items of plant composed of wheeled or crawler tractors with a dozer blade mounted at the front end of the machine and a ripper mounted at the rear.
6. Maintenance may include but is not limited to cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance and repair activities.

7. Safe working practices include but are not limited to day-to-day observation of safety policies and procedures, and compliance with emergency procedures.
8. Performance of all elements in this unit standard must comply with all relevant legal and workplace requirements, contractual agreement and/or manufacturers' specifications.
9. Regulations and legislation, including subsequent amendments, relevant to this unit standard may include but are not limited to the following:
  - Labour Act, No. 11 of 2007
  - Occupational Health and Safety Regulations No. 18, 1997.
  - Road Traffic and Transport Regulations No. 52, 1999
  - Government Notice No 53 Road Traffic and Transport Regulationsand all industry specific regulations, legislations, code of practice, or code of conduct.

### **Quality Assurance Requirements**

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority. All approved unit standards, qualifications and national assessment arrangements are available on the Namibia Training Authority website [www.nta.com.na](http://www.nta.com.na).

## **Elements and Performance Criteria**

### **Element 1: Plan and prepare for work**

#### **Performance Criteria**

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, explained, clarified and applied to the allocated task.
- 1.2 Safety requirements, including personal protective clothing and equipment are obtained from the site safety plan, workplace policies and procedures, and applied to the allocated task.
- 1.3 On- and off-site traffic control requirements are obtained and implemented according to workplace requirements.
- 1.4 Plant, tools, fuel, lubricants, equipment, attachments and accessories selected to carry out tasks are checked for consistency with the requirements of the job, their usability and any faults rectified or reported prior to commencement of work.
- 1.5 Environmental protection requirements are identified from the project environmental management plan and applied to the allocated task.

## **Element 2: Demonstrate knowledge of the functions of a dozer**

### **Performance Criteria**

- 2.1 The main applications of dozers are explained in terms of surface mining and quarrying processes.
- 2.2 The operation of the major components is explained in terms of their functions.
- 2.3 Safety features and warning devices on the dozer are identified, and their purposes explained in accordance with manufacturers' specifications.
- 2.4 The maximum operating capacities are explained in terms of the specific dozer capabilities.
- 2.5 Warnings from dozer indicators and gauges are explained according to manufacturers' specifications.
- 2.6 Corrective actions are described or demonstrated in terms of responses to warnings received.

## **Element 3: Start and shut down dozer**

### **Performance Criteria**

- 3.1 Pre-operational checks are carried out according to appropriate checklist and workplace procedures.
- 3.2 Daily and weekly operator maintenance is performed according to appropriate checklist and workplace procedures.
- 3.3 Start-up and shutdown procedures are followed according to manufacturer's specifications.
- 3.4 Dozer hours are recorded, if required, in accordance with workplace requirements.
- 3.5 Dozer maintenance and faults are reported in accordance with workplace requirements.

## **Element 4: Operate dozer**

### **Performance Criteria**

- 4.1 Functions of the various controls are demonstrated in accordance with manufacturer's specifications.
- 4.2 Temporary safety signs are explained in relation to their use and placement and are used as required.
- 4.3 The dozer is relocated without endangering people, other vehicles and/or buildings or facilities.
- 4.4 Dozer performance is monitored and corrective action is taken when necessary, in accordance with manufacturer's specifications.

## **Element 5: Prepare dozer for transport to and from site**

### **Performance criteria**

- 5.1 Methods of loading a dozer for transport are demonstrated according to safety requirements, manufacturer's specifications and transport configuration.
- 5.2 Methods for securing a dozer for transport are demonstrated in relation to lashing points and safety requirements.

## **Element 6: Clear and grub**

### **Performance Criteria**

- 6.1 Relevant work instructions are obtained and confirmed in line with workplace procedures.
- 6.2 Clearing and grubbing are carried out according to instructions, contractual requirements, set standards and manufacturers' specifications.
- 6.3 Dozer performance is monitored and corrective action is taken when necessary, in accordance with manufacturers' specifications.
- 6.4 Quality of cleared and grubbed area is verified with supervisor or other authority.
- 6.5 Work operations are integrated with other on-site activities.

## **Element 7: Remove and stockpile overburden**

### **Performance Criteria**

- 7.1 Relevant work instructions are obtained and confirmed in line with workplace procedures.
- 7.2 Overburden is removed and stockpiled according to work instructions and manufacturers' specifications.
- 7.3 Dozer performance is monitored and corrective action is taken when necessary, in accordance with manufacturers' specifications.
- 7.4 Quality of removal and stockpile of overburden is verified with supervisor or other relevant authority.
- 7.5 Work operations are integrated with other on-site activities.

## **Element 8: Rip and stockpile fine, medium and coarse gravel material**

### **Range**

Ripping is carried out when required.

### **Performance Criteria**

- 8.1 Relevant work instructions are obtained and confirmed in line with workplace procedures.
- 8.2 Gravel material is ripped according to work instructions and manufacturers' specifications.
- 8.3 Gravel material is stockpiled according to work instructions and manufacturers' specifications.
- 8.4 Quality of stockpile and stockpiled material is verified with supervisor or other relevant authority.
- 8.5 Work operations are integrated with other on-site activities.

## **Element 9: Finish off borrow pit area**

### **Performance Criteria**

- 9.1 Relevant work instructions are obtained and confirmed in line with workplace procedures.
- 9.2 Borrow pit area is rehabilitated according to work instructions and manufacturers' specifications.
- 9.3 Quality of rehabilitation is verified with supervisor or other relevant authority.
- 9.4 Work operations are integrated with other on-site activities.

## **Element 10: Cut and fill**

### **Range**

Cut and fill can involve simultaneous or separate operations. Either is required.

### **Performance Criteria**

- 10.1 Relevant work instructions are obtained and confirmed in line with workplace procedures.
- 10.2 Cutting (to line and level where necessary) is carried out according to work instructions and manufacturers' specifications.
- 10.3 Filling (to line and level where necessary) is carried out according to work instructions and manufacturers' specifications.
- 10.4 Work operations are integrated with other on-site activities.

- 10.5 Quality of cutting and filling is verified with supervisor in line with workplace procedures.

### **Element 11: Complete work related documents**

#### **Performance Criteria**

- 11.1 Work related documents are completed in accordance with contract and workplace requirements.
- 11.2 Maintenance and service related documents are completed in accordance with manufacturer and workplace requirements.
- 11.3 Documents related to accidents or other incidents are completed in accordance with workplace requirements.

### **Element 12: Clean up work area**

#### **Performance Criteria**

- 12.1 Work area is cleared and materials disposed of or recycled in accordance with project environment management plan.
- 12.2 Dozer, tools and equipments are cleaned, checked, maintained, serviced and stored in accordance with manufacturers' recommendations and standard work practices.
- 12.3 Unused materials are safely stored and stacked for future use.

### **Registration Data**

|                                      |                              |
|--------------------------------------|------------------------------|
| <b>Subfield:</b>                     | Surface Mining and Quarrying |
| <b>Date first registered:</b>        | 27 March 2013                |
| <b>Date this version registered:</b> | 27 March 2013                |
| <b>Anticipated review:</b>           | 2016                         |
| <b>Body responsible for review:</b>  | Namibia Training Authority   |