

<b>Unit ID: 1124</b>	
<b>Domain</b>	<b>HEAVY EQUIPMENT OPERATIONS</b>
<b>Title:</b>	<b>Carry out surface mining and quarrying activities using a front end loader</b>
<b>Level: 3</b>	<b>Credits: 25</b>

### Purpose

This unit standard is intended for those who work in road construction and maintenance operations. People holding credit for this unit standard are able to: Plan and prepare for work; demonstrate knowledge of the functions of a front end loader; start and shut down front end loader; operate front end loader; prepare front end loader for transport to and from site; load material; transfer material over a short distance; 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 833 and/or ID 1014, 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 road construction and maintenance operations are carried out.
4. Equipment, tools and materials may include but are not limited to front end loader guidance system, diesel and specified oil and lubricants, and accessory tools.
5. 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.
6. Safe working practices include but are not limited to day-to-day observation of safety policies and procedures, and compliance with emergency procedures.

7. Performance of all elements in this unit standard must comply with all relevant legal and workplace requirements, contractual agreement and/or manufacturers' specifications.
8. 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 Regulations and 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 on [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 and workplace policies and procedures, and applied to the allocated task.
- 1.3 On- and off-site traffic control requirements are obtained and implemented.
- 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 front end loader**

#### **Performance Criteria**

- 2.1 The main functions of front end loaders are explained in terms of surface mining and quarrying processes.

- 2.2 The operation of all major components is explained in terms of their functions.
- 2.3 Safety features and warning devices on the front end loader are identified, and their purposes explained in accordance with manufacturers' specifications.
- 2.4 The maximum operating capacities and efficiencies are explained in terms of the specific front end loader capabilities in accordance with manufacturers' specifications.
- 2.5 Warnings from front end loader 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 front end loader**

#### **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 Front end loader hours are recorded, if required, in accordance with workplace requirements.
- 3.5 Front end loader maintenance and faults are reported in accordance with workplace requirements.

### **Element 4: Operate front end loader**

#### **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 front end loader is relocated without endangering people, other vehicles and/or buildings or facilities.
- 4.4 Front end loader performance is monitored and corrective action is taken when necessary, in accordance with manufacturer's specifications.

## **Element 5: Prepare front end loader for transport to and from site**

### **Performance criteria**

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

## **Element 6: Load material**

### **Performance Criteria**

- 6.1 Relevant work instructions are obtained and confirmed in line with workplace procedures.
- 6.2 Material is taken out of the stockpile in a safe and efficient manner consistent with accepted productivity rate.
- 6.3 The loader is manoeuvred within the loading zone in a safe manner in accordance with workplace and manufacturers' requirements.
- 6.4 Approach to the vehicle being loaded optimises load distribution and balance.
- 6.5 The vehicle is loaded within its prescribed capacity and statutory requirements.
- 6.6 Front end loader performance is monitored and corrective action is taken when necessary, in accordance with manufacturers' specifications.
- 6.7 The shape of the stockpile is maintained to optimise material recovery.
- 6.8 The functionality of the loading zone is maintained.
- 6.9 Work operations are integrated with other on-site activities.

## **Element 7: Transfer material over a short distance**

### **Performance Criteria**

- 7.1 Relevant work instructions are obtained and confirmed in line with workplace procedures.
- 7.2 Safe working procedures are followed according to manufacturers' specifications, site specific and statutory requirements.
- 7.3 Front end loader performance is monitored and corrective action is taken when necessary, in accordance with manufacturers' specifications.
- 7.4 Front end loader is operated without risk of damage or loss to machine or property, third party or injury to people.
- 7.5 Material is transferred in accordance with workplace requirements and manufacturers' specifications.

- 7.6 Front end loader is parked in accordance with workplace requirements and manufacturers' specifications.

### **Element 8: Complete work related documents**

#### **Performance Criteria**

- 8.1 Work related documents are completed in accordance with contract and workplace requirements.
- 8.2 Maintenance and service related documents are completed in accordance with manufacturers' and workplace requirements.
- 8.3 Documents related to accidents or other incidents are completed in accordance with workplace requirements.

### **Element 9: Clean up work area**

#### **Performance Criteria**

- 9.1 Work area is cleared and materials disposed of or recycled in accordance with project environment management plan.
- 9.2 Plant, tools and equipments are cleaned, checked, maintained, serviced and stored in accordance with manufacturers' recommendations and standard work practices.
- 9.3 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