	Unit ID: 1109
Domain	**HEAVY EQUIPMENT OPERATIONS**
Unit Title:	**Perform basic calculations to solve problems related to heavy equipment operations**
Level: 2	**Credits: 6**

Purpose

This unit standard is intended for those who carry out heavy equipment operations. People holding credit for this unit standard are able to: Solve problems related to heavy equipment operations; and use area, volume, and mass calculations to solve problems related to heavy equipment operations.

Special Notes

1. Entry information:

   Prerequisite
   - Unit 1113 – *Comply with health, safety and environmental rules and regulations pertaining to heavy equipment operations*

2. Assessment evidence may be collected from a real workplace or a simulated workplace in which heavy equipment operations are carried out.

3. Safe working practices are to include day to day observation of safety policies and procedures and compliance with emergency procedures.

4. Performance of all elements in this unit standard must comply with all relevant workplace requirements, contractual agreements and/or manufacturers' specifications.

5. 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
   - Regulations relating to the Health and Safety of employees at work, 1997

   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. All approved unit standards, qualifications and national assessment arrangements are available on the Namibia Training Authority website www.nta.com.na.

Elements and Performance Criteria

Element 1: Solve problems related to heavy equipment operations

Range

Rates may include but are not limited to speed; distance; time; flow rate; and volume.

Performance Criteria

1.1 Fractions, decimals, and percentages are used to solve problems related to heavy equipment operations.

1.2 Ratios and gradients are used to solve problems related to heavy equipment operations.

1.3 Rates are used to solve problems related to heavy equipment operations.

Element 2: Use area, volume, and mass calculations to solve problems related to heavy equipment operations

Range

Area of common objects may include but is not limited to squares; rectangles; triangles; and circles.

Volume of common objects may include but is not limited to tanks and stockpiles.

Performance Criteria

2.1 The area of common objects found on a surface mining and quarrying site is calculated.

2.2 The volume of common objects found on a surface mining and quarrying site is calculated.

2.3 The mass of objects and materials found on a surface mining and quarrying site are calculated using volume and density.

Registration Data

Subfield:	Surface Mining and Quarrying
Date first registered:	27 March 2013
Date this version registered:	27 March 2013
Anticipated review:	2016
Body responsible for review:	Namibia Training Authority