

## BQA NCQF QUALIFICATION TEMPLATE

| SECTION A: QUALIFICATION DETAILS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                    |                                  |  |                  |  |                           |                   |    |                     |   |                       |         |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------|----------------------------------|--|------------------|--|---------------------------|-------------------|----|---------------------|---|-----------------------|---------|----------|
| <b>QUALIFICATION DEVELOPER (S)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                    | Diamond Trading Company Botswana |  |                  |  |                           |                   |    |                     |   |                       |         |          |
| <b>TITLE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | Certificate V in Rough Diamond Sorting and Valuing |                                  |  |                  |  |                           | <b>NCQF LEVEL</b> |    | 5                   |   |                       |         |          |
| <b>STRANDS (where applicable)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | N/A                                                |                                  |  |                  |  |                           |                   |    |                     |   |                       |         |          |
| <b>FIELD</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | Mining                                             |                                  |  | <b>SUB-FIELD</b> |  | Mineral Processing        |                   |    | <b>CREDIT VALUE</b> |   | 125                   |         |          |
| New Qualification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                    |                                  |  | ✓                |  | Legacy Qualification      |                   |    |                     |   |                       |         |          |
| <b>SUB-FRAMEWORK</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | General Education                                  |                                  |  |                  |  | TVET                      |                   |    | ✓                   |   | Higher Education      |         |          |
| <b>QUALIFICATION TYPE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | Certificate                                        | I                                |  | II               |  | III                       |                   | IV |                     | V | ✓                     | Diploma | Bachelor |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Bachelor Honours                                   |                                  |  |                  |  | Post Graduate Certificate |                   |    |                     |   | Post Graduate Diploma |         |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Masters                                            |                                  |  |                  |  |                           |                   |    | Doctorate/ PhD      |   |                       |         |          |
| <b>RATIONALE AND PURPOSE OF THE QUALIFICATION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                    |                                  |  |                  |  |                           |                   |    |                     |   |                       |         |          |
| <b>RATIONALE</b> <p>Botswana is one of the countries with mineral resources which have helped it to improve its economic outlook over the years. With a population of just 2.63 million (2022), Botswana has continued to be more dependent on minerals, especially on diamond revenues. The Botswana economy is heavily dependent on diamonds, which account for around 80% of exports, one third of fiscal revenues, and one quarter of GDP. The country is the world's largest diamond producer, by value, according to pfm.imf.org. The government has sensibly used its diamond income for the betterment of the country, Botswana's per capita GDP is now among the highest in Africa.</p> |  |                                                    |                                  |  |                  |  |                           |                   |    |                     |   |                       |         |          |

As per the National Employment Policy for Botswana, approved on the 21<sup>st</sup> of September 2021 which states that, “A diamond beneficiation strategy has been developed, with the aim of increasing Botswana’s participation in the diamond value chain. Government aims to enhance citizen participation in the diamond industry through other avenues of skills development and mentoring. These include locally established diamond cutting and polishing schools to develop core technical skills, complemented by commercial and business skills. Beneficiation in the diamond industry will not be limited to just cutting and polishing”. Hence the need for this qualification which aims to equip learners with the basic knowledge and understanding of the diamond industry, sorting and valuation processes. Diamond sorting classifications & techniques has also been identified as a priority skill on the Priority skills 2023/2024 report by Human Resource Development Council (HRDC).

This qualification will produce knowledgeable workers who are able to contribute to improved productivity within the rough diamond sorting and valuation industry. The qualification is structured in a way that exposes learners to the different aspects of diamond sorting, polished processing knowledge and polished grading knowledge and skills.

The ultimate intention of the qualification is to:

- promote the development of knowledge and competencies that are required in the rough diamond sorting and valuation industry.
- develop the potential of employees in the rough diamond sorting and valuation industry.
- provide opportunities for lifelong learning for learners who work in the rough diamond sorting and valuation industry where no general formal qualification previously existed, and who have not been given the opportunity to take up the previous qualification yet.

**PURPOSE: (itemise exit level outcomes)**

The purpose of this qualification is to produce graduates with broad technical knowledge, skills and competence to:

- Examine and describe the structure and properties of rough diamond gemstones
- Apply 4C’s principles to Sort and evaluate rough diamond gemstones
- Calculate the basic weight yield from rough diamonds

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- Use the correct tools and equipment to carry out quality grading of polished diamond gemstones
- Work safely in the sorting environment by applying safety, health and environmental requirements

### **MINIMUM ENTRY REQUIREMENTS (including access and inclusion)**

Entry requirements for the qualification are:

- NCQF Level IV or an equivalent qualification, with a pass in Mathematics and English.
- Applicants with any relevant or related experience may be considered for access through Recognition of Prior Learning (RPL).

### **SECTION B**

### **QUALIFICATION SPECIFICATION**

#### **GRADUATE PROFILE (LEARNING OUTCOMES)**

**Upon completion of this qualification, the learner will be able to:**

1. Examine the structure of a diamond and use its properties to ensure effective identification and segregation of diamonds from non-diamonds.

2. Apply broad knowledge of the Cut, Colour, Clarity and Carat weight, 4C's

#### **ASSESSMENT CRITERIA**

- 1.1 Use physical and chemical properties of a diamond to distinguish diamonds from non-diamonds.
- 1.2 Identify the main basic rough diamond models from the system as well as their faces, ribs, soft and hard corners.
- 1.3 Identifying different diamond cuts and describe their distinguishing features.

- 2.1 Use the 4C's sorting principle to evaluate diamonds.

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|                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| sorting principle to determine the price of a diamond.                                                                                          | 2.2 Use the 4C's sorting principles to determine the price of a diamond.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3. Demonstrate practical knowledge and technical skill in using diamond systems, equipment and tools required to sort rough diamonds gemstones. | <p>3.1 Identify various components of rough diamond sorting tools, systems and equipment.</p> <p>3.2 Use rough diamond sorting tools, equipment and systems in different sorting applications.</p> <p>3.3 Use appropriate techniques to sort rough diamonds.</p> <p>3.4 Comply with and adhere to standard operating procedures that include diamond housekeeping, security of diamond gemstones, and care of equipment in line with workplace specific requirements.</p>                                                   |
| 4. Sort rough diamond gemstones according to model, quality and colour grade diamonds of different sizes (grainers, 2-10 carats, +11)           | <p>4.1 Sort rough diamonds gemstones into different models, qualities and colour range according to set standards.</p> <p>4.2 Prepare +11 assortment balances.</p> <p>4.3 Use effects of colour to sort and price diamond.</p> <p>4.4 Use model, quality and colour samples correctly to classify gemstones into different assortment ranges.</p> <p>4.5 Identify the type of diamonds used in Forever mark in terms of size, clarity, cut and colour.</p> <p>4.6 Comply with diamond sorting standards and procedures.</p> |

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|                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                            |
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|                                                                                          | 4.7 Adhere to professional code of conduct to maintain ethics in the diamond sorting practice.                                                                                                                                                                                                                                                                                             |
| 5. Apply mathematical calculations to estimate the yield of rough diamond gemstones      | <p>5.1 Identify and draw the different grain types found on diamonds.</p> <p>5.2 Explore and employ different manufacturing strategies on a variety of stones to estimate the final diamond weight and price.</p> <p>5.3 Mark and measure stones using Mitutoyo gauge to estimate the final polished weight and yield.</p> <p>5.4 Calculate the basic weight yield for rough diamonds.</p> |
| 6. Apply procedures carried out to assess and grade polished diamond gemstones.          | <p>6.1 Assess and grade clarity in polished diamond gemstones.</p> <p>6.2 Adhere to procedures for assessing and grading polished diamond gemstones to enhance valuation.</p> <p>6.3 Handle polished stones according to pre-set procedures.</p> <p>6.4 Examine, identify and plot inclusions in polished diamond gemstones on selected images.</p>                                        |
| 7. Apply current and relevant legislation to promote safety and health in the workplace. | <p>7.1 Identify potential hazards in the workplace.</p> <p>7.2 Devise measures to minimise or eliminate hazards in the workplace.</p>                                                                                                                                                                                                                                                      |

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|                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                                                                    | <p>7.3 Implement procedures for recording accidents that could cause bodily harm in the workplace.</p> <p>7.4 Identify safe work practices and health principles.</p> <p>7.5 Implement workplace hazard identification systems.</p> <p>7.6 Establish modes to communicate health and safety related issues in the workplace clearly and effectively.</p> <p>7.7 Adhere to health and safety protocols in the workplace.</p>     |
| <p>8. Perform computer operations using Microsoft applications</p> | <p>8.1 Open a new word document and enter information.</p> <p>8.2 Use features and functions of word processing in simple word document.</p> <p>8.3 Save and print a document.</p> <p>8.4 Produce a simple spreadsheet document.</p> <p>8.5 Check a spreadsheet document for appropriate formatting, readability, legibility, presentation, accuracy and data integrity.</p> <p>8.6 Use the Spreadsheet to solve a problem.</p> |

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| SECTION C                                                               |                                         | QUALIFICATION STRUCTURE         |             |            |               |
|-------------------------------------------------------------------------|-----------------------------------------|---------------------------------|-------------|------------|---------------|
| COMPONENT                                                               | TITLE                                   | Credits Per Relevant NCQF Level |             |            | Total Credits |
|                                                                         |                                         | Level [3]                       | Level [4]   | Level [5]  |               |
| <b>FUNDAMENTAL COMPONENT</b><br><i>Subjects/ Courses/ Modules/Units</i> | Safety, Health and Environment          |                                 | 5           |            | 5             |
|                                                                         | Diamond Theory                          |                                 |             | 10         | 10            |
|                                                                         | Intermediate Manufacturing Course       |                                 | 5           |            | 5             |
|                                                                         | Microsoft Training                      |                                 | 5           |            | 5             |
| <b>CORE COMPONENT</b><br><i>Subjects/Courses/ Modules/Units</i>         | 6/5grs Assortment                       |                                 |             | 28         | 28            |
|                                                                         | 11+09 Assortment                        |                                 |             | 28         | 28            |
|                                                                         | +2 Assortment                           |                                 |             | 28         | 28            |
|                                                                         | Colour                                  |                                 |             | 6          | 6             |
|                                                                         | Research                                |                                 |             | 5          | 5             |
|                                                                         |                                         |                                 |             |            |               |
| STRANDS/ SPECIALIZATION                                                 | <i>Subjects/ Courses/ Modules/Units</i> | Credits Per Relevant NCQF Level |             |            | Total Credits |
|                                                                         |                                         | Level [3 ]                      | Level [ 4 ] | Level [5 ] |               |
| 1.                                                                      | N/A                                     |                                 |             |            |               |

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|------------------|--------------------------------|--|---|--|----------|
| <b>2.</b>        |                                |  |   |  |          |
| <b>Electives</b> | Microsoft Dynamics AX training |  | 5 |  | <b>5</b> |
|                  | Techsort Machine Operation     |  | 5 |  | <b>5</b> |



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### SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL

#### TOTAL CREDITS PER NCQF LEVEL

| NCQF Level    | Credit Value |
|---------------|--------------|
| 4             | 20           |
| 5             | 105          |
|               |              |
| TOTAL CREDITS | 125          |

#### Rules of Combination:

*(Please Indicate combinations for the different constituent components of the qualification)*

All fundamental and core modules are compulsory. Learners must choose 1 elective module from the 2 provided, that is Microsoft Dynamics AX training or Techsort Machine Operation during the course of their study.

| Components   | Total minimum Credits |
|--------------|-----------------------|
| Fundamentals | 25                    |
| Core         | 95                    |
| Elective     | 5                     |
| Total        | 125                   |

### **ASSESSMENT ARRANGEMENTS**

The qualification incorporates integrated assessment, providing an opportunity for learners to show they are able to integrate concepts, actions and ideas achieved across a range of modules.

Assessment will be conducted by Botswana Qualifications Authority registered and accredited assessors.

#### **Assessment**

All assessments leading to the awarding of this qualification will be based on learning outcomes. The weightings for the assessments shall be:

1. Formative assessment (75%)
2. Summative assessment (25%)

### **MODERATION ARRANGEMENTS**

- There will be internal and external moderation undertaken by moderators registered and accredited by BQA. All processes and procedures will be in line with NCQF requirements. This will be conducted in reference to the institution's moderation policy and procedures.
- Anyone moderating the assessments of learners against the qualification must be registered as a moderator with the relevant qualification level as prescribed by BQA.

### **RECOGNITION OF PRIOR LEARNING**

This qualification can be obtained by completing all the required modules in a structured learning programme, or through Recognition of Prior Learning (RPL) in accordance with institutional and national guidelines on RPL.

### **CREDIT ACCUMULATION AND TRANSFER**

Credit Accumulation and Transfer, CAT will be applied in line with institutional and National Credit Accumulation Transfer Policies.

### **PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)**

This qualification is designed to facilitate vertical, horizontal and diagonal progression both locally and internationally.

#### **Horizontal Progression**

Learners may progress horizontally to qualifications such as:

- Certificate V in Diamond Processing
- Certificate V in Gemmology

#### **Vertical progression**

Learners graduated from this qualification may progress to the following qualifications;

- Diploma in Diamond Processing
- Diploma in Gemmology

#### **Employment Pathways**

Other than progressing academically graduates of the course may find employment for the following posts:

- Diamond Sorter
- Diamond Handler
- Operator- Techsort

### **QUALIFICATION AWARD AND CERTIFICATION**

Graduates will be awarded the Certificate V in Rough Diamond Sorting and Valuing qualification upon attainment of 125 credits.

There will be issuance of a certificate and an official transcript after award of the qualification.

### **SUMMARY OF REGIONAL AND INTERNATIONAL COMPARABILITY**

The Certificate V in Diamond Sorting and Valuing qualification was compared with other qualifications in terms of the title, main exit outcomes, modules, duration, credits, and assessments. The general indication is that this qualification developed in Botswana is unique as the diamond industry is a relatively small industry world-wide with a defined channel of trade which provides a close community of people knowledgeable about the industry. Most institutions offering diamond training offer short courses that are not registered as qualifications, the ones that are registered as qualifications are either for polished diamond grading which is different from rough diamond sorting or they are for diamond processing into jewellery.

This qualification is not offered locally, regionally and internationally, however the stream Rough Evaluation is offered by De Beers Sightholder Sales South Africa Academy (DBSSS Academy) in Further Education and Training Certificate (FETC): Diamond Design and Evaluation: Rough Evaluation Level 4 is similar to the one offered in this qualification but at a lower level (level 4).

#### **Similarities**

The following are noted similarities from the benchmarked qualifications:

- Some exit learning outcomes are similar like for their specialization area A which is rough evaluation, it is similar to our some of our learning outcomes.
- The purpose is almost similar to the proposed qualification as their qualification is aimed at learners who intend to work within the diamond industry and who seek recognition for skills in processing diamond gemstones.

#### **Differences**

Key differences are noted in the following areas.

- The names of the qualifications are different, the one offered by De Beers Sightholder Sales South Africa Academy, South Africa, is Diamond Design and Evaluation and the proposed one is while Certificate V in Rough Diamond Sorting and Valuing, and the former is offered at a level lower than that of the proposed one.

- In the qualification offered by De Beers Sightholder Sales South Africa Academy, South Africa, learners can select the strand they wish to specialise in: Rough Evaluation, Basic Marking and Design, Grading of polished diamond gemstones and Inspecting and only one strand is similar to our qualification which is Rough evaluation. The proposed qualification has elements of all the strands, so that learners can have an overview of everything. However, rough diamond sorting competencies are harnessed over time as a learner sort practically, the more time a person sorts they more they acquire the skill. The proposed qualification focuses more on the core of sorting and as such it presents an added advantage as we produce all rounded sorters who have done 3 size ranges.



### **REVIEW PERIOD**

The qualification shall be reviewed every 5 years.

### **For Official Use Only:**

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|                                |                         |                                                |                              |
|--------------------------------|-------------------------|------------------------------------------------|------------------------------|
| <b>CODE (ID)</b>               |                         |                                                |                              |
| <b>REGISTRATION STATUS</b>     | <b>BQA DECISION NO.</b> | <b>REGISTRATION START DATE</b>                 | <b>REGISTRATION END DATE</b> |
|                                |                         |                                                |                              |
| <b>LAST DATE FOR ENROLMENT</b> |                         | <b>LAST DATE FOR ACHIEVEMENT</b>               |                              |
|                                |                         |                                                |                              |
| <b>REVISION DATE:</b>          |                         | <b>NAME OF PROFESSIONAL BODIES/REGULATOR Y</b> |                              |

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