



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **CUVOPA407A Apply advanced pre-cutting processes to complex opals**

**Release: 1**

## CUVOPA407A Apply advanced pre-cutting processes to complex opals

### Modification History

Version	Comments
CUVOPA407A	This version first released with <i>CUV11 Visual Arts, Craft and Design Training Package version 1.0</i>

### Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to perform the pre-cutting processes for boulder and other special opals. It includes documenting and recording all aspects of the procurement and pre-cutting process.

### Application of the Unit

Those responsible for pre-cutting processes for boulder and black opal and other types of difficult or particularly valuable opal apply the skills and knowledge in this unit. The unit requires knowledge of the processes of opal formation and extensive experience in handling opal of various types as a basis for decision making on how to cut or carve the opal.

### Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

### Pre-Requisites

Not applicable.

### Employability Skills Information

This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

<b>Element</b>	<b>Performance Criteria</b>
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

## Elements and Performance Criteria

1. Identify type of opal rough	<p>1.1 Undertake preliminary investigations before deciding how to proceed with cutting or carving the opal</p> <p>1.2 Review current market requirements and consult with client to determine his/her preference for how opal could be cut</p> <p>1.3 Based on knowledge of the geological formation of opal, field from which the opal came and past experience, determine the location of the colour within the rough opal</p> <p>1.4 Discuss possible strategies for cutting with colleagues and client as required</p> <p>1.5 Determine jewellers' requirements for products being considered</p> <p>1.6 Review the options for cutting and plan cut to achieve the best result</p>
2. Block off the stone (boulder opal)	<p>2.1 When working with boulder opal, use a series of cuts to block off stone to gain more information about position and quality of the opal present in the stone and determine best gem outcomes from that piece of boulder</p> <p>2.2 Identify position of opal and minimise waste when making cuts</p> <p>2.3 If appropriate, split block opal along fault lines</p>
3. Expose the colour	<p>3.1 Use <i>appropriate equipment</i> to expose the colour without removing gem material</p> <p>3.2 Select the correct grinding wheels and grits for a given piece</p>
4. Decide on whether to cut and/or carve the opal	<p>4.1 Review the stone, determine the directionality and decide on the final outcome to be achieved</p> <p>4.2 Remove <i>unwanted material</i> and prepare the stone for final processing</p> <p>4.3 Select the way to cut the stone for the best artistic and commercial return</p>

## Required Skills and Knowledge

*This section describes the skills and knowledge required for this unit.*

### Required skills

- communication skills to discuss cutting strategies with clients and colleagues
- planning and organising skills to:
  - choose appropriate equipment
  - select the way to cut the stone for best artistic and commercial return
- problem-solving skills to deal with complications in the pre-cutting stage as well as OHS or safety issues
- numeracy skills to use numerical features of machinery
- technical skills to:
  - make sound decisions to achieve best colour and yield
  - determine the position of the colour in a boulder opal
  - use appropriate equipment
  - apply OHS principles and safe operating procedures.

### Required knowledge

- characteristics of opal gemstone structure and formation
- importance of achieving yield when cutting a gemstone
- market trends
- jewellers' and industry requirements
- OHS principles and safe operating procedures for cutting machinery, including:
  - appropriate procedures for dealing with emissions
  - complying with the safe operating procedures for each machine
  - using personal protective equipment (PPE) where required.

## Evidence Guide

*The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.*

<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> <li>• make sound decisions about the final outcome to be achieved and complete all pre-cutting and pre-forming processes for boulder, black and especially valuable or difficult opals</li> <li>• demonstrate knowledge of geological formation and structure of opal.</li> </ul>
<b>Context of and specific resources for assessment</b>	<p>Assessment of this unit requires access to an opal-cutting workshop.</p>
<b>Method of assessment</b>	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> <li>• observation of processes and procedures</li> <li>• oral and/or written questioning on underpinning knowledge and skills</li> <li>• evaluation of the final product</li> <li>• review of portfolios of evidence</li> <li>• review of third-party workplace reports of on-the-job performance by candidate.</li> </ul> <p>Assessment methods should closely reflect workplace demands (e.g. literacy) and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties, such as speakers of languages other than English, remote communities and those with interrupted schooling).</p>
<b>Guidance information for assessment</b>	<p>Holistic assessment with other units relevant to the industry sector workplace and job role is recommended.</p>

## Range Statement

*The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.*

<p><b><i>Appropriate equipment</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• Asahi wheel</li> <li>• diamond grinder</li> <li>• diamond sawing</li> <li>• free-hand saw</li> <li>• nova wheel</li> <li>• silicon carbide grinder</li> <li>• slab saw</li> <li>• trim saw.</li> </ul>
<p><b><i>Unwanted material</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• cotton and gypsum</li> <li>• cracked material</li> <li>• crockery</li> <li>• iron stone</li> <li>• materials with inclusions or stains</li> <li>• matrix (in black opal as a unwanted inclusion)</li> <li>• poor colour</li> <li>• potch</li> <li>• sandstone.</li> </ul>

## Unit Sector(s)

Opal cutting and polishing