

<b>Title</b>	<b>Describe and operate a bucket wheel excavator at an extraction site</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>15</b>

<b>Purpose</b>	<p>People credited with this unit standard are able to: operate and describe the operational characteristics and performance of bucket wheel excavators (BWE); describe and demonstrate the safety systems, adjustments, and checks required for a BWE; describe the mining plan and production requirements for the shift operation; carry out shift-end, shut-down procedures and complete documentation for a BWE, at an extraction site.</p>
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<b>Classification</b>	Extractive Industries > Extractive Industries Management
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Performance of the outcomes of this unit standard must comply with the following:
  - Health and Safety at Work Act 2015 (HSW);
  - Health and Safety at Work (General Risk and Workplace Management) Regulations 2016;
  - Health and Safety at Work (Worker Engagement, Participation, and Representation) Regulations 2016;
  - Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016;
  - approved codes of practice issued pursuant to the HSW Act.
- 2 Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.
- 3 **Definition**  
*Industry best practice* refers to those practices which competent practitioners within the industry recognise as current industry best practice. These may be documented in management plans, company procedures, managers' rules, occupational health and safety policy, industry guidelines, codes of practice, manufacturers' instructions, and safe working and/or job procedures (or equivalent).
- 4 This unit standard is intended for, but is not limited to, workplace assessment.

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## Outcomes and performance criteria

### Outcome 1

Operate and describe the operational characteristics and performance of BWE.

#### Performance criteria

- 1.1 The type of raw material and geological conditions are described in terms of their suitability for the effective operation of a BWE.
- 1.2 The operational characteristics and performance of bucket wheel excavators are described in terms of the machine's use in extractive operations.
- Range raw material, machine types, power source and supply, cutting/loading systems, controls, operating procedures, start-up.
- 1.3 The type of mining method is described in terms of the use of a BWE.
- Range drop cut, side cut, terrace cut, block cut/box cut, a combination drop/terrace cut, cleaning the floor, face slump contingency.
- 1.4 The BWE is operated in accordance with manufacturer's instructions.

### Outcome 2

Describe and demonstrate the safety systems, adjustments, and checks required for a BWE.

#### Performance criteria

- 2.1 The adjustments and checks to be carried out by the operator are described and demonstrated in accordance with industry best practice.
- Range crawler track tensioning, belt tracking, belt tensioning, adjusting skirts at transfer points, hydraulic checks, pre-start checks.
- 2.2 The safety systems for a BWE are described and demonstrated.
- Range fire fighting, alarms, communications, emergency stops, trip-out re-set, safety features, approach and dismounting machine, isolation procedures.

### Outcome 3

Describe the mining plan and production requirements for the shift operation.

#### Performance criteria

- 3.1 The mining plan is described in accordance with the mine objectives.

3.2 The shift plan and requirements are described in accordance with the mining plan.

Range production, product quality, bench horizon and gradient, face height, cut depth, floor maintenance, laser sighting, housekeeping.

#### Outcome 4

Carry out shift-end, shut-down procedures and complete documentation for a BWE.

#### Performance criteria

4.1 Machine is shut down and parked in accordance with the manufacturer's recommendations, mine plan, and industry best practice.

Range going off-feed, shut-down procedures, park-up.

4.2 Defects are listed in accordance with industry best practice.

Range machine and associated equipment inspections, face and bench condition.

4.3 Documentation is completed in accordance with industry best practice.

Range operator log sheets, hazard reports, defect reports.

**This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.**

#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	31 July 2001	31 December 2019
Review	2	24 November 2005	31 December 2027
Rollover and Revision	3	16 July 2010	31 December 2027
Rollover and Revision	4	25 January 2018	31 December 2027
Review	5	27 November 2025	31 December 2027

#### Consent and Moderation Requirements (CMR) reference

0114

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.