

Title	Extract stems or logs using a ground-based machine		
Level	4	Credits	20

Purpose	<p>This unit standard is intended for the operators of forestry machines used to extract stems or logs from a forest in a ground-based operation.</p> <p>People credited with this unit standard are able to: interpret a job prescription for ground-based extraction; control risks associated with ground-based extraction; plan and control ground-based extraction; extract stems or logs to a landing; meet job prescription and worksite production requirements; and carry out maintenance of the extraction machine.</p>
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Classification	Forestry > Machine Operations - Forestry
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Available grade	Achieved
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Prerequisites	<p>One of – Unit 6934, <i>Operate a skidder in a forestry situation</i>; Unit 6935, <i>Operate an excavator based tracked machine in a forestry operation</i>; Unit 6936, <i>Operate a tracked machine in a forestry situation</i>; Unit 6946, <i>Operate a forwarder in a forest harvesting operation</i>; or demonstrate equivalent knowledge and skills.</p>
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Guidance Information

- 1 Legislation relevant to this unit standard includes the: Health and Safety at Work (HSW) Act 2015, Resource Management Act 1991; the Resource Management (National Environmental Standards for Plantation Forestry) Amendment Regulations 2018; and the Heritage New Zealand Pouhere Taonga Act 2014, and any subsequent amendments.
- 2 References
New Zealand Forest Owners Association, *Forest Practice Guides (2019)*, and any subsequent amendments, available from <http://www.nzfoa.org.nz>
Approved Code of Practice (ACOP) for Safety and Health in Forestry Operations, December 2012, available from <http://www.worksafe.govt.nz>.
- 3 Definitions
Accepted industry practice refers to documented codes of practice and standardised procedures accepted by the wider forestry industry as examples of best practice.
Job prescription refers to any written instructions for the operation and may include maps, harvest plans or cut plans.

PPE refers to personal protective equipment and may include but is not limited to high-visibility clothing, protective clothing, gloves, face and eye protection, safety helmet, footwear, hearing protection, and safety devices.

Worksite procedures refer to documented procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, site safety procedures, equipment operating procedures, quality assurance procedures, housekeeping standards, procedures to comply with legislative and local body requirements.

4 Assessment information

This unit standard must be assessed on-job.

All activities and performance criteria must meet the worksite procedures and accepted industry practice.

Outcomes and performance criteria

Outcome 1

Interpret a job prescription for ground-based extraction.

Performance criteria

- 1.1 The forest management, environmental, and customer requirements of the job prescription are explained.
- 1.2 Key locations are identified and marked on the harvest plan map.

Range	key locations may include – environmental protection areas, current landing, previous or next landing, steep areas, flat areas, hazardous areas, felling face, access roads, operational signage locations.
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- 1.3 Implementation of the extraction plan is explained.
- 1.4 Clean-up requirements are described in accordance with the job prescription.

Outcome 2

Control risks associated with ground-based extraction.

Performance criteria

- 2.1 Hazards associated with ground-based extraction are identified.

Range	terrain, slope, tracks, ground conditions, excessive speed, machine instability, machine suitability, operator working alone, other workers, other machinery.
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- 2.2 Risks are documented and controlled.

- 2.3 The reason for on-going hazard identification is explained.
- 2.4 Factors that may change hazards or introduce new hazards are described.
- Range weather, terrain, change in extraction path.
- 2.5 PPE is worn.

Outcome 3

Plan and control ground-based extraction.

Performance criteria

- 3.1 Types of machines suitable for ground-based extraction are described.
- Range steep terrain, flat terrain, environmentally sensitive areas.
- 3.2 The extraction plan for a ground-based extraction operation is explained, and factors that may influence the performance of the operation are identified.
- Range factors may include but are not limited to – terrain, suitability of extraction method, minimisation of environmental damage, haul distance;
evidence of four is required.
- 3.3 The extraction path is managed to maximise productivity and minimise breakage in accordance with the job prescription and machine type.
- 3.4 Wood flow to the landing is managed.
- 3.5 Methods of communication used during extraction operations are explained and demonstrated.
- 3.6 The communication responsibilities of machine operators are described.

Outcome 4

Extract stems or logs to a landing.

Performance criteria

- 4.1 Machine movements are controlled within the safe operating limits of the machine and in accordance with manufacturer's recommendations.
- 4.2 Communication to control the extraction operation is maintained.
- 4.3 Machine is positioned for loading.
- 4.4 Machine operation while loading is in accordance with manufacturer's recommendations.

4.5 Load is secured in position before travelling.

4.6 Stems or logs are offloaded in safe and secure locations on the landing.

Outcome 5

Meet job prescription and worksite production requirements.

Performance criteria

5.1 Work is carried out methodically to maximise the extraction rate.

5.2 All merchantable timber is extracted from the cutover in accordance with the job prescription.

5.3 Extraction is managed to minimise interference with the work of other team members.

5.4 Environmental considerations are managed in accordance with the job prescription.

5.5 Damage to stems or logs is minimised.

Outcome 6

Carry out maintenance of the extraction machine.

Performance criteria

6.1 Maintenance is carried out on the extraction machine and any ancillary equipment in accordance with manufacturer's recommendations.

Range ancillary equipment may include but is not limited to – winch, rope, strops, grapple.

Planned review date	31 December 2028
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	15 September 2011	31 December 2016
Review	2	19 March 2015	31 December 2020
Review	3	28 June 2018	N/A
Review	4	23 July 2020	N/A
Rollover	5	26 April 2024	N/A

Consent and Moderation Requirements (CMR) reference	0173
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Muka Tangata - People, Food and Fibre Workforce Development Council qualifications@mukatangata.nz if you wish to suggest changes to the content of this unit standard.