

Assessment Guide

Domain Forestry > Forest Foundation Skills

Unit 23001 v5 Demonstrate knowledge of log extraction methods and breaking out, and attach logs under supervision Level 2 Credits 10

Entry information

There are no pre-requisite requirements for this unit.

Candidate to complete

Name	Company
NSI No.	Email / phone

Pre-assessment confirmation

I, the **candidate**,

- Understand the assessment process and assessment requirements for this unit.
- Understand the appeals and resubmission processes.
- Believe I have the skills and knowledge to successfully complete the assessment.

Assessor to complete

Name	Company
Email / phone	

Pre-assessment confirmation

- I, the **assessor**, can confirm the candidate has achieved any pre-requisite requirements.

Assessment instructions

You will need to be able to show you can:

- Demonstrate knowledge of log extraction methods.
- Demonstrate knowledge of breaking out.
- Identify and manage hazards while breaking out under supervision.
- Demonstrate knowledge of communications systems used in breaking out.
- Attach logs under supervision.

Important information

- Carefully read through the rest of this Assessment so you know exactly what is expected.
- All evidence you provide for this assessment must be your own work.
- Clearly name and label all attached evidence.

What you need to do



Question Set 1 – Log extraction



Question Set 2 – Breaking Out



Question Set 3 – Keeping Safe



Observation Checklist

Be observed carrying out breaking out under supervision.

You will need to:

- Use personal protective equipment.
- Identify and explain safe areas.
- Identify hazards and manage risks.
- Attach logs.



Worksite Verification

A worksite verifier must confirm your skills, knowledge and/or work.

You can also attach additional evidence which shows you have the required skills and knowledge, e.g. photos, worksite documents, checklists, work samples, videos.

Question Set 1 – Log Extraction

These questions are about log extraction methods.

Use your own words. Your assessor may ask you more questions to check your understanding.

1. Describe the **three** main log extraction methods.

Log extraction method	Description
Ground based	
Cable	
Aerial	

2. Name and describe **four** extraction machines used for ground based and cable extraction operations.

Include in your answer at least **one** ground based and **one** cable machine.

Machine	Description

3. What terrain is best suited for ground based extraction?

4. What terrain is best suited for cable extraction?

5. What environmental conditions are best suited for ground based extraction?

6. What environmental conditions are best suited for cable extraction?

Assessor – record key points from candidate’s verbal answers as accurately and fully as possible.

These answers were written by:

Candidate

Assessor



Question Set 2 – Breaking Out

These questions are about terminology, rules and situations relating to breaking out.

Use your own words. Your assessor may ask you more questions to check your understanding.

1. Below is a list of terms and definitions. □

Match **eight** terms with the correct definition by writing the number of the term to the right of the definition.

Terms – General extraction		
1. Drag	2. Piece size	3. Payload
4. Head pull	5. Extraction cycle	6. Pre—stopping
7. Felling pattern	8. Butt pull	
Terms – Cable extraction		
9. Main rope	10. Tail rope	11. Skyline
12. Block	13. Carriage	14. Bight
Terms – Ground based extraction		
15. Winch rope	16. Bunching	17. Chain stop
18. Arch	19. Extraction track	

Definition	Term
The total time taken to hook on, extract, and unhook one drag and return to the breaking out site.	
A load-carrying device that runs freely along a wire rope for extraction of logs.	
A group of stems or trees attached to a machine for extraction.	
Where the stops are connected to the stems for the next drag while the previous drag is being extracted.	
A towed two wheeled structure of “A” frame construction used to lift the butt end of stems off the ground during extraction.	

The size of a tree that has been felled.	
A wire rope used to return the main rope and butt rigging to the break-out site.	
The general direction trees are felled in to make breaking out and extraction easier.	
A rope fitted to a winch on a skidder or tractor.	
The angle between two parts of a loaded rope running round a block (a dangerous position to stand or work).	
The positioning of stems to make breaking out more efficient.	
Attaching the strop or chain to the head (small end) of a stem for extraction.	
A metal case surrounding a pulley, used to change the direction of a rope or increase pulling power.	
Part of a network of tracks used by the extraction machine when dragging stems from the felling site to the processing area.	
A short length of chain fitted with a hook, which forms a noose around stems to be extracted.	
The wire rope used to pull the butt rigging into the landing.	
Attaching the strop or chain to the butt (large end) of a stem for extraction.	
A wire rope suspended between the hauler and a tailhold, which provides lift to a drag of logs, and upon which the carriage travels.	
The weight of the drag.	

2. What does clean-up mean?



3. For each log characteristic, describe the clean-up requirements for breaking out.

Log characteristic	Description
Length	
Diameter	
Merchantable wood	

4. Describe **three** factors that can affect the payload of a machine.

5. For each factor, explain what should be taken into consideration when selecting the draft.

Factor	Explanation
Position of stems	
Location of stems	
Size of stems	

6. Describe **one** of the strop types/components listed.

Strop type / component	Description
Chain and hook	
Wire rope	
Choker	
Ferrule	

7. Explain the rule relating to strop placement on a stem for each of the listed methods. □

Method	Rule
Ground based extraction	
Cable harvesting extraction, butt pull	
Cable harvesting extraction, head pull	

8. Give **three** reasons why strop placement is important. □

9. For each stropping method:



- Explain how it is done.
- Give **one** method of when this stropping method should be used.

You may draw pictures to support your answer.

Double wrap

How it is done

When it is used

Figure eight

How it is done

When it is used

Bridal stop

How it is done

When it is used

Strop and half hitch

How it is done

When it is used

10. Describe **two** situations where a log may need to be re-stropped.



11. Describe **two** situations where it would be necessary to unhook a log.



12. Explain **two** methods for unhooking logs safely.



Assessor – record key points from candidate’s verbal answers as accurately and fully as possible.

These answers were written by:

Candidate

Assessor



Question Set 3 – Keeping Safe

These questions are about safe areas, and identifying hazards and controlling associated risks. Use your own words. Your assessor may ask you more questions to check your understanding.

1. Name **two** safe areas in your breaking out site and explain why they are safe.

Safe area	
Why it is safe	
Safe area	
Why it is safe	

2. For **eight** of the breaking out hazards listed, give **one** example of the associated risk, and explain how you would control it.

Hazard	Risk	How I control it
Steep terrain		
Moving ropes		
Moving logs		

Dehydration		
Poor communication		
Other operations – tree felling		
Working around machines		
Unstable logs		
Bight of the rope		
Wire rope handling		
Heavy lifting		

3. Why is it important for hazard identification and risk management to be an on-going process in a cable harvesting operation?

4. Explain how the following **three** factors can increase risks or create new risks when breaking-out.

Give **two** examples for each.

Factor	Examples
Change in weather conditions	
Change in terrain	
Increased hindrance	

5. Describe why each communication system listed below is used in breaking out.

Talkie Tooter

RT

Assessor – record key points from candidate’s verbal answers as accurately and fully as possible.

These answers were written by:

Candidate

Assessor



Observation Checklist 1

You must be observed carrying out breaking out under supervision.

You will need to:

You will need to:

- Complete Part A of the checklist. Your assessor will complete the rest.
- Use personal protective equipment.
- Identify and explain safe areas.
- Identify hazards and manage risks.
- Attach logs.
- You are encouraged to attach any other evidence that shows you can do the above tasks, such as photos or relevant worksite documents you prepared or completed.

You may be asked additional questions to check your knowledge and may need to demonstrate skills and/or carry out tasks more than once.

Note to the assessor

- Only tick off each task when satisfied the candidate can do it safely and consistently.
- All tasks must be carried out following accepted industry practice and worksite procedures.
- Where prompted, please record details of what you observed, e.g. comments about the candidate's performance, what the candidate did or said, and specific questions and responses.
- Attach any other evidence that shows what you observed and/or that supports your decision for the candidate's competency in the tasks, e.g. photos or relevant worksite documents.
- Relevant worksite documents will depend on the unit but examples could include – tailgate meeting notes, daily work plans, hazard or risk registers, risk assessments, production records, quality control records, maintenance records, job prescription / maps, training notes / records.
- Check the candidate has completed Part A and has attached any required evidence.
- Copies or photos of documents are acceptable as evidence.

Part A: Candidate to complete

Your name

Worksite / company

Part B: Assessor to complete

For each statement below, tick if you agree.

When breaking out under supervision, the candidate:



1. Wears and uses appropriate personal protective equipment (PPE). Must include:



Helmet.

Gloves.

High visibility clothing.

Safety boots.

Hydration pack or water bottle.

2. Ensures PPE is properly maintained.



3. Selects and uses additional equipment required in the operation. May include:



Talkie Tooter.

RT.

4. Identifies safe areas in a breaking out site in accordance with the breaking out plan.



Record safe areas identified.

5. Assesses and effectively controls the risks associated with **eight** of the following breaking-out hazards.



Please record control methods the candidate used:

	Control methods
<input type="checkbox"/> Terrain.	
<input type="checkbox"/> Unstable logs.	
<input type="checkbox"/> Moving ropes.	
<input type="checkbox"/> Moving logs.	
<input type="checkbox"/> Heavy lifting.	
<input type="checkbox"/> Other operations.	
<input type="checkbox"/> Rope failure.	
<input type="checkbox"/> Block failure.	
<input type="checkbox"/> Stump failure.	
<input type="checkbox"/> Bight of rope.	
<input type="checkbox"/> Poor communication.	
<input type="checkbox"/> Dehydration.	

6. Maintains communication between worksite personnel and the cable yarder operator.



Record the communication method(s) used:

- Talkie Tooter.
- Radio transmitter (RT).

<p>7. Uses clear and agreed hand signals during ground based and/or cable extraction. Must include: <input type="checkbox"/></p> <p>Cable Extraction</p> <table border="0"> <tr> <td><input type="checkbox"/> Ahead on main rope.</td> <td><input type="checkbox"/> Slacken ropes.</td> </tr> <tr> <td><input type="checkbox"/> Stop all ropes.</td> <td><input type="checkbox"/> One log still attached.</td> </tr> <tr> <td><input type="checkbox"/> Emergency stop.</td> <td><input type="checkbox"/> Ahead on tailrope.</td> </tr> </table> <p>Ground based</p> <table border="0"> <tr> <td><input type="checkbox"/> Stop (without ropes).</td> <td><input type="checkbox"/> Position machine.</td> </tr> </table>	<input type="checkbox"/> Ahead on main rope.	<input type="checkbox"/> Slacken ropes.	<input type="checkbox"/> Stop all ropes.	<input type="checkbox"/> One log still attached.	<input type="checkbox"/> Emergency stop.	<input type="checkbox"/> Ahead on tailrope.	<input type="checkbox"/> Stop (without ropes).	<input type="checkbox"/> Position machine.
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<input type="checkbox"/> Emergency stop.	<input type="checkbox"/> Ahead on tailrope.							
<input type="checkbox"/> Stop (without ropes).	<input type="checkbox"/> Position machine.							
<p>8. Hooks stop correctly. <input type="checkbox"/></p>								
<p>9. Uses stopping methods(s) which: <input type="checkbox"/></p> <table border="0"> <tr> <td><input type="checkbox"/> Avoids accident unhooking.</td> </tr> <tr> <td><input type="checkbox"/> Minimise stem breakage.</td> </tr> <tr> <td><input type="checkbox"/> Minimise rigging damage.</td> </tr> </table>	<input type="checkbox"/> Avoids accident unhooking.	<input type="checkbox"/> Minimise stem breakage.	<input type="checkbox"/> Minimise rigging damage.					
<input type="checkbox"/> Avoids accident unhooking.								
<input type="checkbox"/> Minimise stem breakage.								
<input type="checkbox"/> Minimise rigging damage.								
<p>Throughout the observation, the candidate: <input checked="" type="checkbox"/></p>								
<p>10. Completes all the above tasks in accordance with: <input type="checkbox"/></p> <table border="0"> <tr> <td><input type="checkbox"/> Daily breaking-out plan.</td> </tr> <tr> <td><input type="checkbox"/> Worksite procedures.</td> </tr> <tr> <td><input type="checkbox"/> Accepted industry practice.</td> </tr> </table>	<input type="checkbox"/> Daily breaking-out plan.	<input type="checkbox"/> Worksite procedures.	<input type="checkbox"/> Accepted industry practice.					
<input type="checkbox"/> Daily breaking-out plan.								
<input type="checkbox"/> Worksite procedures.								
<input type="checkbox"/> Accepted industry practice.								
<p>Please provide specific comments on the candidate's ability to attach logs under supervision.</p>								
Empty space for comments								
<p>I confirm that:</p> <ul style="list-style-type: none"> I have observed the candidate carry out all the above tasks to the standard required. 	<table border="0"> <tr> <td><input type="checkbox"/> Yes</td> </tr> <tr> <td><input type="checkbox"/> No</td> </tr> </table>	<input type="checkbox"/> Yes	<input type="checkbox"/> No					
<input type="checkbox"/> Yes								
<input type="checkbox"/> No								
<p>Assessor name</p>		<p>Signature</p>		<p>Date</p>				



Worksite Verification

Note to the worksite verifier

- The assessor **takes this form into account** when making their decision about the candidate's competency. It helps provide further evidence of the candidate's skills and knowledge beyond what the assessor can directly observe or where worksite requirements may vary.
- This form must be completed by someone who:
 - Has been approved by the assessor
 - Has expertise in the assessed tasks (see Observation Checklist or Task Sheet for details)
 - Regularly supervises or manages the candidate in their worksite or operation.
- In-house assessors are not required to complete this form but may ask another suitable verifier to complete it if further evidence of competency is required.

Worksite verifier to complete

I confirm that :

- | | | |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 1. | Has demonstrated knowledge of log extraction methods and breaking out, and attaching logs under supervision, including: | <input type="checkbox"/> |
| | <input type="checkbox"/> Identifying and managing hazards while breaking out under supervision.
<input type="checkbox"/> Demonstrating knowledge of communications systems used in breaking out.
<input type="checkbox"/> Attaching logs under supervision. | |
| 2. | Can consistently and safely do the above to the standard of this operation. | <input type="checkbox"/> |
| 3. | Met worksite and operational requirements. | <input type="checkbox"/> |
| 4. | Completed any attached documentation to worksite / operational requirements. | <input type="checkbox"/> |

Please comment on the candidate's ability to do the above tasks.

Verifier name and title

Signature

Phone / email

Date

Assessment result

Post-assessment feedback

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Assessor judgement

I, the **assessor**, have reviewed the candidate's evidence for Unit Standard 23001 v5 and judge that it is sufficient and authentic.

I confirm the candidate can competently:

- Demonstrate knowledge of log extraction methods.
- Demonstrate knowledge of breaking out.
- Identify and manage hazards while breaking out under supervision.
- Demonstrate knowledge of communications systems used in breaking out.
- Attach logs under supervision.

Assessment result

<input type="checkbox"/> I, the assessor , confirm the candidate has achieved this unit standard.		Stamp
Signature	Date	

Candidate response

I, the candidate :	<input type="checkbox"/> Agree with the assessment result.	<input type="checkbox"/> Wish to appeal.
Signature	Date	