



BC Forest Safety

Creating a Safer Forest

Basic Incident Investigation

Participant Manual - v. 1.1

Date: September 19, 2025



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ABOUT THIS COURSE

The online Basic Incident Investigation course provides supervisors, safety coordinators and others working within the forest industry with an understanding of the methods and tools employed to conduct effective basic incident investigations.

This course provides a level of knowledge required to lead an incident investigation that identifies causes and drives effective corrective or preventive actions.

The Serious Incident and Fatality Investigation online course is another offering by the BC Forest Safety Council. This course provides instruction on how to complete investigations for incidents involving serious injuries or fatalities. These types of incidents often involve different agencies such as the RCMP and Coroners Service and employers should understand the roles and responsibilities of these agencies at the workplace.

Participant's Name:

Phone Number:

Email:

MY GOALS

What do I hope to gain from my participation in this course?

COURSE OBJECTIVES

When you complete this course, you will be able to:

- *Discuss the reasons for and value of conducting incident investigations.*
- *Prepare for and conduct effective incident investigations.*
- *Identify causes for incidents.*
- *Develop effective corrective actions.*
- *Follow-up on the results of investigation corrective actions.*

SECTION 1 – Overview



BC Forest Safety

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Section 1 Welcome

[Trainer Name]

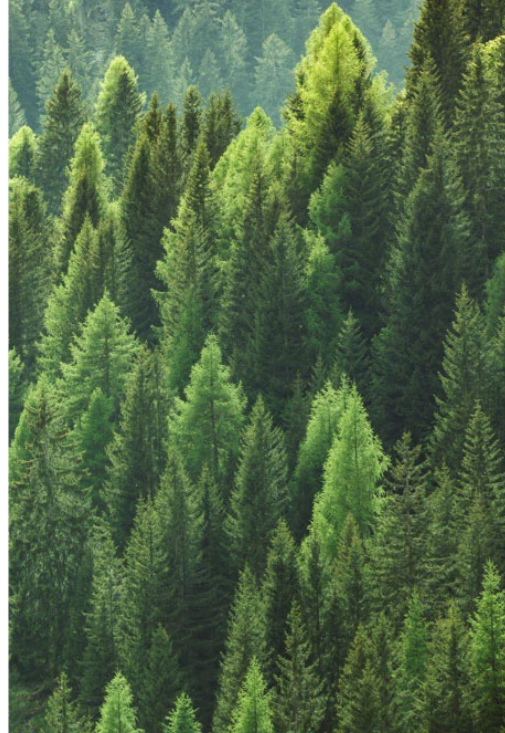
Contact Information:
[Phone Number]
[Email]



Section 1 Land Acknowledgement

We respectfully acknowledge these unceded ancestral lands, upon which we live, work and play.

We are honoured to have the opportunity to engage and work with First Nations, Inuit and Métis across B.C.



Section 1 Course Overview

Introductions

- What's your name?
- What department/operation do you work for?
- What's your position?
- What aspects of investigating incidents have you been involved with before?

What do you hope to get from this course?



Section 1 Agenda – Day 1

Day 1		
9–10 am	Section 1 Instructor led	Overview
10–11 am	Section 2 Self-directed	Basic Incident Investigation
11–12 pm	Section 3 Instructor led	Case Study: Pickup Incident
12–4 pm	Section 4 Self-directed	• Lunch • Case Study: Quad Unloading Incident • Submit preliminary investigation and interim corrective actions reports • Instructor available for questions



Section 1 Agenda – Day 2

Day 2		
Morning (9–12) – Instructor reviews assignments		
1-2 pm	Section 5 Instructor led	Group Debrief: Quad Unloading Incident - Preliminary Investigation and Interim Corrective Actions
2-3 pm	Section 6 Self-directed	Case Study: Quad Unloading Incident – Full Investigation and Full Corrective Action Report
3-4 pm	Section 7 Instructor led	Group Debrief: Quad Unloading Incident – Full Investigation and Full Corrective Action Report
4-5 pm	Section 8 Instructor led	Close calls, safety statistics, & wrap-up

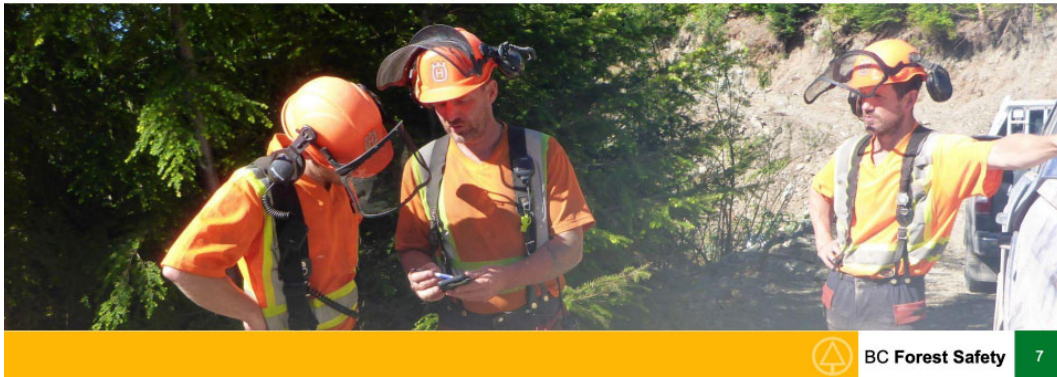


Section 1 Overview

Investigation Practice

Participation and Confidentiality

WorkSafeBC requirements



BC Forest Safety

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Section 1 Training Objectives

As you complete this course, you'll conduct an incident investigation on several case study scenarios and complete a WorkSafeBC Employer Incident Investigation Report (Form 52E40) to:

- Determine and document the causes in an incident
- Recommend corrective actions to minimize or eliminate future incidents
- Follow up on the outcomes of corrective actions taken



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Section 1 Performance Standard

On completing this course, you need to be able to:

- Discuss the reasons for and the value of conducting incident investigations
- Prepare for and conduct an effective incident investigation
- Identify and document causes for an incident
- Develop and document effective corrective actions
- Follow up on the results of investigation corrective actions
- Contribute to case study discussions

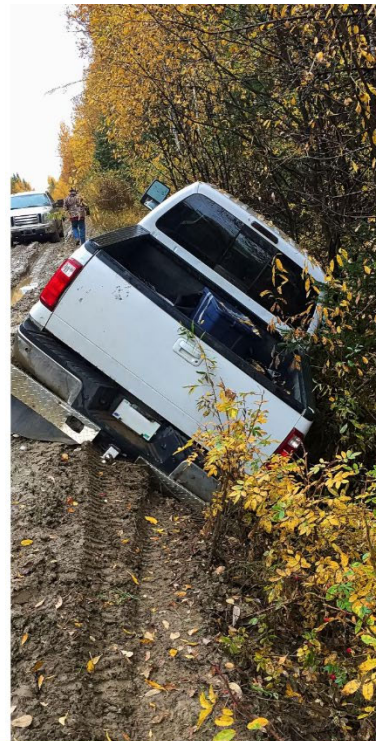


Section 1 What's Next?

What's next?

Access the online training module to:

- Learn why we investigate incidents
- Learn how to investigate an incident
- Watch the Pickup Incident video
- For this incident, identify:
 - Sequence of events
 - Unsafe conditions, acts or procedures
 - Underlying causes
 - Corrective actions



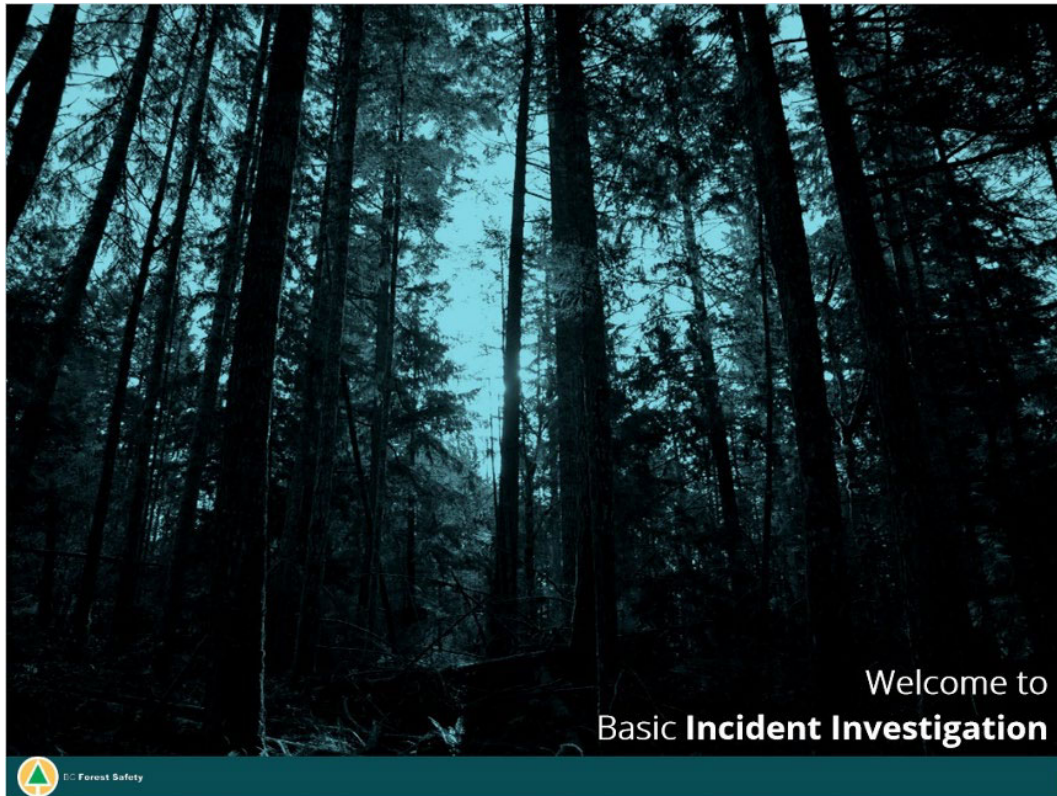
SECTION 2 – Why, When & How to Investigate

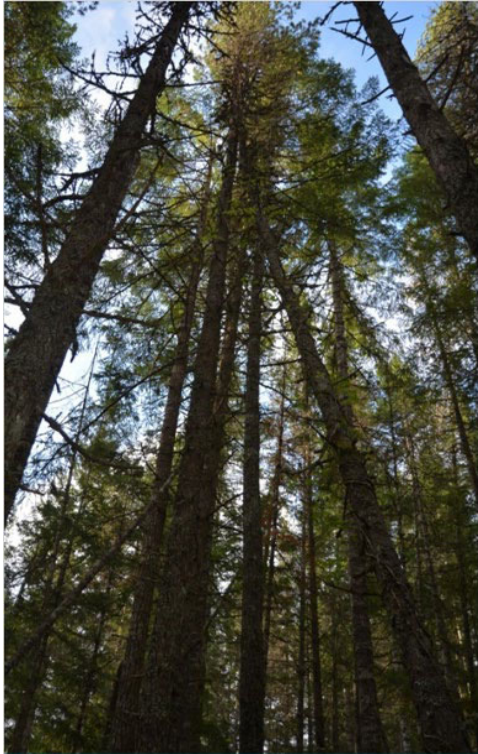
Section 2 is an online module that explores basic incident investigation.

Objectives:

In this section, you'll learn about:

- [A] Why we investigate
- [B] When to investigate
- [C] How to investigate
- [D] Identifying causes for incidents
- [E] Incident reporting, and
- [F] Incident investigation





2/44 ? HELP

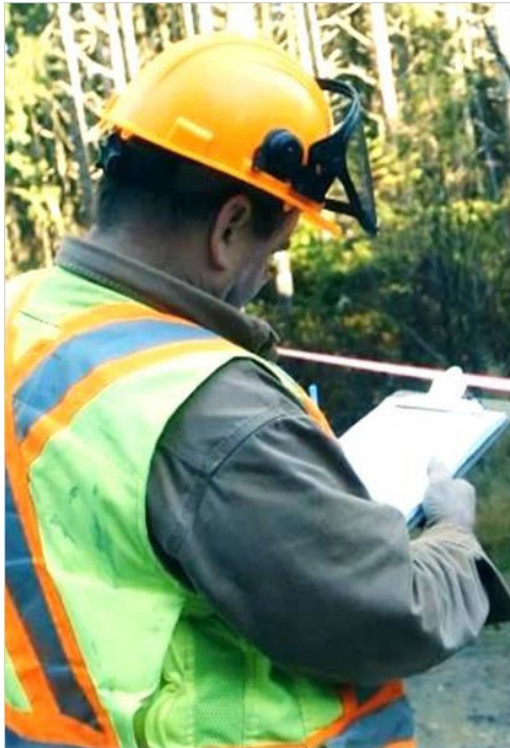
Section Objectives

We'll explore topics such as:

- Why we investigate
- When to investigate
- How to investigate
- Identifying causes for incidents
- Incident reports
- Incident investigation

Click NEXT to continue.

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3/44 ? HELP

Investigating incidents is the right thing to do for many reasons.

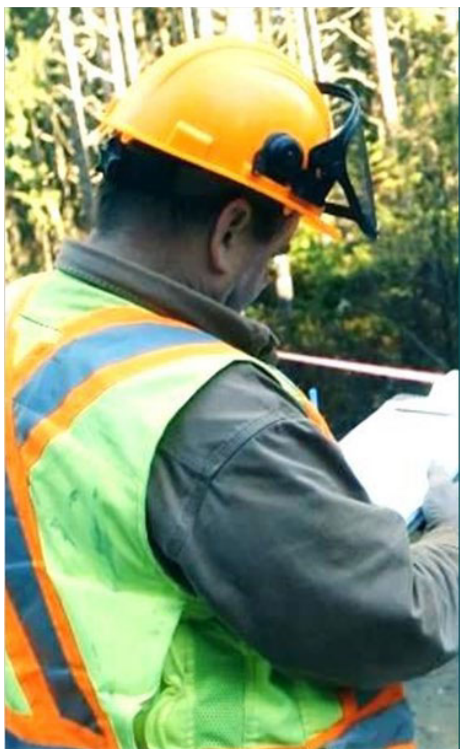
Click on the buttons to learn more.

Doing What's Right

Doing What's Good for Business

Click NEXT to continue.

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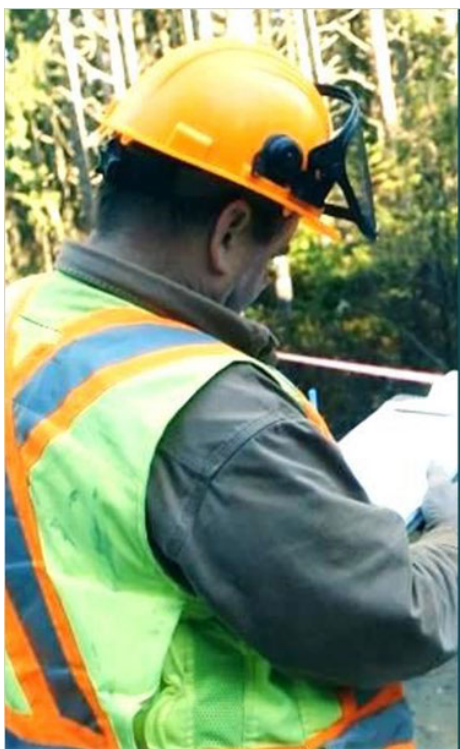


Doing What's Right

Incident investigations show your company values:

- Lives of workers
- Well-being of their families
- Integrity
- Safety

 CLOSE



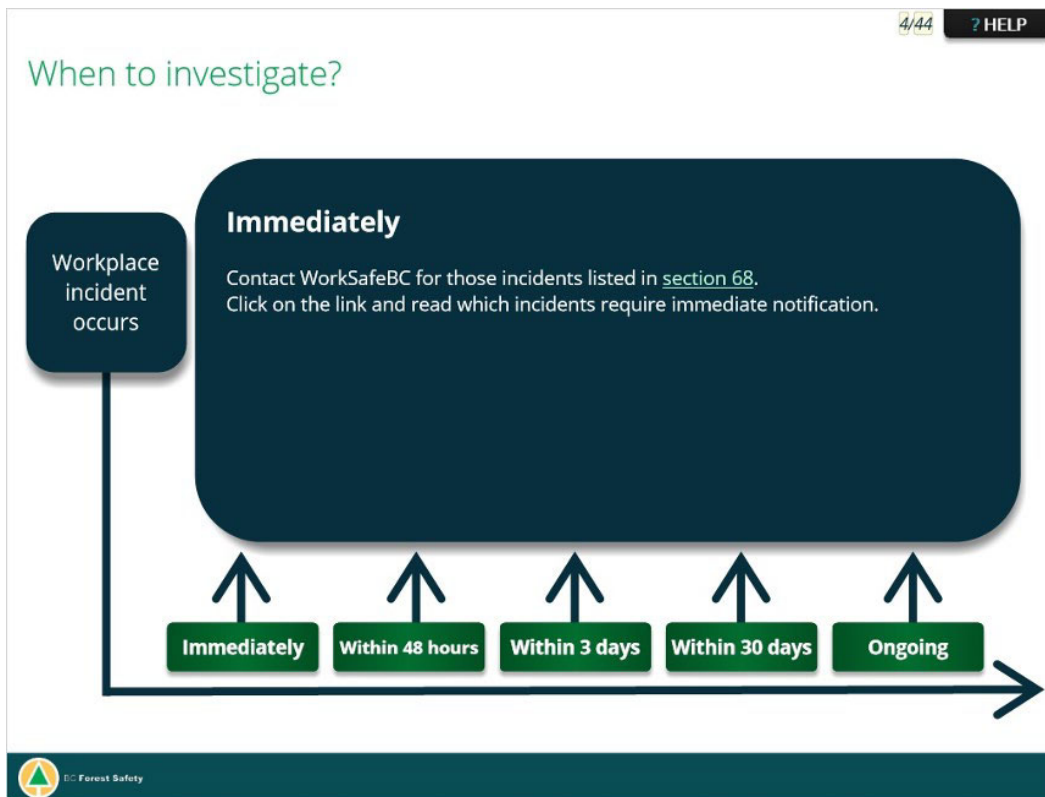
Good For Business

Incidents are very costly:

- Indirect costs are 5 to 50 times the direct costs of the incident
- Indirect costs include:
 - Worker replacement
 - Lost productivity
 - Increased insurance rates
 - Damage to company reputation
 - Legal costs
- Investigations help reduce costs by preventing similar incidents

 CLOSE





When to investigate?

4/44

? HELP

Workplace
incident
occurs**Within 3 days**

If the worker is injured, the employer must submit a completed Form 7, "Employer's Report of Injury or Occupational Disease" to WorkSafeBC. The worker must also submit a completed "Worker Report of Injury or Occupational Disease," Form 6a. Even if there is no injury, a supervisor must conduct an investigation if the incident had the potential for causing serious injury to a worker.

Immediately

Within 48 hours

Within 3 days

Within 30 days

Ongoing



When to investigate?

4/44

? HELP

Workplace
incident
occurs**Within 30 days**

Complete a full investigation, identify the full corrective actions and prepare a report. You must submit this full report with corrective actions to WorkSafeBC and to your Joint Health and Safety Committee or Worker Safety Representative. This report can be combined with the preliminary investigation report if everything can be completed in 48 hours.

Immediately

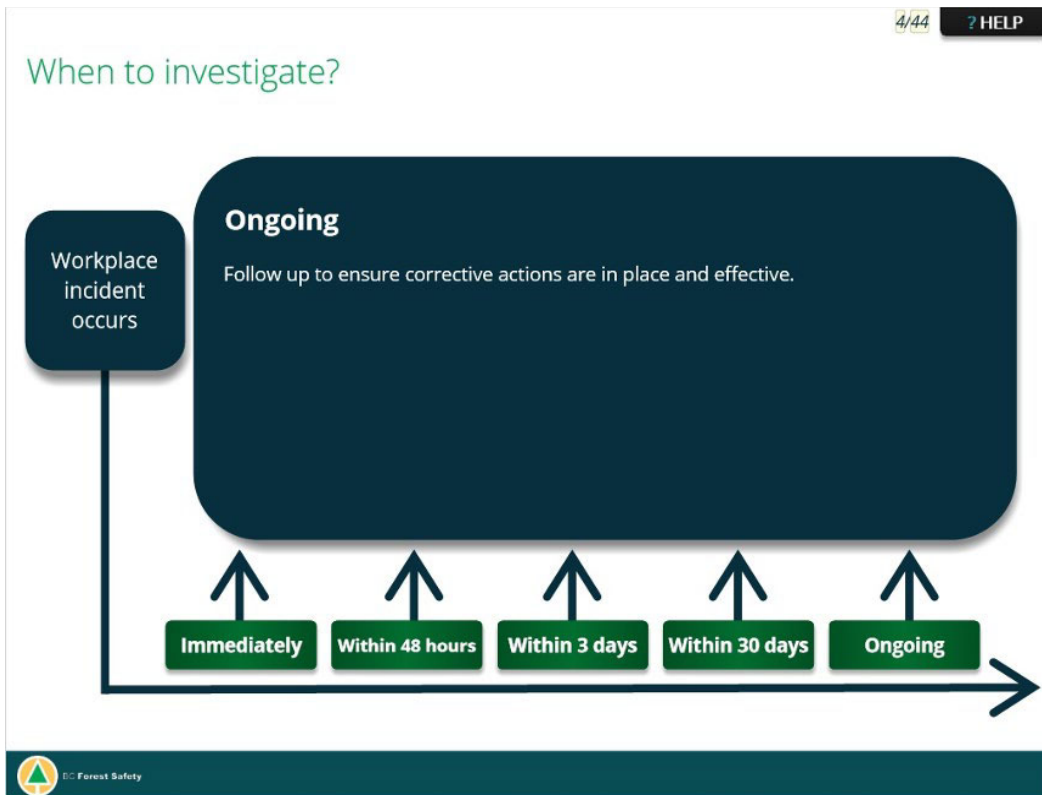
Within 48 hours

Within 3 days

Within 30 days

Ongoing





5/44 ? HELP

Reporting to WorkSafeBC

Certain incidents must be immediately reported to WorkSafeBC

- Worker seriously injured or killed on the job
- Major structural failure or collapse of a bridge, crane or excavation
- Dangerous incident involving fire or explosion
- Blasting incident, whether or not there is an injury

Before notifying WorkSafeBC, employers must first:

- Address conditions hazardous to other workers
- Ensure injured workers receive prompt first aid

Contact the [WorkSafeBC Prevention Information Line](#) immediately

- Not reporting can result in a penalty
- Don't disturb the scene

Click NEXT to continue.

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6/44 ? HELP

Steps of an Investigation – Overview

Training Preparation and Practice

Incident Occurs

Gather Information: The Five P's

Analysis

Identify Unsafe Conditions, Acts or Procedures that Contributed to Incident

Preliminary Corrective Actions

Identify Causes of Incident

Additional Corrective Actions

Follow Up

Slide the button on your screen to learn more about the different steps of an investigation.

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7/44 ? HELP

Training, Preparation and Practice

Investigation training is an effective tool

- For employers and workers

Practice:

- Encourages shared knowledge
- Builds experience
- Allows for continuous improvement

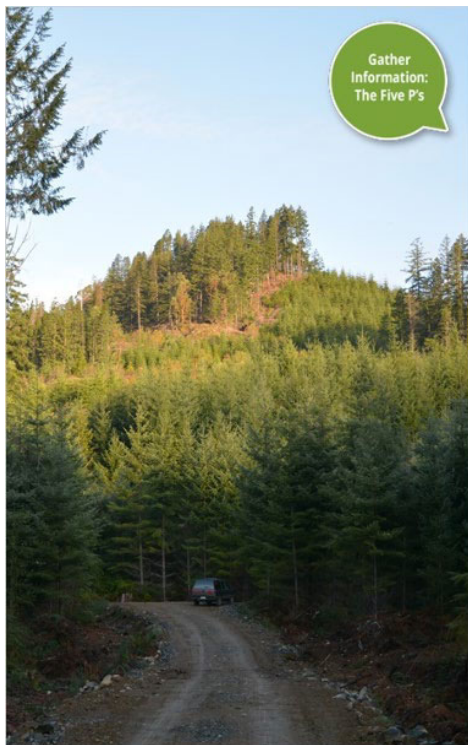
Preparation includes:

- Building kit contents
- Assembling incident investigation forms
- Assigning employer and worker representatives and a lead investigator

Resources are available from the [BCFSC website](#).

Click NEXT to continue.

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Gather Information: The Five P's

8/44 ? HELP

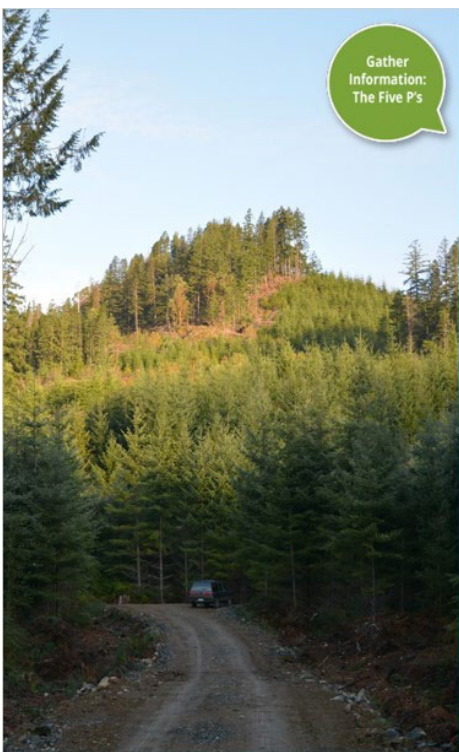
Gather Information:

Gathering information includes the Five P's. Click on the buttons to learn more.

- Position
- People
- Process
- Parts
- Paper

Click NEXT to continue.

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Gather Information: The Five P's

Position

Consider:

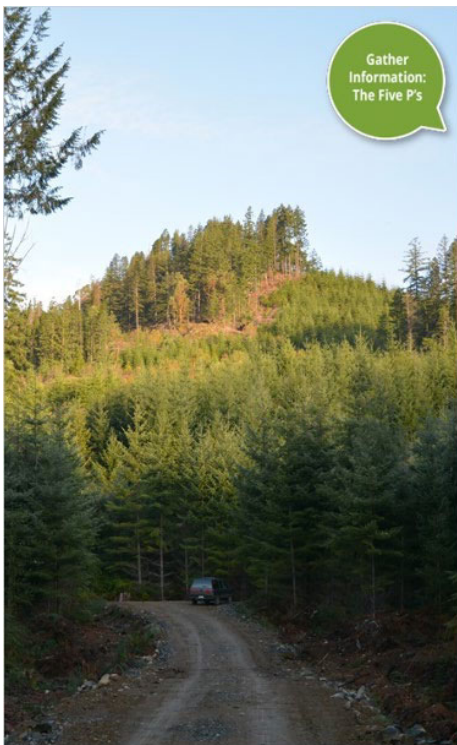
- Position of worker and equipment
- Physical environment

Collect evidence to support your findings

- Photos
- Sketches
- Maps

 CLOSE

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Gather Information:
The Five P's

People

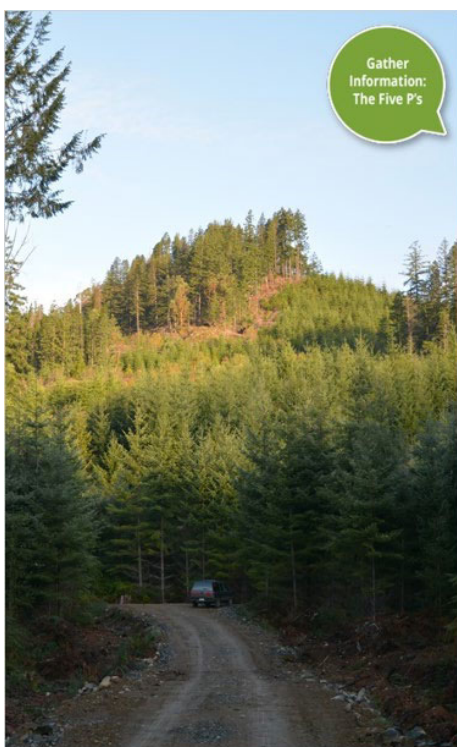
Gather people who were relevant to the incident, including:

- Injured worker(s)
- Other employees
- Other persons or witnesses
- Supervisor
- Manager or business owner
- First aid attendant
- Technical experts

Collect interviews with witnesses or others.

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Gather Information:
The Five P's

Process

Determine the work processes or procedures that were being followed at the time of the incident.

Record any process disruptions.

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Gather Information: The Five P's

Parts

Gather equipment and materials that were being used by the worker(s) at the time of the incident.

CLOSE

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Gather Information: The Five P's

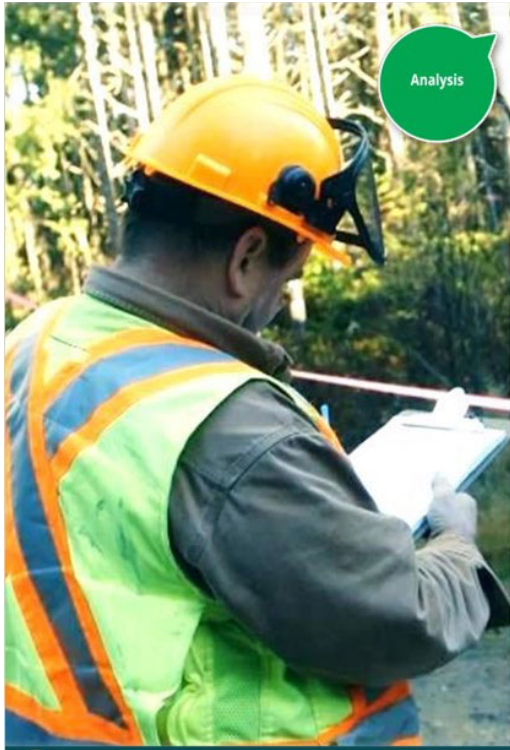
Paper

Gather any documents and records that are part of the safety program for the workplace.

Examples include training records, inspections, safe work procedures or policies.

CLOSE

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9/44 ? HELP

Analysis

Analysis

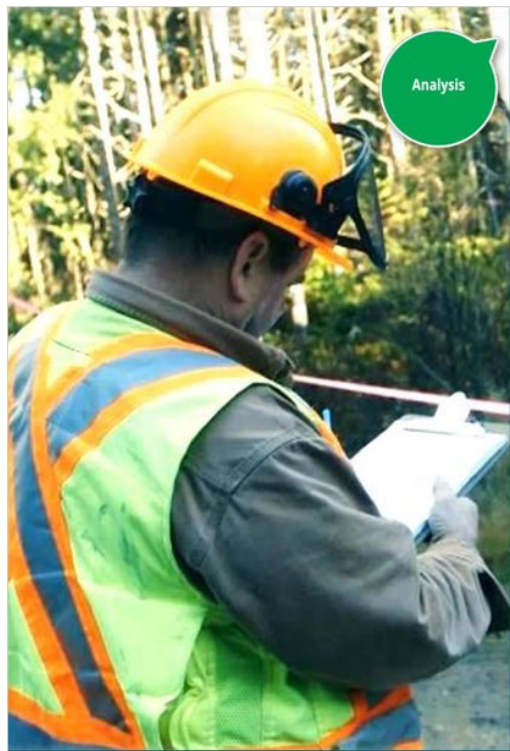
Analysis will help deepen understanding of what went on. Click on the buttons to learn more.

Sequence

Critical Thinking

Click NEXT to continue.

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Analysis

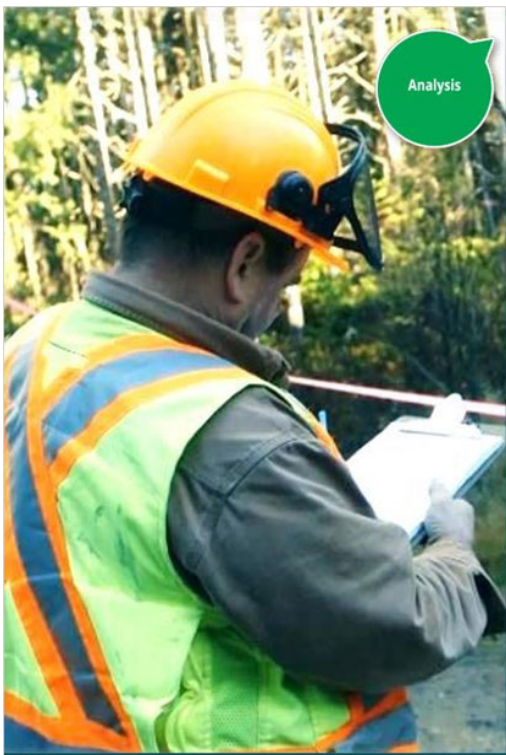
Sequence

Sequence of events

- Lay out a timeline
- Identify gaps
- Follow up to get missing details

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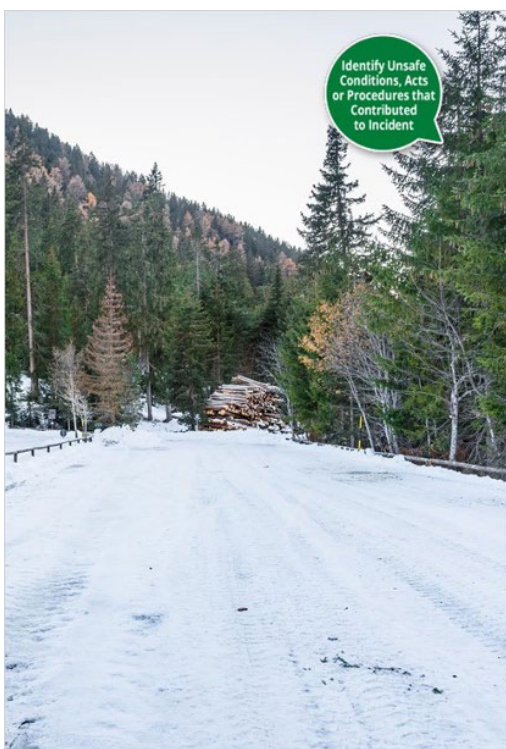
Analysis

Critical Thinking

- What is the source of information?
- Any bias?
- Any politics or agendas?

CLOSE





Identify Unsafe Conditions, Acts or Procedures that Contributed to Incident

10/44 ? HELP

Why did it happen?

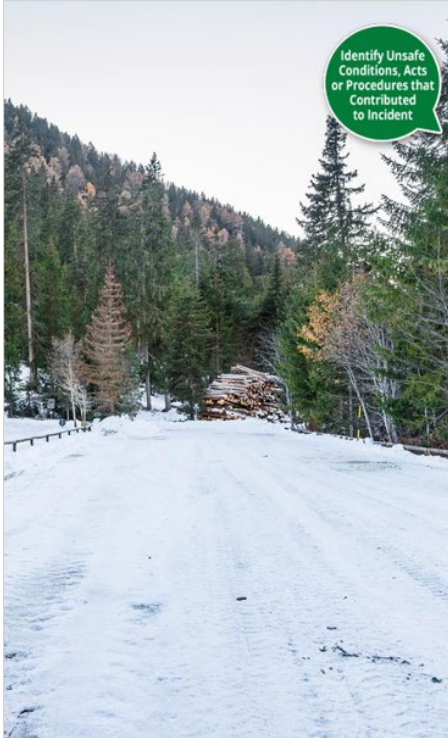
Sequence of events?

Click on the button to hear an example.

 Example

Click NEXT to continue.





Identify Unsafe Conditions, Acts or Procedures that Contributed to Incident

Immediate Cause

Icy conditions cause a worker to slip and fall.

More immediate causes:

- Salt?
- Debris?
- Clogged gutter?

[CLOSE](#)

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Preliminary Corrective Actions

11/44 [? HELP](#)

Preliminary Corrective Actions

Preliminary corrective actions must reflect the findings of a preliminary investigation.

To be effective, preliminary corrective actions should follow the SMART format

- Aim to correct
- Be accurately identified
- Follow SMART format
 - **S**pecific
 - **M**easurable
 - **A**chievable
 - **R**ealistic
 - **T**imely

They need to be

- Communicated clearly
- Done in a timely way
- Followed up

Click NEXT to continue.

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12/44 ? HELP

Additional
Corrective
Actions



Preliminary Corrective Actions – SMART examples

A significant fire started at the worksite and one of the contributing factors was that the appropriate fire fighting equipment wasn't on site.

Click the buttons to see Examples of SMART corrective actions.

Specific

Measurable

Achievable

Realistic

Timely

Click NEXT to continue.

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Additional
Corrective
Actions



Specific

Susan the supervisor is to inspect all 8 of the worker's pickups to make sure they have all the required emergency equipment (backpack pump, shovel, spill kit and fire extinguisher).

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Additional
Corrective
Actions

Measurable

Document the inspections on the monthly pickup inspection report and submit to Gary, the shop manager who will replace any missing items.

CLOSE

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Additional
Corrective
Actions

Achievable

All the workers have been instructed to bring their pickups to the office to be inspected tomorrow (Wednesday, September 15).

CLOSE

 Forest Safety



Additional
Corrective
Actions

Realistic

Susan must submit the reports to Gary no later than Friday, Sept. 17.


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Additional
Corrective
Actions

Timely

Any replacement equipment will be purchased by Gary on Monday, Sept. 20 and placed on the pickups on Tuesday, Sept. 21.


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13/44

? HELP

Additional
Corrective
Actions



Preliminary Corrective Actions -
NOT using SMART examples

Specific

Measurable

Achievable

Realistic

Timely

Click NEXT to continue.

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Additional
Corrective
Actions



Specific

Susan the supervisor is to inspect all 8 of the worker's pickups to make sure they have all the required emergency equipment (backpack pump, shovel, spill kit and fire extinguisher).

Not Specific

We need to improve how we respond to emergencies.

CLOSE

 BC Forest Safety



Additional
Corrective
Actions

Measurable

Document the inspections on the monthly pickup inspection report and submit to Gary, the shop manager who will replace any missing items.

Not Measurable

Make sure emergency equipment is on site.

[CLOSE](#)

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Additional
Corrective
Actions

Achievable

All the workers have been instructed to bring their pickups to the office to be inspected tomorrow (Wednesday, September 15).

Not Achievable

The workers and their pickups are at various field sites and camps but should be back at some point this week.

[CLOSE](#)

 BC Forest Safety



Additional
Corrective
Actions

Realistic

Susan must submit the reports to Gary no later than Friday, Sept. 17.

Not Realistic

Purchase anything that is missing and we'll reimburse you later.

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Additional
Corrective
Actions

Timely

Any replacement equipment will be purchased by Gary on Monday, Sept. 20 and placed on the pickups on Tuesday, Sept. 21.

Not Timely

This should be done in the next couple of months.

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14/44

? HELP

Additional
Corrective
ActionsThis is how the corrective actions
would be written out:BC Forest Safety
Safety is good business**Corrective Action Log**

#	Identified Problem	Required Corrective Action	Person Responsible	By When dd/mm/yyyy	Date Completed dd/mm/yyyy
014	Some pickup trucks may lack the required emergency equipment	All 8 workers to bring in their trucks for inspection. Susan to record whether they have the following equipment: - Backpack pump - Shovel - Spill kit - Fire extinguisher	Susan Smith	15/09/2020	
015	Some pickup trucks may lack the required emergency equipment	Any missing equipment will be replaced.	Gary Green	21/09/2020	

A [Corrective Action Log \(CAL\)](#) can be used to track corrective actions.

Click NEXT to continue.



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15/44

? HELP

Incident Investigation CAL

Corrective action logs (CAL) keep track of planned corrective actions and follow-up
CAL created when:

- Potential risk to worker health and safety
- Incident, hazard or change in condition identified or reported

CAL should be:

- Shared with workers
- Discussed at safety meetings

Click NEXT to continue.



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Video – Corrective Actions

16/44

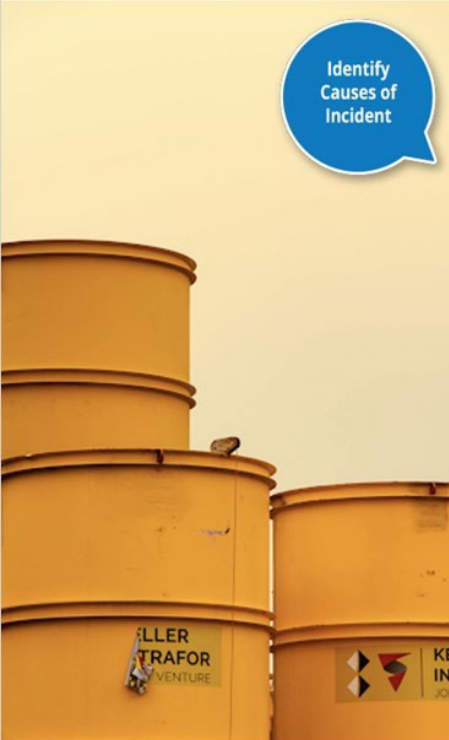
? HELP

Click PLAY to start.



Click NEXT to continue.


<https://www.youtube.com/watch?v=EULfb0wHnQw>



18/44
? HELP

Identify Causes of the Incident

Preliminary causes and corrections deal with short term "fixes."

Deeper causes require more effort and time to correct.

Example:
Drums on a pallet are lifted and fall off because they were not restrained/secured prior to lift.

Cause:
Grip or Hold

Definition:
Failure to secure an object, manually or with the use of a mechanical device(s), such that the object is inadvertently released.

Download a list of causes and their definitions here:
[\[PDF: Cause Definitions\]](#)

Click NEXT to continue.

BC Forest Safety

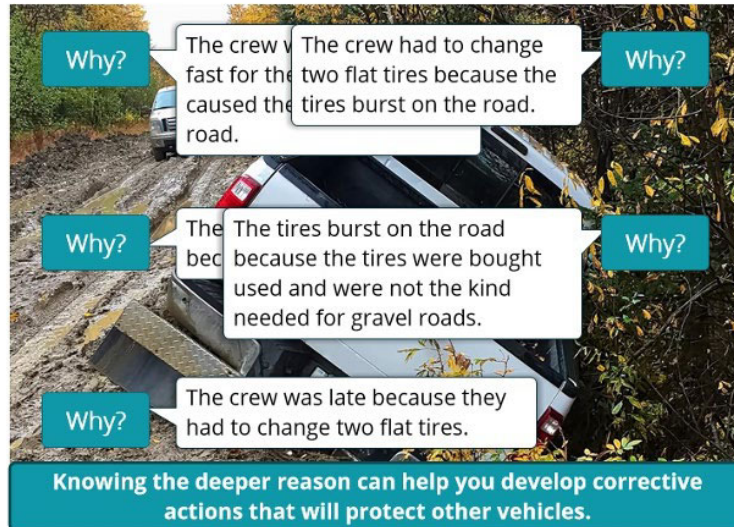
Identify Underlying Causes - Example

19/44

? HELP

Next step: determine causes.

Click on image to learn more about the incident and the underlying causes – in order – on the screen.



Click NEXT to continue.



Online Incident Investigation

20/44

? HELP

Other contributing factors could include:

Facilities:

- No work vehicle available
- Poor signage

People:

- Fatigue
- Shoulder injury

Management Systems:

- No system for worker check in
- No system for driver assessment

These may contribute to the immediate root causes.

Click NEXT to continue.



22/44 ? HELP



Additional
Corrective
Actions

Additional Corrective Actions

After an additional round of underlying causes have been determined

Corrective actions aim to:

- Correct a condition or problem within the company
- Prevent similar incidents

In order for corrective actions to be effective, it's necessary that the deeper, underlying causes be accurately identified.

Click NEXT to continue.

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25/44 ? HELP

Follow Up



```

graph LR
    A[Training Preparation and Practice] --> B[Incident Occurs]
    B --> C[Gather Information: The Five P's]
    C --> D[Analysis]
    D --> E[Identify Unsafe Conditions, Acts or Procedures that Contributed to Incident]
    E --> F[Preliminary Corrective Actions]
    F --> G[Identify Causes of Incident]
    G --> H[Additional Corrective Actions]
    H --> I[Follow Up]
  
```

- Share learnings

Click NEXT to continue.

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Incident Investigation – Video

26/44

? HELP

Click on the play button to watch a video about an investigation.



Click NEXT to continue.



<https://www.youtube.com/watch?v=zPu2CePrHhc>

Incident Investigation Form

30/44

? HELP

Take a look at a sample Employer Incident Investigation Report, also known as Form 52E40.

- 19 parts to the form
- Preliminary Investigation Report = Parts 1–14
- Full Investigation Report/Full Corrective Action Report = Parts 15–19

Your logo goes here: **Employer Incident Investigation Report (52E40)**

Please refer to the companion quick guide for assistance completing the investigation and this form. Please attach a separate sheet if necessary.

1. Employer's information

Employee's name (last name first) _____ Generating location number _____ Worksite/accident number _____

Employer's head office address _____

City _____ Province _____ Postal code _____

Employee's representative's name _____ Email address _____ Phone number (include area code) _____

2. Injured persons

Employee's name	Date of incident	Date of report
(1)		
(2)		
(3)		
(4)		

3. Place, date, and time of incident

Location where incident occurred (include street name and number) _____

City (street) _____ Province _____ Postal code _____

Date of incident (month/year/day) _____ Time of incident _____ (AM/PM)

4. Type of occurrence (select all that apply)

☐ Death of a worker ☐ Serious injury to a worker ☐ Major structural failure or collapse ☐ Major release of hazardous substance ☐ Blasting accident causing personal injury ☐ An incident investigation report is NOT required under the Workers' Compensation Act if none of the above applies or if this incident is a vehicle accident occurring on a public street or highway.	☐ Dangerous incident involving explosives other than blasting incident ☐ Strong incident, as defined by regulation ☐ Incident of fire or explosion with potential for serious injury ☐ Major injury or no injury but first aid needed for serious disease injury ☐ Injury requiring medical treatment beyond first aid
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5. Report type (select all that apply) If this is a revised version of a previous report, please check here: ☐

☐ Preliminary investigation report If requested only, provide a copy to WorkSafeBC.	☐ Preliminary investigation report Report date (month/year/day) _____	☐ Full investigation report Must be provided to WorkSafeBC within 20 days of the incident.	☐ Full investigation report Report date (month/year/day) _____
Officer's name _____	Report date (month/year/day) _____	Officer's name _____	Report date (month/year/day) _____

52E40 (202001) Page 2 of 3

Click NEXT to continue.



Incident Investigation Form

31/44

? HELP

Your logo goes here: **Employer Incident Investigation Report (EIIR)**

Please refer to the companion [quick guide](#) for assistance completing the investigation and this form. Please attach a separate sheet if necessary.

1. Employer's information

Employer's name (legal name and trade name)	Operating location number	WorkSafeBC account number
Employer's head office address		
City	Province	Postal code
Employer's representative's name	Email address	Phone number (include area code)

2. Injured persons

Last name	First name	Job title
a)		
b)		
c)		
d)		

3. Place, date, and time of incident

Location where incident occurred (street address or GPS coordinates)

City (optional) Province Postal code

Date of incident (YYYY-MM-DD) Time of incident ☐ a.m. ☐ p.m.

4. Type of occurrence (select all that apply)

☐ Death of a worker ☐ Serious injury to a worker: Major structural failure or collapse Major release of hazardous substance ☐ Bleeding incident causing personal injury	☐ Dangerous incident involving explosives other than blasting incident ☐ Diving incident, as defined by regulation ☐ Incident of fire or explosion with potential for serious injury ☐ Minor injury or no injury but had potential for causing serious injury ☐ Injury requiring medical treatment beyond first aid
--	--

An incident investigation report is NOT required under the Workers Compensation Act if none of the above applies or if this incident is a vehicle accident occurring on a public street or highway.

5. Report type (select all that apply) If this is a revised version of a previous report, please check here: ☐

☐ Preliminary Investigation Report If requested only, provide a copy to WorkSafeBC	☐ Informal Corrective Action Report	☐ Full Investigation Report Must be provided to WorkSafeBC within 30 days* Fax: 1.866.240.1424	☐ Full Corrective Action Report
Report date (YYYY-MM-DD)	Report date (YYYY-MM-DD)	Report date (YYYY-MM-DD)	Report date (YYYY-MM-DD)
Officer's name		Date sent (YYYY-MM-DD)	

52E40 (02/2017) Page 1 of 5

Click NEXT to continue.



Incident Investigation Form

32/44

? HELP

Your logo goes here: **Employer Incident Investigation Report (EIIR)**

6. Witnesses

Last name	First name	Job title
a)		
b)		
c)		

7. Other persons whose presence might be necessary for proper investigation

Last name	First name	Job title
a)		
b)		

8. Sequence of events that preceded the incident

Required in Preliminary Report. Update in Full Report if necessary. Describe events earlier that day or even in previous years that led up to the incident. Examples may include events such as training given or changes in equipment, procedures, or company management.

9. Unsafe conditions, acts, or procedures that significantly contributed to the incident

Required in all reports. Describe anything, or the absence of anything, that contributed to the hazard such as poor housekeeping or poor visibility, using equipment without guards, or the lack of safe work procedures.

10. Nature of the serious injury (optional - complete only if there has been a serious injury)

☐ Life threatening or resulting in loss of consciousness ☐ Major broken bones in head, spine, pelvis, arms, or legs ☐ Major crush injuries ☐ Major cut with severe bleeding ☐ Amputation of arm, leg, or large part of hand or foot ☐ Major penetrating injuries to eye, head, or body ☐ Severe (third-degree) burns	☐ Punctured lung or other serious respiratory condition ☐ Injury to internal organs or internal bleeding ☐ Injury likely to result in loss of sight, hearing, or touch ☐ Injury requiring CPR or other critical intervention ☐ Diving illness such as decompression sickness or near drowning ☐ Serious chemical or heat/cold stress exposure ☐ Other (specify)
---	--

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Click NEXT to continue.



Incident Investigation Form

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Your logo goes here

Employer Incident Investigation Report (EIIR)

11. Brief description of the incident

Required in Preliminary Report. Briefly, summarize the sequence of events, the unsafe factors, and the resulting injury, if any.

12. Corrective actions identified and taken to prevent recurrence of similar incidents

Action (Required in Preliminary Report and Interim Corrective Action Report; update in Full Report, if needed.)	Action assigned to (Name, job title, contact info, email)	Expected completion date (YYYY-MM-DD)	Completed date (YYYY-MM-DD)
a)			
b)			
c)			
d)			
e)			

13. Explanation of blank areas on this Preliminary Report, if any

If there are blank areas, describe the circumstances beyond your control that explain this lack of information.

14. Persons who carried out or participated in the preliminary investigation

Representative	Name	Job title	Signature (upload)	Date signed (YYYY-MM-DD)
Employer representative				
Worker representative				
Other				
Other				

End of report

Completing all the sections above satisfies the requirements for a Preliminary Investigation Report and an Interim Corrective Action Report.

Note: If this was a simple investigation and all needed corrective actions have been completed within 48 hours, the Preliminary and Full Investigation portions of the report can be completed at the same time. If so, you can check both the Preliminary Investigation Report and the Full Investigation Report boxes in section 5 on page 1. Copies of all reports must also be provided to the joint occupational health and safety committee or worker representative, as applicable.

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(R2307) Page 3 of 5

Click NEXT to continue.



Incident Investigation Form

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Employer Incident Investigation Report (EIIR)

15. Determination of causes of incident

Required in Full Report. Analyze the facts and circumstances of the incident to identify underlying factors that led to the incident. Underlying factors include factors that made the unsafe conditions, acts, or procedures in the Preliminary Report possible. Update items from section 5, if needed.

16. Full description of the incident

Required in Full Report. Use the brief description from the Preliminary Report and update it, if necessary.

17. Additional corrective actions necessary to prevent recurrence of similar incidents

Additional corrective action (Required in Full Report and Full Corrective Action Report.)	Action assigned to (Name, job title, contact info, email)	Expected completion date (YYYY-MM-DD)	Completed date (YYYY-MM-DD)
a)			
b)			
c)			
d)			
e)			

52E40

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Click [here](#) to have a closer look at the incident investigation form.

Click NEXT to continue.



Incident Investigation Form

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Your logo goes here

Employer Incident Investigation Report (EIIR)

18. Persons who carried out or participated in the full investigation

Representative	Name	Job title	Signature (upload)	Date signed (mm-dd-yyyy)
Employer representative				
Worker representative				
Other				

19. Other relevant workplace parties

Company name	Contact person and job title	Contact information or email address
a)		
b)		

End of report
Completing all the sections above satisfies the requirements for a Full Investigation Report and a Full Corrective Action Report.

Ways to submit an Employer Incident Investigations Report (EIIR)
Employers are required to submit full investigation reports to WorkSafeBC within 30 days of the incident. Do not submit a preliminary report unless you have been directed to by a WorkSafeBC officer. Copies of all reports must also be provided to the joint occupational health and safety committee or worker representative, as applicable.

The easiest and most convenient way to submit your report is through our [online reporting tool](#). Once you have logged into your online services account, click on the "Health & Safety" tab. You will see a link to the Employer Incident Investigation Report (EIIR) Dashboard where you can view and submit EIIRs.

Alternatively, you can [upload](#) this completed form to us or fax it to 604.276.3247 (toll-free at 1-866-240-1434) or send by mail to: WorkSafeBC, PO Box 5350 5th Terminal, Vancouver, BC V6B 5L5.

Note that employers can request an extension from a WorkSafeBC officer if the full investigation cannot be completed within 30 days.

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Click NEXT to continue.



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Section Summary

Some of the topics we've covered in this section on incident investigations include:

- Why we investigate
- When to investigate
- Steps of investigation
- Identifying causes for incidents
- Incident reports
- Incident investigation

Feel free to revisit any of these sections if you want to reinforce your understanding of the concepts.

Click NEXT to continue.



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Case study: "Pickup Crash"

Remember these steps:

- Gathering the five Ps
- Analysis of information
- Identifying the unsafe conditions, acts or procedures that contributed to the incident
- Determining the preliminary corrective actions
- Identifying the causes of the incident
- Determining additional corrective actions
- Follow up to make sure corrective actions are effective

Click NEXT to continue.

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Incident Investigation – Video

Click on the play button to watch this video on the "Pickup Crash" case study.



Click NEXT to continue.

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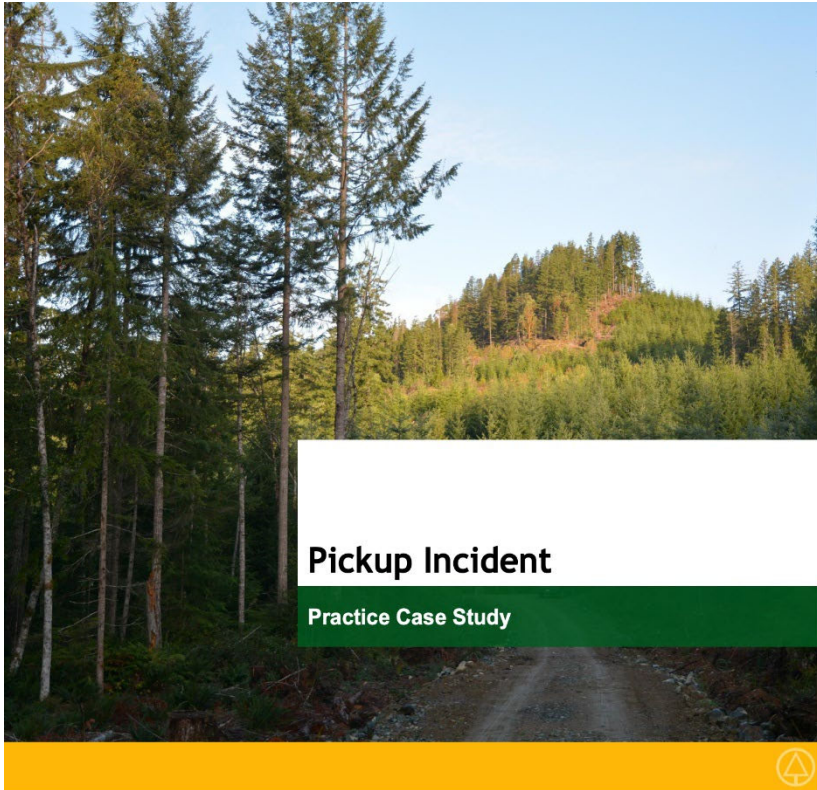
What's Next

NEXT BLOCK: Review "Pickup Truck" case study

Pick Up Crash PDF

Click NEXT to continue.

SECTION 3 – Pickup Incident



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Pickup Incident

Practice Case Study



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Section 3 Objectives

Participating in this case study will help you to:

- Conduct an effective incident investigation
- Identify unsafe conditions, acts or procedures that contributed to the incident
- Develop preliminary corrective actions
- Identify the causes of an incident
- Develop additional corrective actions
- Follow up on the results of investigation corrective actions
- Contribute to case study discussions



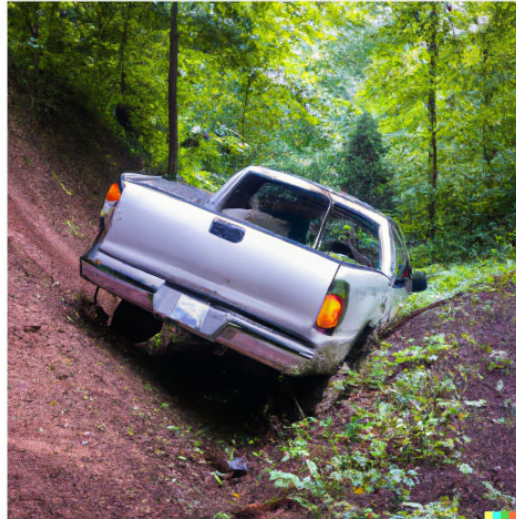
Section 3 Background

On August 15th, the crew was traveling in a crew-cab pickup with 5 crew members in the truck. There were a few vehicles ahead of the truck, as well as a few behind them. There was a lot of dust in the air from the vehicles. They slowed down due to the dusty conditions and a sun/shade transition.

They then accelerated forward and estimated there was 3 to 5 metres of visibility. The driver missed the corner ahead and the truck went over the edge.

He applied the brakes the whole time but the hill was so steep he could not stop the truck.

There is a key statement from the driver.



Section 3 Witness Statement – Driver

Key Information from Driver's Witness Statement:

- I was driving the crew back to the office after the day's work – Aug 15th
- The speed limit is 80 km/h on the road and I always kept the truck's speed under that
- There was lots of traffic on the road which caused dusty conditions
- There was dust control; some blocks were better than others
- I slowed down to approx. 10 km/h for the dusty conditions, just prior to missing the corner and going off the road
- Visibility was very poor, approx. 3 to 5 metres
- I applied the brakes the whole time going down the bank but the vehicle didn't stop until it hit the rocks
- I didn't panic and jerk the wheel so the truck went straight down the bank and didn't roll over
- Everyone in the truck was wearing seatbelts and there were no injuries

Let's investigate this case study and determine the five P's.



Section 3 People – Answers

People:



Driver

- Has a valid license and 5 years of experience driving on gravel roads
- No previous vehicle incidents
- Had a driving assessment 5 years ago
- Driver was familiar with the road

Crew

- Were wearing seatbelts
- Were talking normally and quieted when the dust was apparent



Section 3 Process – Answers

Process:

- Company has Safe Work Procedures for driving on resource roads
- Reviewed annually
- This driver reviewed them within the year



Section 3 Parts – Answers



Parts:

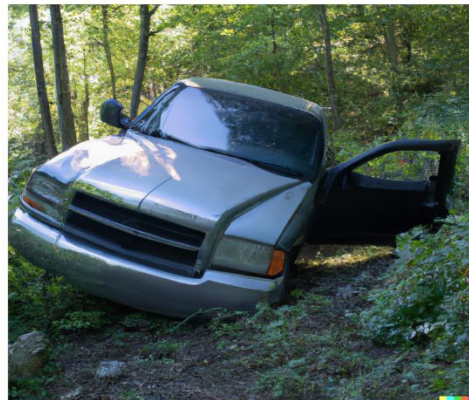
- All aspects of the road were acceptable
- All sharp corners had visible signage
- Heavy traffic that day
- Water truck was working to control dust
- Pickup had no mechanical problems



Section 3 Position – Answers

Position:

- Pickup went off the road at a sharp corner
- Stopped 80 m down the slope
- Passengers confirmed driver's statement



Section 3 Paper – Answers

Paper:

- Company's safety program is current and accurately reflects the work activity
- Orientation includes driving on gravel roads
- Pre-work meeting was held where driving conditions were discussed
 - Driver was present for this meeting
- Worker assessments held every 3 months
 - But driving isn't assessed
- No driver training



RESET

Employer Incident Investigation Report (52E40)

Please refer to the companion **quick guide** for assistance completing the investigation and this form. Please attach a separate sheet if necessary.

1. Employer's information

Employer's name (type name and town name)	Operating location number	WorkSafeBC account number
Employer's head office address		
City	Province	Postal code
Employer's representative's name	Email address	Phone number (include area code)

2. Injured persons

Last name	First name	Job title
a)		
b)		
c)		
d)		

3. Place, date, and time of incident

Location where incident occurred (street address or GPS coordinates)

City (name)	Province	Postal code
Date of incident (yyyy-mm-dd)	Time of incident	☐ a.m. ☐ p.m.

4. Type of occurrence (select all that apply)

☐ Death of a worker ☐ Serious injury to a worker ☐ Major structural failure or collapse ☐ Major release of hazardous substance ☐ Bleeding accident causing personal injury	☐ Dangerous incident involving explosives other than blasting incident ☐ Diving incident, as defined by regulation ☐ Incident, of fire or explosion with potential for serious injury ☐ Minor injury or no injury but had potential for causing serious injury ☐ Injury requiring medical treatment beyond first aid
---	---

An incident investigation report is NOT required under the **Workers Compensation Act** if none of the above applies or if this incident is a vehicle accident occurring on a public street or highway.

5. Report type (select all that apply) If this is a revised version of a previous report, please check here:

☐ Preliminary Investigation Report If requested only, provide a copy to WorkSafeBC.	☐ Interim Corrective Action Report	☐ Full Investigation Report Must be provided to WorkSafeBC within 30 days* Fax: 1.866.240.4344	☐ Full Corrective Action Report
Report date (yyyy-mm-dd)	Report date (yyyy-mm-dd)	Report date (yyyy-mm-dd)	Report date (yyyy-mm-dd)
Officer's name		Date sent (yyyy-mm-dd)	

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Section 3 Form 52E40

Incident Investigation Report

Download a copy of Incident Investigation Report and practice filling it in

<https://www.worksafebc.com/en/resources/health-safety/forms/incident-investigation-report-form-52e40>



Section 3 Timeline – Answers

Timeline:

- Driving the crew back to the office after the day's work – Aug 15th
- Lots of traffic on the road which caused dusty conditions
- Driver slowed down to approx. 10 km/h for the dusty conditions
- Driver missed a corner, went off the road and over a steep bank
- The truck went straight down the bank and did not roll over
- Everyone in the truck was wearing seatbelts and there were no injuries



Section 3 Timeline – Group Sharing

Timeline

8. Sequence of events that preceded the incident

Required in Preliminary Report. Update in Full Report if necessary. Describe events earlier that day or even in previous years that led up to the incident. Examples may include events such as training given or changes in equipment, procedures, or company management.



Section 3 Unsafe Conditions, Acts or Procedures – Answers

Unsafe Conditions, Acts or Procedures that contributed to the Incident:

- Poor visibility due to dusty road conditions
- Driving too fast for the conditions

9. Unsafe conditions, acts, or procedures that significantly contributed to the incident

Required in all reports. Describe anything, or the absence of anything, that contributed to the hazard such as poor housekeeping or poor visibility, using equipment without guards, or the lack of safe work procedures.



Section 3 Preliminary Corrective Actions – Answers

Preliminary Corrective Actions:

- Contact the road maintainer to discuss improving dust control on the road
- Change work schedule to avoid high traffic time periods which cause poor visibility
- Share incident details with other crews. In particular, importance of driving to conditions and not over steering if you go off the road

12. Corrective actions identified and taken to prevent recurrence of similar incidents

Action (Required in Preliminary Report and Interim Corrective Action Report. Update in Full Report, if necessary.)	Action assigned to (Name, job title, contact information)	Expected completion date (yyyy-mm-dd)	Completed date (yyyy-mm-dd)
a)			
b)			
c)			
d)			
e)			



Section 3 Causes of the Incident – Answers

Causes of the Incident:

- Dust due to high volume of traffic
- Inadequate dust control on some parts of the road
- Lack of driver training and assessments

15. Determination of causes of incident

Required in Full Report. Analyze the facts and circumstances of the incident to identify underlying factors that led to the incident. Underlying factors include factors that made the unsafe conditions, acts, or procedures in the Preliminary Report possible. Update items from section 9, if needed.



Section 3 Additional Corrective Actions – Answers

Additional Corrective Actions:

- Start a regular driver training program for all drivers
- Incorporate regular driving assessments into the existing worker assessment checklist
- Update Driving Safe Work Procedure to include a block on driving during poor visibility

17. Additional corrective actions necessary to prevent recurrence of similar incidents

Additional corrective action (Required in Full Report and Full Corrective Action Report.)	Action assigned to (Name, job title, contact information)	Expected completion date (YYYY-MM-DD)	Completed date (YYYY-MM-DD)
a)			
b)			
c)			
d)			
e)			



Section 3 Follow-up Actions – Answers

Follow-up Actions:

- Review assessments to confirm they are being completed and incorporate additional training or procedures based on gaps found by assessments
- Regular communication with road owners about road maintenance issues



Section 3 Completed Form 52E40

A form with all blocks completed satisfies the requirements for a Full Investigation Report and a Full Corrective Action Report.

Submission to WorkSafeBC:

- Within 30 days of the incident
- Copies sent to the Health and Safety Committee
- Online submission
- Also submission by mail or fax



Section 3 Summary

Questions for discussion:

- What do you think was the most challenging part of this investigation?
- What would have made that easier?
- Do you feel prepared to try an investigation on your own? Why or why not?



Section 3 What's Next?

Next exercise:

Quad Rollover Incident Case Study

- Review the case
- Gather information - the 5 P's
- Analysis including Sequence of Events
- Identify Unsafe Conditions, Acts or Procedures
- Preliminary Corrective Actions
- Identify Causes of Incident (Day 2)
- Additional Corrective Actions (Day 2)

Fill out and submit Form 52E40.

Questions?

Submission time.

Submission instructions.



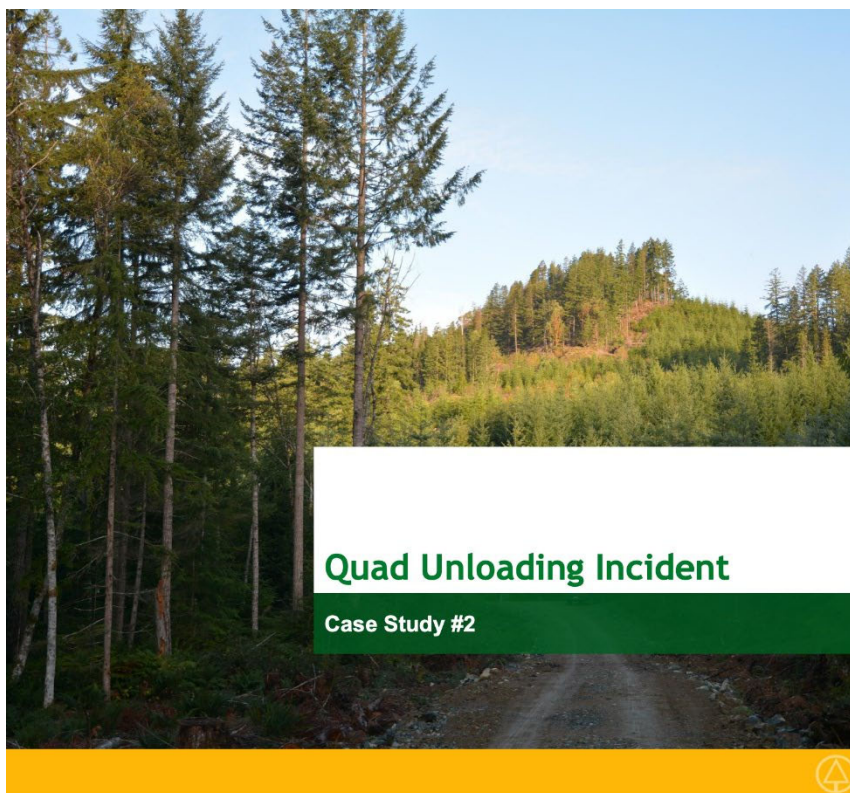
SECTION 4 – Quad Unloading Incident – Self Study

Section 4 is an online, self-directed module that looks at a case study called “Quad Unloading Incident.”

In this case study you will:

- Gather incident information – the 5 P's
- Analyze information including developing the sequence of events
- Identify unsafe conditions, acts or procedures
- Develop preliminary corrective actions

SECTION 5 – Quad Unloading Incident – Group Discussion Part 1



Section 5 Background

Summary of incident?



Gather
Information:
The Five P's

Section 5 Five P's – Group Sharing

Gather
Information:
The Five P's

Questions? Comments?

Let's investigate this case study and determine the five P's.



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Section 5 Timeline – Answers

Analysis

Timeline:

- Gabriel decided the ATV shortcut was better than driving the pickup to the area that needed to be scouted
- Early Thursday morning, Gabriel goes to the shop and loads ATV onto F-350
- Gabriel lets one of the crew know where he is going
- Thursday at 1 pm, Gabriel drives to landing to unload ATV
- Gabriel secures ramps and puts on helmet before climbing onto ATV
- Puts ATV in reverse and backs off of dry box
- Piece of wood flips up under footrest
- Gabriel reaches down to remove wood
- Right side of ATV falls off the side of ramp
- ATV rolls on top of and pins Gabriel
- Gabriel uses hand-held radio and tries unsuccessfully to get help
- After 3 hours, crew arrives to check on him
- First aid provided and ETV used to transport Gabriel to hospital
- After 45 minutes, ETV arrives at hospital and Gabriel is treated



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Section 5
Unsafe Conditions, Acts, or Procedures – Answers

Identify Unsafe
 Conditions, Acts
 or Procedures that
 Contributed to
 Incident

Identifying unsafe conditions, acts or procedures:

- ATV brakes not working properly
- ATV ramp not secured properly to tailgate
- Hand-held radio did not work to call for help/no coverage
- No formal check-in procedure established for Gabriel when he was working alone
- ATV loaded in a steep position on dry box
- Debris in bed of truck that caused a distraction



Section 5
Preliminary Corrective Actions – Answers

Preliminary
 Corrective
 Actions

Preliminary corrective actions:

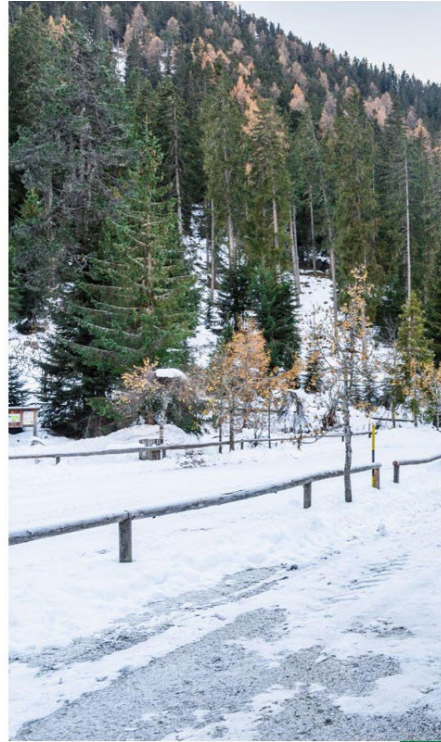
- Service Manager - ATV taken out of service with a tag and key removed until the brakes are repaired
- Service Manager - Inspect all pickups used for transporting ATVs to make sure an ATV can be positioned safely in the bed of the truck (no ramps onto dry box and no debris) and that appropriate equipment is available to secure ramps (chains, ratchet straps)



Section 5 What's Next

Next Section:

- Causes of incident
- Additional corrective actions
- Wrap up



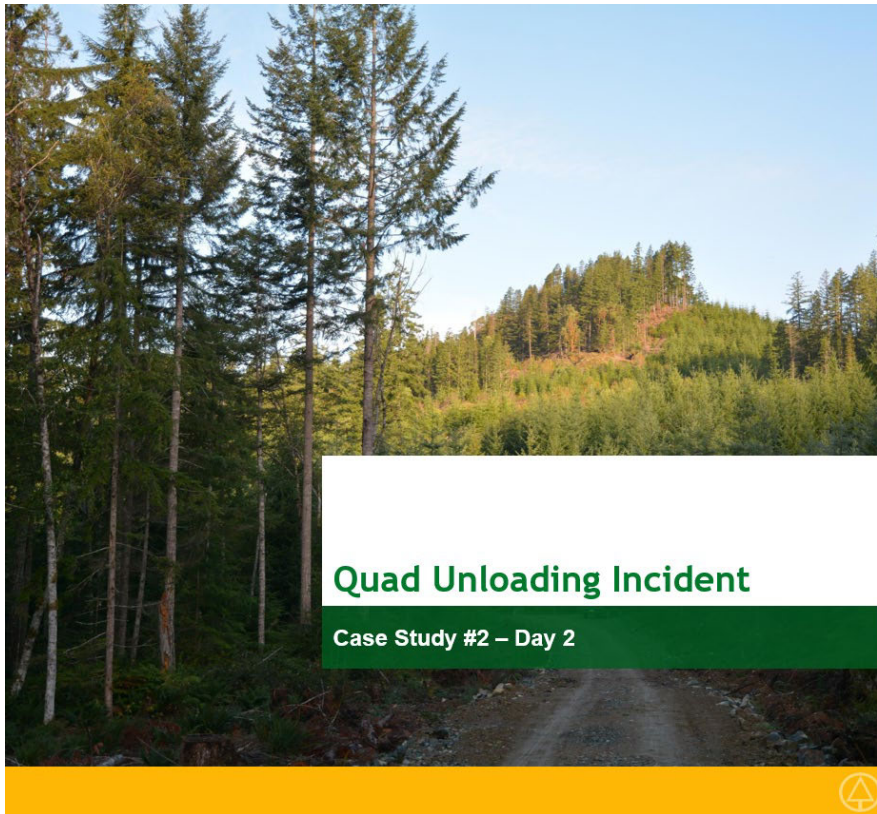
SECTION 6 – Quad Unloading Incident – Self Study

Section 6 is an online, self-directed module that looks at a case study called “Quad Unloading Incident.”

In this case study you will:

- Identify and document the underlying causes for the incident
- Develop and document effective corrective actions
- Recommend how to follow up on the results of the corrective actions

SECTION 7 – Quad Unloading Incident – Group Discussion Part 2



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Quad Unloading Incident

Case Study #2 – Day 2



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Section 7 Causes of the Incident – Answers

Identify
Causes of
Incident

Causes of the incident:

- Inspection identified malfunctioning brakes but ATV not taken out of service and brakes not repaired
- Improper procedures and equipment for ATV loading and unloading
- Debris in back of pickup distracted the ATV operator
- No radio reception led to a delay in injured worker receiving help



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Section 7 Additional Corrective Actions – Answers

Additional Corrective Actions

Additional corrective actions:

- Program Manager to work with supervisors to train all staff on ATV and working alone procedures. Include missing worker scenario in emergency drills
- Service Manager to create a formal procedure for putting equipment out of service including visual signs to indicate that equipment should not be used



Section 7 Follow-up – Answers

Follow Up

Follow-up:

- Check in with workers to see if they are still working alone in any areas without adequate radio or satellite communication
- Assess workers using ATVs to make sure they are following the updated procedures
- Include missing worker scenario in emergency drills to see if workers can respond appropriately



Section 7 Observations

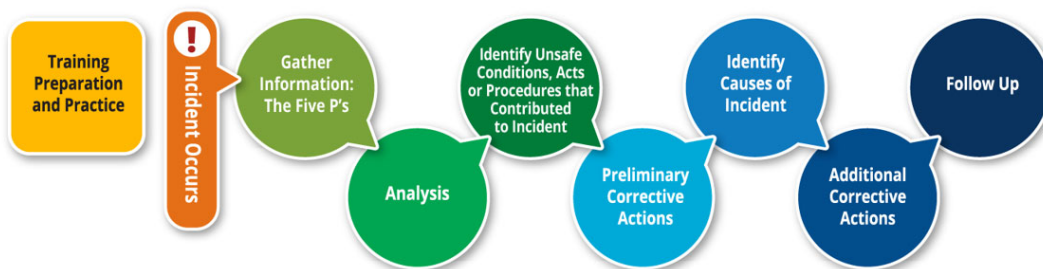
Group observations:

- Strengths
- Areas for improvement



Section 7 Summary

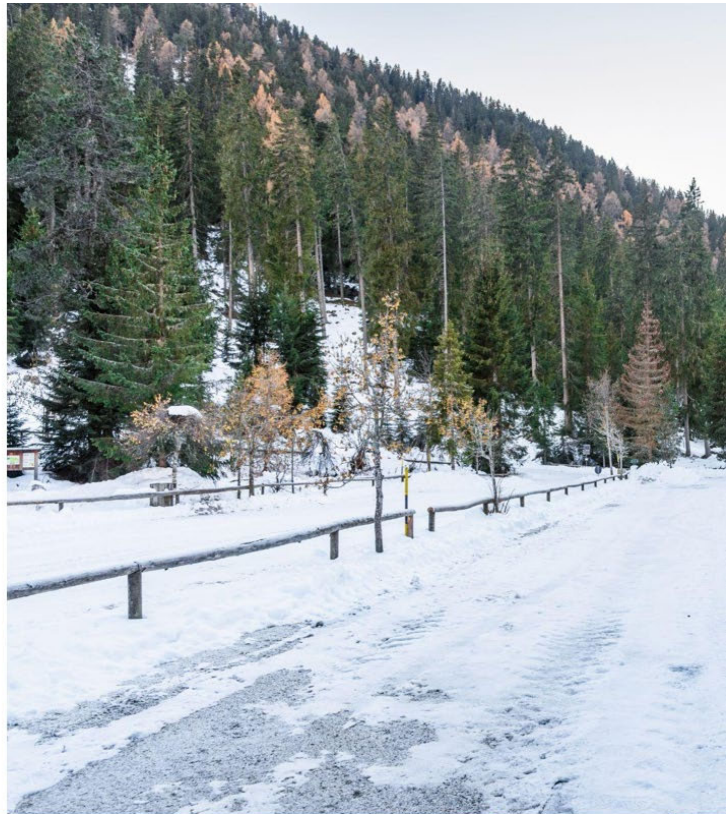
We practiced:



Section 7
What's Next

Next Section:

- Close calls
- Safety statistics
- Wrap up



SECTION 8 – Close Calls, Safety Statistics & Wrapping Up



Section 8 Increased Investigations & Reporting

How could increased investigations lead to fewer incidents over time?

How could increased reporting lead to fewer incidents?

Section 8 Close Calls

There is value in investigating close calls.

How can we encourage people to report close calls?



Section 8 Types of Close Calls

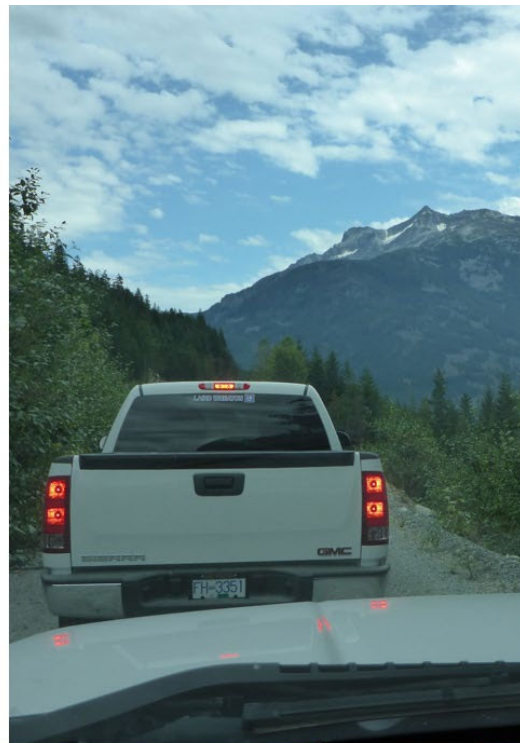
Close call with potential for serious injury

- Full investigation required

vs.

Minor close call

- Investigation may be completed, especially if there is a pattern



Section 8 Creating a Culture of Safety

A good safety culture includes reporting close calls & investigating incidents.



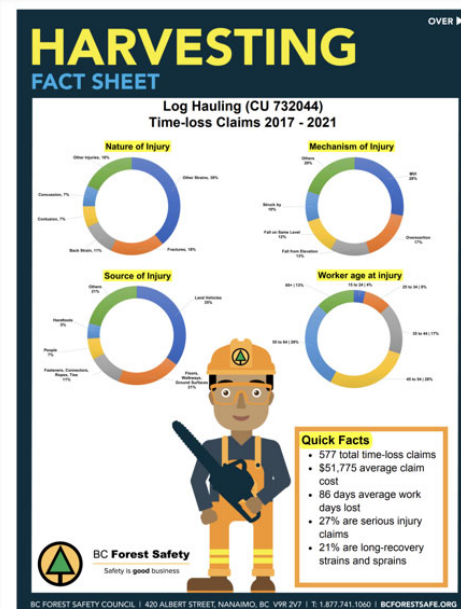
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Section 8 Safety Statistics

Injury Rate
vs.
Serious Injury Rate

<https://www.bcforestsafes.org/about/reports-statistics/industry-statistics/>



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Section 8 Rates & Formulas

Medical Incident Rate

Formula = (Medical Treatment + Restricted Work + Lost Time Cases)
x 200,000 hours/Exposure Hours

Severity Rate

Formula = Number of lost days X 200,000 hours/Exposure hours

Lost Time Rate

Formula = Lost time cases x 200,000 hours/Exposure hours

Formulas help assure statistics are applied in a consistent way.

NOTE: These statistics only track injuries, not close calls.



Section 8 Benefits of Tracking Safety Statistics



Tracking injuries helps keep a record of incidents and costs

- Statistics help identify trends

Larger companies use these terms and track this information.

Small companies may not, but it's beneficial when they can.



Section 8 Resources

What are some of the External Resources that you can refer to that support developing your incident investigations skills?

- BC Forest Safety Council
- WorkSafeBC
- Training Organizations
- Others?



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Other courses to consider:

- Serious Injury and Fatality Investigations



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Section 8 Review

What are your main takeaways on conducting incident investigations?

Feedback?



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Section 8 Review

What are your main takeaways on conducting incident investigations?

Feedback?

▼ Feedback

Click the feedback link below to share your thoughts with us.



Tell us how we can improve



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11



Section 8 Wrapping Up

Congratulations on completing the course.

Record of completion will be sent out within 3 days



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