NSW Resources
Resources Regulator

Quarry/pit inspections

Small Mines Roadshow 2025

February / March / April 2025

Contents

Legislation

Work Health and Safety (Mines and Petroleum Sites) Regulation 2022

Section 39 Inspections

1) The mine operator of a mine must ensure arrangements are in place for the regular inspection of the working environment of the mine for the purposes of the WHS laws.

2) The mine operator must ensure, in the making of the arrangements, the following are taken into account —
   a) the procedures for conducting inspections,
   b) when inspections must be carried out,
   c) the persons competent to conduct inspections,
   d) the number of competent persons required to conduct each inspections.

3) The mine operator of a mine must ensure a risk assessment is conducted on all areas of the mine when taking account of the matters set out in subsection (2)(a)–(d).

Developing an inspection checklist

Have you read the NSW Resources Regulator's guide for 'Health and safety at quarries'?

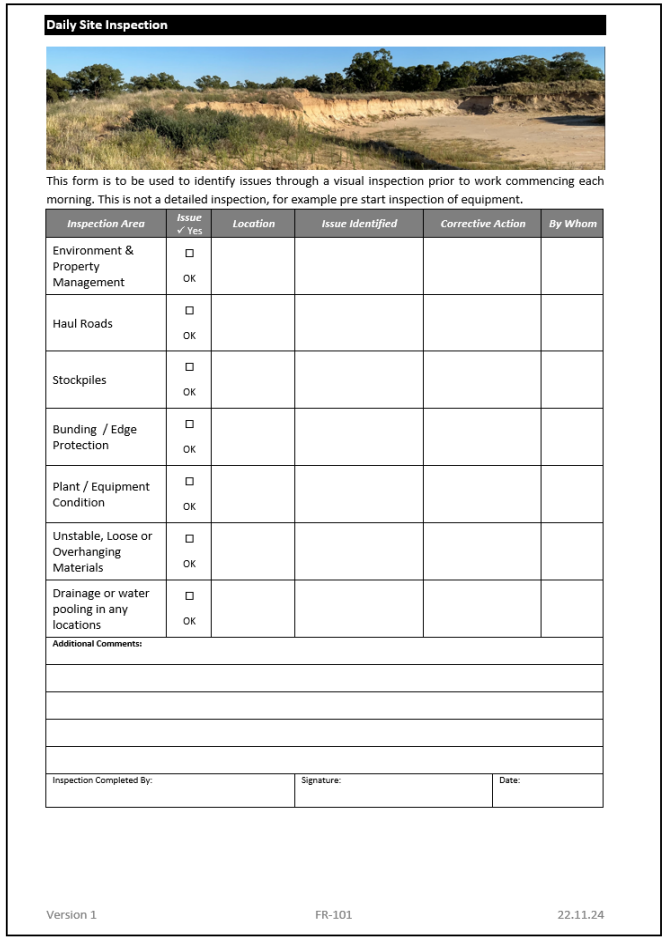
This is an excellent resource, and we would strongly recommend using this guide.

Press 'control F' then type 'inspect' to search for the word in this document. You will see it is mentioned over 200 times, hence the importance of **inspections**!

Developing an inspection checklist (basic)

Basic checklist prompts:

- Faces – slips, slumps or failures of any kind, or the potential of.
- Water seeping out of the face.
- Bunding at crest of high walls/faces.
- Bunding around water bodies e.g. dams, in pit sumps, silt/slimes dams.
- Bunding on roadways.
- Roadway conditions.
- Drainage. Is it adequate? Does it divert water away from faces? Do you have pooling of water? Any slumping identified?
- Dump design, compaction, bunding and drainage. Does water flow away from dump/tip point? Any pooling water to destabilise dump?
- Signage in place and legible.



Daily Site Inspection

This form is to be used to identify issues through a visual inspection prior to work commencing each morning. This is not a detailed inspection, for example pre start inspection of equipment.

Inspection Area	Issue ✓ Yes	Location	Issue Identified	Corrective Action	By Whom
Environment & Property Management	☐ OK				
Haul Roads	☐ OK				
Stockpiles	☐ OK				
Bunding / Edge Protection	☐ OK				
Plant / Equipment Condition	☐ OK				
Unstable, Loose or Overhanging Materials	☐ OK				
Drainage or water pooling in any locations	☐ OK				

Additional Comments:

Inspection Completed By:	Signature:	Date:

Version 1 FR-101 22.11.24

Developing an inspection checklist (complex)

Complex checklist prompts:

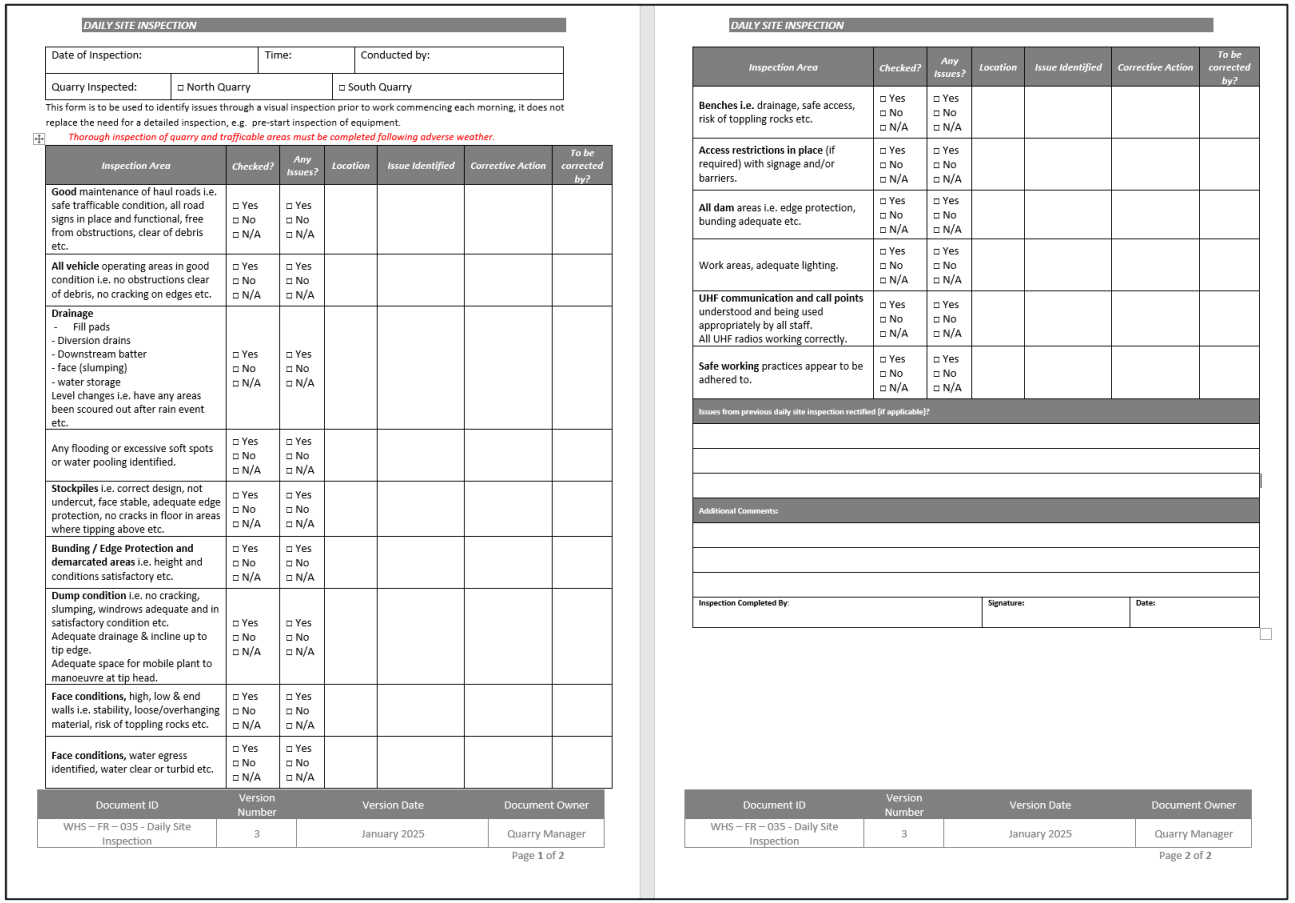
- Early identification is key to safety.
- Consult with a geotechnical engineer to assist in developing a more robust inspection checklist.
- Have a geotechnical engineer carry out periodic inspections, provide a report and advise accordingly.
- Large scale mines may use monitoring equipment on highwalls to detect movement.
- The original mine design may not be adequate for local geology.
- Dams in pit sumps, have you considered these.
- Stockpiles that have been ramped up such as dust and road base. Is adequate bunding in place?
- Height under overhead structures or powerlines. Has road height increased due to build up or spillage over time?

Thornton Quarry, Illinois USA

Examples of what other companies have developed

More things to consider in developing your inspection checklists:

- Good maintenance of haul roads
- All vehicle operating areas in good condition
- Drainage
- Stockpiles
- Bunding/edge protection and demarcated areas
- Dump condition
- Face conditions
- Benches
- Access restrictions
- UHF communications and call points



DAILY SITE INSPECTION

Date of Inspection:	Time:	Conducted by:
Quarry Inspected:	□ North Quarry	□ South Quarry

This form is to be used to identify issues through a visual inspection prior to work commencing each morning, it does not replace the need for a detailed inspection, e.g. pre-start inspection of equipment.

Thorough inspection of quarry and trafficable areas must be completed following adverse weather.

Inspection Area	Checked?	Any Issues?	Location	Issue Identified	Corrective Action	To be corrected by?
Good maintenance of haul roads i.e. safe trafficable condition, all road signs in place and functional, free from obstructions, clear of debris etc.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				
All vehicle operating areas in good condition i.e. no obstructions clear of debris, no cracking on edges etc.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				
Drainage - Fill pads - Diversion drains - Downstream batter - face (slumping) - water storage Level changes i.e. have any areas been scoured out after rain event etc.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				
Any flooding or excessive soft spots or water pooling identified.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				
Stockpiles i.e. correct design, not undercut, face stable, adequate edge protection, no cracks in floor in areas where tipping above etc.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				
Bunding / Edge Protection and demarcated areas i.e. height and conditions satisfactory etc.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				
Dump condition i.e. no cracking, slumping, windrows adequate and in satisfactory condition etc. Adequate drainage & incline up to tip edge. Adequate space for mobile plant to manoeuvre at tip head.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				
Face conditions, high, low & end walls i.e. stability, loose/overhanging material, risk of toppling rocks etc.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				
Face conditions, water egress identified, water clear or turbid etc.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				

Document ID	Version Number	Version Date	Document Owner
WHS – FR – 035 - Daily Site Inspection	3	January 2025	Quarry Manager

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DAILY SITE INSPECTION

Inspection Area	Checked?	Any Issues?	Location	Issue Identified	Corrective Action	To be corrected by?
Benches i.e. drainage, safe access, risk of toppling rocks etc.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				
Access restrictions in place (if required) with signage and/or barriers.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				
All dam areas i.e. edge protection, bunding adequate etc.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				
Work areas, adequate lighting.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				
UHF communication and call points understood and being used appropriately by all staff. All UHF radios working correctly.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				
Safe working practices appear to be adhered to.	□ Yes □ No □ N/A	□ Yes □ No □ N/A				

Issues from previous daily site inspection rectified (if applicable)?

Additional Comments:

Inspection Completed By:	Signature:	Date:

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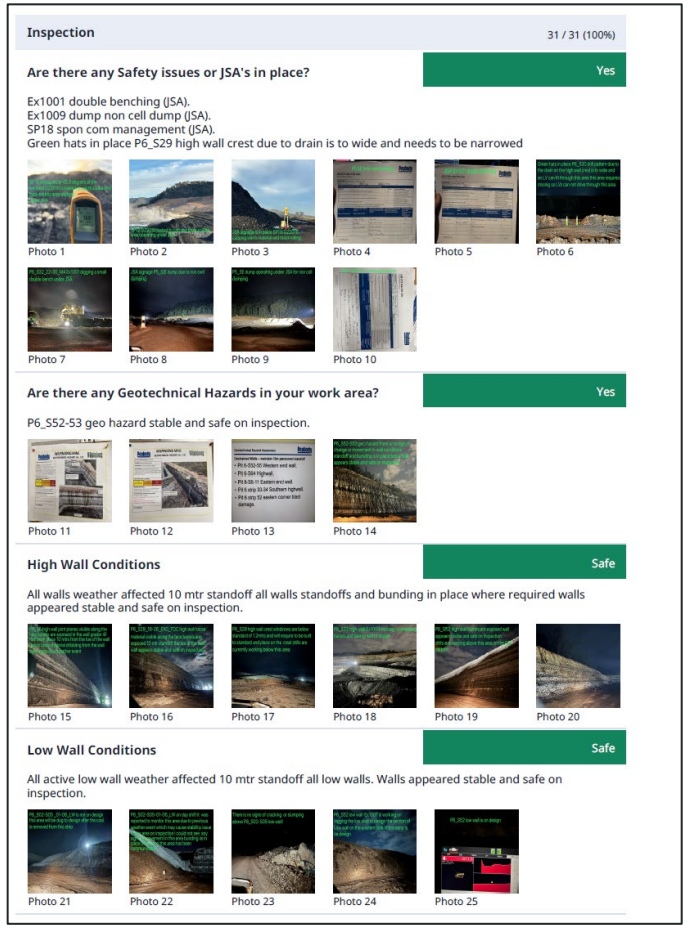
Examples of what some larger companies have developed

Inspections recorded electronically with photographs.

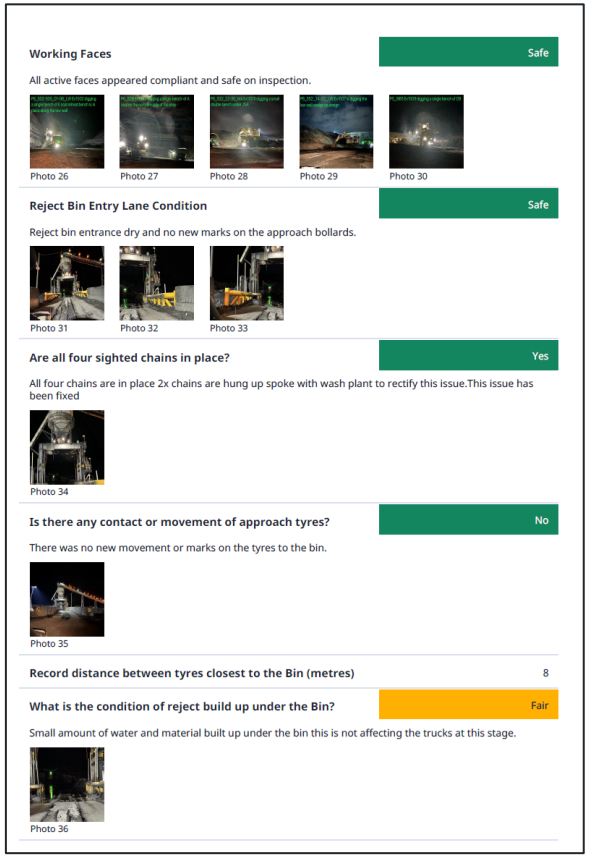
This is ideal for shift handovers if your operation has multiple shifts. The oncoming supervisor can physically see any issues and measure against them if a condition/issue deteriorates further, and then monitor, isolate the area or arrange rectification works.



Developing an inspection checklist

Many companies in the quarrying sector use electronic pre-starts on phones or tablets. This software allows you to design and detail your own inspection checklist, which can be adapted for specific pit inspections. They also allow you to categorise an issue (high/red, medium/yellow or low/green).

Photos can be attached, and these reports can be sent immediately to the supervisor and quarry manager.



Examples of what other companies have developed and different areas to be inspected

Working Face Operator Daily Risk Assessment

Date:	Floor:	Operator:	Machine (EXC/FEL):

Face Loader or Excavator	Please circle answer	
Is the work face undercut ?	No	Yes
Is there any highwall instablilty or rock fall hazards ?	No	Yes
Is edge protection bunding in place and at the correct height (1.5m Minimum) ?	Yes	No
Is the work floor level and clear of any obsticles ?	Yes	No
Is there any seepage at rock joint planes ?	No	Yes
Is the working face condition acceptable ?	Yes	No
Is there a suitable catch bund inplace ?	Yes	Yes
Is a light vehicle parking bay in place on the floor ?	Yes	Not Practicle

Poss comms required and machine bucket lowered to the ground before LV can enter the work area

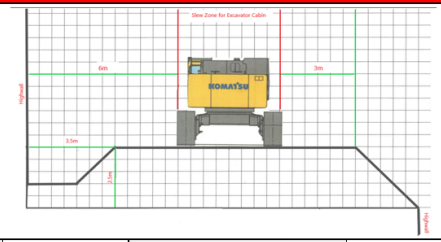
Excavator Only	Please circle answer	
Is there a rock trap between the Excavator work pad and the face ?	Yes	No
Is there a rock trap between the Excavator work pad and the muckpile ?	Yes	No
Is the Excavator work pad the same height as the truck body dove tail ?	Yes	No
Can a minimum distance of 6m from the Excavator cabin to the high wall be maintained ?	Yes	No
When a loading pad extends to the edge of a Quarry bench - Can a minimum distance of 3m be maintained from the Excavator cabin to the edge of the loading pad ?	Yes	No

If **ALL** answers are circled in the **GREEN** column - Begin work

If **ANY** answers are circled in the RED column - Identify appropriate control measures and list them below

Control Measures Implemented - (Additional Comments)

If Hazards cannot be adequatly controlled or if unsure - Stop work and contact your Leading Hand or Supervisor



Operator Signature:		Leading Hand or Supervisor Signature:	

QUARRY SALES AREA DAILY INSPECTION

Date:	*Day:*	
Stockpiles		*Comments:*
Are all stockpiles free of contamination?	*YES / NO*	
Are load out points for materials free of hazards? (pot holes, uneven surfaces etc)	*YES / NO*	
Is there any risk of stockpile collapse? (Is the stockpile undercut or hanging up due to compaction / moisture)	*YES / NO*	
Are there any multi level or live stockpiles being constructed or loaded from?	*YES / NO*	
If YES, Is there a risk assessment in place to manage this process?	*YES / NO / NA*	
Ground and Road Conditions		
Are the road conditions in sales area acceptable?	*YES / NO*	
Is there adequate dust suppression on roads?	*YES / NO*	
	YES / NO	
General		
Is the slab under the Plant 2 bins free from build up?	*YES / NO*	
Are sediment pits and drainage lines functional? (Including Plant 1 and 2 sediment pits)	*YES / NO*	
Is there adequate bunding minimum 1.5m in place throughout the sales area?	*YES / NO*	
Is signage in place and in good condition? (Road & stockpile)	*YES / NO*	
Are there any drainage issues or pooling water?	*YES / NO*	
Inspection carried out to the best of my ability:		***Signed:***

QUARRY PIT DAILY INSPECTION

Date:	*Loading Floor:*	*Day:*

Pit		Comments:
Are the Haul roads in acceptable condition?	*YES / NO*	
Is the working face condition acceptable? If NO, what controls can be put in place?	*YES / NO*	
Is there any seepage at rock joint planes?	*YES / NO*	
Is there any flowing surface water near the loading area or along active quarry benches?	*YES / NO*	
Is the loading floor in acceptable condition? If NO, what controls can be put in place?	*YES / NO*	
Is the face below the working floor stable and free from any overhangs?	*YES / NO*	
Are there any faults or fall hazards at the working face?	*YES / NO*	
Is there suitable bench width for hauling?	*YES / NO*	
Floors that are closed have "Floor Closed" signage or bunding in place to isolate the floor?	*YES / NO*	
Drilling areas or any other areas that have a bund height between 1m and 1.5m have "Restricted Work Area" signage or a chicane in place?	*YES / NO*	
Are there any flooding or drainage issues?	*YES / NO*	
If practical, is there a designated LV parking bay in place on the loading floor?	*YES / NO / NA*	
Are edge protection bund walls at a minimum of 1.5 meters throughout pit?	*YES / NO*	
Is there adequate dust suppression on haul roads?	*YES / NO*	
Is signage in place and in good condition?	*YES / NO*	
Shot quality / condition?		

Tip heads		
Dirty dump	*OPEN - Inspection completed and is safe to use*	*CLOSED*
The Tip	*OPEN - Inspection completed and is safe to use*	*CLOSED*
Water treatment tip head	*OPEN - Inspection completed and is safe to use*	*CLOSED*

Notes:

Inspection carried out by:		***Signed:***	

* Inspection of the listed areas is a visual analysis only. This assessment is based upon potential hazards in the working environment that were apparent at the time of the inspection based on the inspectors opinion.

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Thank you to those companies that have allowed us to use their examples in this presentation.

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Questions?

Thank you