Answers to Follow-Up Questions

James Anderson (Open Cut Examiner (OCE)):

1. **Timing of Incident Report:**
    - "The rockfall incident was reported to me by John Miller via radio at precisely 3:15 PM. I immediately responded and arrived at the scene within a few minutes."
2. **Participation in Post-Blast Inspection:**
    - "I did not personally participate in the post-blast inspection conducted before resuming work in North Pit. However, I was briefed by the blast crew leader, Robert Wilson, who confirmed that the area was safe to resume operations."

Dr. Anthony Richards (RPEQ Geotechnical Engineer):

1. **Signs During Post-Blast Inspection:**
    - "During the post-blast inspection, there were no overt signs that could have hinted at an imminent highwall failure. However, subtle indicators such as minor cracks and slight water seepage might have been overlooked due to the quick visual scan rather than a detailed examination."
2. **Improvements for Inspection Protocols:**
    - "I would suggest implementing more rigorous inspection protocols that include detailed geotechnical assessments after significant blasts, especially considering recent weather conditions. Continuous monitoring systems and more thorough post-blast visual inspections should be mandatory."

Robert Wilson (Blast Crew Leader):

1. **Outcomes of Post-Blast Inspection:**
    - "The post-blast inspection showed no immediate large cracks or significant loose material. All charges had detonated successfully, and there were no misfires. The highwall appeared stable from our visual assessment, and we did not identify any overt hazards."
2. **Risk Communication to Excavation Crew:**
    - "We communicated to the excavation crew, including John Miller, that the blast area was clear and safe to resume operations. However, we did not explicitly discuss the potential risks associated with minor signs of instability, such as small cracks or water seepage, that we observed but did not deem immediately threatening."

John Miller (Excavator Operator):

1. **Informed About Post-Blast Inspection Findings:**
    - "I was informed by Robert Wilson that the area was clear and safe to resume work. However, I was not given detailed information about the specific findings

of the post-blast inspection, such as the minor cracks and slight water seepage noted."

2. **Observation of Unusual Signs:**
    - "Before starting my task, I observed some loose material on the highwall but did not consider it significant enough to report urgently. I assumed the post-blast inspection had thoroughly assessed the area, and any critical issues would have been communicated to me."

Detailed Geotechnical Analysis and Report

Geotechnical Analysis Report

Prepared by: Dr. Anthony Richards, RPEQ Geotechnical Engineer
Date: August 1, 2024
Incident Date: July 28, 2024
Location: North Pit, Central Queensland Coal Mine
Incident Type: Rockfall

Executive Summary

On July 28, 2024, a significant rockfall occurred in the North Pit, Section A, resulting in damage to an excavator and minor injuries to the operator. This report provides a detailed analysis of the geotechnical factors contributing to the incident, evaluates the effectiveness of existing controls, and recommends additional measures to prevent future occurrences.

Incident Overview

At approximately 3:15 PM on July 28, 2024, a rockfall from the highwall in North Pit, Section A, occurred shortly after a blast in the adjacent Section B. The falling debris struck an excavator operated by John Miller, causing minor injuries to him and significant damage to the machinery. The incident prompted an immediate response, and the area was secured for further investigation.

Geotechnical Analysis

Site Conditions

- **Highwall Height:** The highwall in Section A had a height of approximately 40 meters.
- **Geology:** The highwall comprised sedimentary rock layers, predominantly sandstone and shale, with interbedded coal seams.
- **Weather Conditions:** The site had experienced significant rainfall (approximately 150mm) over the past week, leading to increased moisture content in the rock mass.
- **Blast Proximity:** The blast conducted in Section B was approximately 30 meters from the highwall in Section A.

Pre-Incident Assessment

Two days prior to the incident, a routine geotechnical assessment was conducted. The highwall showed no visible signs of instability or distress. However, the recent heavy rainfall was a notable factor, as it could have contributed to a reduction in the rock mass strength.

Post-Incident Inspection

A detailed inspection was carried out immediately after the rockfall. Key observations included:

- **Failure Mechanism:** The rockfall was characterized by a planar failure along pre-existing discontinuities within the sandstone layers.
- **Water Infiltration:** Evidence of water seepage was observed along the failure plane, indicating that water infiltration had weakened the rock mass.

- **Blast Impact:** The vibrations from the blast in Section B likely exacerbated the existing weakness in the highwall, triggering the rockfall.

Root Cause Analysis

The root cause of the rockfall incident can be attributed to a combination of geotechnical and operational factors:

1. **Water Infiltration and Weakening of Rock Mass:**
    - The significant rainfall prior to the incident increased the moisture content within the rock mass, reducing its overall strength.
    - Water infiltration along pre-existing discontinuities created a lubricated plane of weakness, predisposing the highwall to failure.
2. **Blast-Induced Vibrations:**
    - The blast conducted in Section B generated ground vibrations that propagated through the rock mass.
    - These vibrations likely disrupted the already weakened highwall, triggering the rockfall.
3. **Insufficient Post-Blast Inspections:**
    - While a post-blast inspection was conducted, it did not identify the imminent risk posed by the highwall.
    - The inspection protocols may have lacked the thoroughness required to detect subtle changes in the highwall's stability.

Evaluation of Controls

Existing Controls:

1. **Pre-Blast Assessments:** Regular geotechnical assessments and blast design reviews.
2. **Post-Blast Inspections:** Visual inspections conducted by the blast crew.
3. **Water Management:** Drainage systems to control surface water runoff.

Effectiveness of Controls:

- **Pre-Blast Assessments:** While regular assessments were conducted, the influence of recent heavy rainfall on highwall stability was not adequately considered.
- **Post-Blast Inspections:** The inspections were insufficiently detailed to detect the destabilizing effect of water infiltration and blast vibrations.
- **Water Management:** Existing drainage systems were not adequate to mitigate the impact of significant rainfall on highwall stability.

Recommendations

To enhance the stability of highwalls and prevent similar incidents in the future, the following recommendations are proposed:

1. **Enhanced Geotechnical Monitoring:**
    - Implement continuous monitoring systems, such as ground-penetrating radar and slope stability radar, to detect real-time changes in highwall stability.
    - Increase the frequency of geotechnical assessments, especially after significant rainfall events.
2. **Improved Blast Design and Review:**
    - Conduct more detailed blast impact assessments, considering the proximity of highwalls and recent weather conditions.
    - Use controlled blasting techniques to minimize ground vibrations.
3. **Comprehensive Post-Blast Inspections:**
    - Develop and implement more rigorous post-blast inspection protocols, incorporating both visual and instrumented inspections.
    - Train personnel to identify subtle signs of highwall instability.
4. **Enhanced Water Management:**
    - Upgrade drainage systems to ensure effective management of surface water and reduce water infiltration into highwalls.
    - Regularly inspect and maintain drainage infrastructure to prevent blockages and ensure optimal performance.
5. **Emergency Response Planning:**
    - Review and update emergency response plans to ensure rapid and effective action in the event of highwall failures.
    - Conduct regular drills to ensure all personnel are familiar with emergency procedures.

Conclusion

The rockfall incident in the North Pit, Section A, was the result of a combination of geotechnical and operational factors, primarily influenced by recent heavy rainfall and blast-induced vibrations. The existing controls were insufficient to prevent the incident, highlighting the need for enhanced monitoring, improved blast design, more comprehensive inspections, and better water management. Implementing the recommended measures will significantly improve highwall stability and reduce the risk of similar incidents in the future.

Dr. Anthony Richards
RPEQ Geotechnical Engineer
Central Queensland Coal Mine

Drill and Blast Reconciliation Report

Mine Name: Redstone Coal Mine
Location: North Pit, West Sector
Date of Report: August 2, 2024
Report Prepared By: Claire Robertson, Senior Drill and Blast Engineer

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Executive Summary

This report reviews the drill and blast design and execution practices for the blast conducted on July 28, 2024, at Redstone Coal Mine, specifically in North Pit, West Sector. After a thorough evaluation, it has been determined that both the design and execution adhered to standard industry practices, and no major issues were identified. The blast was successful, with all charges detonating as planned, and the subsequent inspections confirmed the absence of any significant concerns.

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1. Introduction

The purpose of this report is to provide a detailed review of the drill and blast design and execution practices for the recent blasting activities at North Pit, West Sector. The review focuses on the adequacy of the design parameters, execution practices, and post-blast inspections.

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2. Blast Design Parameters

2.1 Blast Location:

- **Pit:** North Pit, West Sector
- **Coordinates:** Grid Reference N1250 - W350

2.2 Blast Objective:

- The blast was designed to fragment the overburden and coal seams to facilitate efficient excavation and haulage. The target depth was 20 meters with a focus on achieving optimal fragmentation to minimize handling and processing costs.

2.3 Design Specifications:

- **Bench Height:** 20 meters
- **Hole Diameter:** 250 mm
- **Spacing:** 5.0 meters
- **Burden:** 4.5 meters
- **Hole Depth:** 21 meters (including sub-drill)
- **Explosive Type:** ANFO (Ammonium Nitrate Fuel Oil)
- **Explosive Density:** 0.85 g/cm^3

- **Charge Length:** 18 meters
- **Stemming:** 3 meters of drill cuttings
- **Initiation System:** Non-electric (Nonel) with sequential firing to control vibrations
- **Powder Factor:** 0.75 kg/m^3

2.4 Design Considerations:

- **Fragmentation:** Achieving optimal fragmentation to ensure ease of excavation and efficient loading.
- **Vibration Control:** Ensuring vibrations are within acceptable limits to prevent damage to nearby structures and minimize ground disturbance.
- **Highwall Stability:** Designed with the intention of maintaining highwall integrity, considering previous geotechnical assessments and recent weather conditions.
- **Environmental Impact:** Minimizing dust and flyrock, and ensuring compliance with environmental regulations.

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3. Execution of Blast

3.1 Pre-Blast Preparation:

- **Drill Pattern Layout:** The drill pattern was marked out accurately according to the design specifications.
- **Drilling Accuracy:** The drilling operations were executed with high precision, maintaining consistent hole depth and alignment.
- **Explosive Loading:** The explosives were loaded according to the design parameters, with ANFO being the primary explosive. Stemming was applied correctly to each hole to confine the explosive energy.
- **Safety Precautions:** All safety protocols were followed, including clearing the blast zone, setting up blast guards, and ensuring all personnel were at a safe distance during the blast.

3.2 Blast Execution:

- **Firing Sequence:** The initiation sequence was executed as per the design, with no deviations. The Nonel system was used effectively to control the timing between the rows, minimizing ground vibrations and ensuring efficient rock breakage.
- **Charge Detonation:** All charges detonated as planned, with no misfires or delays reported. The blast occurred without incident, and the desired fragmentation was achieved.

3.3 Post-Blast Inspection:

- **Area Inspection:** Post-blast inspections were conducted immediately after the blast. The blast area was inspected for any signs of misfires, flyrock, or excessive vibration effects. None were observed.

- **Highwall Stability:** A visual inspection of the highwall post-blast indicated that the highwall remained stable, with no visible signs of significant cracking or displacement.
- **Ground Conditions:** The ground conditions post-blast were normal, with no unexpected subsidence or ground movement observed.

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4. Review of Design and Execution

4.1 Design Adequacy:

- The blast design was reviewed and found to be appropriate for the geological conditions and mining objectives. The design parameters, including burden, spacing, and hole depth, were within acceptable industry standards.
- The use of ANFO as the primary explosive was suitable for the bench height and rock type. The stemming length and initiation sequence were also well-planned to control vibrations and achieve the desired fragmentation.

4.2 Execution Effectiveness:

- The blast execution was carried out according to plan, with no deviations from the design. The precision in drilling and charging, along with the correct application of stemming, contributed to the successful blast outcome.
- The initiation system functioned as expected, with the sequential firing effectively managing ground vibrations and ensuring even fragmentation.

4.3 Post-Blast Outcomes:

- The post-blast inspections confirmed that the blast was effective in achieving the desired results. The area was left in a condition that facilitated efficient excavation and haulage operations.
- Highwall stability was maintained, and no significant ground disturbances were observed. The environmental impact was minimal, with dust and flyrock kept within controlled limits.

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5. Conclusion

The review of the drill and blast design and execution at Redstone Coal Mine, North Pit, West Sector, indicates that the blast was conducted successfully, with no major issues identified. The design parameters were well-suited to the geological conditions, and the execution adhered to standard industry practices. The post-blast inspections confirmed the effectiveness of the blast, with all objectives met, including optimal fragmentation, vibration control, and highwall stability.

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6. Recommendations

While the blast was successful, continuous improvement is essential to maintain safety and efficiency. The following recommendations are made:

- **Ongoing Monitoring:** Implement continuous monitoring of highwall stability post-blast to detect any delayed impacts or subtle signs of instability.
- **Training:** Provide ongoing training for the drill and blast team to maintain high standards of execution and to stay updated on the latest industry practices.
- **Data Analysis:** Regularly analyze blast performance data to refine future designs and improve overall blast efficiency and safety.

Report Prepared By:
Claire Robertson
Senior Drill and Blast Engineer
Redstone Coal Mine

Take 5 Personal Risk Assessment	
Name:	John Miller
Date:	28/07/24 3.02PM
Task:	Excavation after blast
Location:	Section A

1. STOP and THINK

What am I about to do?

Excavation

What are the hazards?

Truck interaction, uneven ground, blast fume

What could go wrong?

hit a truck cab with bucket, roll ankle.

2. LOOK and IDENTIFY

Potential Hazards:

no hazards except vehicle interaction damage

(Yes/No) Control Measures

Rockfall from highwall	No
Blast vibrations affecting stability	No
Water seepage/weakened ground	No
Machine malfunction	No
Noise	No
Vehicle interaction	Yes, positive communication

5. SAFETY CHECK and PROCEED

- Are all identified hazards controlled? Yes
- Do I understand the task and the controls? Yes
- Is the work area safe to proceed? Yes

STATEMENT MINE FOR INCIDENT

Name	John Miller		
Job Role	Excavator operator	Department / Crew	C Crew
Title of Incident	Section A Fall of ground		
Date of Incident	28/07/24	Time of Incident	3.00PM
Role in Incident	Involved - injured		
Other Possible Witnesses	Robert Wilson		
Statement	I have been working as an excavator operator at this mine for the past five years. On 28/07/24 I started my shift at 6am. The day was progressing normal until the scheduled blast in the adjacent Section B at around 3pm. I was in section A, and we were informed by blast crew to pause operations during the blast. At 3.05pm, I received a confirmation from Robert Wilson, that it was safe to resume work. I thoroughly checked my surroundings and began operating the excavator again at 3.10pm. I was focused on excavating material from the highwall when, suddenly, at approx. 3.15pm I heard a loud rumble. Before I could react, I saw large rocks and debris starting to fall from highwall above me.		

John Miller continued:

It happened so quickly; I tried to move the excavator out of the path of the falling rocks, but the debris was too fast. The rocks struck the excavator with a powerful force, causing it to shake violently.

Realizing the danger, I immediately stopped the machine and exited as quickly as I could. While climbing out, I twisted my ankle and sustained a few bruises from the falling debris. Despite the pain, I managed to move away from the immediate danger zone. And used my hand held radio to call emergency. Within minutes, Lisa Thompson, my supervisor, arrived at the scene. She ensured I received first aid and stayed with me until further help arrived.

STATEMENT MINE FOR INCIDENT

Name	Lisa Thompson		
Job Role	Area Supervisor	Department / Crew	C Crew
Title of Incident	Section A Fall of ground		
Date of Incident	28/07/24	Time of Incident	3PM
Role in Incident	Supervisor		
Other Possible Witnesses	John Miller		
Statement	I have been the area supervisor at this mine for three years, overseeing daily operations and ensuring the safety of our team. On the afternoon of July 28, 2024, I was conducting a routine inspection in the South Pit when I received an urgent call from John Miller, our excavator operator, at around 3.18 PM. John reported a rockfall incident in North Pit, section A. Immediately headed to the location, arriving within two minutes. As I approached, I saw John outside the excavator, visibly shaken and limping. He had sustained minor injuries, including a few bruises and a sprained ankle. My first priority was to ensure John's safety. I called for the site emergency response team and instructed them to secure the area.		

Lisa Thompson statement continues:

I also radioed for medical assistance to provide John with the necessary first aid.

After making sure John was stable and receiving the required care, I conducted a preliminary assessment of the situation. The highwall had collapsed significantly, and there was a substantial amount of debris around the excavator. I immediately halted all operations in the vicinity and marked the area as a no-go zone. I then informed the mine management about the incident and initiated the incident reporting protocol. The safety of our personnel is paramount, and I took all necessary steps to ensure the area was secure and the incident was properly documented.

STATEMENT MINE FOR INCIDENT

Name	Mark Johnson		
Job Role	Production Manager	Department / Crew	Production
Title of Incident	Section A Fall of ground		
Date of Incident	28/07/24	Time of Incident	3.10 pm
Role in Incident	Manager		
Other Possible Witnesses	John Miller, Lisa Thompson		
Statement	I have been the production manager at this mine for the past four years, overseeing all operational aspects and ensuring we meet our production targets safely. On July 28, 2024 at approximately 3.20pm, I was informed by Lise Thomson about a rockfall incident in North Pit, Section A. She reported that John miller, our excavator operator, had been injured and that significant damage had occurred to the equipment. Upon receiving the report, I immediately instructed Lisa to secure the area and ensure John received immediate medical attention. I coordinated with the emergency response team to manage the situation and ensure all safety protocols were followed. Our primary concern was the safety of all personnel on site. I halted all operations in the affected area and made sure the site was properly isolated.		

Mark Johnson continues =

I then initiated a full investigation into the incident. This involved gathering detailed statements, reviewing blast records, and analyzing geotechnical reports. I worked closely with safety officers and other technical experts.

STATEMENT MINE FOR INCIDENT

Name	Robert Wilson		
Job Role	Shotfirer	Department / Crew	C Crew
Title of Incident	Section A Fall of ground		
Date of Incident	28107124	Time of Incident	3PM
Role in Incident	Shotfirer		
Other Possible Witnesses	John Miller, Lisa Thompson		
Statement	As the shotfirer, I am responsible for overseeing all blasting operations at the mine. On 28108124, my team and I conducted a scheduled blast in North Pit, Section B at around 3pm. We followed all standard procedures for the blast, ensuring the area was clear and that all safety protocols were adhered to. After the blast, we conducted post-blast inspections to ensure there were no immediate hazards or concerns. At 3.05pm, I communicated with the operations team, specifically informing John Miller and his crew that it was safe to resume work in section A.		

Robert Wilson statement continues;

From our vantage point, there were no visible signs of instability or issues in the highwall adjacent to the blast ared. We had not anticipated that the blast would have such a significant impact on the adjacent highwall.

However, within minutes of resuming operators, I heard reports of a rockfall incident in Section A. I immediately made my way to the location and observed that a large section of the highwall had collapsed, causing damage to the excavator and injuring John. I stayed on site to assist with securing the area and providing information for the initial incident response. This incident was unexpected, and we need to thoroughly investigate the blast design and any potential contributing factors to prevent future occurences.

Statement from the Open Cut Examiner (OCE) on Duty

Name: James Anderson
Position: Open Cut Examiner (OCE)
Date of Incident: July 28, 2024
Location: North Pit, Central Queensland Coal Mine
Shift Time: 6:00 AM - 6:00 PM

Incident Overview

On July 28, 2024, during my shift as the Open Cut Examiner, a significant rockfall incident occurred at approximately 3:15 PM in the North Pit, Section A. The incident resulted in minor injuries to the excavator operator, John Miller, and caused considerable damage to the excavator. This statement details the events leading up to, during, and following the incident.

Pre-Incident Activities

6:00 AM:

- I commenced my shift with the usual safety briefing and task assignments.
- Conducted a morning inspection of the North Pit, including Sections A and B. No immediate hazards or concerns were identified at that time.

7:00 AM - 2:00 PM:

- Regular operations were carried out, including excavation, hauling, and routine inspections.
- Conducted periodic visual inspections of the highwalls and working areas. No signs of instability or unusual conditions were observed.

2:45 PM:

- Coordinated with the blast crew, led by Robert Wilson, regarding the scheduled blast in Section B.
- Ensured that all personnel and equipment were clear of the blast zone and communicated safety procedures to the team.

Blast and Immediate Post-Blast Activities

3:00 PM:

- The blast in Section B was executed as planned. Observed the blast from a safe distance and noted that all charges detonated successfully.

3:05 PM:

- Received confirmation from Robert Wilson that post-blast inspections indicated the area was clear and safe.
- Informed John Miller and other operators that they could resume operations in Section A.

Incident Occurrence

3:10 PM:

- John Miller resumed excavator operations in Section A. I continued my inspection duties in the South Pit.

3:14 PM:

- Received a radio communication from John Miller, reporting that he observed some loose material on the highwall but did not express significant concern.

3:15 PM:

- Heard a loud rumble over the radio followed by John Miller's urgent call reporting a highwall collapse and requesting immediate assistance.
- I immediately made my way to Section A, coordinating with Lisa Thompson, the area supervisor, to respond to the emergency.

Post-Incident Actions

3:18 PM:

- Arrived at the scene and observed significant rockfall debris around the excavator.
- John Miller was out of the excavator, visibly shaken, with minor injuries (bruises and a sprained ankle). Provided reassurance and ensured he received first aid.

3:20 PM:

- Activated the site emergency response protocol, instructing the team to secure the area and halt all operations in the vicinity.
- Communicated the incident to mine management and relevant authorities.

3:25 PM:

- Conducted an initial assessment of the highwall and surrounding area. Noted that recent heavy rainfall and blast vibrations likely contributed to the instability.

4:00 PM - End of Shift:

- Oversaw the emergency response team's activities, ensuring the safety of all personnel.
- Compiled preliminary incident reports and gathered statements from involved parties, including John Miller, Lisa Thompson, and Robert Wilson.
- Briefed the incoming shift OCE on the incident and current status of the North Pit, emphasizing the need for a thorough investigation.

Working Near Crests and Slopes Procedures

Document Title: Working Near Crests and Slopes Procedures
Document Number: QCM-SAF-PROC-002
Effective Date: January 1, 2024
Review Date: January 1, 2025
Prepared by: Health and Safety Department
Approved by: Operations Manager

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1. Purpose

To provide guidelines and procedures for safely working near crests and slopes in open-pit mining operations to minimize the risk of incidents related to slope instability and rockfalls.

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2. Scope

This procedure applies to all personnel and contractors working in areas near crests and slopes within the mining operation.

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3. Responsibilities

Mine Manager:

- Ensure compliance with these procedures.
- Provide necessary resources for training and equipment.

Supervisors:

- Conduct risk assessments before work commences.
- Ensure personnel are aware of and adhere to these procedures.
- Monitor working conditions and report any hazards.

Workers:

- Follow these procedures at all times.
- Report any hazards or unsafe conditions to the supervisor immediately.
- Participate in required training sessions.

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4. Procedures

4.1 Pre-Work Assessment:

- Conduct a site-specific risk assessment before starting work near crests and slopes.
- Review geotechnical data and previous inspection reports for the area.

- Identify potential hazards, such as loose material, overhangs, and water seepage.

4.2 Safe Work Zones:

- Establish safe working distances from the crest based on the height and stability of the slope.
- Mark and communicate these zones clearly to all personnel working in the area.
- Ensure that all equipment is positioned at a safe distance from the crest.

4.3 Inspection and Monitoring:

- Conduct regular visual inspections of crests and slopes for signs of instability, including cracks, loose material, and water seepage.
- Use monitoring equipment, such as slope stability radars or laser scanners, where applicable.
- Document and report inspection findings to the supervisor immediately.

4.4 Equipment Operation:

- Operate heavy equipment with caution near crests and slopes, maintaining a safe distance at all times.
- Avoid undercutting or overloading slopes during excavation and loading activities.
- Conduct pre-start checks on equipment to ensure it is in good working condition.

4.5 Adverse Weather Conditions:

- Suspend operations near crests and slopes during and after heavy rainfall, high winds, or other adverse weather conditions.
- Conduct a thorough inspection of the area before resuming work to assess any changes in slope stability.

4.6 Communication:

- Maintain clear communication with all team members working near crests and slopes.
- Use radios to report any hazards or changes in conditions immediately.
- Ensure all personnel are aware of emergency procedures and evacuation routes.

4.7 Training:

- Provide regular training to all personnel on the risks associated with working near crests and slopes.
- Include training on hazard identification, risk assessment, and the use of monitoring equipment.
- Conduct refresher training sessions annually or as needed.

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5. Emergency Procedures

- In the event of a slope failure or rockfall, cease all operations immediately.
- Evacuate the area following the designated emergency evacuation routes.
- Report the incident to the supervisor and emergency response team.
- Conduct a thorough investigation to determine the cause of the failure and implement corrective actions.

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6. Documentation and Records

- Maintain records of all risk assessments, inspections, and training sessions.
- Document and review any incidents or near-misses to identify trends and improve procedures.
- Store records in accordance with the company's document control policy.

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7. Review and Continuous Improvement

- Review this procedure annually or following any incident involving crests and slopes.
- Update the procedure as needed to incorporate lessons learned and improve safety measures.
- Encourage feedback from all personnel to identify potential improvements.

Prepared by:
Health and Safety Department

Approved by:
Operations Manager
January 1, 2024