

Mining Engineer interview questions

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What to expect

Mining engineer interviews usually combine technical screening with close attention to safety judgement, since the role carries statutory responsibilities under state mining and WHS legislation. Expect a mix of design walkthroughs, scenario questions on ground control or incident response, and behavioural questions about working across geology, survey and operations teams.

- **Technical/process:** Questions on mine design, feasibility studies and use of planning software such as Surpac or Vulcan, testing how you structure engineering work from data through to a workable plan.
- **Safety and regulatory:** Questions probing your understanding of statutory obligations, ventilation and ground support requirements, and how you'd respond to a safety-critical event.
- **Scenario/judgement:** Hypothetical situations, often underground or time-pressured, testing decision-making when data is incomplete or conditions change quickly.
- **Behavioural:** Past-experience questions about balancing production targets against safety or environmental compliance, and working with cross-functional site teams.
- **Logistics/fit:** Employers often ask directly about relocation, FIFO rosters or regional site availability.

Most processes start with a technical phone or video screen, often with a senior engineer or engineering manager, followed by a panel interview covering safety culture and behavioural questions. For underground or remote roles, a site visit or practical scenario discussion is common before an offer, and rostering or relocation logistics are usually confirmed at this stage.

1. Walk me through how you would design an extraction sequence for a new panel, from geotechnical data through to final layout.

Why they ask

This checks whether you can structure a real mine design task end to end, not just describe software features.

How to structure your answer

Answer as a sequential walkthrough: what data you start with, what analysis you run, what software you use at each stage, and how you validate the final design before it goes to operations.

Example answer

"I'd start by pulling the geotechnical model and any recent survey data for the block, then run pit slope stability or ground support analysis to identify constraints before touching layout. From there I'd build the extraction sequence in Surpac, checking it against ventilation and haulage requirements, and cross-check the design with the geotechnical engineer before it goes into the production schedule. I'd also flag any assumptions that need updating once actual ground conditions are exposed."

2. Tell me about a time you identified a geotechnical risk that others had missed.

Why they ask

Behavioural question testing technical judgement and whether you'll raise a risk even when it's inconvenient for the schedule.

How to structure your answer

Use STAR: describe the situation, the specific task or decision in front of you, the action you took to investigate and escalate, and the result.

Example answer

"During a panel extension, the plan on file assumed ground conditions consistent with the surrounding block, but a recent core log showed a weaker zone that hadn't been picked up in the model update. I flagged it to the geotechnical engineer, we reran the stability analysis, and the ground support spec was revised before development continued. It added a short delay but avoided a support failure in an active working area."

3. A ground movement alarm triggers in an active underground panel during a shift. What do you do in the first ten minutes?

Why they ask

Tests safety-critical decision-making under pressure, which is central to the statutory responsibilities of this role.

How to structure your answer

Answer as a judgement-under-pressure sequence: immediate safety actions first, then communication and escalation, then technical follow-up, in that order.

Example answer

"First priority is getting personnel out of the affected area and confirming everyone is accounted for, following the site's ground control management plan. I'd notify the shift supervisor and statutory mine manager immediately and restrict entry until the area is assessed. Once people are safe, I'd review the monitoring data with the geotechnical team to understand the cause before any decision is made about re-entry."

4. How do you approach a feasibility study for a proposed mine expansion, and what factors carry the most weight in the cost-benefit analysis?

Why they ask

Checks commercial and technical judgement together, since feasibility work sits between engineering and investment decisions.

How to structure your answer

Answer as a structured process explanation, covering inputs, analysis method, and how you weigh competing factors.

Example answer

"I'd start with the resource and geotechnical data to confirm what's mineable under current design constraints, then build extraction and production scenarios to compare against capital and operating cost estimates. Ore grade, strip ratio or development cost, and regulatory or rehabilitation obligations usually carry the most weight, since they affect both the economics and the licence to operate. I'd present the findings with clear sensitivity ranges rather than a single number, since assumptions on price and cost can shift the outcome significantly."

5. Describe a situation where you had to balance production targets against safety or environmental compliance.

Why they ask

Tests whether you'll hold the line on compliance when there's commercial pressure to keep production moving.

How to structure your answer

Use STAR, with clear emphasis on the reasoning behind the decision and how you communicated it to operational stakeholders.

Example answer

"During a period when the site was behind on monthly targets, the operations team wanted to push blasting ahead of a scheduled ground support inspection. I held the inspection to schedule, explained

the risk to the operations manager, and worked with the team to adjust the sequence elsewhere to recover some of the lost time. It meant a short-term hit to the numbers, but it kept the panel within the ground control management plan.”

6. This role may require FIFO or regional relocation. How do you manage the demands of remote site work?

Why they ask

Employers often need to confirm practical availability early rather than assume it.

How to structure your answer

Answer directly and practically: state your current situation, then explain how you manage the roster or relocation demands in practice.

Example answer

“I’ve worked FIFO rosters before and I’m comfortable with the travel and time away from home that comes with it. I keep a consistent handover routine with my offsite counterpart so nothing gets lost between swings, and I make sure personal arrangements are settled well ahead of roster changes so they don’t become a distraction on site.”