Mine Surveyor interview questions

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What to expect

Mine surveying interviews test both your technical accuracy and your judgement in a live production environment. Employers want to know you can hold a control network, keep statutory plans current, and explain your data to people who are under pressure to produce.

- **Technical and software:** Questions on control networks, set-out, volume calculation and the mine survey software you use, such as Deswik.Survey, Vulcan, Micromine or Surpac.
- **Safety and statutory compliance:** Questions on mine plans, the survey control register, WHS obligations and how you keep records audit ready.
- **Scenario and problem solving:** A live problem such as a control discrepancy, an unstable pit wall or a drill pattern due before the end of shift.
- **Behavioural:** Past examples of reconciliation disputes, errors you found, and working with production or geology teams.
- **Stakeholder and communication:** How you explain survey results to crews, engineers and regulators when the answer is not what they wanted to hear.

Most mine surveying interviews start with a phone or video screen with a recruiter or survey superintendent, covering roster availability, qualifications and software background. The main interview is usually on site or a panel with the survey superintendent, a mine engineer and sometimes a safety representative. It often includes a practical element, such as reviewing a mine plan or working through a set-out scenario, followed by behavioural questions. Some sites ask for a short technical task before the panel stage, and you may be asked to walk through your statutory record keeping in detail.

1. Walk me through how you would establish and check a survey control network for a new underground development heading.

Why they ask

This probes your core technical method and whether you can explain it clearly to an engineer or superintendent who needs to trust your coordinates.

How to structure your answer

A step-by-step walk-through: existing control, observation method, closure check, action if tolerance fails, then issuing the result.

> **Example answer**
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> *“First I would check what control already exists near the heading and confirm it against the broader mine network rather than trusting a single set-up. I would run a resection or traverse from known control points using a total station, and compare the closure against the expected tolerance before doing any set-out. If the closure was outside tolerance, I would re-observe and check the instrument, prism constants and any recent movement in the area. Once the network is verified, I would establish the station for the heading, record it in the survey database, and issue the coordinates to the mining crew with a clear note on the datum and any limitations.”*

2. You arrive on shift and the production crew needs a drill pattern set out within the hour, but your control points do not agree with the previous survey. What do you do?

Why they ask

Employers want to see how you handle pressure without compromising accuracy, because a wrong set-out carries real cost and safety risk.

How to structure your answer

Judgement under pressure: pause and assess, verify from a second source, communicate early, escalate if unresolved, protect the heading.

Example answer

“I would not set out from control I did not trust. I would tell the shift supervisor straight away what I had found, then run a quick check from a second known point to see whether the issue was a single bad station or something broader. If the check confirmed the previous survey, I would proceed and record the check. If it did not, I would hold the set-out, escalate to the survey superintendent, and ask the crew to work elsewhere until the control was resolved. Delaying one pattern is far cheaper than driving a heading off line.”

3. Tell me about a time you found a discrepancy between surveyed volumes and production figures.

Why they ask

Reconciliation is central to the role, and this shows whether you investigate a gap properly or simply adjust the numbers to close it.

How to structure your answer

STAR: situation, task, action, result, with emphasis on the technical investigation and the follow-up change.

Example answer

“In an underground operation I was reconciling a month of ore and waste when the surveyed volumes did not line up with the reported mill feed. Rather than adjusting the numbers to close the gap, I went back through the set-out records and the daily survey pickups. I found that several development headings had been surveyed after backfill placement, so the volume captured included material that was not ore. I re-processed the affected surveys and documented the change. The reconciliation then matched, and we updated the survey timing so backfill was captured separately going forward.”

4. Which statutory plans and records are you responsible for, and how do you keep them current?

Why they ask

This checks your compliance knowledge and whether you treat plan maintenance as a continuous duty rather than a monthly scramble.

How to structure your answer

Direct technical answer first, then a concrete example of your routine and audit trail.

Example answer

“The core statutory records are the mine plan, the survey control register, and the plans that show workings, boundaries and known hazards. I keep them current by updating the survey database as each pickup is processed, not at the end of the month, and by running a weekly check that the plan reflects the latest development. I also keep a written record of any control adjustments so there is a clear audit trail. Before any plan is lodged or issued, I check it against the regulation and have it reviewed by the survey superintendent.”

5. Which mine surveying software do you use day to day, and how do you move data from the field into the mine plan?

Why they ask

Sites run different software stacks, so they want to know how quickly you will adapt and whether your data handling is clean and traceable.

How to structure your answer

Tool walk-through: field capture, processing, plan update, monitoring, and the chain of custody for the data.

Example answer

“Day to day I work mainly in Deswik.Survey and Maptek Vulcan, with Micromine or Surpac depending on the site's setup. In the field I use a Leica total station and a drone for stockpile and pit capture, and I bring the data back as raw files, process it through the survey software, and update the mine plan and spatial database. I also use Leica GeoMoS for movement monitoring, which feeds into the geotechnical team's alerts. The key thing is keeping a clean chain from field observation to the plan so anyone can trace a coordinate back to its source.”

6. Describe a time you had to explain a survey result to a production or geology team that did not want to hear it.

Why they ask

Surveyors often deliver inconvenient truths, and this tests your communication and your ability to hold a technical position without damaging working relationships.

How to structure your answer

STAR with a focus on influence: the data you showed, how you listened, and the agreed outcome.

Example answer

“A geology team once challenged a grade control boundary I had set out, because it reduced the ore block they had planned to mine. I walked them through the survey data, showed the control points and the pickup dates, and explained where the boundary came from. I also asked what they were seeing in their sampling, because that is useful information. In the end we agreed to re-survey the area together, which confirmed the boundary but also picked up a small offset in their model. It was a better outcome than either of us arguing from our own screens.”