

Geologist interview questions

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What to expect

Geologist interviews mix technical depth with practical judgement, since the role sits between fieldwork, lab analysis and client-facing reporting. Panels often include a senior or principal geologist who will probe specific technical decisions rather than general knowledge.

- **Technical:** Questions on interpreting seismic data, well logs or modelling in tools like Leapfrog Geo and Petrel, checking depth of hands-on skill.
- **Process:** Walk-through questions on how you'd plan or run a field program, site investigation or sample analysis from start to finish.
- **Scenario:** Judgement-based questions on handling unexpected field conditions, safety risks or conflicting data under time pressure.
- **Behavioural:** Past-experience questions using specific examples from fieldwork, lab work or client reporting.
- **Safety:** Questions on remote site, underground or drilling safety protocols, reflecting the physical risk profile of the work.
- **Client-facing:** Questions on translating technical findings for stakeholders, regulators or non-technical clients.

Expect an initial screening call on qualifications, AIG membership status and availability for field or remote work, followed by a technical interview with a senior geologist covering modelling software and past project work. Some employers add a practical component such as sample or core identification, or a case-style scenario question, before a final discussion on site logistics, rosters and safety induction requirements.

1. Walk me through how you'd plan a field sampling program for a new exploration site.

Why they ask

Tests whether you understand the practical sequence of exploration work, from desktop research through to sample handling, not just the theory.

How to structure your answer

Describe the process in order: desktop review of existing data, site access and safety planning, sampling strategy and equipment, and how you'd handle sample logging and chain of custody through to lab submission.

Example answer

"I'd start with a desktop review of any existing geological maps, historical drill data and geophysical surveys for the area to identify likely target zones. Before mobilising, I'd sort out site access, tenure checks and a safety plan for the terrain and weather conditions. In the field, I'd use a hand lens and geological hammer for initial rock identification, log GPS coordinates and site descriptions for each sample, and keep a clear chain-of-custody record as samples go into storage and then off to the lab. Back in the office, I'd load the results into ArcGIS to check spatial patterns against the original targets and flag anything that needs a follow-up visit."

2. Tell me about a time you found a discrepancy in geological data that changed the direction of a project.

Why they ask

Behavioural question aimed at judging technical judgement and whether you'll speak up when your interpretation conflicts with existing assumptions.

How to structure your answer

STAR: situation, task, action, result, focusing on the specific data discrepancy and what changed as a result.

Example answer

"On one project, new drill results didn't match the resource model we'd been working from in Petrel. My task was to work out whether this was a data entry issue or a real geological feature. I went back through the well logs, cross-checked assay results and re-ran the section through the affected zone, which showed a fault offset that hadn't been captured in the original model. I flagged it to the senior geologist with my supporting sections, and the team adjusted the drilling plan to test either side of the fault, which avoided several planned holes that would have missed the target zone entirely."

3. You're on site and a hazard assessment during a drilling program reveals unstable ground conditions. What do you do?

Why they ask

Scenario question testing judgement under pressure and whether safety takes priority over schedule.

How to structure your answer

Set out the immediate call, the reasoning behind it, and how you'd manage the fallout with the team and client.

Example answer

"I'd stop work in that immediate area straight away and flag it to the site supervisor, since ground stability isn't something to work around informally. I'd document what I'd observed, take photos and notes for the hazard assessment, and reassess whether drilling could safely continue elsewhere on site while that zone is reviewed. I'd rather explain a short delay to the client than let a marginal call turn into an incident, and in my experience clients respect that more than they resent the delay."

4. How do you reconcile a geological model built in Leapfrog Geo or Petrel with new drill data that doesn't quite fit?

Why they ask

Technical question probing hands-on modelling skill and whether you treat models as fixed or as working hypotheses.

How to structure your answer

Explain your technical approach step by step: checking data quality first, then model adjustment, then validation.

Example answer

"First I check the new data itself for quality issues: sample depths, assay methods, survey accuracy. If the data holds up, I look at where the discrepancy sits relative to known structural features and update the model incrementally rather than rebuilding it wholesale, so I can see exactly what the new data changed. I then run a quick validation against nearby historical holes to check the update is consistent, and document the change so anyone else using the model understands why it moved."

5. How do you explain a technical geological finding to a client or regulator without a geology background?

Why they ask

Client-facing question checking written and verbal communication skill, given how much of the role involves reporting to non-specialists.

How to structure your answer

Describe your approach to simplifying language and structuring a report, with a concrete example.

Example answer

"I try to lead with what the finding means for their decision, not the geological detail itself. For a site suitability report, I'd open with a plain statement on whether the ground conditions support the proposed development, then use a simple cross-section or diagram to show why, before going into the technical basis for anyone who wants the detail. I keep jargon out of the summary section and put it in an appendix instead, so the report works for both the regulator's technical reviewer and the client's project manager."

6. What safety considerations do you think about most when working on remote or underground field sites?

Why they ask

Safety question reflecting the physical risk and remote work conditions common to this role.

How to structure your answer

List the main risk categories relevant to geological fieldwork and how you manage each.

Example answer

"Ground stability and rockfall risk are constant considerations, especially in underground or steep terrain settings, so I always check current hazard assessments before entering a new area. Remote site work also means thinking through communication plans, first aid access and vehicle or equipment checks before mobilising, since help can be a long way off if something goes wrong. I also factor in weather and heat exposure for extended field days, and I'd rather adjust a schedule than push through conditions that increase risk for no real gain."