

**\*\*\*This is only a preview of the exam questions. To take the actual exam, please go back to the official bulletin, and click the exam link at the bottom.\*\*\***

Work Experience/References:

**In the pages following you will be asked about your work-related knowledge, skills abilities, and experience applicable to the Engineering Geologist classification. In the table below, provide information for all applicable work experience and internships (paid or unpaid). Applicable experience is that which involve the application of geologic knowledge, principles, and methods. You must provide the length of time in the position and a professional reference to receive credit for**

Position	Organization	Length of time (specify months or years)	Name of Professional Reference (e.g., professor, supervisor, colleague)	Phone number or email address (required)
	R1			
	R2			
	R3			
	R4			

**your experience.**

Professional Licenses or Certifications:

**Please indicate if you hold any of the following licenses or certifications by indicating the year obtained and license number (if applicable). All licenses and/or certifications are subject to verification.**

License or Certification	License Number (if applicable)
Professional Geologist	
Certified Hydrogeologist	
Certified Engineering Geologist	

Professional Geophysicist	
Geologist in Training	

### Training and Experience Evaluation

Rating criteria and candidate instructions *(place this info at top T\_E pages for questions 1-49)*

**Instructions:** Please rate each task using the scales and instructions provided below.

**How much knowledge, skill, ability, and experience do you possess in the following areas?**

**Extensive knowledge, skill, ability, experience, or training-**

I have extensive experience applying this knowledge, skill, or ability. I can effectively apply this knowledge, skill, or ability under the majority of circumstances or situations.

**Moderate knowledge, skill, ability, experience, or training-**

I have moderate experience applying this knowledge, skill, or ability.

**Limited knowledge, skill, ability, experience, or training-**

I have education, limited experience, or training relevant to this knowledge, skill, or ability but have not applied it in an actual job.

**No knowledge, skill, ability, experience, or training-**

I have no education, experience, or training relevant to this knowledge, skill, or ability.

**Verification References**

**Please select in the reference to verify experience of that knowledge, skill, or ability.** Indicate where you have performed the task by selecting the appropriate reference that you indicated from the previous page. Check all that apply.

## **Structure of Questions 1-49**

1. Knowledge of subsurface exploration and sampling techniques.

### **Level of knowledge, skill, ability, and experience:**

- Extensive
- Moderate
- Limited
- No Experience

**Verification:** (Note: Reference 1, 2, etc. will display the organization that was input from the References page)

- (Organization indicated from References page “R1”)
- (Organization indicated from References page “R2”)
- (Organization indicated from References page “R3”)
- (Organization indicated from References page “R4”)

1. Knowledge of subsurface exploration and sampling techniques.
2. Knowledge of geological literature as it relates to technical research work.
3. Knowledge of fundamental principles of engineering geology.
4. Knowledge of fundamental principles of hydrogeology.
5. Knowledge of geomorphology.
6. Knowledge of structural geology and stratigraphy.
7. Knowledge of site characterization.
8. Knowledge of groundwater flow principles, stratigraphy and structural geology as it applies to aquifer characterization, aquifer properties, water quality, and well construction.
9. Knowledge of site investigation methods including literature review, geologic mapping, aerial photographs, and subsurface exploration techniques.
10. Knowledge of stratigraphic, structural, historical, and economic geology as related to civil engineering

projects.

11. Knowledge of the principles of mineralogy and petrology.
12. Knowledge of geologic mapping and construction of cross-sections.
13. Knowledge of Geographic Information System (GIS) and/or Global Positioning System (GPS) in geologic projects.
14. Knowledge of geologic hazards.
15. Knowledge of liquefaction investigations and data analysis.
16. Knowledge of landslide and slope stability investigations and data analysis.
17. Knowledge of fault investigations.
18. Knowledge of historical seismicity and ground motion evaluations.
19. Knowledge of seismic hazard analysis.
20. Knowledge of geophysical and geotechnical site and foundation investigations.
21. Knowledge of soil and rock mechanics.
22. Ability to effectively use field observations to acquire appropriate information related to geologic problems.
23. Ability to analyze data as it relates to engineering geologic problems.
24. Ability to interpret aerial photographs or other remotely sensed imagery in solving geologic problems.
25. Ability to use scientific rules and methods to solve problems.
26. Ability to log boreholes, test pits, and trenches, and to collect samples.
27. Ability to evaluate trends in the regional aspects of the geologic environment, such as groundwater levels, erosion rates, subsidence, fault activity, seismicity and geodetic deformation.
28. Ability to perform fluvial geomorphic studies.
29. Ability to analyze situations accurately and take effective action.
30. Ability to prepare and analyze technical reports.
31. Ability to combine information to form general rules and conclusions which include finding relationships among seemingly unrelated events.
32. Ability to conduct independent technical research work in solving geologic problems.
33. Ability to work independently on geologic or geophysical projects and investigations.
34. Ability to communicate information and ideas verbally so others will understand.
35. Ability to develop and maintain cooperative working relationships.

36. Ability to visualize three-dimensional relationships used in solving geologic problems.
37. Ability to conduct accurate tests, record results, and evaluate observations for engineering geologic and hydrogeologic studies.
38. Ability to investigate and describe stratigraphic, structural, and hydrologic properties of geologic formations.
39. Ability to collect geologic samples, determining lithology and other characteristics of the geologic units.
40. Ability to gather and review existing geologic information from internal/external sources including survey reports, maps, drawings, aerial photography, and other topographical or geologic data.
41. Ability to prepare geologic maps, cross-sections, boring logs, structure maps, diagrams, charts, and reports from available resources and field work.
42. Ability to prepare maps of potential landslide areas using aerial and satellite imagery, topography, and geologic map data.
43. Ability to map faults using aerial and satellite imagery, topography, and geologic map data.
44. Ability to compile and analyze surface water and groundwater data, and evaluate existing hydrogeologic conditions.
45. Ability to conduct aquifer characterization.
46. Ability to perform erosion/sedimentation investigations.
47. Ability to locate, identify, classify, and analyze the nature, extent and occurrence of rock and other earth materials suitable for construction purposes.
48. Ability to prepare reports and technical memos to document findings of geologic investigations.
49. Ability to deliver oral presentations to an audience.