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## **General Geology and Geological Investigations (Domain A)**

*[Note: Examples given below are descriptive only and are not all-inclusive lists of items]*

### A-1. Earth systems and processes

A-1.1 Earth history

A-1.2 Earth systems (e.g., geosphere, hydrosphere, atmosphere, biosphere)

A-1.3 Geological cycle and processes (e.g., rock types, plate tectonics)

A-1.4 Hydrologic cycle and processes (e.g., evaporation, precipitation, ocean currents)

A-1.6 Energy sources and cycles (e.g., solar vs. geothermal, global energy balance)

A-1.7 Carbon cycle

### A-2. Sources of geological information

A-2.1 Government agencies (e.g., USGS, USDA, NRCS, state geological surveys)

A-2.2 Scientific literature (e.g., peer-reviewed publications, geological field trip publications, graduate theses)

### A-3. Geological and geophysical tools, techniques, and interpretation

A-3.1 Subsurface investigation (e.g., drilling, rock coring, soil sampling)

A-3.2 Rock and soil logging and description

A-3.3 Surface and borehole geophysics (e.g., seismic refraction/reflection, resistivity, GPR, televiwer)

### A-4. Field notes, documentation, and record-keeping

### A-5. Global positioning, coordinate systems, and datums

A-5.1 Coordinate systems and datums (e.g., types and applications)

A-5.2 Global Positioning Systems (GPS)

A-5.3 Measurement accuracy and precision

### A-6. Scale and scale analysis

A-6.1 Scale types, applications, and analysis

A-6.2 Horizontal and vertical scales and relationships (e.g., vertical exaggeration)

### A-7. Surface and subsurface mapping and map applications

A-7.1 Topographic maps, slopes, and profiles

A-7.2 Geologic maps, symbols, and applications

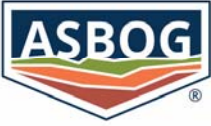
A-7.3 Strike and dip, apparent dip, thickness and depth

A-7.4 Isopach and isoconcentration maps

### A-8. Remote sensing, image analysis, and Geographic Information Systems

A-8.1 Aerial imagery and photogrammetry

A-8.2 Remote sensing (e.g., infrared, radar imagery, satellite imagery, and Light Detection and Ranging (LiDAR))



A-8.3 Geographic Information Systems (GIS) and applications

A-9. Analysis and interpretation of geological sections and sequences

A-9.1 Geologic cross sections, boring logs, and geologic maps

A-9.2 Sequence of geological events (e.g., relative geologic time)

A-10. Project planning and development (***PG Only***):

D-10.1 Work scoping and cost estimating

D-10.2 Literature and regulatory review

D-10.3 Site-specific data, maps, and health & safety plans

D-10.4 Hazard identification and analysis