Key Word / Short Answer Review Exercise

Geotechnical investigation: A geotechnical investigation is a presses by which an investigation of the soil and geologic conditions of a particular property are made ending with recommendations and design criteria for construction.

Seismic safety evaluation: The purpose of a seismic safety evaluation is to provide common minimum and higher standards for the evaluation and mitigation of seismic risks in existing and new construction buildings. The Standards establishes procedures and criteria intended to provide a low risk of earthquake-related death or life-threatening injury (The National Institute of Building Sciences, 2011).

Soil boring: A hole in the ground drilled, bored, cored, washed, driven, dug or jetted, the intended use of which includes obtaining data for engineering, geophysical or geological exploration, or prospecting for minerals or products of mining or quarrying (Definition of Soil Boring, 2011).

Photo: (Soil Boring, 2012)

Solid Stem Auger: A helical non-hollow drilling bit used to make soil borings

Photo: (Hollow & Solid Stem Auger, 2010)

Split Spoon Sampler: A cylinder that can be driven or attached to an auger that splits into two halves revealing a continuous soil core or boring sample.

Photo: (Brent Drilling)

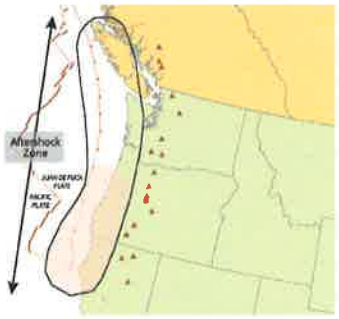
What are the site near-surface materials composed of? The site near-surface materials are composed of "alluvial deposit of moist to wet, mottled brown and light gray, silty clay to clayey silt" (Geotechnical Investigation Site-Specific Seismic Hazard Evaluation, Western Oregon University New Science Center, 2011).

At what depths are saturated groundwater conditions anticipated to exist? The ground water was encountered at depths of 5 to 10 feet, but may rise to at surface depths during the wet season (Geotechnical Investigation Site-Specific Seismic Hazard Evaluation, Western Oregon University New Science Center, 2011).

Perched Groundwater: Unconfined ground water separated from an under-lying main body of ground water by an unsaturated zone (2012).

Standard penetration testing: A method used to obtain soil density data by pounding specified tube into a bore hole.

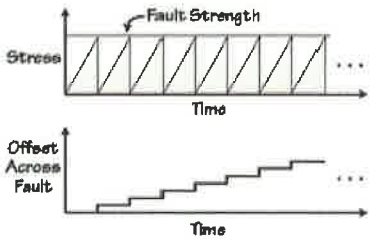
Cascadia Subduction Zone: The zone of subduction off the costs of northern California, Oregon, Washington, and Vancouver B.C.



duction Zone, 2012)

Crustal faulting: Faulting at the earth's crust

Seismic recurrence interval: The recurrence interval is the average time span between earthquake occurrences on a fault or in a source zone (Earthquakes Glossary, 2012).



ıkes Glossary, 2012)

What are the three closest faults to the WOU campus? And what maximum magnitude earthquakes could be associated with them.

- Corvallis Fault = 6.5
- Mill Creek Fault = 6.6
- Waldo Hills Fault = 6.5

How many geotechnical soil borings were completed to characterize the Science Center site? What is the range of total depths encountered in the soil borings? There were 3 geotechnical soil borings completed. The range of depths reached 21.5 ft (Geotechnical Investigation Site-Specific Seismic Hazard Evaluation, Western Oregon University New Science Center, 2011)

Liquefaction: When soil acts like a liquid due to an increase in pore pressure, induced by shaking due to earthquakes.

What is the potential for landslide hazard on the WOU campus? The potential for landslides on the WOU campus is nonexistent due to the relatively flat topography of the campus.

Soil moisture content: The amount of moisture that a particular soil holds within its structure.

Soil plasticity: The ability for soil to hold its shape; an internal strength and cohesion.

Soil gradation: Separating soils into separate sizes and classifying them accordingly.

Native Alluvium: Undisturbed soil transported and deposited by the local river systems.

Willamette Silt: Willamette Silt consists of silt and fine sand deposited in the central and southern Willamette Valley by late Pleistocene glacial-outburst floods (Caldwell & Gannett, 1999)

USCS Soil Classification: A universal soil classification system used to describe texture and grain size of soil.

USCS Soil Class "CH": Inorganic clays of high plasticity, fat clays

USCS Soil Class "CL": Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays

USCS Soil Class "ML": Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity

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